ECON 222A
Macroeconomic Theory I

Instructor: Prof. Marco Cozzi

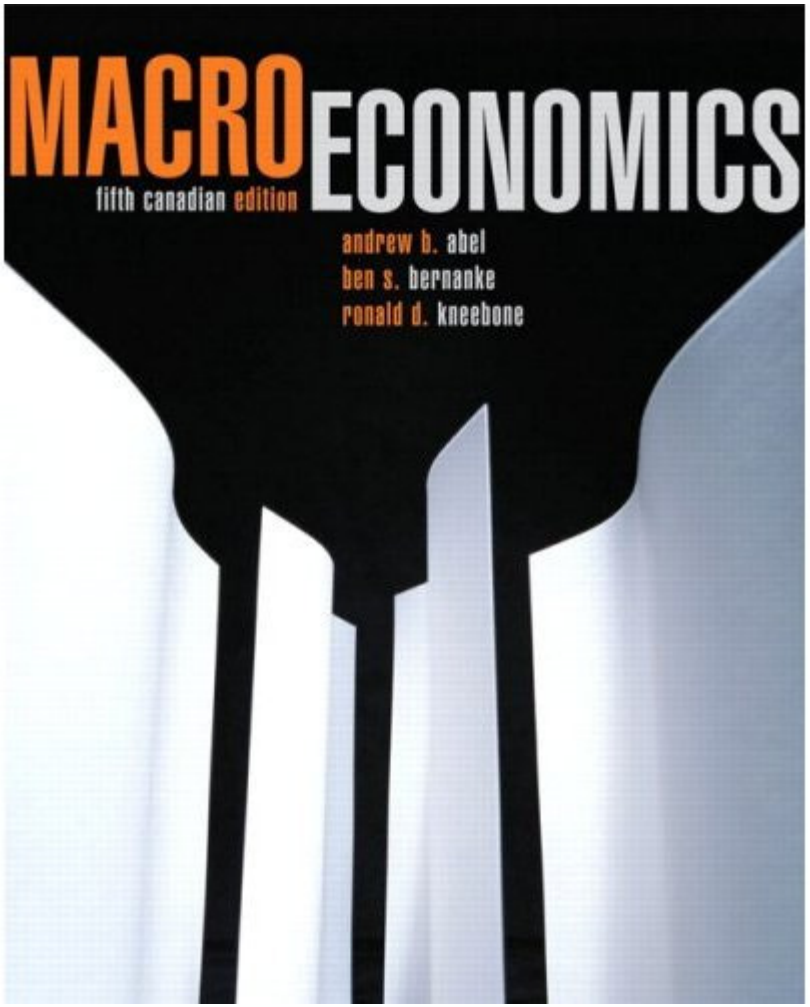
Dunning Hall 306

Office Hours: Wed 2.30-4.00pm

Lecture 1

Textbook

Abel et al. - Macroeconomics 5th ed.



Today's Lecture

- Syllabus – http://qed.econ.queensu.ca/students/phds/martineau/econ222w10/index.html
- What is Macroeconomics about?
- Overview and motivation

Micro vs. Macro-economics

Micro

- English prefix of Greek origin that refers to an object as being smaller than an object or scale of focus, in contrast with macro.
- In Micro-economics the focus is on single economic agents and markets.

Macro

- Short for macroscopic. Refers to a "larger view", namely a view only available from a large perspective. *The "Big picture".*
- In Macro-economics the focus is on national economies and public policies; higher level of aggregation.

The Main Questions in Macro (1)

- What determines a nation's long-run economic growth?
- What causes a nation's economic activity to fluctuate? What can or should be done about business cycles?
- What causes unemployment?
- What causes prices to rise? Why is high inflation bad?
- How does being a part of a global economic system affect nations' economies?
- Can government policies be used to improve economic performance?

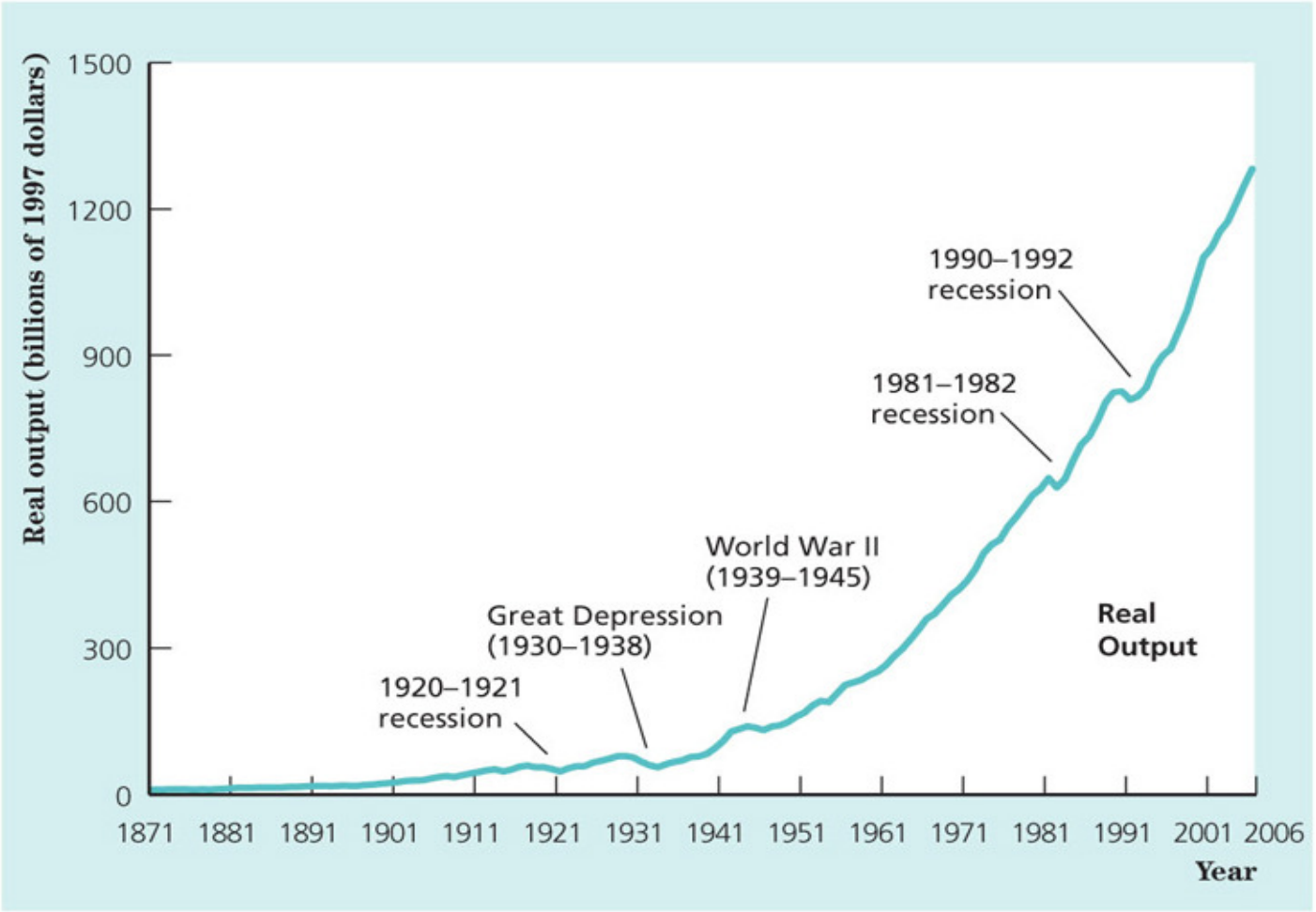
Output (Real GDP)

FIGURE 1.1

OUTPUT OF THE CANADIAN ECONOMY, 1871–2006

In this graph, the output of the Canadian economy is measured by real gross domestic product (real GDP) with goods and services valued at their 2002 prices (see Chapter 2). Note the strong upward trend in output over time, as well as sharp fluctuations during the Great Depression (1930–1938), World War II (1939–1945), and the recessions of 1920–1921, 1981–1982, and 1990–1992.

Source: 1871–1960: *Historical Canadian Macroeconomic Dataset 1871–1994*, compiled by R. Marvin McInnis, Queen's University, 2001; 1960–2006: Statistics Canada, CANSIM II series v1997756 and v646937.



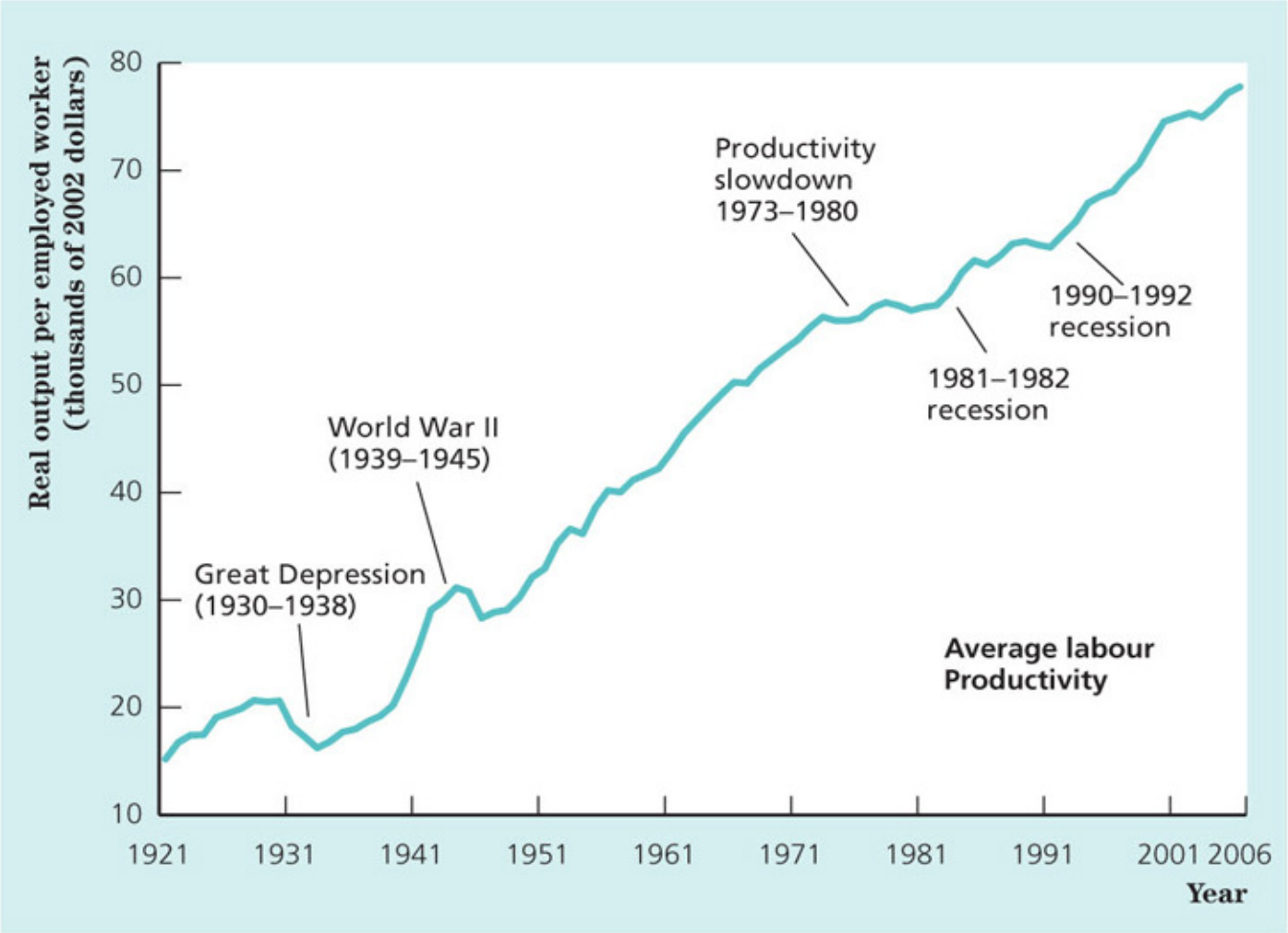
Labor Productivity

FIGURE 1.2

AVERAGE LABOUR PRODUCTIVITY IN CANADA, 1921–2006

Average labour productivity (output per employed worker) has risen over time, with a peak during World War II, reflecting increased wartime production, and troughs during recessions. Productivity growth was particularly strong during the 1950s and 1960s but has slowed since then.

Source: Employment: 1921–1975: *Historical Statistics of Canada*, Series D129 and D139; 1976–2006: Statistics Canada, CANSIM II series v2461119. Average labour productivity is real output (see Figure 1.1 for sources) divided by employment.



Reminder: Growth Rates

$$\%\Delta X = [(X_{t+1} - X_t) / X_t] \times 100$$
$$= [(X_{t+1} / X_t) - 1] \times 100$$

The Main Questions in Macro (2)

- What determines a nation's long-run economic growth?
- What causes a nation's economic activity to fluctuate? What can or should be done about business cycles?
- What causes unemployment?
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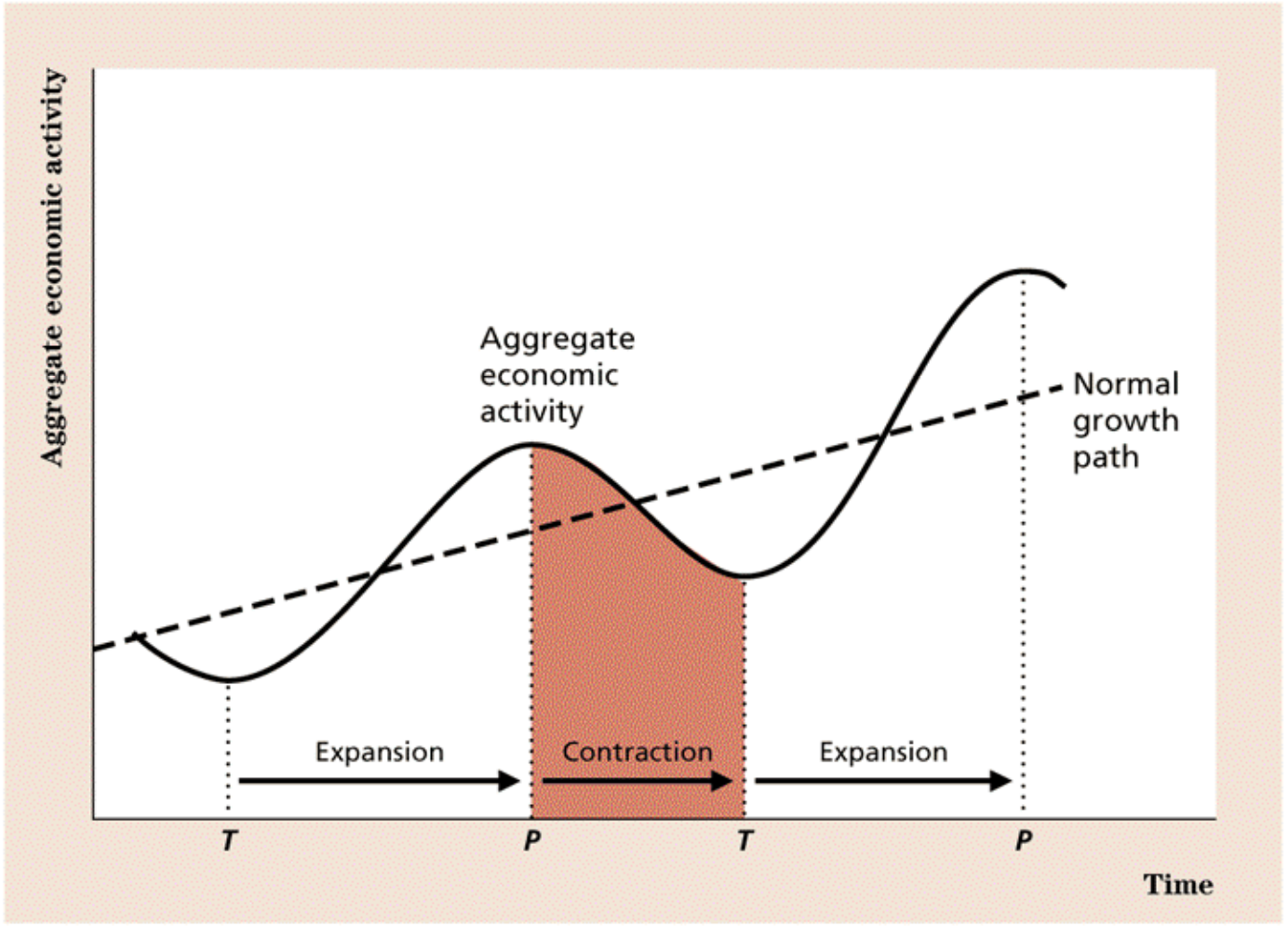
- Can government policies be used to improve economic performance?

Business Cycles

FIGURE 8.1

A BUSINESS CYCLE

The solid curve graphs the behaviour of aggregate economic activity over a typical business cycle. The dashed line shows the economy's normal growth path. During a contraction, aggregate economic activity falls until it reaches a trough, *T*. The trough is followed by an expansion during which economic activity increases until it reaches a peak, *P*. A complete cycle is measured from peak to peak or trough to trough.



The Main Questions in Macro (3)

- What determines a nation's long-run economic growth?
- What causes a nation's economic activity to fluctuate? What can or should be done about business cycles?
- What causes unemployment?
- What causes prices to rise? Why is high inflation bad?
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- Can government policies be used to improve economic performance?

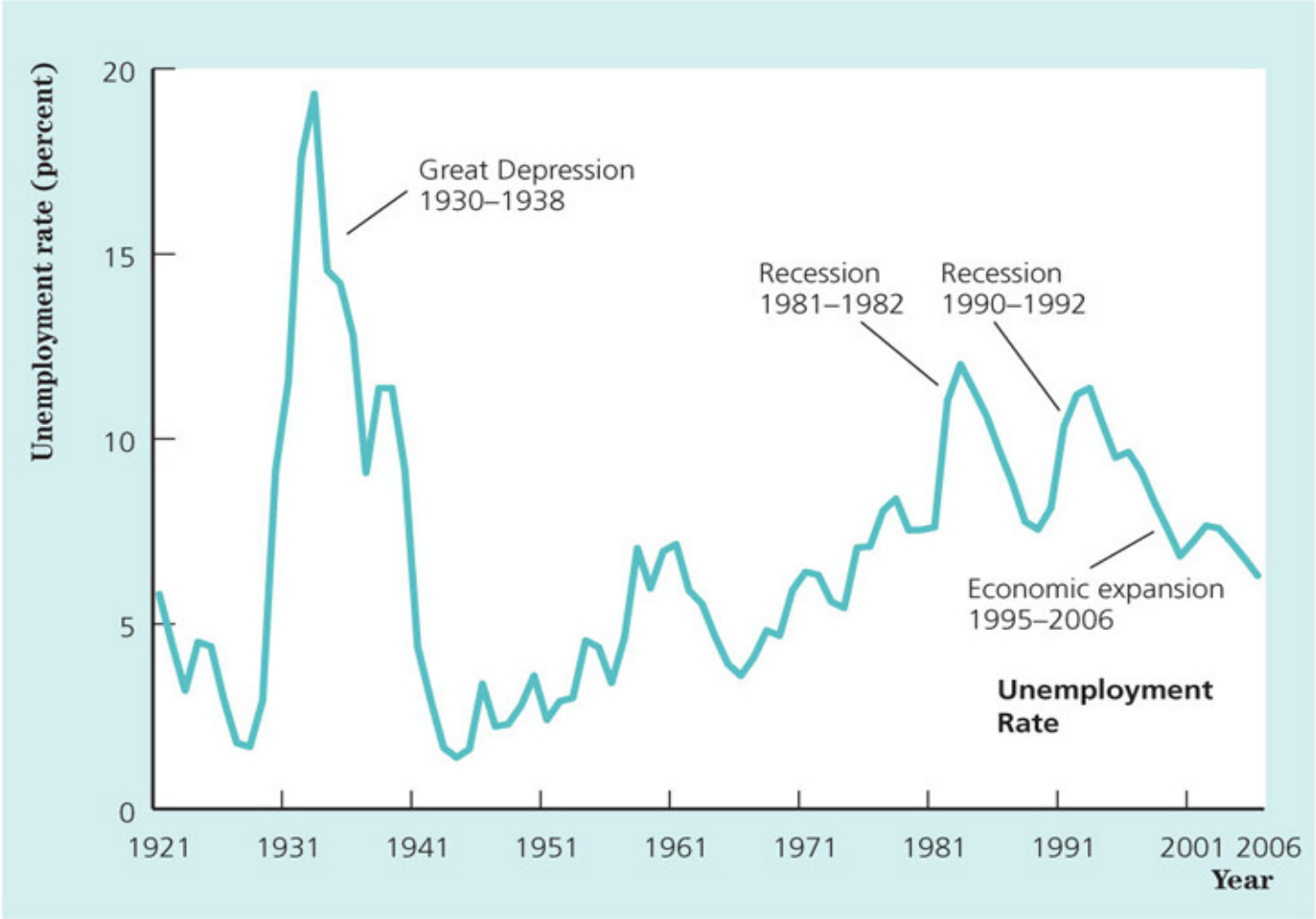
Unemployment Rate

FIGURE 1.3

THE CANADIAN UNEMPLOYMENT RATE, 1921–2006

The figure shows the percentage of the labour force that was unemployed in each year since 1921. Unemployment peaked during the Great Depression of the 1930s and reached its low point during World War II. Since World War II the highest unemployment rates have occurred during the recessions of 1981–1982 and 1990–1992.

Sources: 1921–1975: *Historical Statistics of Canada,* Series D129, D132, D139, and D142; 1976–2006: Statistics Canada, CANSIM II series v2461119 and v2461182.



US Unemp Rate – last 10 years

Reminder: Unemployment Rate

$$Unemployment\ Rate = \frac{Unemployed}{Labor\ Force} \times 100\%$$

The Main Questions in Macro (4)

- What determines a nation's long-run economic growth?
- What causes a nation's economic activity to fluctuate? What can or should be done about business cycles?
- What causes unemployment?
- What causes prices to rise? Why is high inflation bad?
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- Can government policies be used to improve economic performance?

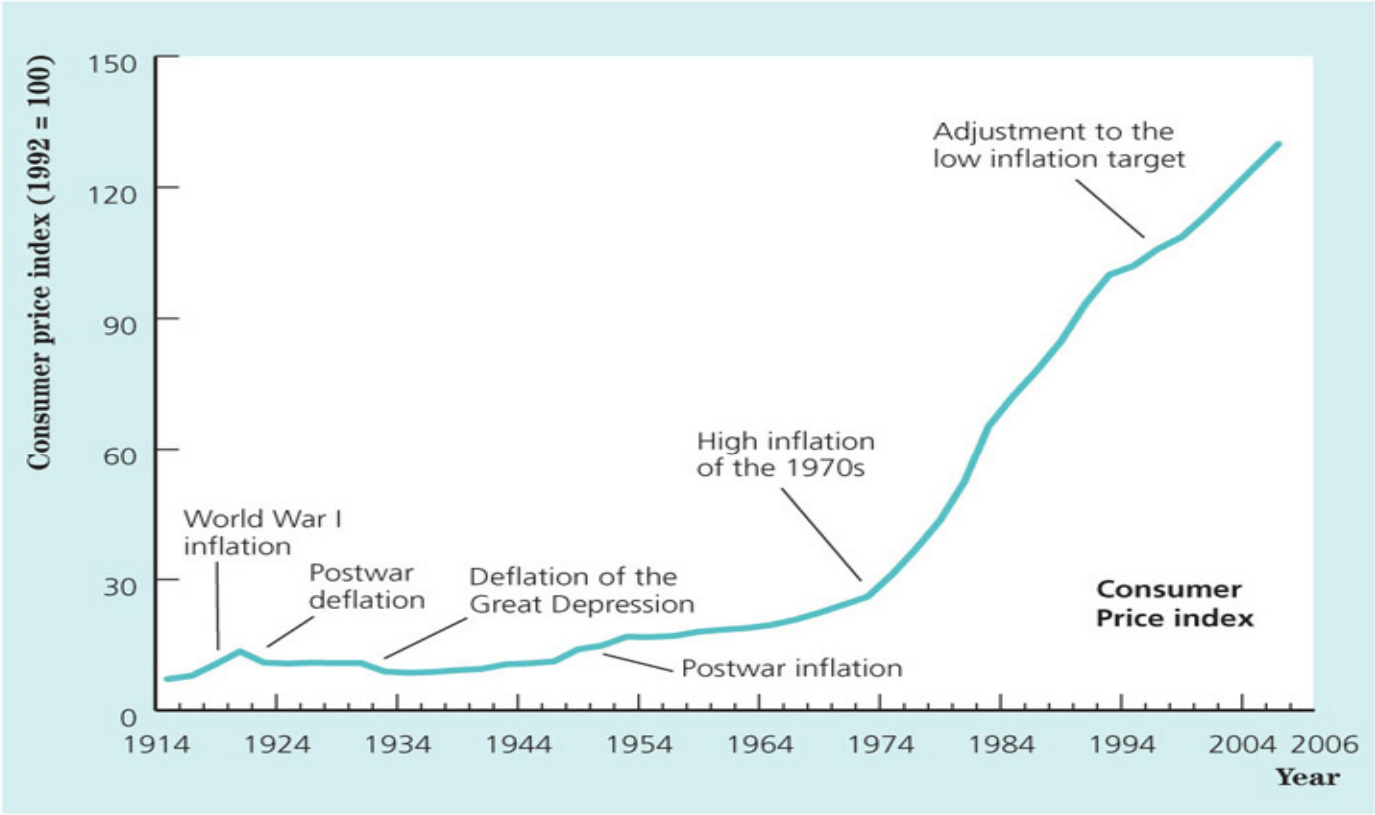
CPI and Inflation

FIGURE 1.4

CONSUMER PRICES IN CANADA, 1914–2006

Prior to World War II, the average level of prices faced by consumers remained relatively constant, with periods of inflation (rising prices) offset by periods of deflation (falling prices). Since World War II, however, prices have risen more than tenfold. In the figure, the average level of prices is measured by the consumer price index, or CPI (see Chapter 2). The CPI measures the cost of a fixed set, or basket, of consumer goods relative to the cost of the same basket of goods in a base period, in this case 1992. Thus, a CPI of 130 in 2006 means that a basket of consumer goods that cost $100 in 1992 would cost $130 in 2006.

Source: Adapted from Statistics Canada CANSIM II series v735319.



[3] This measure is called the consumer price index, or CPI, which is discussed in Chapter 2. Conceptually, the CPI is intended to measure the cost of buying a certain fixed set, or "basket," of consumer goods. However, the construction of a consumer price index over a period as long as 90 years involves many compromises. One is that the basket of goods priced by the CPI is not literally the same over the entire period shown in Figure 1.4 but is periodically changed to reflect the different mix of consumer goods available at different times.

Reminder: Rate of Inflation

$$\pi = [(P_{t+1} - P_t) / P_t] \times 100$$

The Main Questions in Macro (5)

- What determines a nation's long-run economic growth?
- What causes a nation's economic activity to fluctuate? What can or should be done about business cycles?
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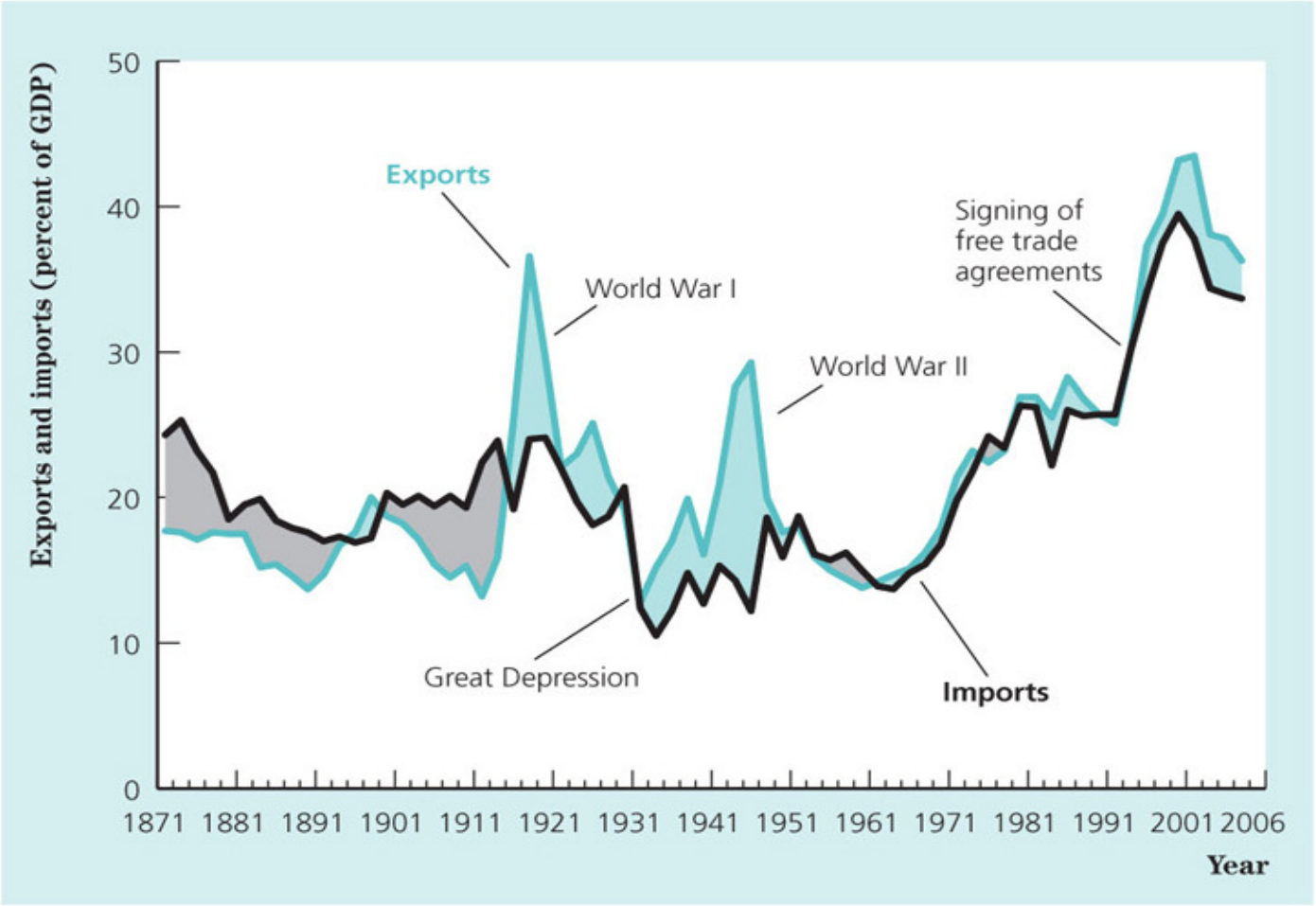
Imports and Exports

FIGURE 1.5

CANADIAN EXPORTS AND IMPORTS, 1871–2006

The figure shows Canadian exports (teal curve) and imports (black curve), each expressed as a percentage of total output. Exports and imports need not be equal in each year: During the late 1950s and early 1990s, Canadian exports were smaller than Canadian imports (shaded grey area). Since 1994, exports have exceeded imports (shaded teal area).

Sources: Exports and imports of goods and services: 1871–1970: *Historical Canadian Macroeconomic Dataset 1871–1994*, compiled by R. Marvin McInnis, Queen's University, 2001. 1970–2006: Statistics Canada, CANSIM II series v498728 and v498745. GDP: 1871–1960: *Historical Canadian Macroeconomic Dataset 1871–1994*. 1960-2006: Statistics Canada, CANSIM II series v1997756.



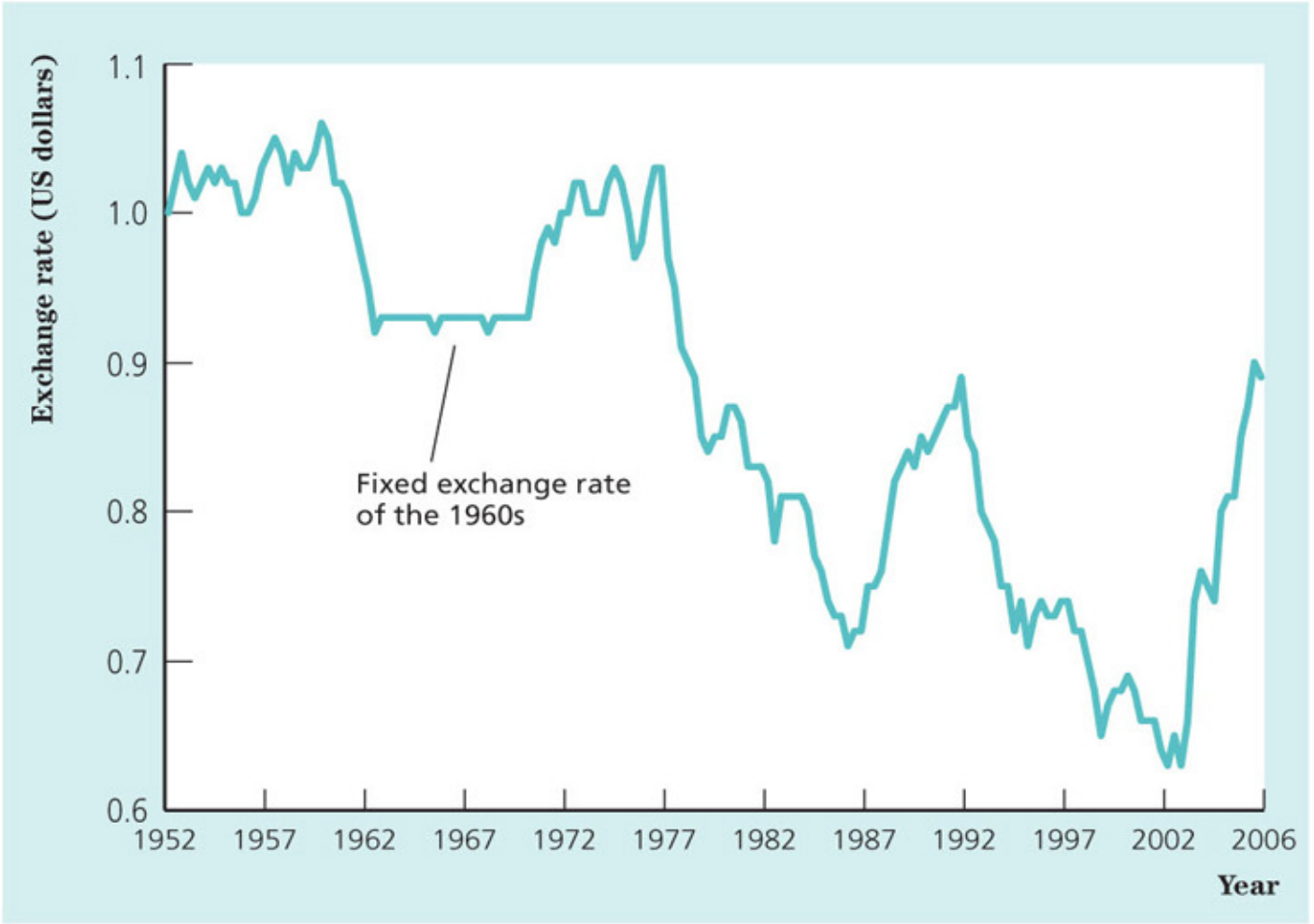
Exchange Rates

FIGURE 1.6

CANADA–US EXCHANGE RATE, 1950–2006

The figure shows the exchange rate between Canada and the United States, monthly since 1950. The exchange rate is the value of the Canadian dollar expressed in US dollars. During the 1960s, the exchange rate was fixed within a narrow band, but since then, it has floated and has been subject to large fluctuations.

Source: Adapted from Statistics Canada CANSIM II series v37426.



The Main Questions in Macro (6)

- What determines a nation's long-run economic growth?
- What causes a nation's economic activity to fluctuate? What can or should be done about business cycles?
- What causes unemployment?
- What causes prices to rise? Why is high inflation bad?
- How does being a part of a global economic system affect nations' economies?
- Can government policies be used to improve economic performance?

Macroeconomic Policy

- Fiscal Policy:
  - determined at the federal, provincial and municipal level
  - concerns government spending and taxation
- Monetary Policy:
  - under the control of the Bank of Canada
  - affects short-term interest rates and the growth of Canada's money supply

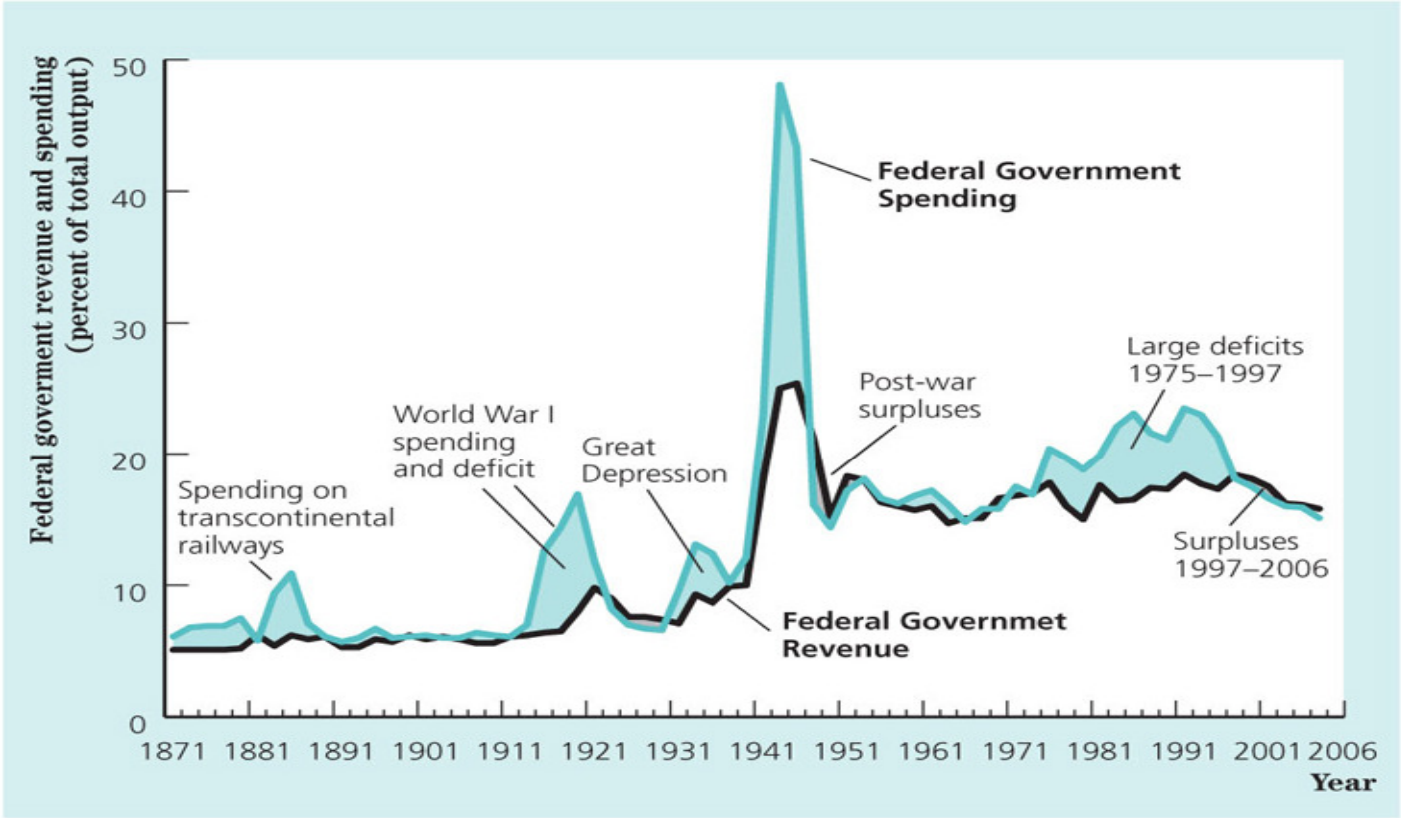
Fiscal Policies

FIGURE 1.7

CANADIAN FEDERAL GOVERNMENT SPENDING AND REVENUE, 1871–2006

Canadian federal government spending (teal curve) and revenue (black curve) are shown as percentages of total output. Deficits, or excesses of spending over tax collections, are shaded in teal, and surpluses (excesses of revenue over spending) are shaded in grey. The federal government's share of the economy has grown since the Great Depression. Large deficits occurred in the 1880s, during World Wars I and II, during the Great Depression, and between 1975 and 1996. Since 1997 the federal government has realized budget surpluses.

Sources: Federal government revenue and expenditure: 1871–1960: *Historical Statistics of Canada*, series H18 and H34. 1960–2006: Statistics Canada, CANSIM II series v498358 and v498371. GDP: 1871–1960: *Historical Canadian Macroeconomic Dataset 1871–1994*. 1960–2006: Statistics Canada, CANSIM II series v1997756.



See you next time…

- Friday at 8.30am in MacDonald, Room 001
- Special Math tutorial: January 20th from 7:00 to 8:30 PM in Dunning 14
- Midterm test: March 1st 6.30-8.30pm

Long-Run Economic Growth

- Rich nations have experienced extended periods of rapid economic growth.
- Poor nations either have never experienced them or economic growth was offset by economic decline.

Increased Output

- Total output is increasing because of increasing population, i.e. the number of available workers.
- Increasing average labour productivity: the amount of output produced per unit of labour input.

Rates of Growth of Output

- Rates of growth of output (or output per worker) are determined by:
  - rates of saving and investment;
  - rates of technological change;
  - rates of change in other factors.

Business Cycles

- Business cycles are short-run contractions and expansions of economic activity.
- The most volatile period in the history of Canadian output was between 1914 and 1945.

Recessions

- Recession is the downward phase of a business cycle when national output is falling or growing slowly.
  - Hard times for many people
  - A major political concern

Unemployment

- Recessions are usually accompanied by high unemployment: the number of people who are available for work and are actively seeking it but cannot find jobs.

$$\textit{Unemployment Rate} = \frac{\textit{Unemployed}}{\textit{Labour Force}} \times 100\%$$

The Unemployment Rate

- The unemployment rate can stay high even when the economy is doing well.
- After eight years of economic growth, in 2000, the unemployment rate in Canada was near 7%.

Inflation

- When prices of most goods and services are rising over time it is inflation. When they are falling it is deflation.
- The inflation rate is the percentage increase in the average level of prices.

Effects of Inflation

- When the inflation rate reaches an extremely high level the economy tends to function poorly. The purchasing power of money erodes quickly, which forces people to spend their money as soon as they receive it.

The International Economy

- An economy which has extensive trading and financial relationships with other national economies is an open economy. An economy with no relationships is a closed economy.

The International Economy (continued)

- International trade and borrowing relationships can transmit business cycles from country to country.

Exports and Imports

- Canadian exports are goods and services produced in Canada and consumed abroad.
- Canadian imports are goods and services produced abroad and consumed in Canada.

Trade Imbalances

- Trade imbalances (trade surplus and deficit) affect output and employment.
  - Trade surplus: exports exceed imports.
  - Trade deficit: imports exceed exports.

The Exchange Rate

- The trade balance is affected by the exchange rate: the amount of Canadian dollars that can be purchased with a unit of foreign currency.

Macroeconomic Policy

- A nation's economic performance depends on:
  - natural and human resources;
  - capital stock;
  - technology
  - economic choices made by citizens;
  - macroeconomic policies of the government.

Macroeconomic Policy (continued)

- Macroeconomic policies:
  - Fiscal policy: government spending and taxation at different government levels.
  - Monetary policy: the central bank's control of short-term interest rates and the money supply.

Budget Deficits

- The economy is affected when there are large budget deficits: the excess of government spending over tax collection.

Budget Deficits (continued)

- The large budget deficits of the 1980s and early 1990s are unusual.
  - Borrowing from the public might divert funds from more productive uses.
  - Federal budget deficits might be linked to the decline in productivity growth.

Aggregation

- Macroeconomists ignore distinctions between individual product markets and focus on national totals.
- The process of summing individual economic variables to obtain economywide totals is called aggregation.

What Macroeconomists Do

- Macroeconomic forecasting
- Macroeconomic analysis
- Macroeconomic research
- Data development

Macroeconomic Forecasting

- Macroeconomic forecasting – prediction of future economic trends - has some success in the short run. In the long run too many factors are highly uncertain.

Macroeconomic Analysis

- Macroeconomic analysis - analyzing and interpreting events as they happen – helps both private sector and public policymaking.

Macroeconomic Research

- Macroeconomic research - trying to understand the structure of the economy in general – forms the basis for macroeconomic analysis and forecasting.

Economic Theory

- Economic theory: a set of ideas about the economy to be organized in a logical framework.
- Economic model: a simplified description of some aspects of the economy.

Developing and Testing a Theory

- State the research question.
- Make provisional assumptions.
- Work out the implications of the theory.
- Conduct an empirical analysis.
- Evaluate the results.

Data Development

- Macroeconomists use data to assess the state of the economy, make forecasts, analyze policy alternatives, and test theories.

Data Development (continued)

- Providers of data must:
  - Decide what types of data should be collected based on who is expected to use the data and how.
  - Ensure the measures of economic activity correspond to economic concepts.
  - Guarantee the confidentiality of data.

Why Macroeconomists Disagree

- A positive analysis examines the economic consequences of an economic policy, but it does not address its desirability.
- A normative analysis tries to determine whether a certain economic policy should be used.

Why Macroeconomists Disagree (continued)

- Economists can disagree on normative issues because of differences in values.
- Economists disagree on positive issues because of different schools of thought.

The Classical Approach

- The invisible hand of Economics: General welfare will be maximized (not the distribution of wealth) if:
  - there are free markets;
  - individuals act in their own best interest.

The Classical Approach (continued)

- To maintain markets' equilibrium – the quantities demanded and supplied are equal:
  - Markets must function without impediments.
  - Wages and prices should be flexible.

The Classical Approach (continued)

- Thus, according to the classical approach, the government should have a limited role in the economy.

The Keynesian Approach

- Keynes (1936) assumed that wages and prices adjust slowly.
- Thus, markets could be out of equilibrium for long periods of time and unemployment can persist.

The Keynesian Approach (continued)

- Therefore, according to the Keynesian approach, governments can take actions to alleviate unemployment.

The Keynesian Approach (continued)

- The government can purchase goods and services, thus increasing the demand for output and reducing unemployment.
- Newly generated incomes would be spent and would raise employment even further.

Evolution of the Classical-Keynesian Debate

- After stagflation – high unemployment and high inflation – of the 1970s, a modernized classical approach reappeared.
- Substantial communication and cross-pollination is taking place between the classical and the Keynesian approaches.

Unified Approach to Macroeconomics

- Individuals, firms and the government interact in goods, asset and labour markets.
- The macroeconomic analysis is based on the analysis of individual behaviour.

The Unified Approach (continued)

- Keynesian and classical economists agree that in the long run prices and wages adjust to equilibrium levels.
- The basic model will be used either with classical or Keynesian assumptions about flexibility of wages and prices in the short run.