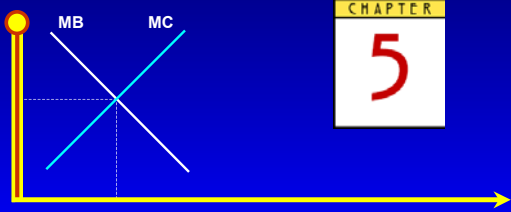


**Measuring Economic Activity: GDP and Unemployment**



CHAPTER  
**5**

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- **Gross Domestic Product (GDP)**
  - The market value of the final goods and services produced in a country during a given period

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- **Market Value**
  - Market value is used to aggregate the quantities of different goods and services into one measurement

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- Market Value
  - Calculating GDP for Orchardia
    - ◆ Total production = 4 apples, 6 bananas, and 3 pairs of shoes
      - Price of apples = \$0.25
      - Price of bananas = \$0.50
      - Price of shoes = \$20

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 4

---

---

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- Market Value
  - Calculating GDP for Orchardia
    - ◆ GDP
      - $(4 \times \$0.25) + (6 \times \$0.50) + (3 \times \$20) = \$64$

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 5

---

---

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- Market Value
  - Observation
    - ◆ More expensive items receive a higher weight than cheaper items.
  - Orchardia's production changes to 3 apples, 3 bananas, and 4 shoes
    - ◆ GDP
      - $(3 \times \$0.25) + (3 \times \$0.50) + (4 \times \$20) = \$82.25$

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 6

---

---

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- Final Goods or Services
  - Goods or services consumed by the ultimate user; because they are the end products of the production process, they are counted as part of GDP

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 7

---

---

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- Intermediate Goods or Services
  - Goods or services used up in the production of final goods and services and therefore not counted as part of GDP

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 8

---

---

---

---

---

---

---

---

---

---

**Gross Domestic Product: Measuring the Nation's Output**

- Final Goods and Services
  - Bread Production
    - ◆ Milling Co. pays \$0.50 for wheat
    - ◆ Bakery pays \$1.20 for flour
    - ◆ Bakery sells bread for \$2.00
    - ◆ Contribution to GDP = \$2.00

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 9

---

---

---

---

---

---

---

---

---

---

## Gross Domestic Product: Measuring the Nation's Output

- Final Goods and Services
  - Getting a haircut
    - Barber charges \$10 for a haircut
    - Barber pays his assistant \$2
    - Contribution to GDP = \$10

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 10

---

---

---

---

---

---

---

---

---

---

## Gross Domestic Product: Measuring the Nation's Output

- Value Added
  - For any firm, the market value of its product or service minus the cost of inputs purchased from other firms

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 11

---

---

---

---

---

---

---

---

---

---

## Value Added in Bread Production

Company	Revenues – Cost of purchased inputs = Value added		
ABC Grain	\$0.50	\$0.00	\$0.50
General Flour	\$1.20	\$0.50	\$0.70
Hot'n'Fresh	\$2.00	\$1.20	<u>\$0.80</u>
Total			\$2.00

- The grain and flour are produced in 2002
- Bread is produced in 2003
- \$1.20 is added to 2002 GDP
- \$0.80 is added to 2003 GDP

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 12

---

---

---

---

---

---

---

---

---

---

## Gross Domestic Product: Measuring the Nation's Output

- Produced Within a Country During a Given Period
  - Domestic
    - Only production that takes place within a country's border
    - Examples
      - Cars produced in the U.S. by foreign owned companies are counted.
      - Car produced in Mexico by U.S. owned companies are not counted.

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 13

---

---

---

---

---

---

---

---

---

---

## Gross Domestic Product: Measuring the Nation's Output

- Produced Within a Country During a Given Period
  - Given Period
    - Counts only goods produced during the defined period such as a calendar year
    - Examples
      - The sale of used goods is not counted.
      - Real estate commissions are counted.

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 14

---

---

---

---

---

---

---

---

---

---

## Expenditure Components of U.S. GDP, 2001 (billions of dollars)

<b>Consumption</b>		<b>6,987.0</b>
Durable goods	835.9	
Nondurable goods	2,041.3	
Services	4,109.9	
<b>Investment</b>		<b>1,586.0</b>
Business fixed investment	1,201.6	
Residential investment	444.8	
Inventory investment	-60.3	
<b>Government purchases</b>		<b>1,858.0</b>
<b>Net exports</b>		<b>-348.9</b>
Exports	1,034.1	
Imports	1,383.0	
<b>Total: Gross domestic product</b>		<b>10,082.2</b>

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 15

---

---

---

---

---


---

---

---

---

---

 **The Expenditure Method for Measuring GDP**

- Consumption Expenditure, or simply Consumption
  - Spending by households on goods and services, such as food, clothing, and entertainment
    - ◆ Consumer durables
    - ◆ Consumer nondurables
    - ◆ Services

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 16

---

---

---

---

---

---

---

---

 **The Expenditure Method for Measuring GDP**

- Investment
  - Spending by firms on final goods and services, primarily capital goods and housing
    - ◆ Business fixed investment
    - ◆ Residential investment
    - ◆ Inventory investment

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 17

---

---

---


---

---

---

---

---

 **The Expenditure Method for Measuring GDP**

- Government Purchases
  - Purchases by federal, state, and local governments of final goods and services
  - Does not include transfer payments
  - Does not include interest paid on government debt

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 18

---

---

---

---

---

---

---

---

**The Expenditure Method for Measuring GDP**

- Net Exports
  - Exports minus imports

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 19

---

---

---

---

---

---

---

---

**The Expenditure Method for Measuring GDP**

- $Y$  = gross domestic product, or output
- $C$  = consumption expenditure
- $I$  = investment
- $G$  = government purchases
- $NX$  = net exports

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 20

---

---

---

---

---

---

---

---

**The Expenditure Method for Measuring GDP**

- GDP

$$Y = C + I + G + NX$$

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 21

---

---

---


---

---

---

---

---

 **The Expenditure Method for Measuring GDP**

- Example
  - An economy produces 1 million cars valued at \$15,000 each.

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 22

---

---

---

---

---

---

---

---

 **The Expenditure Method for Measuring GDP**

- Production
  - GDP = 1 million x \$15,000 = \$15 billion

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 23

---

---

---


---

---

---

---

---

 **The Expenditure Method for Measuring GDP**

- Expenditure
  - 700,000 sold to consumers
    - ◆  $C = 700,000 \times \$15,000 = \$10.5 \text{ billion}$
  - 200,000 sold to businesses
    - ◆  $I = 200,000 \times \$15,000 = \$3.0 \text{ billion}$
  - 50,000 sold to government
    - ◆  $G = 50,000 \times \$15,000 = \$0.75 \text{ billion}$
  - 25,000 exported (no imports)
    - ◆  $NX = 25,000 \times \$15,000 = \$0.375 \text{ billion}$

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 24

---

---

---

---

---

---

---

---

**The Expenditure Method for Measuring GDP**

- Expenditure
  - 975,000 sold
  - 25,000 inventory
    - ◆  $I = 25,000 \times \$15,000 = \$ .375$  billion
- $GDP = C + I + G + NX$ 
  - $\$10.5 + (3.0 + .375) + .75 + .375 = \$15.0$  billion

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 25

---

---

---

---

---

---

---

---

**GDP and the Incomes of Capital and Labor**

- $GDP = \text{Labor Income} + \text{Capital Income}$ 
  - Labor income
    - ◆ Equals 75% of GDP
    - ◆ Includes:
      - Wages
      - Salaries
      - Income of the self-employed

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 26

---

---

---

---

---

---

---

---

**GDP and the Incomes of Capital and Labor**

- $GDP = \text{Labor Income} + \text{Capital Income}$ 
  - Capital income
    - ◆ Equals 25% of GDP
    - ◆ Includes:
      - Profits
      - Rent
      - Interest
      - Royalties

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 27

---

---

---

---

---

---

---

---

## The Three Faces of GDP

Production

Market value of final goods and services

=

Expenditure

Consumption

Investment

Government purchases

Net exports

=

Income

Labor Income

Capital Income

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 28

---

---

---

---

---

---

---

---

---

---

## Prices and Quantities in 2000 and 2004

	Quantity of pizzas	Price of pizzas	Quantity of calzones	Price of calzones
2000	10	\$10	15	\$5
2004	20	\$12	30	\$6

**GDP**

- 2000 = (10)(\\$10) + (15)(\\$5) = \$175
- 2004 = (20)(\\$12) + (30)(\\$6) = \$420

**Observations**

- Output doubled
- GDP increased by 2.4 times
- Prices also rose
- GDP overstates economic growth

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 29

---

---

---

---

---

---

---

---

---

---

## Nominal GDP versus Real GDP

- **Real GDP**
  - A measure of GDP in which the quantities produced are valued at the prices in a base year rather than at current prices
  - Real GDP measures the actual *physical volume* of production

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 30

---

---

---

---

---

---

---

---

---

---



## Nominal GDP versus Real GDP

- Nominal GDP
  - A measure of GDP in which the quantities produced are valued at current-year prices
  - Nominal GDP measures the *current dollar value* of production

---

---

---

---

---

---

---

---

---

---



## Prices and Quantities in 2000 and 2004

	Quantity of pizzas	Price of pizzas	Quantity of calzones	Price of calzones
2000	10	\$10	15	\$5
2004	20	\$12	30	\$6

- 2000 = base year
- 2004 Real GDP =  $(20)(\$10) + (30)(\$5) = \$350$
- 2000 Real GDP =  $(10)(\$10) + (15)(\$5) = \$175$

Real GDP = Nominal GDP in the base year

---

---

---

---

---

---

---

---

---

---



## Real GDP is not the Same as Economic Well-Being

- Nonmarket Economic Activities
  - Household production
  - Volunteer services
  - Nonmarket activities are more important in poor countries
  - Underground economy

---

---

---

---

---


---

---

---

---

---

 **Real GDP is not the Same as Economic Well-Being**

- Environmental Quality and Resource Depletion
  - Benefits of environment quality are not measured.
  - GDP is not adjusted for resource depletion.
  - **GREEN GROSS DOMESTIC PRODUCT**

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 34

---

---

---

---

---


---

---

---

---

---

 **Real GDP is not the Same as Economic Well-Being**

- Quality of Life
  - Crime rates
  - Traffic congestion
  - Civic organizations
  - Open space

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 35

---

---

---

---

---

---

---

---

---

---

 **Real GDP is not the Same as Economic Well-Being**

- Poverty and Economic Inequality
  - GDP does not capture the effects of income inequality

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 36

---

---

---

---

---

---

---

---

---

---

**The Unemployment Rate**

- Measuring Unemployment
  - The Bureau of Labor Statistics (BLS) surveys 60,000 randomly selected households each month

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 37

---

---

---

---

---

---

---

---

---

---

**The Unemployment Rate**

- Measuring Unemployment
  - Those 16 years and over are placed in one of three categories:
    - ◆ Employed
    - ◆ Unemployed
    - ◆ Out of the labor force
  - The BLS estimates how many people in the U.S. fit into each category.

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 38

---

---

---

---

---

---

---

---

---

---

**The Unemployment Rate**

- Measuring Unemployment
  - Labor force = employed + unemployed

Unemployment rate =  $\frac{\text{unemployed}}{\text{labor force}}$

Participation rate =  $\frac{\text{labor force}}{\text{population 16 and over}}$

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 39

---

---

---

---

---

---

---

---

---

---



## The Unemployment Rate

- The Duration of Unemployment
  - The impact of unemployment is influenced by how long individuals have been unemployed.
    - ◆ The unemployment spell
    - ◆ The duration of unemployment
    - ◆ Long-term unemployed
    - ◆ Chronically unemployed

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 43

---

---

---

---

---

---

---

---

---

---

## The Unemployment Rate

- Unemployment Spell
  - A period during which an individual is continuously unemployed
- Duration
  - The length of an unemployment spell

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 44

---

---

---

---

---

---

---

---

---

---

## The Unemployment Rate

- The Duration of Unemployment
  - Discouraged workers
  - Involuntary part-time workers
  - In July 2002:
    - ◆ Official unemployment rate = 5.9%
    - ◆ Including discouraged workers and involuntary part-time worker = 9.4%

Copyright © 2004 by The McGraw-Hill Companies, Inc. All rights reserved. Chapter 5: Measuring Economic Activity: GDP and Unemployment Slide 45

---

---

---

---

---

---

---

---

---

---



## The Unemployment Rate

- Discouraged Workers
  - People who say they would like to have a job but have not made an effort to find one in the last four weeks

---

---

---

---

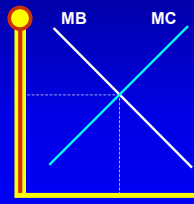
---

---

---

---

End of Chapter



CHAPTER  
5

---

---

---

---

---

---

---

---