ECON 202 - MACROECONOMIC PRINCIPLES

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Chapter 6 - Unemployment and Inflation

Unemployment and Inflation - Topics

1. Definition of unemployment
2. Consumer Price Index
3. Inflation

Unemployment

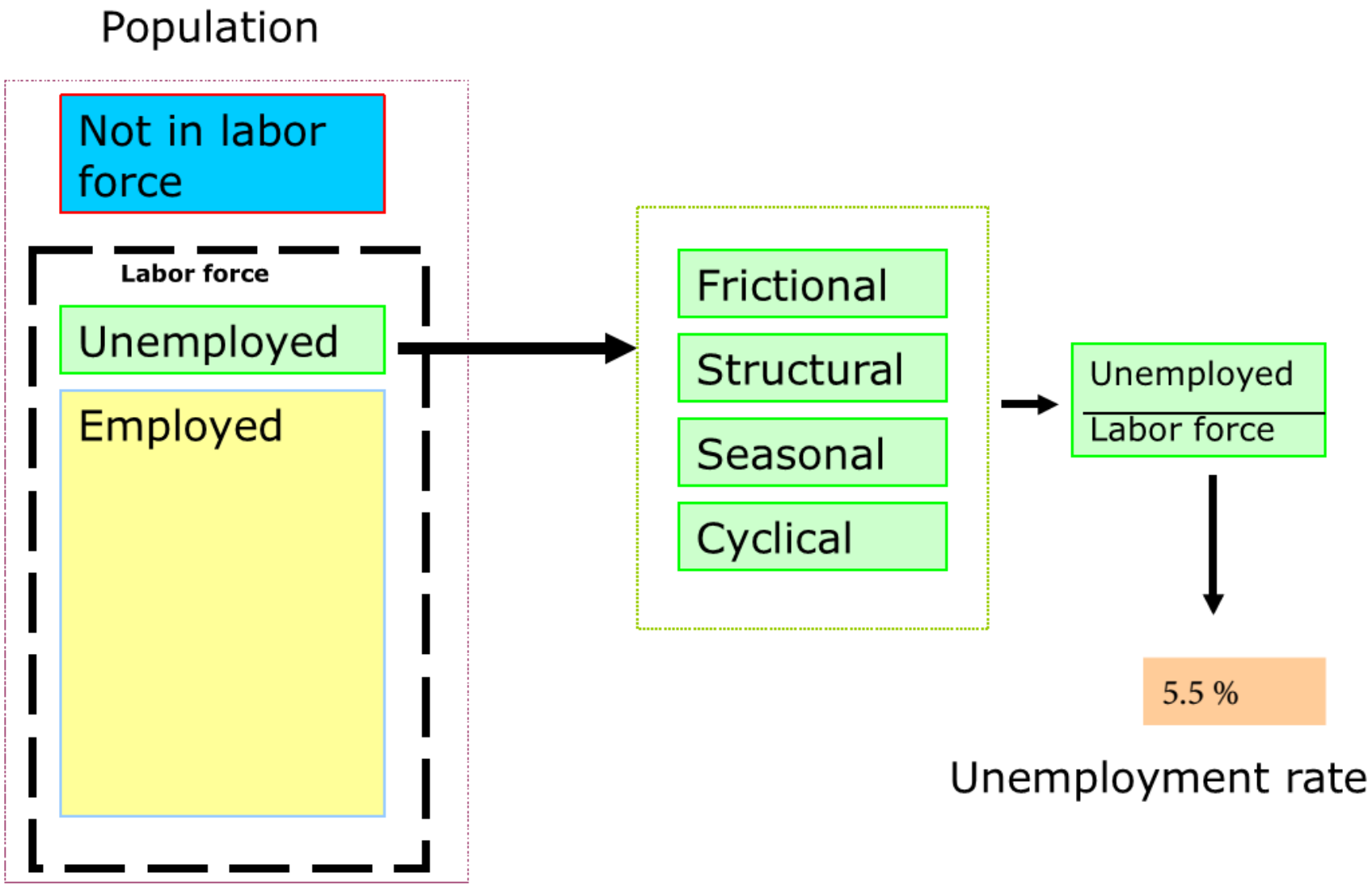
Who is Unemployed?

- Jack having lost his job in a car factory
- 15 year old Mike going to High school
- Homemakers
- Undergrad student at TU looking for a summer job in June
- Person who is serving in the army
- Uncle Bob working 10 hours per month at the local library
- Ski instructor in June in Colorado

Definition of Unemployment

- Labor Force:
  - 16+,
  - non-institutionalized
  - non-retired
  - non-student
  - non-military and
  - able to work
- Labor Force = Employed + Unemployed

Unemployment: Labor Force and Unemployment



Labor Force Participation Rate in 2015

- The labor force participation rate is the fraction of the population that is over 16 years of age that is in the labor force

$$\text{labor force participation rate} = \frac{\text{labor force}}{\text{population} \geq 16}$$

- The labor force participation rate for this year was 62.8%
- Thee unemployment rate was 5.5%

Four Types of Unemployment

1. Frictional Unemployment
2. Seasonal Unemployment
3. Structural Unemployment
4. Cyclical Unemployment

Question Revisited: Who is Unemployed?

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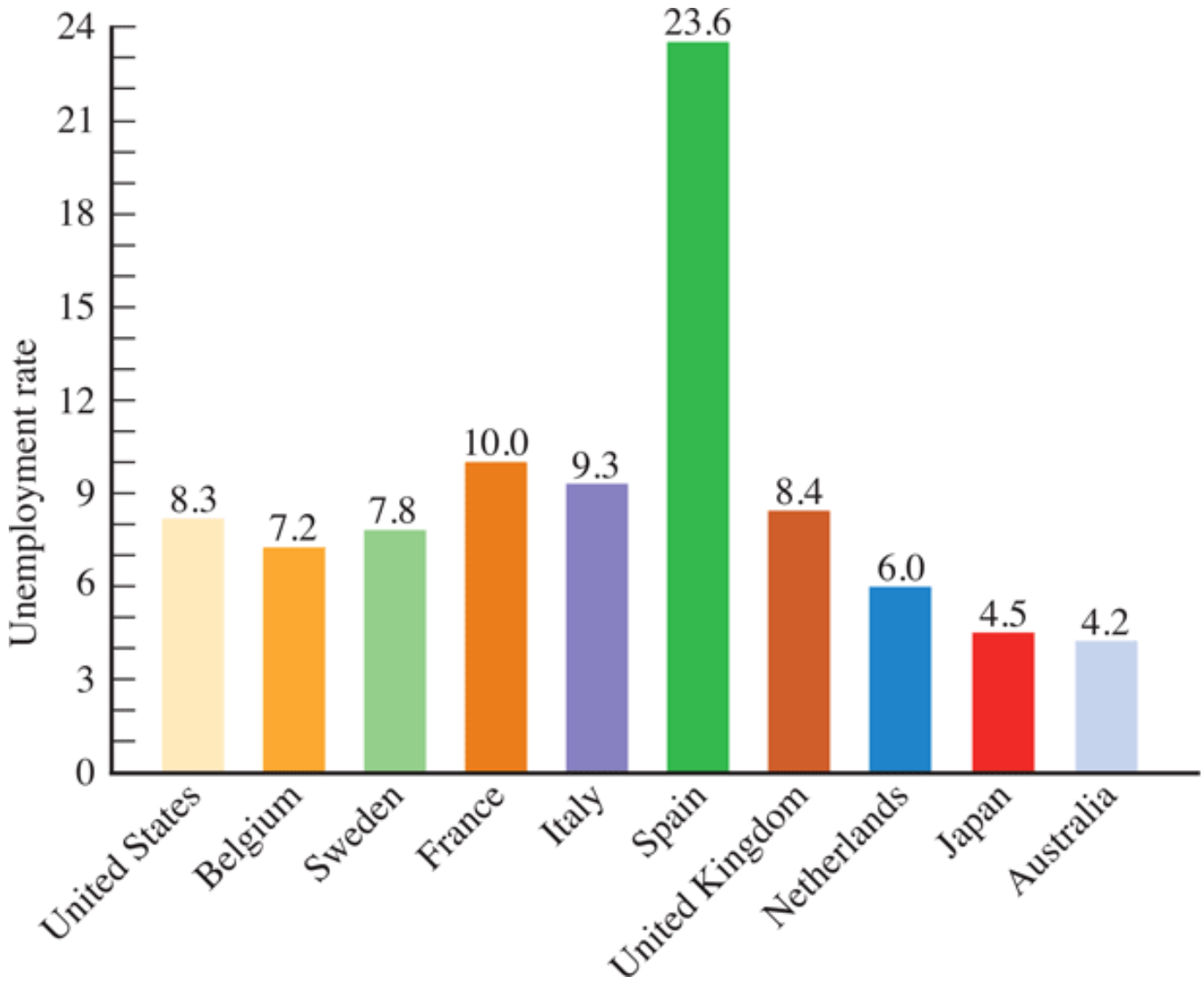
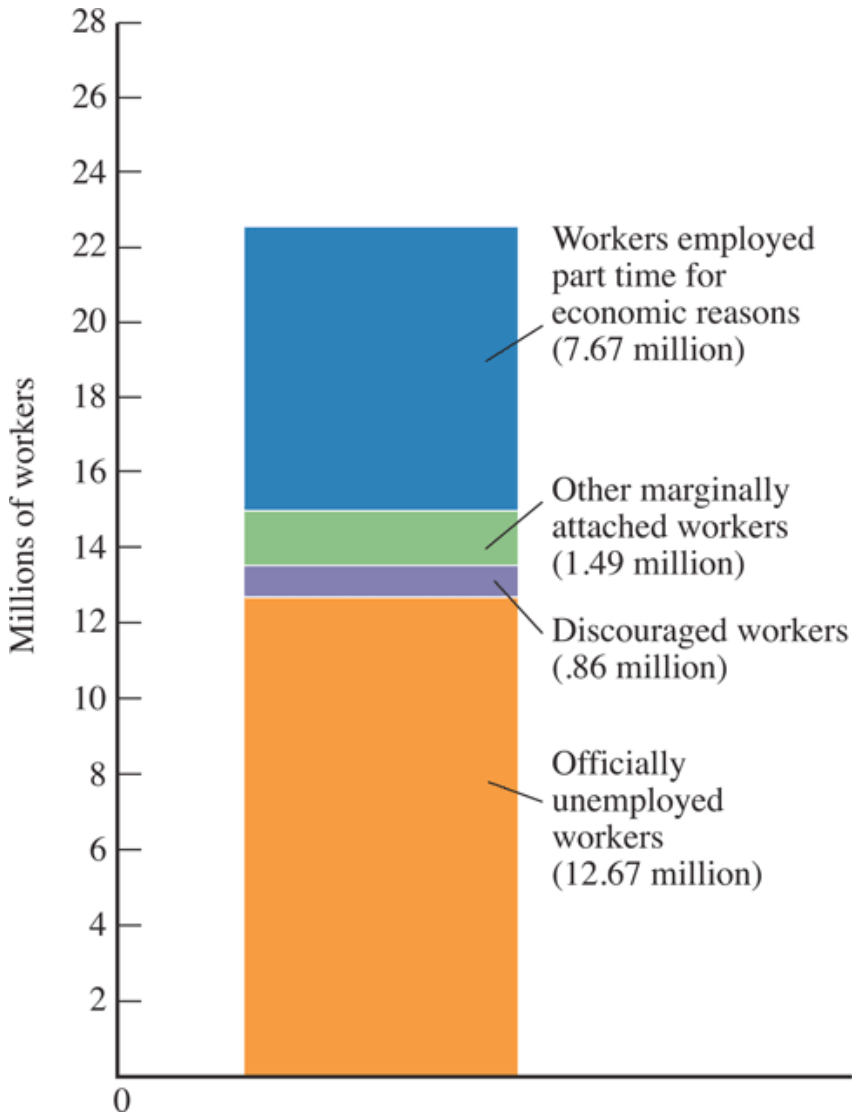
Unemployment Rates around the World



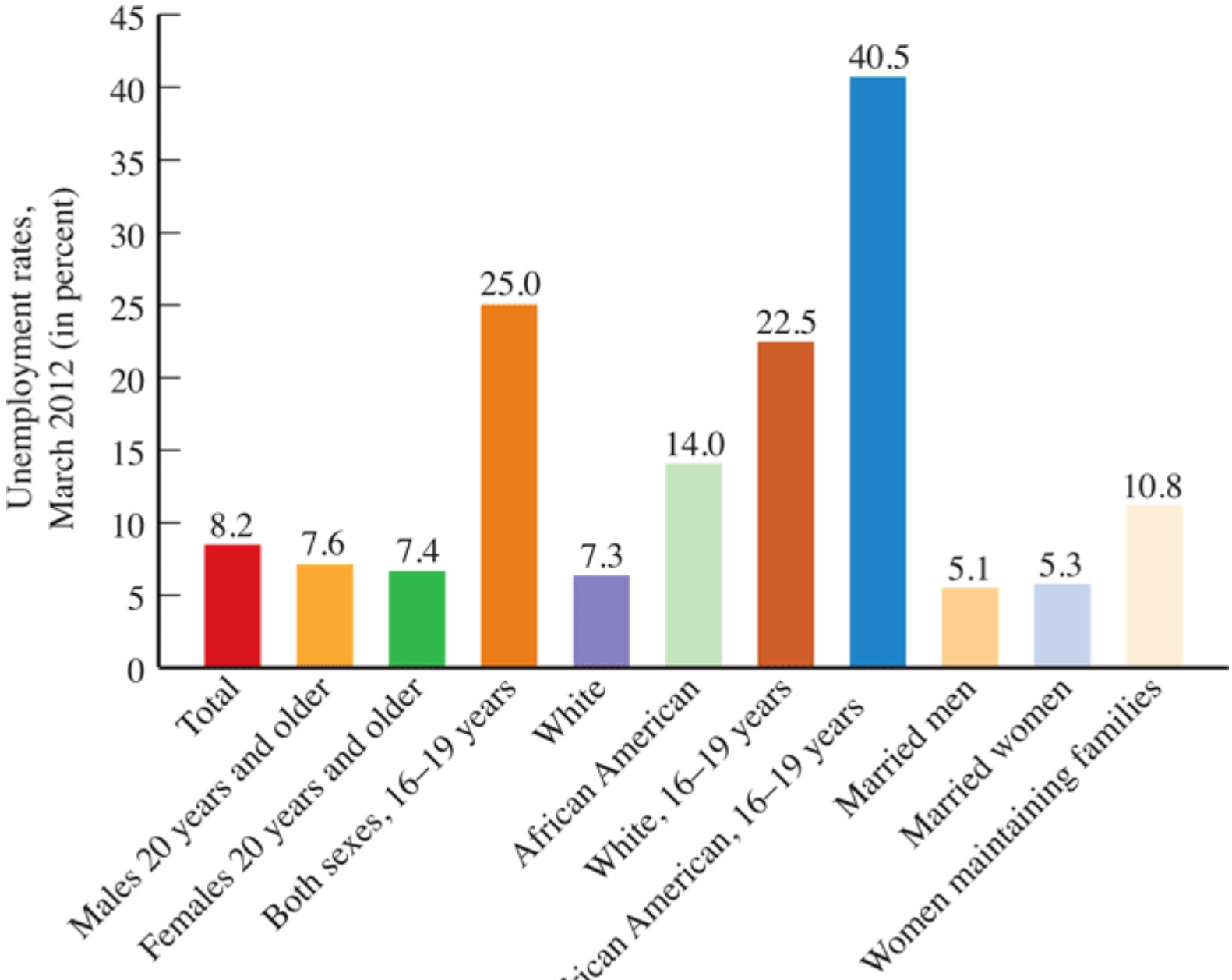
Alternative Measures of Unemployment

- Including
  - discouraged workers,
  - marginally attached workers and
  - individuals working part-time for economic reasons
- substantially increase measured unemployment
- Depending on the statistic you want to emphasize, the unemployment rate could vary from the official 5.8% to as much as 9.4%

Alternative Measures of Unemployment



Who are the Unemployed in the US



Inflation

The Consumer Price Index and the Cost of Living

- The CPI index for a given year, say year K, is defined as:

$$\text{CPI in year } K = \frac{\text{cost of basket in year } K}{\text{cost of basket in base year}} \times 100$$

or

$$\text{CPI in current year} = \frac{\text{Price}_{\text{current}} \times \text{Quantity}_{\text{base}}}{\text{Price}_{\text{base}} \times \text{Quantity}_{\text{base}}} \times 100$$

- This is different from *GDP* deflator

$$\text{GDP-deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} = \frac{\text{Price}_{\text{current}} \times \text{Quantity}_{\text{current}}}{\text{Price}_{\text{base}} \times \text{Quantity}_{\text{current}}}$$

CPI and Cost of Living

Example:

- Cost of a market basket in 2014 (the base year) = \$200
- Cost of the same market basket in 2015 = \$250
  - CPI-2014=
  - CPI-2015=

Continued Example:

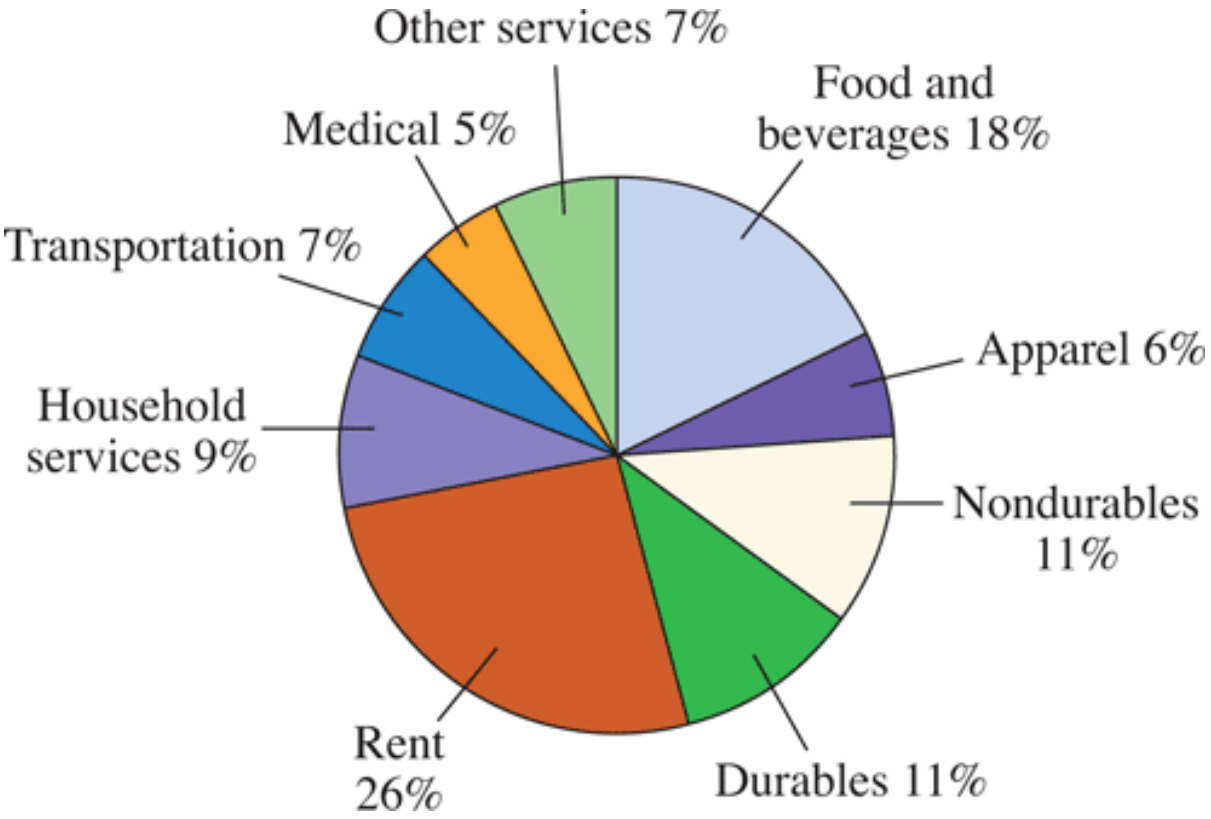
- Suppose you had \$300 in 2014
- How much would you need to be able to maintain the same standard of living in 2015?
  - Answer: \$375

Example of CPI Calculation: Fixed Basket

2014 (Base year)			
	Current Price	**Quantity**	**Nominal**
Automobiles	$5,000	2,000	$10,000,000
Computers	$1,000	10,000	$10,000,000
Haircuts	$10	1,000,000	$10,000,000
			$30,000,000
CPI = ($30mill/$30mill)*100		100	

2015			
	Current Price	**Quantity**	**Nominal**
Automobiles	$10,000	2,000	$20,000,000
Computers	$1,100	10,000	$11,000,000
Haircuts	$11	1,000,000	$11,000,000
			$42,000,000
CPI = ($42mill/$30mill)*100		140	

Components of CPI

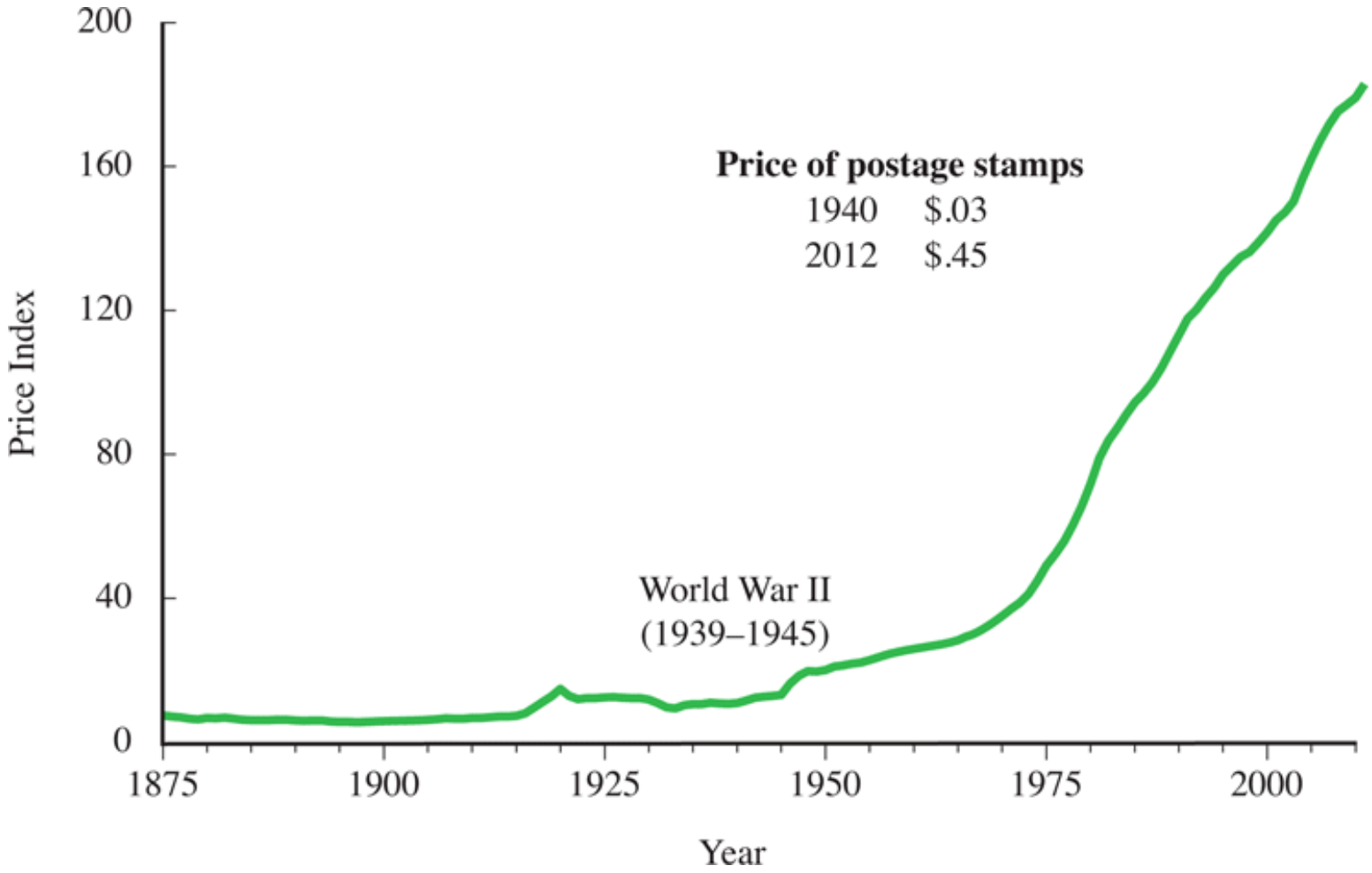


Inflation Rates

- Inflation rate = percentage rate of change of a price index
- Given a price level measure (GDP Deflator, CPI), the gross inflation rate between period t and period t+s is:

$$\pi = \left(\frac{\text{Price Level at t+s}}{\text{Price Level at t}} - 1 \right) \times 100$$

Historical U.S. Inflation Rates



Historical U.S. Inflation Rates

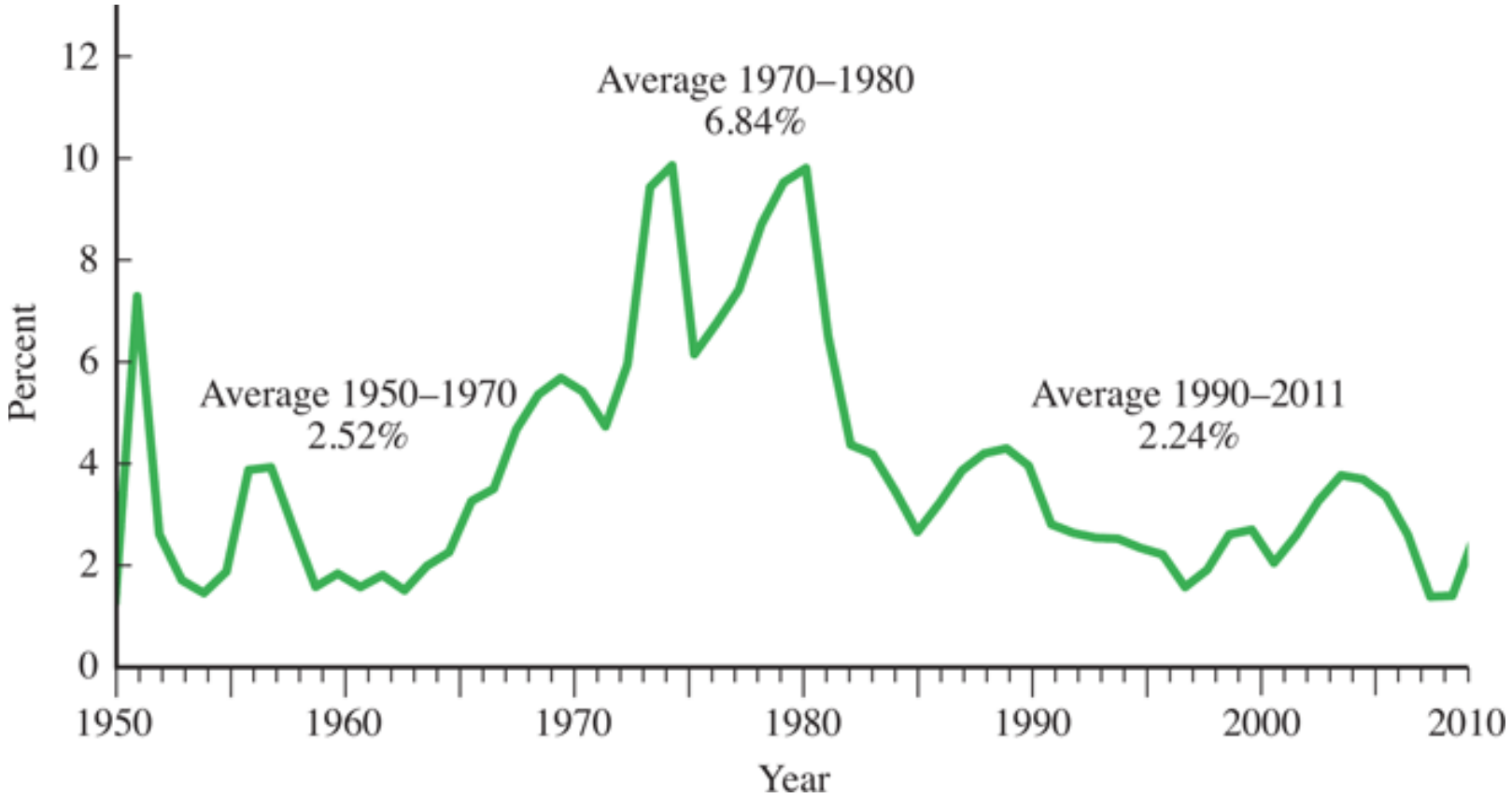
TABLE 6.2 Prices of Selected Goods, 1940s and 2012

Item	1940s Price	2012 Price
Gallon of gasoline	$0.18	$3.65
Loaf of bread	0.08	3.59
Gallon of milk	0.34	3.49
Postage stamp	0.03	0.45
House	6,550	350,000
Car	800	22,000
Haircut in New York City	0.50	50
Movie tickets in New York City	0.25	12.00
Men's tweed sports jacket in New York City	15	189
Snake tattoo on arm	0.25	80.00

Problems in Measuring Price Changes

- Overstatement due to lack of substitution effects (out of expensive goods in the consumption basket)
- Overstatements due to lack of measuring quality improvements (e.g. Computers)
- Estimates of inflation overstatement range between 0.5% and 1.5%
- Why is that a problem?

Historical US Inflation Rates based on Chain Price Index



Inflation, Deflation and Debt

- Deflation refers to a sustained decrease in the average level of prices and wages in the economy

The Cost of Inflation

- The costs associated with **fully expected** or anticipated inflation include:
  - Menu costs
  - Shoe-leather costs
  - Costs due to re-distribution

Example for Hyperinflation

Example for Hyperinflation

Example for Hyperinflation

Example for Hyperinflation