Lesson 2 Price Level

CPI

The Consumer Price Index

- The consumer price index (CPI) is a measure of the overall cost of the goods and services bought by a typical consumer.
- The Bureau of Labor Statistics reports the CPI each month.
- It is used to monitor changes in the cost of living over time.

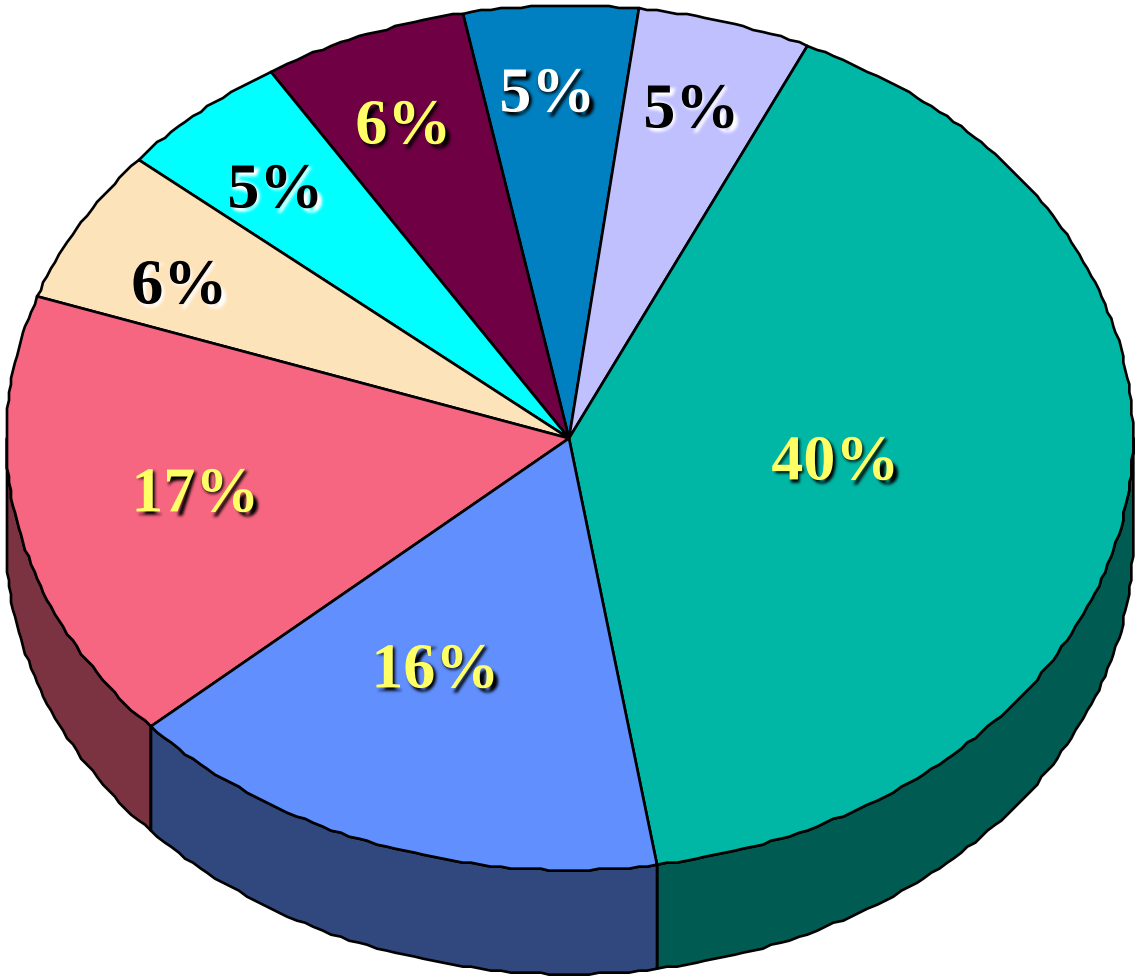
The Consumer Price Index

When the CPI rises, the typical family has to spend more dollars to maintain the same standard of living.

How the Consumer Price Index Is Calculated

- Fix the Basket: Determine what prices are most important to the typical consumer.
  - The Bureau of Labor Statistics (BLS) identifies a market basket of goods and services the typical consumer buys.
  - The BLS conducts monthly consumer surveys to set the weights for the prices of those goods and services.

What's in the CPI's Basket?



- Housing
- Food/Beverages
- Transportation
- Medical Care
- Apparel
- Recreation
- Other
- Education and communication

How the Consumer Price Index Is Calculated

- Find the Prices: Find the prices of each of the goods and services in the basket for each point in time.

How the Consumer Price Index Is Calculated

- Compute the Basket's Cost: Use the data on prices to calculate the cost of the basket of goods and services at different times.

How the Consumer Price Index Is Calculated

- Choose a Base Year and Compute the Index:
  - Designate one year as the base year, making it the benchmark against which other years are compared.
  - Compute the index by dividing the price of the basket in one year by the price in the base year and multiplying by 100.

Calculating the Consumer Price Index

Step 1:Survey Consumers to Determine a Fixed Basket of Goods

4 hot dogs, 2 hamburgers

Calculating the Consumer Price Index

Step 2: Find the Price of Each Good in Each Year

Year	Price of Hot dogs	Price of Hamburgers
2001	$1	$2
2002	$2	$3
2003	$3	$4

Calculating the Consumer Price Index

Step 3: Compute the Cost of the Basket of Goods in Each Year

2001	($1 per hot dog x 4 hot dogs) + ($2 per hamburger x 2 hamburgers) = **$8**
2002	($2 per hot dog x 4 hot dogs) + ($3 per hamburger x 2 hamburgers) = **$14**
2003	($3 per hot dog x 4 hot dogs) + ($4 per hamburger x 2 hamburgers) = **$20**

Consumer Price Index (CPI)

The most commonly used measurement inflation for consumers is the Consumer Price Index

Here is how it works:

- **The base year is given an index value of 100**
- **To compare, each year is given an index # as well**

$$\text{CPI} = \frac{\text{Price of market basket}}{\text{Price of market basket in base year}} \times 100$$

1997 Market Basket: Movie is $6 & Pizza is $14
Total = $20 (Index of Base Year = 100)

2009 Market Basket: Movie is $8 & Pizza is $17
Total = $25 (Index of 125)

- **Rise in index = inflation percentage (25% from ’97 to ’09)**
- **Items that cost $100 in ’97 cost $125 in ’09**

Calculating the Consumer Price Index

Step 4: Choose One Year as the Base Year (2001) and Compute the Consumer Price Index in Each Year

2001	($8/$8) x 100 = **100**
2002	($14/$8) x 100 = **175**
2003	($20/$8) x 100 = **250**

Problems with the CPI

1. **Substitution Bias-** **As prices increase for the fixed market basket, consumers buy less of these products and more substitutes that may not be part of the market basket. (Result: CPI may be higher than what consumers are really paying)**
2. **New Products-** **The CPI market basket may not include the newest consumer products. (Result: CPI measures prices but not the increase in choices)**
3. **Product Quality-** **The CPI ignores both improvements and decline in product quality. (Result: CPI may suggest that prices stay the same though the economic well being has improved significantly OR …)**

CPI vs. GDP Deflator

The GDP deflator measures the prices of all goods produced, whereas the CPI measures prices of only the goods and services bought by consumers.

An increase in the price of goods bought by firms or the government will show up in the GDP deflator but not in the CPI.

The GDP deflator includes only those goods and services produced domestically. Imported goods are not a part of GDP and therefore don't show up in the GDP deflator.

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

Concept of inflation

Goal #3
LIMIT INFLATION

Country and Time-
Zimbabwe, 2008
Annual Inflation Rate-
79,600,000,000%
Time for Prices to Double-
24.7 hours

Measuring the Cost of Living

- Inflation refers to a situation in which the economy's overall price level is rising.
- The inflation rate is the percentage change in the price level from the previous period.

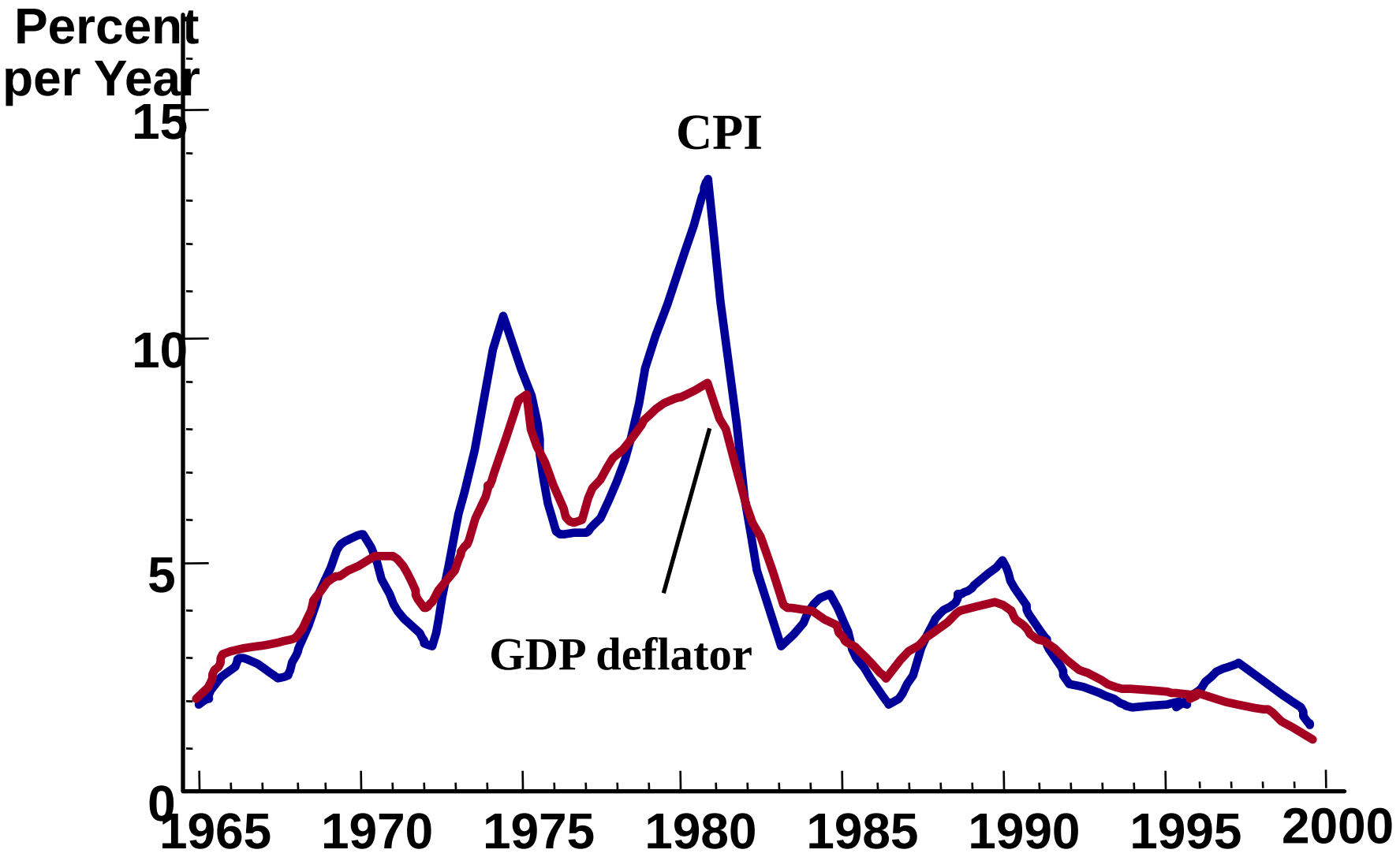
- Same money, Purchasing power decreases.

CPI and Inflation Rate

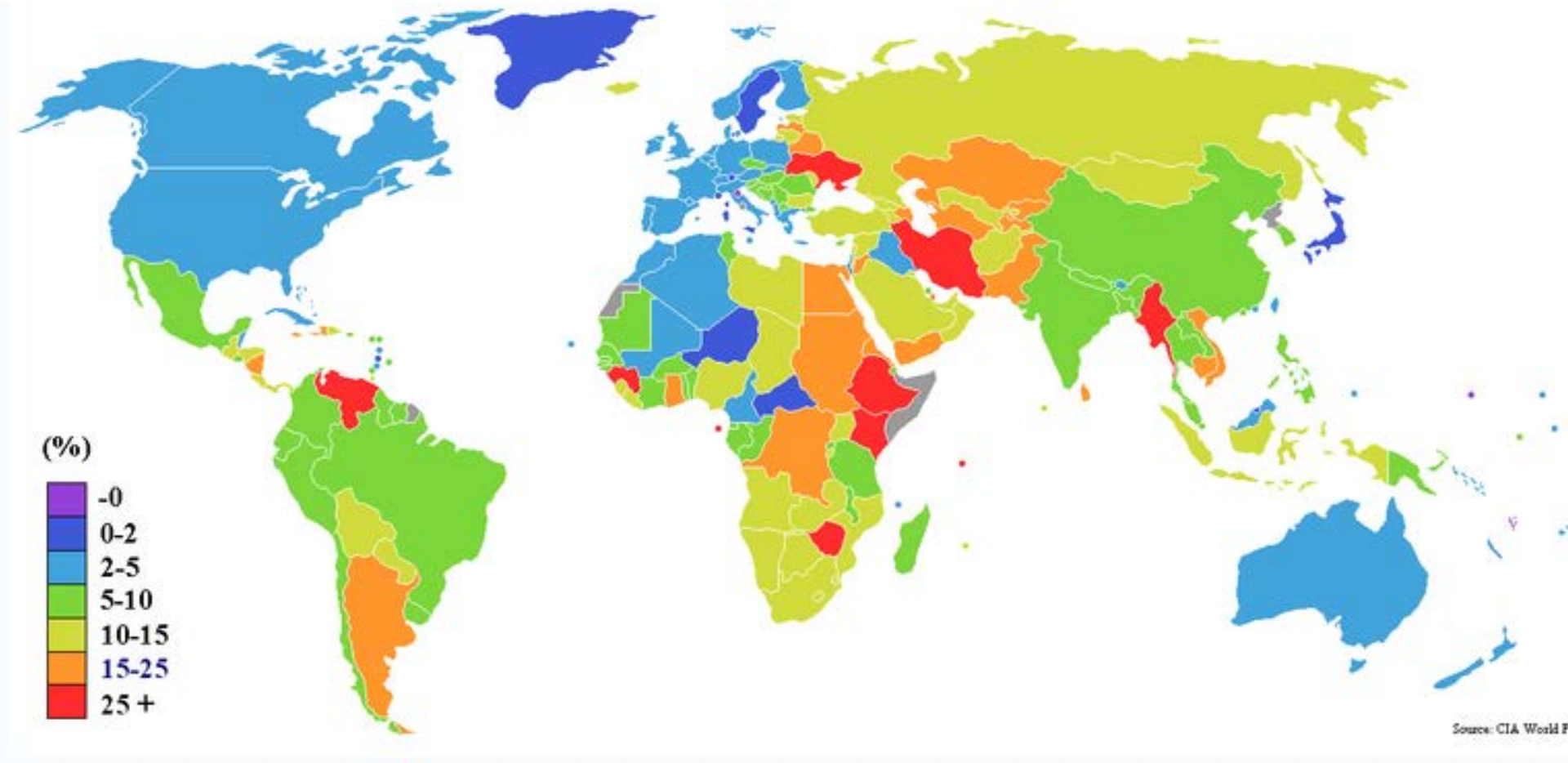
Use the Consumer Price Index to Compute the Inflation Rate from Previous Year

2002	(175-100)/100 x 100 = **75%**
2003	(250-175)175 x 100 = **43%**

Two Measures of Inflation



World Inflation Rates



Three Causes of Inflation

1. **If everyone suddenly had a million dollars, what would happen?**
2. **What two things cause prices to increase? Use Supply and Demand**

3 Causes of Inflation

1. The Government Prints TOO MUCH Money (The Quantity Theory)

- **Governments that keep printing money to pay debts end up with hyperinflation.**
- **There are more “rich” people but the same amount of products.**
- **Result: Banks refuse to lend and GDP falls**

3 Causes of Inflation

2. DEMAND-PULL INFLATION

"Too many dollars chasing too few goods"

DEMAND PULLS UP PRICES

- **Demand increases but supply stays the same. What is the result?**
- **A Shortage driving prices up**
- **An overheated economy with excessive spending but same amount of goods.**

3 Causes of Inflation

3. COST-PUSH INFLATION

Higher production costs increase prices

A negative supply shock increases the costs of production and forces producers to increase prices.

Examples:

- **Hurricane Katrina destroyed oil refineries and causes gas prices to go up. Companies that use gas increase their prices.**

Expected and unexpected inflation

Expected and unexpected inflation

- The expected inflation
  the public's expectations for inflation.

Expected inflation

- Many unions and government employees have cost of living raises written into employment contracts real wage
- Banks and other lenders adds an inflation factor on the real rate of interest to create a nominal rate

Nominal interest rate = Real interest rate + Expected inflation

Expected inflation

- So long as the actual inflation is identical to the expected inflation.

- Expected inflation won't hurt employer/employee, lender/borrower etc.

Unexpected inflation

- The unexpected inflation

  price levels are unpredictable or increase by a much larger or much smaller amount than predicted. 考题一般会默认为高于预期的

Impact of inflation

Is inflation good or bad?

Hurt by Inflation	Helped by Inflation
• Lenders-People who lend money (at fixed interest rates) • People with fixed incomes • Savers	• Debtors-People who borrow money • A business where the price of the product increases faster than the price of resources