

LECTURE 5

CONCEPTS | INFLATION

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DEFINITION OF INFLATION

- price level $P(t)$: the general level of prices
- inflation rate $\pi(t)$: the rate at which the price level changes

$$\pi(t) = \frac{P(t) - P(t - 1)}{P(t - 1)}$$

- rise in the price level ($\pi(t) > 0$): inflation
- decline in the price level ($\pi(t) < 0$): deflation
- two measures of $P(t)$: GDP deflator and CPI

GDP DEFLATOR

$$\text{GDP deflator} = \frac{\text{nominal GDP}}{\text{real GDP}}$$

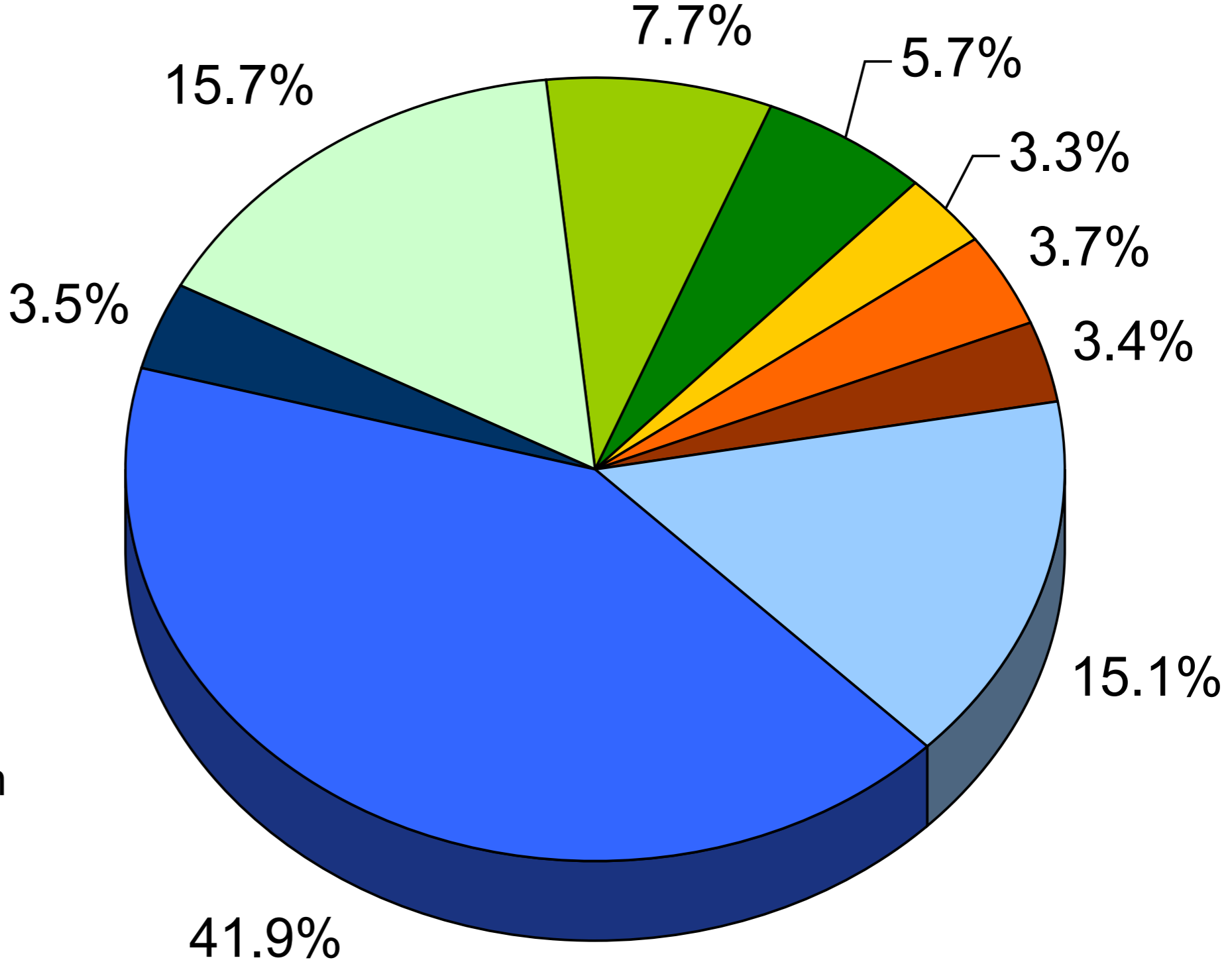
- an index, without economic interpretation: 1 in base year
- nominal GDP = GDP deflator \times real GDP
- inflation rate = growth rate of GDP deflator
- growth rate of nominal GDP = inflation rate + growth rate of real GDP

CONSUMER PRICE INDEX (CPI)

- CPI measures cost of living: cost in current dollars of the **consumption basket of a typical urban consumer**
- in the US: CPI is published since 1917 by the Bureau of Labor Statistics (BLS)
 - BLS collects prices for 211 items in 38 cities to construct CPI
- inflation rate = growth rate of CPI

THE CPI BASKET: EXPENDITURE SHARES

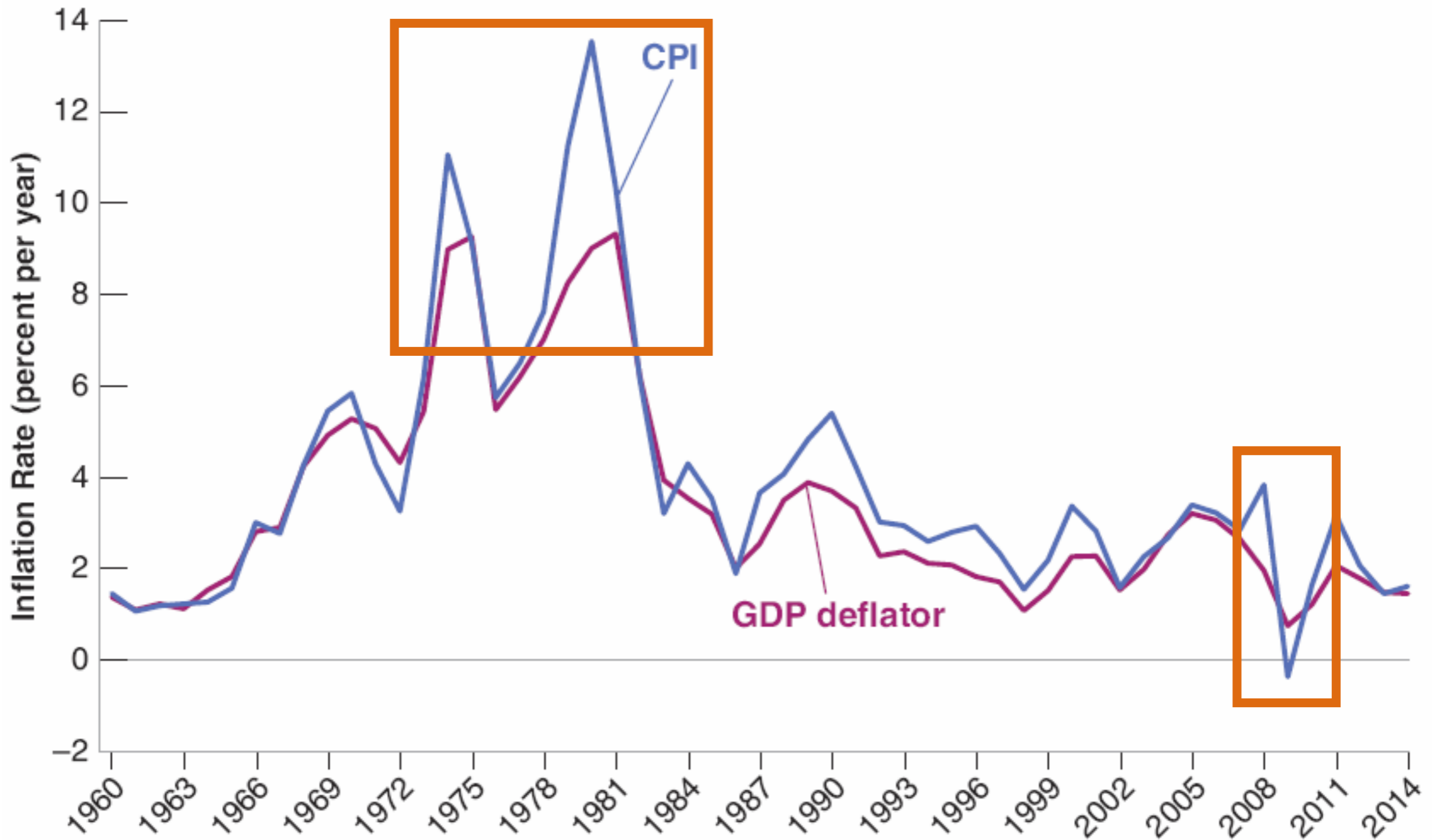
- Food and bev.
- Housing
- Apparel
- Transportation
- Medical care
- Recreation
- Education
- Communication
- Other goods and services



CPI VERSUS GDP DEFLATOR

- discrepancy 1: goods produced in the economy (GDP) are different from goods purchased by consumers (CPI)
 - some goods in GDP are sold to firms (I), the government (G), or foreigners (NX), not to consumers
 - some goods in CPI are imported from abroad, not produced domestically
- discrepancy 2: the basket of goods is fixed in CPI but variable in GDP deflator
 - because the composition of GDP varies over time

YET, CPI AND GDP DEFLATOR MOVE TOGETHER



WHY DO WE CARE ABOUT INFLATION?

CLASSICAL REASONS

- inflation affects the **purchasing power of some people** when not all prices / wages rise proportionally
 - some prices and wages are fixed by law (for instance, the minimum wage)
 - some price and wages are fixed by long-term contracts (for instance, some loans or pension payments)
- inflation distorts the **tax system**: income brackets are fixed
- inflation creates **uncertainty**

WHY DO WE CARE ABOUT INFLATION: PSYCHOLOGICAL REASONS

- people seem to strongly dislike inflation
- Robert Shiller (1996) conducted a survey of 600 households in Brazil, Germany, and the US
- 85% of respondents to the survey say that “when they go to the store and see that prices are higher, they sometimes **feel a little angry at someone**”
- they are usually angry at “manufacturers”, “store owners” and “businesses”, accused of “**greed**”
- <https://www.nytimes.com/2014/03/14/world/americas/rocketing-prices-confound-an-argentina-racked-by-inflation.html>

PRICES ARE INSUFFICIENT: NEED TO LOOK AT QUEUES





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