Measuring Inflation and Unemployment

ECO 120: Global Macroeconomics



- Specific Goals
 - Learn about different types of unemployment.
 - Learn another measure of the aggregate price level.
- Learning Outcomes
 - LO 3: Define, compute, and explain limitations to measures of the macroeconomy, including gross domestic product, inflation, and unemployment.
 - GELO 1: Students will be able to use mathematical and logical methods to solve problems.

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Reading

Measuring employment: Modules 12 and 13

• Measuring prices: Module 15



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- The labor force does not include
 - Children
 - People who are institutionalized.
 - People legally not allowed to work
 - People not employed who are not looking to be employed (eg retired people).
 - Discouraged workers: people who were unemployed and left the labor force.
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- Unemployment rate: percentage of people in the labor force who are not employed.
- Three types of unemployment: frictional, structural, and cyclical.
- **Frictional unemployment**: unemployment caused by delays in job search, job candidate search.
- Structural unemployment: caused by changes in demand for types of work.
 - Changes in technology makes some types of jobs obsolete.
 - Changes in international trade shrink some industries.
 - Changes in tastes and preferences
- Cyclical unemployment: caused by declines in total spending in the economy.
 - Unemployment that increases during recessions, decreases during expansions.

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Stephen Colbert - March 17, 2008 "Audacity of Hopelessness"

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- Bureau of Labor Statistics (BLS) chooses a basket of goods: specific goods with specific weights.

$$CPI_t = \frac{Price \text{ of basket at time } t}{Price \text{ of same basket in base year}} (100)$$

CPI inflation rate: percentage change in CPI

$$\operatorname{inflation}_t = \frac{\operatorname{CPI}_t - \operatorname{CPI}_{t-1}}{\operatorname{CPI}_{t-1}} (100\%)$$

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	Quantity	Price	Quantity	Price
Brats	400	\$1.50	500	\$1.75
Cheese	150	\$1.00	200	\$1.50
Beer	200	\$2.00	250	\$2.00

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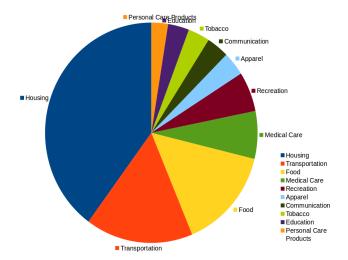
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Source: Bureau of Labor Statistics - http://www.bls.gov/cpi/cpiri2012.pdf

Biases with CPI

- New goods bias: how do you compare the price of a computer today with the price of the same good in 1970?
 - Comparing new goods with old goods that were cheaper causes an overestimate of inflation.
- Change in quality bias: prices rise in part because quality improves. This overstates inflation.
- Commodity substitution bias: CPI basket remains fixes, but people's consumption decisions do not.
 - An increase in prices have a smaller effect when people substitute away from the more expensive goods.
 - Keeping a constant basket overestimates inflation
- Outlet substitution bias: when consumers go to discount stores when prices increase.
- Congressional Advisory Commission estimated in 1996 that the CPI overestimated inflation by about 1.1%.

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What is the CPI?

- Who? All urban consumers and urban wage earners and clerical workers, about 87% of the U.S. population.
- It is not a cost-of-living index.
 - Does not account proper treatment of public health and safety concerns: crime, education, quality and accessibility of health care, water quality
 - Does not account for substitution effects
- The CPI is unlikely to reflect prices or baskets of any one individual.
 - Some subpopulations may have special needs disabled elderly, chronically ill, poor, etc.
- Taxes associated with purchasing goods and services are counted
 - Sales, excise, and property taxes
 - Government user fees: tolls, fishing license, state park entry fee, etc.
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