

## LECTURE 23: INFLATION I

- I. Why inflation matters
  - a. What is money good for?
    - i. Money isn't what's valuable; it's the stuff you can buy with it.
    - ii. If I double your income but I triple all prices, you will be made worse off.
    - iii. We thus need to consider *inflation*—or the tendency of the price of goods to rise. (*Deflation*—when the price level tends to fall—is also possible.)
  - b. Since inflation tends to make things more expensive, governments and companies adjust for it.
    - i. Social Security has a cost of living adjustment (COLA). If there's a lot of inflation, Social Security payments will increase to compensate.
    - ii. Employers will often increase wages to adjust for inflation (otherwise, employees are effectively getting pay cuts). Employers don't necessarily mind these adjustments because the price level is increasing, including the price they sell at.
  - c. The *nominal* value isn't adjusted for inflation. The *real* value is adjusted for inflation.
    - i. *Nominal* values are useful because they are what's reported by default and require no additional calculation. Because inflation tends to be small, there's no need to adjust for it if you're comparing prices today with prices or incomes last year.
    - ii. *Real* values are useful because they let you compare prices and incomes across a long span of time. If you want to know if a gallon of milk is cheaper now versus 100 years ago, you'll want to adjust for inflation. (It's cheaper now: \$4.67 in 1919 and \$3.49 in 2012.)<sup>1</sup> We use it a lot to adjust GDP so we can compare values over time.
  - d. Other indications of adjusting for inflation are phrases like “in today's dollars” or “in 2010 dollars.”

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<sup>1</sup> <http://historicaltextarchive.com/sections.php?action=read&artid=418;>  
[http://data.bls.gov/images/buttons/download\\_button\\_xls.gif](http://data.bls.gov/images/buttons/download_button_xls.gif)

## II. Consumer Price Index (CPI)

- a. To determine how much prices change from year to year, the government must figure out what these prices are.
- b. But there are millions of goods bought and sold every day; that's a lot of prices to keep track of!
- c. So the good folks at the Bureau of Labor Statistics (BLS) ask Americans what kind of goods they buy and construct a "basket" of just some of them. It's still a lot of goods (over 200 categories in 38 geographic areas) but by tracking this basket they can construct a pretty good Consumer Price Index, which forms the basis of determining inflation.<sup>2</sup>
- d. The goal in constructing the basket is to have a wide variety of goods, a variety that accurately captures what consumers buy, but not put too much focus on any particular good.
  - i. Why? Because inflation is the *general* price level and you don't want any industry-specific good to have too much influence.
  - ii. This is why we have *core inflation*, or inflation after ignoring the prices of energy and food. These prices are particularly volatile. Including them could indicate inflation is much more or less rampant than it is.
- e. CPI works off of a base year which is set at 100. Inflation is calculated in the same way as GDP growth.
  - i. For example, if the CPI is 131, then there's been 31% inflation since the base year:  $(131 - 100)/100$ .
  - ii. If CPI is 246 and was 240 the year before, then there's been 2.5% inflation in the past year:  $(246 - 240)/240$ .

## III. Other measures

- a. Note that the CPI is not the only way to adjust for inflation. The Producer Price Index (PPI) does the same thing but examines the stuff producers, rather than consumers, buy.
- b. The GDP deflator examines all final goods and services and does not rely on a fixed "basket." Of the three, the GDP deflator is broadest but CPI is probably more well-known.

## IV. Quality

- a. Imagine I give you \$5,000 and a choice: spend it now or spend it a hundred years ago (no investments; only buy consumer products). Which would you choose?

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<sup>2</sup> Here's a list of some items in that basket: <http://www.businessinsider.com/breakdown-of-consumer-price-index-basket-2014-1>

- i. If you choose now, why? Prices are lower, much lower, in the past. You should choose the old products, right?
  - ii. But, clearly, something besides the price matters and that changes everything.
- b. The CPI, and other measures, keeps quantity constant. If you spend more on bananas, that doesn't mean the price of bananas went up. You could have just bought more bananas.
- c. This is pretty easy thing to do. But it's much harder to keep quality constant. And this is a big weakness of measuring inflation.
  - i. Many products that we enjoy weren't available twenty, fifty, or a hundred years ago. Their prices were effectively infinite.
  - ii. Other products have gotten a lot better; a laptop now and a laptop five years ago might have the same price but clearly you'd prefer the more current laptop. The price, adjusted for quality, has fallen.
- d. So while adjusting for inflation is a good idea, it's not everything. Claims that wages have stagnated, for example, don't tell the full story even if they adjust for inflation. Life now is, in general, much better than it was in the 1970s.