Aggregate Price Levels

Inflation

- **Defining inflation**
  - **Generally, we consider inflation to be a sustained rise in the average price level over a period of years**
    - **When the overall price level is rising, the prices of some goods and services are going down [e.g., TV prices in the 1970s and the 1980s, the price of VCRs, and more recently the price of cellular phones]**

Consumer Price Index (CPI)

The most important measure of inflation is the Consumer Price Index (CPI)

$$\text{CPI} = \frac{\text{Cost of living}_{\text{current year}}}{\text{Cost of living}_{\text{base year}}} \times 100$$

The Consumer Price Index (CPI)

- The CPI, which measures changes in our cost of living, is reported near the middle of every month by the Bureau of Labor Statistics
  - The CPI is based on what it cost an average family to live

Finding Percentage Change in the Price Level

Year	CPI	
1972	125.3	By what percentage did the cost of living rise?
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Percentage change = 1.307 X 100 = 130.7%

A Magic Number

The number 100 is magic! It lends itself to calculating percentage changes. Suppose we want to find out by what percentage prices have risen since the base year?

The base year is set at 100.

If the CPI today is 136.4, by what percentage did prices rise since the base year?

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The base year is set at 100.

If the CPI today is 136.4, by what percentage did prices rise since the base year?

136.4 – 100 = 36.4%

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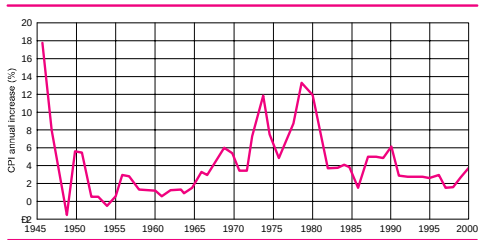
Inflation Rate

- The ***inflation rate*** is the yearly percentage change in a price index, typically based upon ***Consumer Price Index***, or ***CPI***, the most common measure of the aggregate price level.

$$\text{Inflation rate} = \frac{(\text{Price index in year 2} - \text{Price index in year 1})}{(\text{Price index in year 1})} \times 100$$

Annual Percentage Change in the Consumer Price Index, 1946-2000



Since World War II we have had two periods of price stability-from 1952 through 1965 and from 1991 to the present

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Inflation Seems Inevitable

- It appears that it takes a recession to deflate "inflation"
- Sir Frederick Keith-Ross (1957)
  - "Inflation is like sin; every government denounces it and every government practices it"

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Deflation

- *Deflation* is a decline in the general level of prices for a period of years
  - This is the OPPOSITE of inflation
  - This last occurred between 1929 -33

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Deflation

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  - **This is the *opposite* of inflation**
  - **This last occurred between 1929 -33**

Year	CPI
1929	17.1
1930	16.7
1931	15.2
1932	13.7
1933	13.0
1934	13.4

General price levels are declining when the CPI is decreasing.

General price levels are rising when the CPI is increasing

Disinflation

- ***Disinflation*** **occurs when the RATE of inflation declines**

Year	CPI	Inflation Rate
1980	82.4	13.5%
1981	90.9	10.3%
1982	96.5	6.2%
1983	99.6	3.2%
1984	103.9	4.3%

1981 -83 the rate of inflation declined . . . but prices continued to increase . . . just at a lower rate!

Anticipated and Unanticipated Inflation: Who Is Hurt?

- **Debtors benefit from unanticipated inflation**
  - **They get to repay their loan in dollars that are worth less than the dollars they borrowed**
  - **The biggest debtor and gainer from unanticipated inflation has been the U.S. government**

Anticipated and Unanticipated Inflation: Who Is Hurt by Inflation and Who Is Helped?

- **Creditors, the people who lend out money, are hurt by unanticipated inflation**
  - **The ultimate creditors, or lenders, are the people who put their money in banks, life insurance, or any other financial instrument paying a fixed rate of interest**

Who is hurt by Unanticipated Inflation?

- **People who live on fixed incomes, particular retired people who depend on pensions and those who hold long-term bonds, are hurt by unanticipated inflation**

Anticipated and Unanticipated Inflation:

- **When inflation is fully anticipated there are no winners and losers**
  - **Creditors have learned to charge enough interest to take into account, or anticipate, the rate of inflation over the course of the loan**
    - **This is tacked onto the regular interest rate that the lender would charge had no inflation been expected**

The Real Rate of Interest

- **The real rate of interest is the rate that would be charged without inflation**

Expected Rate of inflation
+ Real Rate of Interest
Nominal Rate of Interest <-------what we pay

The Real Rate of Interest

- **The real rate of interest is the rate that would be charged without inflation**

Expected Rate of inflation	**6%**
+ Real Rate of Interest	**5%**
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If the nominal interest rate accurately reflects the inflation, then the inflation has been fully anticipated and no one wins or loses, except the people who borrow money at the higher nominal rate of interest

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But if the rate of inflation keeps growing – even if it is correctly anticipated – our economy will be in big trouble

Theories of the Causes of Inflation

- **Demand-Pull Inflation**
- **Cost-Push inflation**

Demand-Pull Inflation

- **When there is excessive demand for goods and services, we have demand-pull inflation**
  - **This occurs when people are willing and able to buy more output than our economy can produce because our economy is already operating at full capacity**

Demand-Pull Inflation

- Demand-pull inflation is often summed up as "too many dollars chasing too few goods"
  - Just where did all of this money come from"?

Cost-Push Inflation

- There are three variants of cost-push inflation
  - The wage-price spiral
  - Profit-push inflation
  - Supply-side cost shocks

Cost-Push Inflation: The Wage-Price Spiral

Wages constitute nearly two-thirds of the cost of doing business

- Whenever workers receive a significant wage increase, this increase is passed along to consumers in the form of higher prices
- Higher prices raise everyone's cost of living, engendering further wage increases

Cost-Push Inflation: Profit Push

- Because just a handful of firms dominate many industries, they have the power to administer prices rather than accept the dictates of the market forces of supply and demand
- To the degree that they are able, these firms will respond to any rise in cost by passing them on to their customers

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Cost-Push Inflation: Supply-Side Cost Shocks

- Finally, we have supply-side shocks, most prominently the oil price shocks of 1973-74 and 1979
  - OPEC nations raised the price of oil
  - When the price of oil rises, the cost of making many other things rise as well
- Cost increases are quickly translated into price increases

Creeping Inflation & Hyperinflation

- Inflation is a relative term
  - Creeping inflation in one country would be hyperinflation in another
- Once we cross the line between creeping inflation and hyperinflation—which keeps shifting—we run into trouble
  - It becomes increasingly difficult to conduct normal economic affairs
  - Prices are raised constantly
  - It becomes impossible to enter into long-term contracts
  - No one is sure what the government might do