

## Measuring The General Level of Prices and Inflation

### News

How Economists Measure the General Level of Prices

What is Inflation?

Why is Inflation Costly?

Midterm Exam Statistics

What Have We Learned?

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## Inflation in the News

**The New York Times**

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October 16, 2009

### Consumer Prices Edged Up Last Month

By **JACK HEALY**

Consumer prices edged higher last month after a summertime spike in gasoline and energy prices leveled off, the government reported on Thursday.

The report demonstrated that inflation was still a remote concern for the American economy, even as the dollar tumbles against other global currencies and jittery investors clamor to buy oil and gold. The figures backed up the Federal Reserve's view that inflation will remain low as the economy grapples with high unemployment and low consumer demand.

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## Recitation Assignment for Week 12

### Journal Assignment

Find an article that concerns a macroeconomics or monetary policy issue.

Write 100-200 words explaining what the issue is and why it is important.

### Macro Data Assignment

Download written assignment and the excel spreadsheet from the webpage to your laptop.

Bring both to recitation to begin working on the assignment.

Finish the assignment on your own.

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## How Economists Measure the General Level of Prices

Babe Ruth earned \$80,000 in 1930

Barry Bonds earned \$15.5 million in 2007

Who was better off?

How can we answer the question?

Let's put the questions aside for a moment and come back to it.

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## How Economists Measure the General Level of Prices

A price index is an average of prices of different goods and services.

We will focus on two (of many) price indices:

The GDP Deflator

The Consumer Price Index

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## The GDP Deflator

The GDP Deflator is implicit in the values of nominal and real GDP.

NGDP = Nominal (current dollar) GDP

RGDP = Real (base year dollar) GDP

$NGDP = P \times RGDP$

So...

The GDP Deflator is  $P = NGDP/RGDP$

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## GDP Deflator in Simple Land

Year	Bread		Wine		Daycare		Nominal GDP	Real GDP
	Loaves	Price	Jugs	Price	Hours	Price		
2005	100	\$2.00	50	\$10	250	\$3.00	\$1450	\$1450
2006	125	\$2.10	40	\$12	250	\$3.25	\$1555	\$1400
2007	115	\$2.40	60	\$8	250	\$3.40	\$1606	\$1580

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## GDP Deflator in Simple Land

Year	NGDP	RGDP	Year	GDP Deflator
2005	\$1450	\$1450	2005	$1450/1450 = 1$
2006	\$1555	\$1400	2006	$1555/1400 = 1.11$
2007	\$1606	\$1580	2007	$1606/1580 = 1.02$

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### Price Changes in Simple Land

Year	Bread	Wine	Daycare	Average Price Growth	GDP Deflator
2005	\$2.00	\$10.00	\$3.00		
2006	\$2.10 (1.05)	\$12.00 (1.20)	\$3.25 (1.083)	11%	1.11
2007	\$2.40 (1.143)	\$8.00 (0.667)	\$3.40 (1.046)	-4.8%	1.02

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Use Your Clickers to Answer  
The Following  
Graded Question.

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Suppose the GDP Deflator of Simple Land is 1.00 in 2005, 1.07 in 2006, and 1.05 in 2007. Then...

- A. Simple Land experienced inflation in 2006 and deflation in 2007.
- B. Prices in Simple Land rose by about 12 percent between 2005 and 2007.
- C. Simple Land experienced a large rate of inflation in 2006 and a small rate of inflation in 2007.
- D. Prices in Simple Land rose by 2 percent between 2005 and 2007.

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The Bottom Line is that...

The GDP Deflator is a weighted average of prices in the economy with weights given by the relative importance of each component of GDP.

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## The Consumer Price Index The CPI Measures ...

The cost of a standard basket of goods and services

Relative to

The cost of the same basket of goods and services in a fixed year, called the base year.

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The screenshot shows the BLS website for the Consumer Price Index. The header includes the BLS logo and the text "U.S. Department of Labor Bureau of Labor Statistics". Below the header is a navigation bar with links for "www.bls.gov", "Advanced Search", and "A-Z Index". A secondary navigation bar contains links for "BLS Home", "Programs & Surveys", "Get Detailed Statistics", "Glossary", "What's New", and "Find It! In DOI".

The main content area features a title "The Consumer Price Index (CPI) program produces monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services." Below this is a box stating "September 2006 CPI data are scheduled to be released on October 18, 2006 at 8:30 am Eastern Time." A list of links includes "General Overview", "Economic News Releases", "Get Detailed CPI Statistics", "Tables Created by BLS", "Special Notices", "Publications and Other Documentation", "Frequently Asked Questions", and "Contact Us".

On the right side, there is a "Latest Numbers" section with three sub-sections: "CPI-U, US City Average, All Items", "CPI-U, US City Average, All Items Less Food and Energy", and "CPI-U, US City Average, Medical Care". Each sub-section lists (NSA) and (SA) values for August 2006 and since August 2005. For example, CPI-U, US City Average, All Items (NSA) is +0.2% in Aug 2006 and +3.8% since Aug 2005.

At the bottom, there are sections for "GENERAL OVERVIEW" and "ECONOMIC NEWS RELEASES", each with a "Back to Top" button.

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## The Consumer Price Index

The CPI basket is based on consumption of the typical urban household.

The items in the basket change slowly so that changes in the CPI are estimates of changes in the "cost of living."

Studies show that changes in the CPI somewhat overstate changes in the cost of living because of the availability of substitutes.

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## Dale Ward's Contribution to the Consumer Price Index

The screenshot shows the website for Quinlan & Fabish, a music education business. The header features the company logo and the text "A TRUSTED PARTNER IN MUSIC EDUCATION SINCE 1959". A navigation bar includes links for "HOME", "ABOUT", "RENTAL INFO", "ONLINE STORE", "FOR PARENTS", and "FOR DIRECTORS".

The main content area is divided into several sections. On the left, there is a "Click below for information, maps, & directions" section with three location listings: "SW Suburban Location" (156 Shore Drive, Burr Ridge, IL 60527), "NW Suburban Location" (621 N Main, Mt. Prospect, IL 60056), and "Fox Valley Location".

In the center, there is a "Recent News and Events" section with two items: "Back to School Reading Session" (August 19th from 9:00am - 12:00 at Lincoln Jr High) and "Chicagoand Outstanding Music Educator Awards" (June 23rd, Chicagoand Outstanding Music Educator Awards).

On the right, there is a "Quick Links" section with three links: "Not sure what to get? Q&E Gift Cards are here!", "View our WebSpecial Instrument Inventory", and "Make a rental payment".

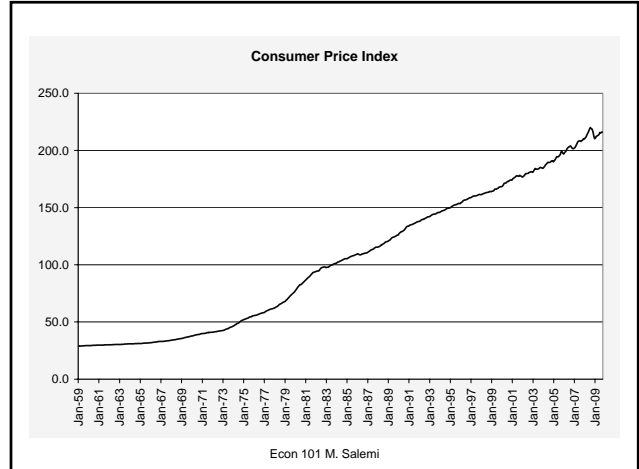
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## Dale Ward's Contribution to the Consumer Price Index



BLS asks Dale the current prices of:  
 Yamaha Student-Quality Trombone  
 Pearl Snare Drum Kit  
 These two instruments are part of the CPI basket.

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## What is Inflation?

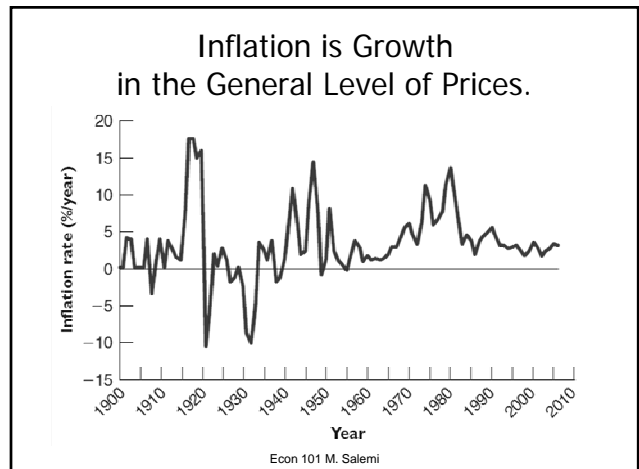
The inflation rate is the growth rate in some price index over some period usually converted to annual terms.

There are lots of ways to compute an inflation rate. Here is one.

$$\text{Inflation} = (\text{CPI}_t - \text{CPI}_{t-12}) / \text{CPI}_{t-12}$$

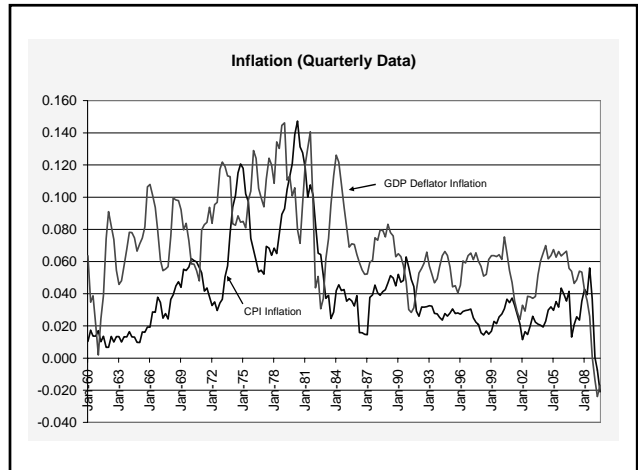
In words, the inflation rate is the percentage change in prices over a one year since CPI is a monthly index.

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Zero in on  
the most recent part  
of the period.  
What themes do you see?

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Back to Babe and Barry.  
Use Your Clickers  
To Answer the Following  
Graded Question.

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If Babe Ruth earned \$80,000 in 1930 and Barry Bonds earned \$15.5 million in 2007 and if the CPI in 1930 was 16.8 and the CPI in 2007 was 208.3, then...

- A. Babe Ruth had a higher standard of living than Barry Bonds.
- B. Barry Bonds had a higher standard of living than Babe Ruth.
- C. Babe Ruth experienced more inflation than Barry Bonds.
- D. Barry Bonds experienced more inflation than Babe Ruth.

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## Who Lived Larger... Babe or Barry?

Player	Year	Earnings	CPI	Earnings in 2007 Dollars
Babe	1930	\$80,000.	16.8	\$991,905.
Barry	2007	\$15,533,970.	208.3	\$15,533,970.

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## Preparing for Thanksgiving Table Talk

At each family gathering, your grandfather is fond of pointing out that when he was a boy a loaf of bread only cost \$0.10.

He decries the fact that the price of bread today is \$2.50 and concludes that somehow "times are bad."

Now that you are used to thinking like an economist, how do you respond?

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Use Your Clickers to Answer  
The Following  
Non-Graded Question.

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Which of the following correctly explains to your grandfather why his conclusion about the quality of life is wrong?

- A. The higher price of bread today is due to the higher quality of bread today.
- B. Today, the US consumes a larger fraction of GDP than it did when grandfather was a boy.
- C. Inflation makes it impossible to compare today's bread price with the price 50 years ago.
- D. Today, the ratio of the price of bread to the hourly wage is smaller than it was 50 years ago.

## Why is Inflation Costly?

Inflation obscures the information transmitted by prices and reduces the efficiency of the market system.

Inflation creates an incentive for agents to use less cash and bear more "shoe leather" costs.

Inflation causes changes in real tax burdens when tax rates are not indexed.

Inflation makes it difficult to make accurate long run plans.

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## Why is Inflation Costly?

Fischer, Sahay, and Vegh examined 133 market economies for the years 1960-96.

They found 45 episodes of high inflation (100% per year or more) in 25 countries.

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## Fischer *et al*/ Found that in High Inflation Countries...

Real GDP per person fell by an average of 1.6% per year.

Real consumption per person fell by an average of 1.3% per year.

Real investment per person fell by an average of 3.3%

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## Why is Inflation Costly?

If inflation comes as a surprise, then it...

Benefits employers at the expense of workers

Benefits debtors at the expense of creditors

The largest debtor in the U.S. is the U. S. government.

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## Review Midterm Examination

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## Midterm Two

Statistics		Grade Thresholds				
Mean	SD	A-	B-	C	D	F
22.9		27	22	18	16	<16
23	3.9	20%	46%	25%	7%	3%

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## What Have We Learned?

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## The General Level of Prices and Inflation

Currently, inflation appears to be a remote concern for the US economy.

Economists measure the general level of prices as a weighted average of prices with different weights for the GDP deflator and the CPI.

Inflation is growth in the general level of prices.

Inflation is costly primarily because it makes it hard for people to plan their future.

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