

## 7.19: Inflation

### Learning Objectives

- Define and give examples of inflation

**Inflation** is a sustained, generalized increase in the prices of goods and services in an economy. Every increase in price is not inflation, though. When the prices of produce rise in the winter, we don't call this inflation, because prices will come back down in the spring. The price increase is not a sustained (or permanent) increase. Similarly, if prices increase one time, but don't continue increasing, we don't call it inflation. Inflation must be a sustained increase in prices. When the price of gasoline increases at the pump, we don't call this inflation either, since gasoline is only one good that we consume. Rather, we call this a change in relative prices, since gasoline has become more expensive relative to other goods and services. A generalized increase in prices means the prices of all, or at least most, goods and services go up.

Inflation can be so low that people don't pay any attention to it, as has been the case for the U.S. over recent decades. It can be moderate, where people pay attention to inflation and change their economic behavior because of it. This was the case for the U.S. during the 1970s. Inflation can also be so high that it causes significant problems in the working of the economy. A particularly extreme case of high inflation is called hyperinflation. Hyperinflation occurred in post-WWI Germany (then the Weimar Republic). Stories have it that the money became so worthless, even thieves would steal a basket but leave the hundreds of bills inside the basket untouched. Read the following feature for another example of hyperinflation.

### A \$550 Million Loaf of Bread?

If you were born within the last three decades in the United States, Canada, or many other countries in the developed world, you probably have no real experience with a high rate of inflation. Inflation is when most prices in an entire economy are rising. But there is an extreme form of inflation called hyperinflation. This occurred in Germany between 1921 and 1928, and more recently in Zimbabwe between 2008 and 2009. In November of 2008, Zimbabwe had an inflation rate of 79.6 billion percent. In contrast, in 2012, the United States had an average annual rate of inflation of 2.1%.



**Figure 1. Big Bucks in Zimbabwe.** This bill was worth 100 billion Zimbabwean dollars when issued in 2008. There were even bills issued with a face value of 100 trillion Zimbabwean dollars. The bills had \$100,000,000,000,000 written on them. Unfortunately, they were almost worthless. Eventually, the country abandoned its own currency and allowed foreign currency to be used for purchases. (Credit: modification of work by Samantha Marx/Flickr Creative Commons)

Zimbabwe's inflation rate was so high it is difficult to comprehend. So, let's put it into context. It is equivalent to price increases of 98% per day. This means that, from one day to the next, prices essentially double. What is life like in an economy afflicted with hyperinflation? Not like anything you are familiar with. Prices for commodities in Zimbabwean dollars were adjusted several times *each day*. There was no desire to hold on to currency since it lost value by the minute. The people there spent a great deal of time getting rid of any cash they acquired by purchasing whatever food or other commodities they could find. At one point, a loaf of bread cost 550 million Zimbabwean dollars. Teachers were paid in the trillions a month; however this was equivalent to only one U.S. dollar a day. At its height, it took 621,984,228 Zimbabwean dollars to purchase one U.S. dollar.

Government agencies had no money to pay their workers so they started printing money to pay their bills rather than raising taxes. Rising prices caused the government to enact price controls on private businesses, which led to shortages and the emergence of black markets. In 2009, the country abandoned its currency and allowed foreign currencies to be used for purchases.

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How does this happen? How can both government and the economy fail to function at the most basic level? Before we consider these extreme cases of hyperinflation, let's first look at inflation itself.

Inflation has consequences for economic agents throughout the economy. Lenders and borrowers, wage-earners, taxpayers, and consumers may all be affected. But before we get into the details, we first need to understand how inflation is measured.

## Tracking Inflation

Dinner table conversations where you might have heard about inflation usually entail reminiscing about when “everything seemed to cost so much less. You used to be able to buy three gallons of gasoline for a dollar and then go see an afternoon movie for another dollar.” Table 1 compares some prices of common goods in 1970 and 2014. Of course, the average prices shown in this table may not reflect the prices where you live. The cost of living in New York City is much higher than in Houston, Texas, for example. In addition, many products have improved over recent decades. A new car in 2014, loaded with antipollution equipment, safety gear, computerized engine controls, and many other technological advances, is a more advanced machine (and more fuel efficient) than your typical 1970s car, so older and more recent products are not completely comparable. However, put details like these to one side for the moment, and look at the overall pattern. The primary reason behind the price rises in Table 1—and all the price increases for the other products in the economy—is not specific to the market for housing or cars or gasoline or movie tickets. Instead, it is part of a general rise in the level of all prices. In 2014, \$1 had about the same purchasing power in overall terms of goods and services as 18 cents did in 1972, because of the amount of inflation that has occurred over that time period.

Table 1. Price Comparisons, 1970 and 2014		
Items	1970	2014
Pound of ground beef	\$0.66	\$4.16
Pound of butter	\$0.87	\$2.93
Movie ticket	\$1.55	\$8.17
Sales price of new home (median)	\$22,000	\$280,000
New car	\$3,000	\$32,531
Gallon of gasoline	\$0.36	\$3.36
Average hourly wage for a manufacturing worker	\$3.23	\$19.55
Per capita GDP	\$5,069	\$53,041.98

Moreover, the power of inflation does not affect just goods and services, but wages and income levels, too. The second-to-last row of Table 1 shows that the average hourly wage for a manufacturing worker increased nearly six-fold from 1970 to 2012. Sure, the average worker in 2012 was better educated and more productive than the average worker in 1970—but not six times more productive. Sure, per capita GDP increased substantially from 1970 to 2012, but is the average person in the U.S. economy really more than eight times better off in just 42 years? Not likely.

A modern economy has millions of goods and services whose prices are continually quivering in the breezes of supply and demand. How can all of these shifts in price be boiled down to a single inflation rate? As with many problems in economic measurement, the conceptual answer is reasonably straightforward: Prices of a variety of goods and services are combined into a single price level (or price index); the inflation rate is simply the percentage change in the price level. Applying the concept, however, involves some practical difficulties to which we now turn.

### Try It

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## Glossary

[glossary-page][glossary-term]hyperinflation: [/glossary-term]

[glossary-definition]an extremely high rate of inflation, in the 100s or 1000s percent per year [/glossary-definition][glossary-term]inflation: [/glossary-term][glossary-definition]a general and ongoing rise in the level of prices in an economy[/glossary-definition][[/glossary-page]

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