

Type of Inflation The study of the economic system from the past to the current economy.

過去から現在の経済への経済システムの研究。

从过去到现在的经济体系的研究。

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## Understand the Different Types of Inflation

At its most basic level, inflation is a general increase in prices across the economy and is well known to all of us. After all, who among us has not reminisced about cheap rents of the past or how little lunch used to cost? And who has not noticed prices on everything from milk to movie tickets creeping upwards? In this article, we explore the major types of inflation and touch upon the competing explanations offered by different economic schools.

### Stagflation and Hyperinflation: the Two Extremes

Although as consumers we may hate rising prices, many economists believe that a moderate degree of inflation is healthy for a nation's economy. Typically, central banks aim to maintain inflation around 2 to 3%. Increases in inflation significantly beyond this range can lead to fears of possible hyperinflation, a devastating scenario in which inflation rises rapidly out of control.

There have been several notable instances of hyperinflation throughout history. The most famous example is Germany during the early 1920s, in which inflation reached 30,000% per month. Zimbabwe offers an even more extreme example. According to research by Steve H. Hanke and Alex K. F. Kwok, monthly price increases in Zimbabwe reached an estimated 79,600,000,000% in November 2008.

Stagflation (a time of economic stagnation combined with inflation) can also wreak havoc. This type of inflation is a witch's brew of economic adversity: combining poor economic growth, high unemployment, and severe inflation all in one. Although recorded instances of stagflation are rare, the phenomenon occurred as recently as the 1970s, when it gripped the United States and the United Kingdom—much to the dismay of both nations' central banks.

Stagflation poses a particularly daunting challenge to central banks, because it increases the risks associated with fiscal and monetary policy responses. Whereas central banks can usually raise interest rates to combat high inflation, doing so in a period of stagflation could risk further increasing unemployment. Conversely, central banks are limited in their ability to decrease interest rates in times of stagflation, out of fear that doing so could cause inflation to rise even further. As such, stagflation acts as a kind of check-mate against central banks, leaving them with no moves left to make. Stagflation is arguably the most difficult type of inflation to

### What Causes Inflation?

We can define inflation with relative ease, but the question of what causes inflation is significantly more complex. Although numerous theories exist, arguably the two most influential schools of thought on inflation are those of Keynesian and monetarist economics.

### Keynesian Economics

The Keynesian school of thought derived its name and intellectual foundation from the British economist John Maynard Keynes (1883–1946). Although its modern interpretation continues to evolve, Keynesian economics is broadly characterized by its emphasis on aggregate demand as the prime mover of economic development. As such, adherents of this tradition advocate government intervention through fiscal and monetary policy as a means of achieving desired economic outcomes, such as increasing employment or dampening the volatility of the business cycle. The Keynesian school believes inflation results from economic pressures such as rising costs of production or increases in aggregate demand. Specifically, they distinguish between two broad types of inflation: cost-push inflation and demand-pull inflation.

**Cost-push inflation** results from general increases in the costs of the factors of production. These factors—which include capital, land, labor and entrepreneurship—are the

necessary inputs required to produce goods and services. When the cost of these factors rise, producers wishing to retain their profit margins must increase the price of their goods and services. When these production costs rise on an economy-wide level, it can lead to increased consumer prices throughout the whole economy, as producers systematically pass on their increased costs to consumers. Consumer prices, in effect, are thus pushed up by production costs.

Demand-pull inflation results from an excess of aggregate demand relative to aggregate supply. For example, consider a popular product where demand for the product outstrips supply. The price of the product would increase. The theory in demand-pull inflation is that if aggregate demand exceeds aggregate supply, prices will increase economy wide.

### Monetarist Economics

Monetarism is not explicitly linked to a particular founding figure, but is nonetheless closely associated with the American economist Milton Friedman (1912–2006). As its name suggests, monetarism is concerned principally with the role of money in influencing economic developments. Specifically, it is concerned with the economic effects of changes to the money supply. (Learn more in [Macroeconomics: Schools of Thought](#).)

Adherents of the monetarist school are more skeptical than their Keynesian counterparts regarding the effectiveness of government intervention in the economy. Monetarists caution that such interventions risk doing more harm than good. Perhaps the most famous such criticism was made by Friedman himself in his influential publication (co-written with Anna J. Schwartz), *A Monetary History of the United States, 1867-1960*, in which Friedman and Schwartz argued that policy decisions of the Federal Reserve inadvertently deepened the severity of the Great Depression. Informed by this skepticism, Friedman suggested that central banks should concern themselves with maintaining a stable rate of growth for the nation's money supply, maintaining that growth in line with GDP.

### Monetarists: It's All about the Money

Monetarists have historically explained inflation as a consequence of an expanding money supply. The monetarist view is perfectly encapsulated by Friedman's remark that "inflation is always and everywhere a monetary phenomenon." According to this view, the principal factor underlying inflation has little to do with things like labor, materials costs, or consumer demand. Instead, it is all about the supply of money.

At the heart of this perspective is the quantity theory of money, which posits that the relationship between the money supply and inflation is governed by the relationship  $M \times V = P \times T$ . Here,  $M$  equals the money supply,  $V$  equals the velocity of money,  $P$  represents the average price level, and  $T$  represents the volume of transactions occurring in the economy. (Learn more in [What Is the Quantity Theory of Money?](#))

Implicit in this equation is the belief that if the velocity of money and the volume of transactions is constant, an increase (or decrease) in the supply of money will cause a corresponding increase (or decrease) in the average price level.

Given that the velocity of money and the volume of transactions are in reality never constant, it follows that this relationship is not as straightforward as it may initially seem. Nevertheless, this equation serves as an effective model of the monetarists' belief that expansion of the money supply is the principal cause of inflation.

## The Bottom Line

Inflation comes in many forms, from historically extreme cases of hyperinflation and stagflation to the 5-cent and 10-cent increases we hardly notice. Economists from the Keynesian and monetarist schools disagree on the root causes of inflation, underscoring the fact that inflation is a far more complex phenomenon than one might initially assume.

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## Stagflation, 1970s Style

Until the 1970s, many economists believed that there was a stable inverse relationship between inflation and unemployment. They believed that inflation was tolerable because it meant the economy was growing and unemployment would be low. Their general belief was that an increase in the demand for goods would drive up prices, which in turn would encourage firms to expand and hire additional employees. This would then create additional demand throughout the economy.

According to this theory, if the economy slowed, unemployment would rise, but inflation would fall. Therefore, to promote economic growth, a country's central bank could increase the money supply to drive up demand and prices without being terribly concerned about inflation.

According to this theory, the growth in money supply would increase employment and promote economic growth. These beliefs were based on the Keynesian school of economic thought, named after twentieth-century British economist John Maynard Keynes.

In the 1970s, Keynesian economists had to reconsider their beliefs as the U.S. and other industrialized countries entered a period of stagflation. Stagflation is defined as slow economic growth occurring simultaneously with high rates of inflation. In this article, we'll examine 1970s stagflation in the U.S., analyze the Federal Reserve's monetary policy (which exacerbated the problem) and discuss the reversal in monetary policy as prescribed by Milton Friedman that eventually brought the U.S. out of the stagflation cycle.

## 1970s Economy

- High oil prices
- Inflation
- Unemployment
- Recession

## What Determines Oil Prices

With each passing year, oil seems to play an even greater role in the global economy. In the early days, finding oil during a drill was considered somewhat of a nuisance as the intended treasures were normally water or salt. It wasn't until 1857 that the first commercial oil well was drilled in Romania. The U.S. petroleum industry was born two years later with an intentional drilling in Titusville, Pa.

While much of the early demand for oil was for kerosene and oil lamps, it wasn't until 1901 that the

first commercial well capable of mass production was drilled at a site known as Spindletop in southeastern Texas. This site produced more than 10,000 barrels of oil per day, more than all the other oil-producing wells in the U.S. combined. Many would argue that the modern oil era was born that day in 1901, as oil was soon to replace coal as the world's primary fuel source. Oil's use in fuels continues to be the primary factor in making it a high-demand commodity around the globe, but how are prices determined? (For more, read *Oil And Gas Industry Primer*.)

## The Determinants of Oil Prices

With oil's stature as a high-demand global commodity comes the possibility that major fluctuations in price can have a significant economic impact. The two primary factors that impact the price of oil are:

- supply and demand
- market sentiment

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- supply and demand
- market sentiment

The concept of supply and demand is fairly straightforward. As demand increases (or supply decreases) the price should go up. As demand decreases (or supply increases) the price should go down. Sound simple? (For background reading, see *Economics Basics: Demand And Supply*.)

Not quite. The price of oil as we know it is actually set in the oil futures market. An oil futures contract is a binding agreement that gives one the right to purchase oil by the barrel at a predefined price on a predefined date in the future. Under a futures contract, both the buyer and the seller are obligated to fulfill their side of the transaction on the specified date.

The following are two types of futures traders:

An example of a hedger would be an airline buying oil futures to guard against potential rising prices. An example of a speculator would be someone who is just guessing the price direction and has no intention of actually buying the product. According to the Chicago Mercantile Exchange (CME), the majority of futures trading is done by speculators as less than 3% of transactions actually result in the purchaser of a futures contract taking possession of the commodity being traded. The other key factor in determining oil prices is sentiment. The mere belief that oil demand will increase dramatically at some point in the future can result in a

dramatic increase in oil prices in the present as speculators and hedgers alike snap up oil futures contracts. Of course, the opposite is also true. The mere belief that oil demand will decrease at some point in the future can result in a dramatic decrease in prices in the present as oil futures contracts are sold (possibly sold short as well).

## Price Cycle

Additionally, from a historical perspective, there appears to be a possible 29-year (plus or minus one or two years) cycle that governs the behavior of commodity prices in general. Since the beginning of oil's rise as a high-demand commodity in the early 1900s, major peaks in the commodities index have occurred in 1920, 1951 and 1980. Oil peaked with the commodities index in both 1920 and 1980. (Note: there was no real peak in oil in 1951 because it had been moving in a sideways trend since 1948 and continued to do so through 1968.) It is important to note that supply, demand and sentiment take precedence over cycles because cycles are just guidelines, not rules. (Find out how to invest and protect your investments in this slippery sector in *Peak Oil: What To Do When The Well Runs Dry*.)

If one wishes to pursue his or her education of oil beyond this brief introduction, recommended educational material on oil can be obtained directly from OPEC. Information on the oil futures market can be obtained through the CME.

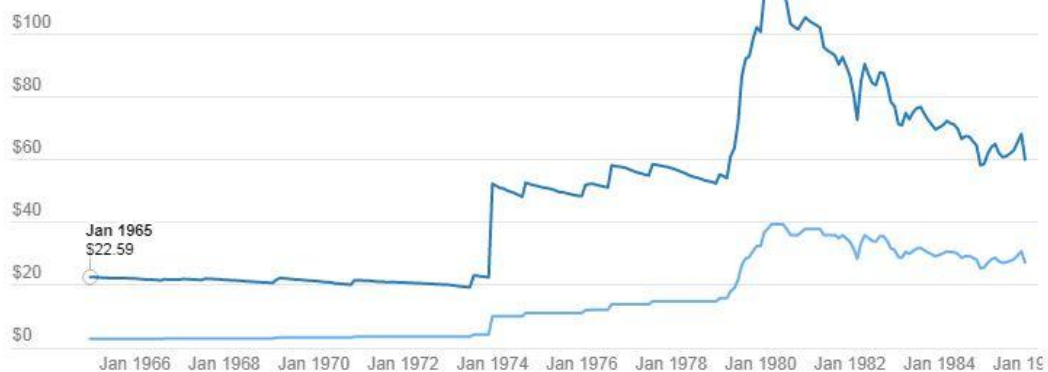
## Conclusion

Unlike most products, oil prices are not determined entirely by supply, demand and market sentiment toward the physical product. Rather, supply, demand and sentiment toward oil futures contracts, which are traded heavily by speculators, play a dominant role in price determination. Cyclical trends in the commodities market may also play a role. Regardless of how the price is ultimately determined, based on its use in fuels and countless consumer goods, it appears that oil will continue to be in high demand for the foreseeable future

## Crude oil price, 1965-1985

West Texas Intermediate, real prices based on CPI

■ Real WTI ■ Nominal WTI

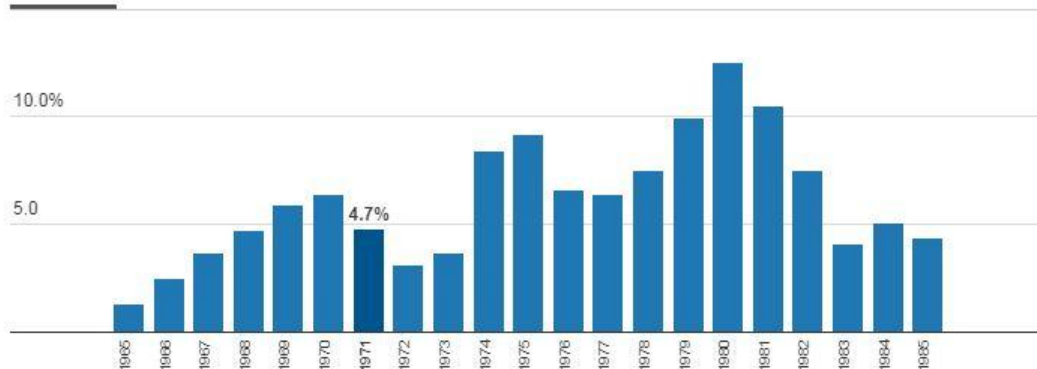


Source: Macrotrends • Created with Datawrapper

Inflation was high by U.S. historical standards: [core consumer price index \(CPI\)](#) inflation – that is, excluding food and fuel – reached an annual average of 12.4% in 1980. Unemployment was also high, and growth uneven; the economy was in recession in 1970 and again from 1974 to 1975.

## Stagflation, 1965-1985

■ Core CPI ■ GDP ■ Unemployment



The prevailing belief as promulgated by the media has been that high levels of inflation were the result of an oil supply shock and the resulting increase in the price of gasoline, which drove the prices of everything else higher. This is known as cost push inflation. According to the Keynesian economic theories prevalent at the time, inflation should have had an inverse relationship with unemployment, and a positive relationship with economic growth. Rising oil prices should have contributed to economic growth. In reality, the 1970s was an era of rising prices and rising unemployment; the periods of poor economic growth could all be explained as the result of the cost push inflation of high oil prices, but it was unexplainable according to Keynesian economic theory. (See also, *Cost-Push Inflation Versus Demand-Pull Inflation*.)

A now well-founded principle of economics is that excess liquidity in the money supply can lead to price inflation; monetary policy was expansive during the 1970s, which could explain the rampant inflation at the time.

### Inflation: Monetary Phenomenon

Milton Friedman was an American economist who won a Nobel Prize in 1976 for his work on consumption, monetary history and theory, and for his demonstration of the complexity of stabilization policy. In a 2003 speech, the chairman of the Federal Reserve, Ben Bernanke, said, "Friedman's monetary framework has been so influential that in its broad outlines at least, it has nearly become identical with modern monetary theory ... His thinking has so permeated modern macroeconomics that the worst pitfall in reading him today is to fail to appreciate the originality and even revolutionary character of his ideas in relation to the dominant views at the time that he formulated them."

Milton Friedman did not believe in cost push inflation. He believed that "inflation is always and everywhere a monetary phenomenon." In other words, he believed prices could not increase without an increase in the money supply. To get the economically devastating effects of inflation under control in the 1970s, the Federal Reserve should have followed a constrictive monetary policy. This finally happened in 1979 when Federal Reserve Chairman Paul Volcker put the monetarist theory into practice. This drove interest rates to double-digit levels, reduced inflation and sent the economy into a recession.

### What Do Other Investors Know That You Don't?

If it seems like you're always late to the party when the market is swinging, it's because other investors are beating you to the news. Stay ahead of the pack by getting the latest insight and analysis in your inbox every morning and after the market closes. If you're tired of making losing

trades day after day and are looking for an edge then why not sign up for free and start your day better informed and ready to take on the market

#### Reference

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