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Understanding Investing

Inflation

Inflation affects all aspects of the economy, from consumer spending, business investment and employment rates to government programs, tax policies, and interest rates. Understanding inflation is crucial to investing because inflation can reduce the value of investment returns.

WHAT IS INFLATION?

Inflation is a sustained rise in overall price levels. Moderate inflation is associated with economic growth, while high inflation can signal an overheated economy.

As an economy grows, businesses and consumers spend more money on goods and services. In the growth stage of an economic cycle, demand typically outstrips the supply of goods, and producers can raise their prices. As a result, the rate of inflation increases. If economic growth accelerates very rapidly, demand grows even faster and producers raise prices continually. An upward price spiral, sometimes called "runaway inflation" or "hyperinflation," can result.

In the U.S., the inflation syndrome is often described as "too many dollars chasing too few goods;" in other words, as spending outpaces the production of goods and services, the supply of dollars in an economy exceeds the amount needed for financial transactions. The result is that the purchasing power of a dollar declines.

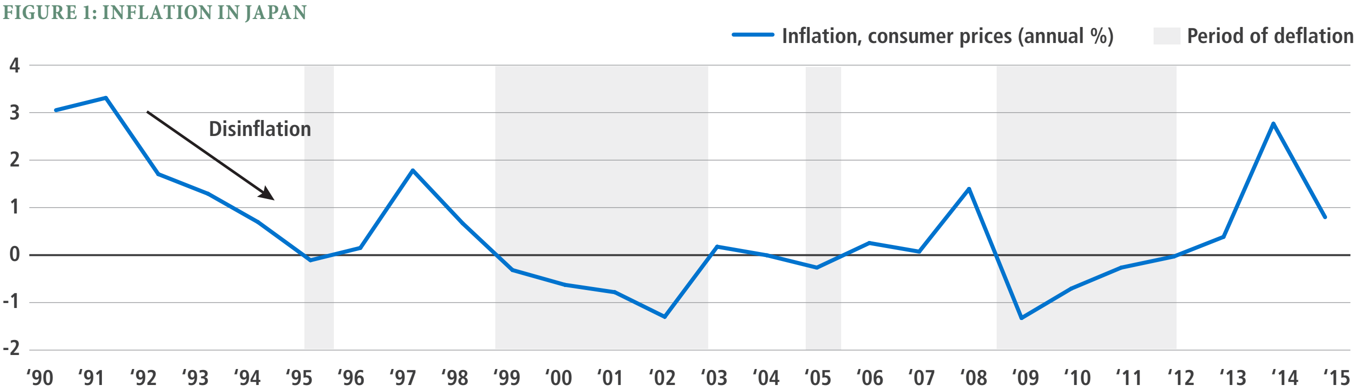
In general, when economic growth begins to slow, demand eases and the supply of goods increases relative to demand. At this point, the rate of inflation usually drops. Such a period of *falling inflation* is known as *disinflation*. A prominent example of disinflation in an economy was in Japan in the 1990s. As Figure 1 shows, inflation fell from over 3% at the start of the decade to below zero by the end. This was driven by the sharp slowdown in economic growth that followed the bursting of an asset price bubble. Disinflation can also result from a concerted effort by government and policymakers to control inflation; for example, for much of the 1990s, the U.S. enjoyed a long period of disinflation even as economic growth remained resilient

When prices actually fall, *deflation* has taken root. This occurred in Japan in 1995, from 1999 to 2003, and more recently from 2009 to 2012. Often the result of prolonged weak demand, deflation can lead to recession and even depression.

HOW IS INFLATION MEASURED?

There are several regularly reported measures of inflation that investors can use to track inflation. In the U.S., the Consumer Price Index (CPI), which reflects retail prices of goods and services, including housing costs, transportation, and healthcare, is the most widely followed indicator, although the Federal Reserve prefers to emphasize the Personal Consumption Expenditures Price Index (PCE). This is because the PCE covers a wider range of expenditures

FIGURE 1: INFLATION IN JAPAN



Source: World Bank as of 31 December 2015 than the CPI. The official measure of inflation of consumer prices in the UK is the Consumer Price Index (CPI), or the Harmonized Index of Consumer Prices (HICP). In the eurozone, the main measure used is also called the HICP.

When economists and central banks try to discern the rate of inflation, they generally focus on "core inflation", for example "core CPI" or "core PCE". Unlike the "headline," or reported inflation, core inflation excludes food and energy prices, which are subject to sharp, short-term price swings, and could therefore give a misleading picture of long-term inflation trends.

WHAT CAUSES INFLATION?

Economists do not always agree on what spurs inflation at any given time, but in general they bucket the factors into two different types: cost-push inflation and demand-pull inflation.

Rising commodity prices are an example of cost-push inflation. They are perhaps the most visible inflationary force because when commodities rise in price, the costs of basic goods and services generally increase. Higher oil prices, in particular, can have the most pervasive impact on an economy. First, gasoline, or petrol, prices will rise. This, in turn, means that the prices of all goods and services that are transported to their markets by truck, rail or ship will also rise. At the same time, jet fuel prices go up, raising the prices of airline tickets and air transport; heating oil prices also rise, hurting both consumers and businesses.

By causing price increases throughout an economy, rising oil prices take money out of the pockets of consumers and businesses. Economists therefore view oil price hikes as a "tax," in effect, that can depress an already weak economy. Surges in oil prices were followed by recessions or *stagflation* – a period of inflation combined with low growth and high unemployment – in the 1970s.

In addition to oil, rising wages can also cause cost-push inflation, as can depreciation in a country's currency. As the currency depreciates, it becomes more expensive to purchase imported goods - so costs rise - which puts upward pressure on prices overall. Over the long term, currencies of countries with higher inflation rates tend to depreciate relative to those with lower rates. Because inflation erodes the value of investment returns over time, investors may shift their money to markets with lower inflation rates.

Unlike cost-push inflation, demand-pull inflation occurs when aggregate demand in an economy rises too quickly. This can occur if a central bank rapidly increases the money supply without a corresponding increase in the production of goods and service. Demand outstrips supply, leading to an increase in prices.

HOW CAN INFLATION BE CONTROLLED?

Central banks, such as the U.S. Federal Reserve, European Central Bank (ECB), the Bank of Japan (BoJ) or the Bank of England (BoE) attempt to control inflation by regulating the pace of economic activity. They usually try to affect economic activity by raising and lowering short-term interest rates.

Lowering short-term rates encourages banks to borrow from a central bank and from each other, effectively *increasing the money supply* within the economy. Banks, in turn, make more loans to businesses and consumers, which stimulates spending and overall economic activity. As economic growth picks up, inflation generally increases. Raising short-term rates has the opposite effect: it discourages borrowing, *decreases the money supply*, dampens economic activity and subdues inflation.

Management of the money supply by central banks in their home regions is known as monetary policy. Raising and lowering interest rates is the most common way of implementing monetary policy. However, a central bank can also tighten or relax banks' reserve requirements. Banks must hold a percentage of their deposits with the central bank or as cash on hand. Raising the reserve requirements restricts banks' lending capacity, thus slowing economic activity, while easing reserve requirements generally stimulates economic activity.

A government at times will attempt to fight inflation through *fiscal policy*. Although not all economists agree on the efficacy of fiscal policy, the government can attempt to fight inflation by raising taxes or reducing spending, thereby putting a damper on economic activity; conversely, it can combat deflation with tax cuts and increased spending designed to stimulate economic activity.

HOW DOES INFLATION AFFECT INVESTMENT RETURNS?

Inflation poses a "stealth" threat to investors because it chips away at real savings and investment returns. Most investors aim to increase their long-term purchasing power. Inflation puts this goal at risk because investment returns must first keep up with the rate of inflation in order to increase real purchasing power. For example, an investment that returns 2% before inflation in an environment of 3% inflation will actually produce a negative return (–1%) when adjusted for inflation.

If investors do not protect their portfolios, inflation can be harmful to fixed income returns, in particular. Many investors buy fixed income securities because they want a stable income stream, which comes in the form of interest, or coupon, payments. However, because the rate of interest, or coupon, on most fixed income securities remains the same until maturity, the purchasing power of the interest payments declines as inflation rises.

In much the same way, rising inflation erodes the value of the principal on fixed income securities. Suppose an investor buys a five-year bond with a principal value of $100. If the rate of inflation is 3% annually, the value of the principal *adjusted for inflation* will sink to about $83 over the five-year term of the bond.

Because of inflation's impact, the interest rate on a fixed income security can be expressed in two ways:

- The *nominal, or stated, interest rate* is the rate of interest on a bond without any adjustment for inflation. The nominal interest rate reflects two factors: the rate of interest that would prevail if inflation were zero (the *real rate of interest,* below), and the expected rate of inflation, which shows that investors demand to be compensated for the loss of return due to inflation. Most economists believe that nominal interest rates reflect the market's expectations for inflation: Rising nominal interest rates indicate that inflation is expected to climb, while falling rates indicate that inflation is expected to drop.
- The *real interest rate* on an asset is the nominal rate minus the rate of inflation. Because it takes inflation into account, the real interest rate is more indicative of the growth in the investor's purchasing power. If a bond has a nominal interest rate of 5% and inflation is 2%, the real interest rate is 3%.

Unlike bonds, some assets rise in price as inflation rises. Price rises can sometimes offset the negative impact of inflation:

- Equities have often been a good investment relative to inflation over the very long term, because companies can raise prices for their products when their costs increase in an inflationary environment. Higher prices may translate into higher earnings. However, over shorter time periods, stocks have often shown a negative correlation to inflation and can be especially hurt by unexpected inflation. When inflation rises suddenly or unexpectedly, it can heighten uncertainty about the economy, leading to lower earnings forecasts for companies and lower equity prices.
- Prices for commodities generally rise with inflation. Commodity futures, which reflect expected prices in the future, might therefore react positively to an upward change in expected inflation.

HOW CAN I HELP PROTECT MY FIXED INCOME PORTFOLIO FROM INFLATION?

To combat the negative impact of inflation, returns on some types of fixed income securities are linked to changes in inflation:

- Inflation-linked bonds issued by many governments are explicitly tied to changes in inflation. In the 1980s, the U.K. was the first developed country to introduce "linkers" to the market. Several other countries followed, including Australia, Canada, Mexico and Sweden. In 1997, the U.S. introduced Treasury Inflation-Protected Securities (TIPS), now the largest component of the global ILB market.
- Floating-rate notes offer coupons that rise and fall with key interest rates. The interest rate on a floating-rate security is reset periodically to reflect changes in a base interest rate index, such as the London Interbank Offered Rate (LIBOR). Floating-rate notes have therefore been positively, though imperfectly, correlated with inflation.

Many commodity-related assets can also help cushion a portfolio against the impact of inflation because their total returns usually rise in an inflationary environment. However, some commodity-based investments are influenced by factors other than commodity prices. Oil stocks, for example, can fluctuate based on company-specific issues and therefore oil stock prices and oil prices are not always aligned.

GLOSSARY

Commodities: A commodity is food, metal, or another fixed physical substance that investors buy or sell, usually via futures contracts.

Correlation: A statistical measure of how two securities, such as equities, bonds, commodities, move in relation to each other.

Equities: Ownership or proprietary rights and interests in a company.

Fixed Income: Securities/Investments in which the income during ownership is fixed or constant. Generally refers to any type of bond investment.

Income: Money earned on a security from interest or dividends.

Maturity: The date on which a loan, bond, mortgage or other debt security becomes due and is to be paid off.

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IMPORTANT DISCLOSURES

Past performance is not a guarantee or a reliable indicator of future results.

A word about risk: Investing in the **bond market** is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and the current low interest rate environment increases this risk. Current reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. **Commodities** contain heightened risk, including market, political, regulatory and natural conditions, and may not be suitable for all investors. **Equities** may decline in value due to both real and perceived general market, economic and industry conditions. **Derivatives** may involve certain costs and risks, such as liquidity, interest rate, market, credit, management and the risk that a position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested. **Inflation-linked bonds (ILBs)** issued by a government are fixed income securities whose principal value is periodically adjusted according to the rate of inflation; ILBs decline in value when real interest rates rise. Treasury Inflation-Protected Securities (TIPS) are ILBs issued by the U.S. government. **Floating rate** loans are not traded on an exchange and are subject to significant credit, valuation and liquidity risk.

There is no guarantee that these investment strategies will work under all market conditions or are suitable for all investors and each investor should evaluate their ability to invest long-term, especially during periods of downturn in the market.

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