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Economics

What Causes Inflation?

by Walter Frick

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Summary. What causes inflation? There is no one answer, but like so much of macroeconomics it comes down to a mix of output, money, and expectations. Supply shocks can lower an economy's potential output, driving up prices. An increase in the money supply can... **more**

Since the financial crisis of 2008 and the Great Recession, investors and executives have grown accustomed to a world of low interest rates and low inflation. No longer. In 2021, inflation began rising sharply in many parts of the world, and in 2022 the U.S. saw its worst inflation in decades.

In October 2022, the International Monetary Fund warned that inflation — combined with central banks' interest rate hikes designed to fight it — could threaten the entire global economy, a good reason to understand what causes inflation and how to manage this gradual loss of purchasing power.

What is inflation?

Inflation is defined as a rise in prices across an economy, and in 2022 it has emerged as one of the biggest threats to global prosperity.

When prices rise unexpectedly, money doesn't go as far as it used to, which can trigger demands for raises which then cause more inflation. When prices rise *really* quickly, the basic functioning of an economy can break down. For example, in periods of "hyperinflation," people rush out to spend money the moment they get paid, because every hour they wait to spend means higher prices.

For that reason, central banks usually set an inflation target and use interest rates to ensure that prices rise at a predetermined pace. A little bit of inflation is typically harmless, if it's widely expected. The U.S. Federal Reserve aims for a 2% increase in prices each year.

But since the spring of 2021, prices have been rising much faster than that in the U.S. and much of the world. High inflation has pushed many central banks to start raising interest rates, which threatens to slow global growth and could even induce a recession in some countries in 2023. To understand what central banks are doing, and what effects their actions might have on businesses, it helps to start with the basics of inflation and what causes it.

What causes inflation?

At its root, inflation is driven by too much demand relative to supply. More precisely, as former Fed chair Ben Bernanke writes in his macroeconomics textbook with Andrew Abel: "Inflation occurs when the aggregate **quantity** of goods demanded at any particular price level is rising more quickly than the aggregate quantity of goods supplied at that price level."

But what causes demand to outpace supply? That can happen for a few different reasons, and to understand them it helps to consider the three pillars of macroeconomics that David Moss describes in his book *A Concise Guide to Macroeconomics: What Managers, Executives, and Students Need to Know*. Moss structures the book based on output (how much an economy produces), money (how much currency people have or can easily get their hands on), and expectations (what people think will happen next). All three have a role in inflation.

Supply shocks: Inflation often happens because of supply shocks — major disruptions to an important economic input, like energy. For example, if a lot of oil fields stop producing oil because of a war, the price of energy increases. Since energy is a critical input into almost every other good, prices of other things rise, too. This is often called "cost-push inflation."

In theory, a decrease in the supply of a good should lead to a higher price, fewer buyers, and a new equilibrium. In practice, things are more complicated. A supply shock might set off a sustained increase in prices because there aren't many good alternatives and so the price keeps getting bid up. Or it might be because there's uncertainty around when and whether the supply shock will end, or because the initial price increase changes peoples' expectations about future inflation.

Money supply: Then there's the demand side of the equation. An increase in the money supply will tend to cause inflation, as Moss explains. "With more cash in their pockets and bank accounts, consumers often find new reasons to buy things," he writes in the book. "But unless the supply of goods and services has increased in the meantime, the consumers' mounting demand for products will simply bid up prices, thus stoking inflation. Economists sometimes say that inflation rises when 'too much money is chasing too few goods.'" This is sometimes referred to as "demand-pull inflation."

The money supply theory of inflation was popularized by economist Milton Friedman who famously said that "always and everywhere a monetary phenomenon." While it's true that increases in the money supply can cause inflation, Friedman's claim was too strong. In fact, if you had to boil the causes of inflation down to one thing, it might be expectations.

Expectations and spirals: In many models of inflation, the cause isn't an increase in the money supply but an *unanticipated increase in the money supply*. The intuition is that if everyone knows demand will increase (because there's more money flowing) then supply will increase to match it. It's the unexpected increase in demand (or decrease in supply) that sets off inflation.

Along those same lines, how much inflation people expect affects how much inflation we actually get. As prices of goods rise, workers aren't able to buy as much with their wages. So, if people expect higher inflation, they'll bargain for higher wages to maintain their living standard. But if businesses expect this wage inflation, they'll raise prices further, which can cause what's called a "wage-price spiral" that drives further inflation. Thankfully, wage-price spirals are fairly rare.

Because expectations matter so much, central banks work hard to maintain their credibility on inflation and to keep inflation expectations "anchored." That basically means they want to convince everyone that they'll be able to meet their inflation target, so that people don't worry about month-to-month inflation data and just assume that inflation will rise by whatever the central bank says it will.

Unemployment and inflation

Recall that the root of inflation is too much demand relative to supply. Another way of thinking about the same idea is to ask how much "slack" there is in the economy at any point in time. An economy produces stuff using people's time and ingenuity, machines and other infrastructure, and natural resources. But for various reasons, economies sometimes don't produce as much as they could: There are lots of workers without jobs, factories that aren't producing anything, etc. In the wake of the 2008 financial crisis, this high unemployment happened in many countries. There was a lot of "slack" in the economy, meaning lots of economic resources weren't being put to use.

In an economy with lots of slack, there's little risk of demand outpacing supply and therefore little risk of inflation. If demand suddenly increased, unemployed workers would get hired, factories would reopen, and more would be produced. It's when an economy is operating very close to its full potential — when there's very little slack — that inflation often happens. For that reason, inflation is more common when unemployment is low. When most available workers have jobs, they have the ability to demand higher wages, which can increase prices. And there aren't many workers available to cope with any extra demand that arises. That's when you get too much money chasing too few goods.

Low unemployment does not always cause inflation. But when an economy is running at or near full capacity, there's a tradeoff between low inflation and low unemployment — at least in the short-term.

How does raising interest rates help inflation?

Central banks use interest rates to control demand and inflation. If inflation is high, they raise their target for short-term interest rates. Higher interest rates make borrowing costs less attractive for firms and consumers, which leads to less demand for goods and investment. Since inflation is caused by demand outstripping supply, lowering demand to bring it in line with supply relieves the pressures that were raising prices.

Central banks have a few different ways of affecting interest rates, but in the U.S. the main one is called "open market operations." The Fed's Federal Open Market Committee sets its target interest rate and then the Fed buys and sells bonds and other assets in order to affect the money supply and the short-term interest rate.

How inflation is measured

There are many different measures of inflation, all of which attempt to track changes in the price levels of a series of goods. One of the most cited is the Consumer Price Index or CPI. The CPI tracks the average price of a representative basket of goods that households buy, weighted by how much they spend on them. When the CPI rises, it means the prices that households face have risen, on average.

Economists often prefer to look at the "core CPI," which is the CPI without food and energy prices. The reason is that those two categories are volatile — their prices rise and fall an unusually large amount from month to month. By looking at the average price level without those two categories, it's easier to see if the economy is experiencing an increase in prices.

There are other measures as well, including the Producer Price Index, which measures the price businesses pay for inputs, and the Personal Consumption Expenditure Index, which measures consumer prices using a different methodology.

What is causing inflation right now, and what caused it in 2021 and 2022?

The past year and a half of high inflation likely has roots in both supply- and demand-side factors. On the supply side, there were the shipping snarls and worker shortages caused by Covid-19, combined with the spikes in energy and food prices caused by the invasion of Ukraine. The cost of energy and shipping raised the price of lots of goods unexpectedly, and those increase then rippled through the economy.

On the demand side, many countries funneled large sums of money to households and companies during the pandemic, to ensure that they could manage lockdowns and layoffs. That increased the money supply and may have contributed to inflation. Demand for physical goods (*cough, Pelotons, cough*) rose dramatically during the pandemic, because consumers had money in their pockets and couldn't spend it on restaurants or other services.

No one knows for sure exactly how much these different factors contributed. But one study by economists at the New York Federal Reserve estimated that 40% of the rise in prices in 2021 was due to supply-side factors, and 60% to demand-side factors.

When will inflation go down?

Again, no one really knows for sure. But as of this writing, here are some forecasts:

- The Federal Reserve expects inflation to peak in 2022 and to begin declining in 2023. But it doesn't see inflation

returning to its target of 2% until 2025.

- Morgan Stanley's economists forecast that global inflation will peak in the fourth quarter of 2022.
- Goldman Sachs economists expect core PCE inflation to fall significantly in 2023, from about 5% year-over-year to 3%.

How to manage through inflation

Most aspects of good management aren't affected by inflation. But there are a few things for managers to consider during this period. First is how to deal with the potential for rising prices. In a recent HBR.org piece, the University of Minnesota's Mark Bergen and his colleagues laid out a few different strategies to consider. The most basic one is to make sure you have a policy in place for when and how you change your prices and do anything you can to lower the cost of making those changes. These costs of changing prices, which economists call "menu costs," can add up.

This HBR piece, by Dartmouth's Vijay Govindarajan and colleagues, also has recommendations for managing through inflation. One of them is to communicate even more than usual with employees and to focus on morale. When the labor market is tight, you might need to do even more to retain employees, which can be difficult since funding can be higher due to rising interest rates (more on that in a second). In another piece, Harvard Business School lecturer and former tech CEO Lou Shipley recommends prioritizing the employees you most need to retain and focusing on your company culture, which is an essential aspect of retaining employees.

That's how to manage through the disease — but you also need a plan for managing through the cure. Central banks fight inflation by raising interest rates, and so companies need to assess their

strategies and operations in light of that, too. Higher interest rates raise the cost of borrowing and generally shift investors' interest toward short-term profits.

Resources to learn more about inflation

Econofact's article on why inflation is rising

The Congressional Research Service's primer on inflation in the U.S.

A Concise Guide to Macroeconomics, by David Moss (HBR Press)

Walter Frick is a contributing editor at *Harvard Business Review*, where he was formerly a senior editor and deputy editor of HBR.org. He is the founder of *Nonrival,* a newsletter where readers make crowdsourced predictions about economics and business. He has been an executive editor at *Quartz* as well as a Knight Visiting Fellow at Harvard's Nieman Foundation for Journalism and an Assembly Fellow at Harvard's Berkman Klein Center for Internet & Society. He has also written for *The Atlantic*, *MIT Technology Review*, *The Boston Globe*, and the BBC, among other publications.

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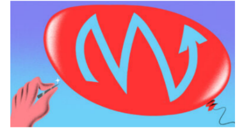

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