

Richmond Fed

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What's Driving Inflation?

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Highlights:

- We are grappling with high, broad-based and persistent inflation. It is worth asking: what happened?
- It's part COVID and supply imbalances. It's part fiscal. And it's part monetary. Movements in any of these factors could have quieted inflation somewhat. But I'm not convinced any one of them is the whole story. For me, it's the accumulation of so many inflationary pressures at once that likely tells the tale.
- The question is how long this can last. Persistence is the essence of inflation. Business leaders still see it as an episode, not a regime change. The water in the river may be high but it hasn't yet breached the dam the Fed built to keep inflation expectations in line with our 2 percent target.
- Inflation should come down. But I don't expect its drop to be immediate nor predictable. We've been through multiple shocks, and significant shocks simply take time to dampen.
- The Fed has the tools to bring inflation down and will persist until it does.

Thanks for having me. Today, I want to talk about the economy, but I also want to take a step back and reflect on how we got here and where we might be headed. These views are mine alone and not necessarily those of anyone else in the Federal Reserve System.

The U.S. Economy Today

I think you all know where the economy is today. We've seen a historically strong recovery from the short but deep 2020 recession. GDP surpassed its pre-pandemic level in the first quarter of 2021. Employment did so in August of this year, and the unemployment rate has basically come back to its low pre-COVID levels. While there is a lot of talk about a recession, the strength of the labor market suggests that is still premature.

But, despite the good news that the worst of the virus seems behind us, we have not yet returned to normal. Supply chains remain strained as firms struggle to meet ever-shifting levels of demand with

unstable production capacity. Employers are short workers, partly due to lower immigration and excess retirements. The war in Ukraine and widespread drought conditions are affecting commodity supply.

And, of course, for the first time in a generation, we are grappling with high, broad-based and persistent inflation. The Consumer Price Index is at 8.3 percent. The Fed's preferred metric, the Personal Consumption Expenditures Price Index, is 6.2 percent headline and 4.9 percent core. Both are near 40-year highs.

How We Got Here

The resurgence of inflation is particularly noteworthy. Before the pandemic, we had decades of remarkably low and stable inflation. I give my Fed predecessors credit for that – a lot of work went into reducing inflation and stabilizing inflation expectations.

So, it is worth asking: What happened? How did we end up in an inflationary environment most wouldn't have imagined just three years ago? I thought I'd share my views, but I look forward to hearing yours as well.

Supply Shocks

I start with the main story of the past few years: COVID-19. The pandemic (and the responses to it) unleashed a series of physical and human supply shocks that have pushed prices and wages up and lasted far longer than anyone anticipated.

On the physical side, lockdowns shifted spending from services to goods, especially those related to time at home. Then, reopening with a successful vaccine unleashed demand. Manufacturers were unable to keep up; they struggled to forecast and to operate their complex supply chains. Transportation networks became overwhelmed. Houses were in short supply. The services sector was plagued with supply shortages too: They couldn't find enough chicken wings, popcorn buckets or replacement car parts.

Both the goods and services sectors also dealt with labor supply shocks. At first, the issue was sick or quarantined workers. But the direct health impact was not the only problem. Immigration dropped. Child care and elder care responsibilities ballooned. Retirements were pulled forward. Health fears stuck around. So, even once COVID protocols lifted, many businesses couldn't operate at pre-pandemic capacity. Restaurant service is still an issue. And today, employers are struggling with productivity as they try to train new workers.

Both shocks have been surprisingly persistent. I thought as soon as vaccines were available, schools reopened and enhanced unemployment ended, people would return to the labor market. I thought chips would be in cars by now.

I should probably also mention non-pandemic supply shocks, as there have been quite a few. There was the severe winter storm in Texas, the fire at a chip plant in Japan, the ship lodged in the Suez Canal, the bird flu outbreak and then, in case things were feeling too calm, Russia's invasion of Ukraine. In normal times, each might have had only a fleeting impact on inflation. But during COVID, each piled on more price pressure.

So, supply shocks are clearly part of the story. But, as I'll discuss further in a moment, the challenges went beyond supply. For goods like durables, apparel and pet supplies, demand remains much higher than pre-pandemic levels. Furthermore, inflation has broadened beyond supply chain-affected sectors; it now

seems to be hitting virtually every single one. For most of us, COVID seems effectively over and a number of these supply shocks have passed. If supply was the issue, why hasn't inflation settled by now?

Fiscal Fuel

That brings us to fiscal policy. Six trillion dollars of stimulus was passed, fueling demand and limiting labor supply. Six trillion is a lot of money. It supported programs like stimulus checks and eviction pauses. It supercharged demand, particularly from the segments of our economy with the highest marginal propensity to consume. The PPP helped keep businesses afloat, but it also sustained worker demand that might otherwise have dropped. All these programs hit the economy at a time when the supply of labor and goods was constrained.

Some would additionally argue that ever-expanding fiscal deficits, on the watch of both political parties, are driving inflation as well. Significant deficits run the risk of unanchoring inflation expectations. If people believe government has lost its will to control spending, they could conclude that it has no option but to inflate its way out of its debt burden.¹

So, current and expected fiscal spending is also part of the story. But while overall demand has recovered, it is not elevated in total. Much of the stimulus hasn't been spent. Americans still have an estimated \$1.5 trillion in excess savings, state and local governments still have billions to tap and the infrastructure package will take years to roll out. So, it is hard to pin inflation entirely on stimulus-fueled demand.

Moreover, inflation is global today. Other countries that did not pursue the same level of fiscal response are still dealing with decades-high inflation. The notable exception is the place with one of the most prominent historic debt burdens: Japan.²

Money, Money, Money

We need then to explore monetary policy and ask whether we would be witnessing this inflation if the Fed had taken a different approach. You won't be surprised that I've spent a lot of time considering this question.

Some point to the dramatic increase in the money supply. Since the start of the pandemic, in the context of government deficits and asset purchases, M2 grew 40 percent. Milton Friedman famously said that (in the medium term), "Inflation is always and everywhere a monetary phenomenon." What other proof could we need?

Paul Volcker started targeting the money supply in late 1979 but shifted to targeting interest rates as a better policy just three years later. Financial innovation, among other forces, has made money velocity less stable and weakened the relationship between money supply, GDP growth and inflation. We can see the velocity issue during COVID: M2 velocity fell approximately 25 percent in 2020 — not my definition of stability.³

In the last recovery, when M2 increased nearly 46 percent between 2010 and 2015, we saw five-year inflation fall from 2.2 percent to 1.4 percent. If money supply were the driving force today, we would need to understand why it wasn't back then.

Others argue the Fed was too expansionary for too long — that we were caught off guard after the prior decade of stubbornly low inflation.

We believed inflation was temporary, driven by the supply and demand factors discussed earlier. History taught us not to overreact to short-lived supply shocks — it usually doesn't make sense to constrain the economy to fight a shock that will go away on its own. But inflation didn't fade as we had expected.

To be sure, we have learned something for future supply shocks. With perfect hindsight, it would have made sense to have ended asset purchases and raised rates earlier. But sick workers would still have had to stay home. Car manufacturers would still have been short chips. Russian oil and Ukrainian wheat supplies would still have been disrupted.

In theory, if monetary policy had been different enough, perhaps it could have made a difference. But how much faster would we have had to move to be in a demonstrably different place? Remember that in February 2021, 12-month inflation was still at 1.7 percent (PCE), nearly 8.8 million fewer people were employed than in February 2020 and unemployment was at 6.2 percent.

Here, I think it is worth emphasizing another Friedman insight: Monetary policy works with “long and variable lags.” Our impact is more on the medium to long term than on the short term. So, I take some solace from the fact that medium- and long-term inflation expectations remain relatively stable as we have now fully engaged in tightening.

So, those who are exhausted by inflation can point fingers in lots of directions. It’s part COVID and supply imbalances. It’s part fiscal. And it’s part monetary. Movements in any of these factors could have quieted inflation somewhat. But I’m not convinced any one of them is the whole story. For me, it’s the accumulation of so many inflationary pressures at once that likely tells the tale. In football terms, we flooded the zone.

Thinking about the Real Economy

Before I joined the Fed, I spent 30 years in business. At the Fed, I try to spend my time “on the ground,” understanding how businesses and individuals experience the economy. So, I look at all of this with a real economy lens.

Over the past 40 years, inflation stayed so low and so stable that price and wage increases became an all-but-abandoned lever. Price-setters lost confidence they could pass costs on to customers; they focused on reducing their own costs instead. Firms employed sophisticated purchasing professionals to fight suppliers hard on cost increases. Workers grew to expect annual increases in a low and narrow range. In that era of price and wage stability, consumers, quite rationally, were inattentive to inflation.

Now we have seen these intense inflation pressures accumulate and persist. Perhaps magnified in an environment where news travels ever faster, they have moved short-term expectations higher. Massive industry-wide cost pressures pushed suppliers to take the risk of passing cost increases on to customers. Supply shortages gave them confidence they could weather potential customer attrition. Purchasers, focused on resiliency rather than efficiency, stopped objecting as much. Investors rewarded companies that passed price increases on and penalized those more reticent. Consumers, funded by stimulus, mostly accepted price increases. Workers gained confidence in this very tight labor market and negotiated for flexibility or wage increases. Employers desperately adjusted to do what it took to retain and recruit.

In short, businesses constrained by a generation of limited pricing power seized the opportunity that arose. Workers emboldened by unprecedented labor market tightness did the same. We all started paying attention.

The question is how long this can last. Persistence is the essence of inflation. When I talk to business leaders, they still view their increased pricing power as temporary. They see it as an episode, not a regime change. To support that, with stimulus being drawn down, you hear more and more stories of consumers trading down or doing without. With recession talk widespread, you hear of labor pressures easing (e.g.,

recent announcements on return to office). Long-term market measures of inflation compensation, derived from TIPS indices, remain in line with our 2 percent target despite short-term inflation and inflation expectations at multidecade highs. The water in the river may be high, but it hasn't yet breached the dam the Fed built to keep inflation expectations in line with our 2 percent target.

Where We Are Headed

What does this all mean for where inflation is headed? First, note that no matter what theory you have on inflation, you are seeing promising signs.

COVID seems to be moving into the rearview mirror. Supply shocks are easing. An index measuring supply chain pressure from the New York Fed has fallen to its lowest level since January 2021. Freight costs have decreased. Some large retailers have announced they are overstocked. Housing seems to be settling. Employers are having more hiring success; more than 3.5 million jobs have been created since the start of the year. And over the last few months, we've seen a broad range of commodities drop from peak pricing levels. International developments could further weaken commodity demand.

Fiscal stimulus has waned. The projected deficit is expected to fall from 12.4 percent of GDP in 2021 to 3.9 percent this year (and 3.7 percent next year), according to the Congressional Budget Office. And we are seeing the extra savings amassed by consumers being spent down. The personal saving rate has remained below pre-pandemic levels for over six months.

For those who still monitor the money supply, it has stayed nearly flat this year, increasing just over 1 percent.

And the Fed is moving expeditiously. You've likely seen that we have raised rates 300 basis points, started shrinking our balance sheet aggressively and signaled there are more rate increases to come. The transmission of these changes, especially in interest-sensitive sectors, has been rapid. Look at mortgage rates, which in mid-September had more than doubled from a year prior.

So, inflation should come down. But I don't expect its drop to be immediate nor predictable. We've been through multiple shocks, as I've discussed, and significant shocks simply take time to dampen. On the business side, I still hear firms facing wage pressure, especially for merit pay in the face of this year's cost-of-living pressures. And while margins remain healthy overall, I've heard from many businesses still working to recover costs not yet passed through. On the consumer side, while lower-income consumers are facing stress, higher-income ones seem to be continuing revenge spending.

Our rate and balance sheet moves take time to bring inflation down. But the Fed will persist until they do. One of the key lessons from the '70s was not to declare victory prematurely. Perhaps we will get help from supply chain and energy market normalization. But we have the tools to bring inflation down, even if those disruptions continue. As we do, we should learn even more about the drivers of this episode and how we can avoid any recurrence.

¹

Bianchi, Francesco, and Leonardo Melosi. "Inflation as a Fiscal Limit." Federal Reserve Bank of Chicago Working Paper No. 2022-37, August 2022.

²

While inflation in Japan has recently reached new highs, it is still relatively low compared to global levels.

³

This refers to the percentage change in the consumption velocity of M2 from February 2020 to April 2020.