

Macro Hive: Stagflation – What Is It? And Will It Drive Prices in 2022?

(Dominique Dwor-Frecaut, d.dwor-frecaut@macrohive.com, 11 May 2022)

Summary: Definition and Drivers of Stagflation

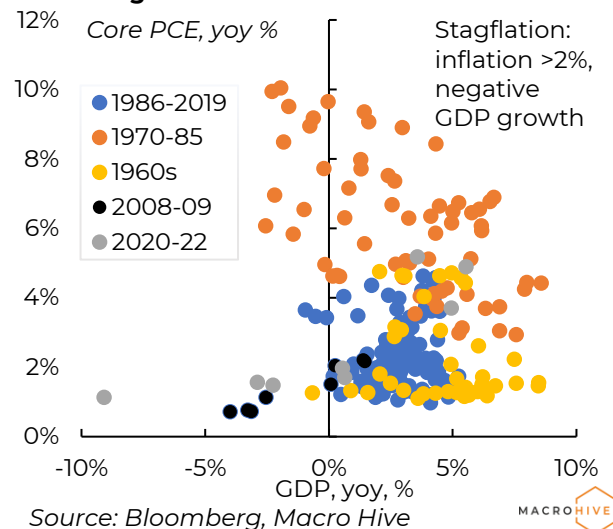
- Stagflation is the persistent combination of negative growth and high inflation.
- Stagflation is typically caused by supply shocks that reduce the economy's supply capacity, raise inflation and lower GDP.
- The current combination of pandemic and commodities supply shocks is comparable to the oil shocks of the 1970s.
- Stagflation has not happened since the 1970s, when the Fed let inflation get out of control.
- There is a risk that the Fed could be repeating its 1970s policy mistake and waiting too long to tighten decisively, which would cause stagflation in 2023.

What Is Stagflation?

Stagflation is the persistence of negative GDP growth – or rising unemployment – and high inflation, which we can define as inflation above 2%.

So, to identify previous stagflation periods, we can plot GDP growth and core inflation on a graph. We do this below for 1960-2022 (Chart 1). Stagflationary periods appear on the upper-left-hand side and are generally a 1970-85 occurrence (in orange).

Chart 1: Stagflation a 1970-1985 Phenomenon So Far



The chart also shows us several other things:

- YoY core inflation has never been negative, which reflects mainly that YoY nominal wage growth is never negative. In the US, wages and inflation tend to be tightly correlated since the economy is services driven, and labour is the main input to services. And if wages did not keep pace with inflation, employers may not be able to find workers.

- Most of the data points are on the right, i.e., GDP growth is much more often positive than negative. Of the few data points on the left, most belong to the 1970-85 period and have inflation above 4%.
- Instances of negative growth since the mid-1980s have been associated with low inflation and with shocks such as the Global Financial Crisis (GFC) of 2008-09 or the pandemic.
- In the first year of the pandemic, inflation remained below 2%. Since Q1 2021, however, inflation has accelerated while growth was slowing. That is, the economy has been moving in the direction of the stagflation quadrant. There is a good chance that the economy could go through stagflation in 2023.

The Causes of Stagflation

The combination of high inflation and negative GDP growth is counterintuitive. Why? Because [the cause of inflation](#) is demand being persistently greater than supply, but negative GDP growth suggests weak demand.

Stagflation and Supply Shocks

Stagflation is typically the result of a supply shock, which shrinks the economy's productive capacity. The most common supply shocks are commodities price shocks.

Here is an example. A supply shock to energy means energy prices will rise. When energy prices rise sharply, industries that are highly energy dependent such as transportation must raise their prices to cover their higher costs. If their customers cannot afford the higher prices, transportation businesses go bankrupt. In other words, the supply of transportation services goes down.

And the negative impact is not limited to energy-intensive sectors. As explained above, nominal wages tend to keep up with inflation, at least to some extent. So when energy prices rise, wages rise across the economy, and businesses unable to pay the higher wages go bankrupt too.

Supply Shocks in 2022

In 2022, the global economy is experiencing an unprecedented series of supply shocks. The pandemic has seen countries worldwide enter lockdown, which reduced the availability of goods and services and raised their prices.

Most countries have moved on from lockdowns. Yet China's zero-Covid policy has seen renewed lockdowns, with adverse consequences on global supply chains. And the invasion of Ukraine by Russia in February has added a commodities price shock, raising the cost of oil, wheat, fertilizer and other items that producers rely on to make goods.

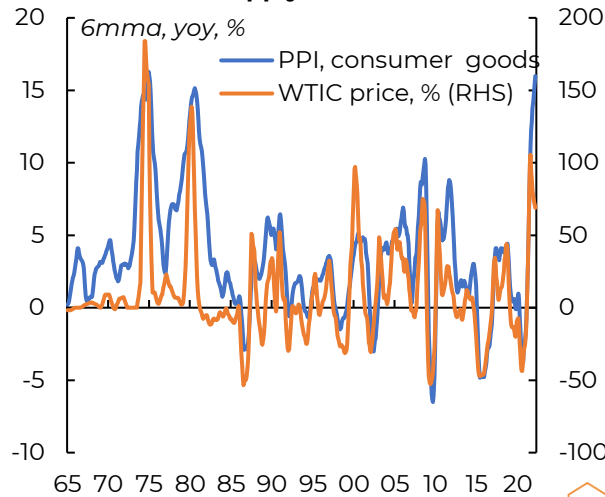
The Current Supply Shock Compared With the 1970s

We can get a rough measure of the size of a supply shock through its impact on the producer price index (PPI) because it represents the cost to businesses of producing their merchandise. Energy prices typically account for a good share of those costs. And that is why the PPI and energy prices are normally highly correlated: when oil prices rise, so does the PPI.

The current increase in producer prices aligns with the 1970s, even though oil prices have increased by less this time around. The difference between oil prices and PPI reflects in part

the impact of the pandemic. Overall, the current combination of pandemic- and commodities-related supply shocks is comparable to the oil price shocks of the 1970s.

Chart 2: Current Supply Shock Like That of 1970s



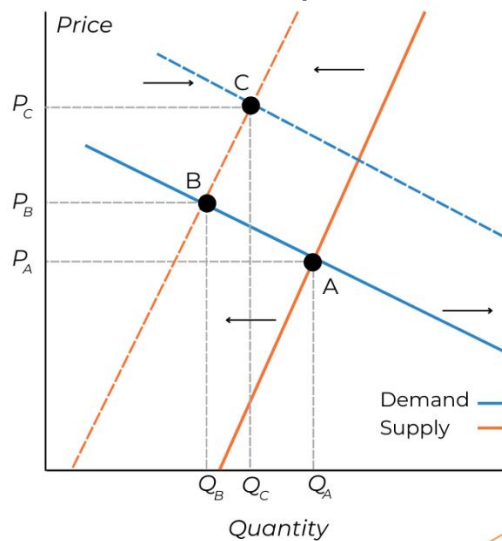
Source: Bloomberg, Macro Hive

How Supply Shocks Impact Prices and Output

Chart 3 shows a highly stylized economic model, with quantity (i.e., real GDP) on the X-axis and prices on the Y-axis. In blue, we have an aggregate demand curve that slopes down. That is, if prices fall, demand increases. And in orange, we have an aggregate supply curve that slopes up. That is, if prices rise, supply increases.

A negative supply shock can be represented as a leftward shift of the supply curve, i.e., less output available. For aggregate demand to adjust to the lower supply, prices must rise. The economy moves from point A before the supply shock to point B with higher prices and lower GDP.

Chart 3: Negative Supply Shocks Raise Prices, Lower Output



Source: Macro Hive

Supply shocks can also negatively impact demand. For instance, shocks that raise the price of commodities could lower demand in countries that import commodities. This is because employment and real wages fall, but typically by less than supply. The overall impact of a supply shock is to bring aggregate supply below aggregate demand. If this imbalance persists, inflation takes hold.

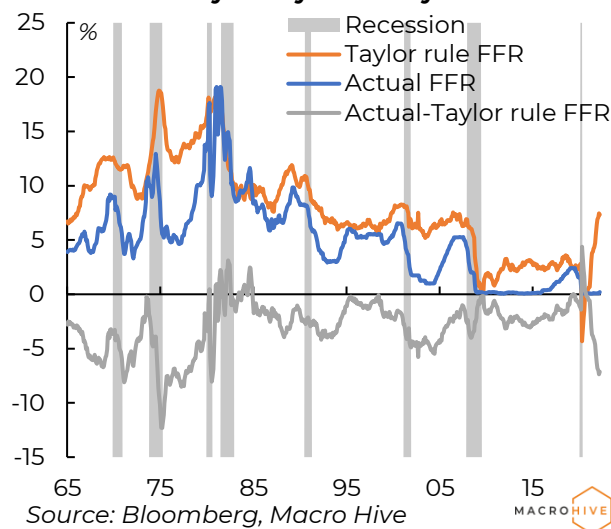
The 1970s Stagflation

How did the oil shocks of the 1970s result in stagflation? Largely due to policy errors. Even though the supply shocks had cut the economy's supply capacity, demand remained strong because of generally loose monetary policy. Interest rates were low, especially in real terms, which encouraged businesses and households to borrow to fund investment and consumption.

We can see this in the wide gap between the actual and Taylor rule federal funds rate (FFR) through most of the 1970s (Chart 4). The Taylor rule is a rule of thumb that computes the level of the FFR needed to stabilize inflation, based on deviations of inflation and unemployment from their long run levels (we explain more [here](#)).

When the actual FFR is above the Taylor rule FFR, monetary policy is described as tight. Conversely when the FFR is below the Taylor rule FFR, monetary policy is described as loose.

Chart 4: Monetary Policy Was Very Loose in 1970s



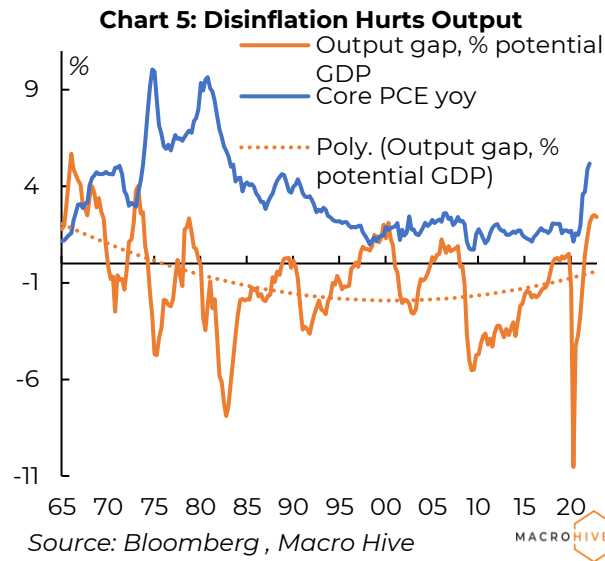
The Fed was [reluctant to tighten decisively](#) because growth was contracting and the consensus inflation model at the time, the Phillips curve, posited a [stable relationship between inflation and unemployment](#). In Q1 1980, against mounting unemployment, the Fed eased policy while the Carter administration implemented a credit control program. Finally in late 1980 and early 1981, the Fed tightened aggressively.

How the Fed Tightening Monetary Policy Lowered 1970s Inflation

The Fed tightening of late 1980/early 1981 lowered inflation through two channels. First, through engineering a recession, it brought aggregate demand below aggregate supply, which relieved the resource pressures. Second, by showing that if necessary the Fed would engineer a recession, it supported a fast convergence of wages and prices to levels consistent

with low and stable inflation. In other words, it established Fed credibility and changed wage and price behaviour.

Engineering disinflation had a large output cost (Chart 5). It engineered the deepest post-WWII recession outside the pandemic. Nevertheless, it took about 15 years for inflation to fall to 2%.



Could the Fed Have Done Better?

Had the Fed tightened forcefully sooner, inflation would have come under control at a lower employment cost. Indeed, the data shows that the employment cost of inflation stabilization [tends to be larger](#) the further the Fed allows itself to fall behind the curve.

Stagflation Is More Likely in 2023 Than 2022

Stagflation is unlikely in 2022 but a serious risk in 2023 for two reasons. First, loose Fed policy is propping up demand amid a supply shock. Second, the Fed is underestimating how much it must tighten to control inflation.

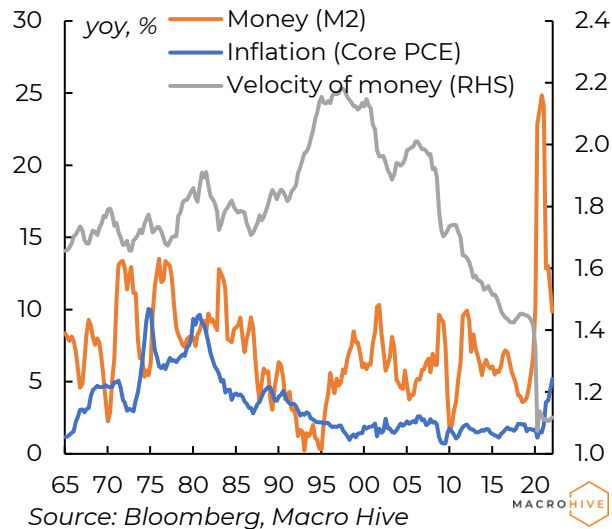
Loose Monetary Policy Is Propping Up Demand

As in the 1970s, loose policies are supporting demand when a supply shock is still in full swing. This time around, though, the source of policy support is mainly fiscal policy, against monetary policy in the 1970s.

Monetary policy lost a lot of its effectiveness in the 1990s, when the velocity of money slowed. The velocity of money is the ratio of nominal GDP to money: it gives you a sense of by how much GDP expands when money supply expands.

As you can see on Chart 6, the velocity of money has collapsed. The reasons why this has happened is a topic for another explainer, but the bottom line is that monetary policy is producing less and less bang for the buck. When it comes to stimulating demand, monetary policy is pushing on a string,

Chart 6: Monetary Policy No Longer Has a Big Impact on Demand



The key reason why the US economy has so much momentum is that the fiscal policy response to the pandemic has been a complete outlier – some have used the term [‘hyper stimulus’](#).

How much of an outlier is shown on Chart 7. It plots the budget balance against the unemployment rate. A large budget deficit is much more inflationary when unemployment is low than when unemployment is high. And unemployment is currently very low.

Chart 7: Fiscal Policy Still Highly Expansionary

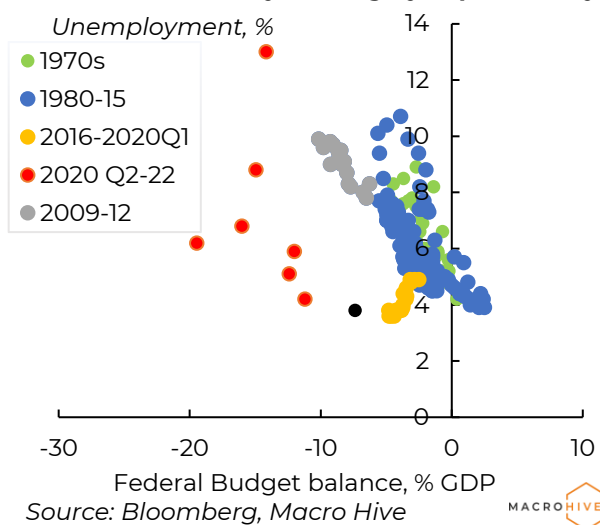


Chart 7 also shows:

- Until 2017 fiscal policy, including during the GFC, was not particularly expansionary.
- The era of expansionary fiscal policy started in 2017, the last year of the Obama administration.

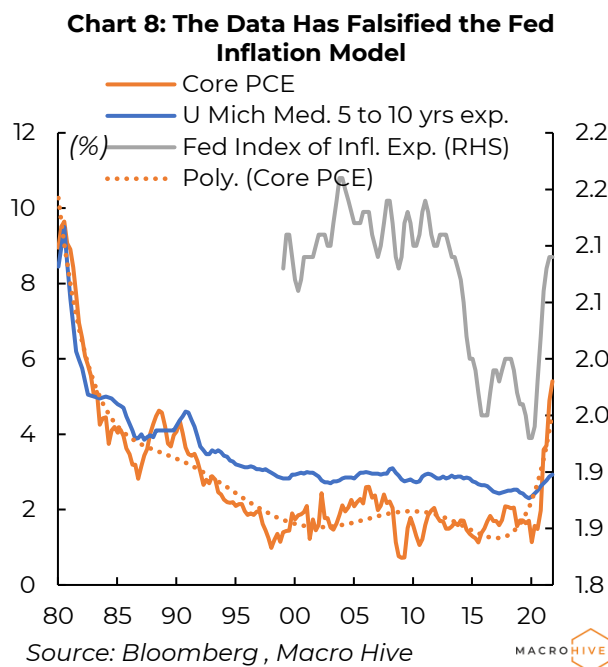
Fiscal policy was so extraordinary during the pandemic that it actually delivered a positive demand shock. In the stylized economic model (Chart 3), in addition to the leftward shift in the aggregate supply curve, the pandemic fiscal policy has created a rightward shift in the demand curve. It has moved the economy to point C with even higher prices than point

- The last data point, Q1 2022 (in black), shows that fiscal policy remains highly expansionary given that unemployment is now at a historical low.

The Fed Is Getting Things Wrong

Second reason for stagflation in 2023 is because the Fed is committing a policy mistake like the 1970s. A [misplaced faith in its inflation model](#) has led it to underestimate the tightening required to stabilize inflation.

The Fed's inflation model is the expectations augmented Phillips curve. It predicts that, as long as inflation expectations are stable, supply shock-induced inflation is self-correcting. But as shown on Chart 8, that is not what the data is showing: inflation expectations have been stable but actual inflation has surged.



The Fed is already the furthest behind the curve since the 1970s (Chart 4). At the same time, it is aiming for an FFR around 2.5% by end-2022 against inflation that, depending on the index used, is between 5% and 8.5%.

Against a backdrop of continued goods and input shortages and a likely worsening of the commodities price shock, inflation could accelerate again. Or, at least, it might not slow as the Fed expects.

This could see the Fed forced to tighten much more aggressively and engineer a recession in late 2022/early 2023. As we saw, large positive output gaps have always been followed by even larger negative gaps (Chart 5). The Fed has never been able to tame high inflation without engineering a recession, i.e., negative growth. And that is a recipe for stagflation.

The Market Impact of Stagflation

Stagflation is more of a risk for 2023 than 2022. Still, the weaknesses of both bonds and stocks show that the market is already pricing stagflation because negative growth and high inflation are bad for both bonds and stocks.

Stagflation is a macro environment where being short financial assets and long cash do well. We reveal how to survive in this environment in our latest [Asset Allocation Update: Fragile Markets and Cash](#).

FAQ

What is stagflation?

Stagflation is the persistent combination of negative growth and high inflation. Stagflation is a macro environment that is bad for both bonds and stocks.

What causes stagflation?

Stagflation is caused by shocks, such as the current commodities price shock or the pandemic, that weaken the economy productive capacity.

Will there be stagflation in 2022?

There is a risk of stagflation in 2022. However, there is a greater risk of stagflation in 2023. The US is at high risk of stagflation in 2023 because the demand side of the economy is too strong, and the Federal Reserve is not tightening policy fast enough.

What is the difference between stagflation and inflation?

Inflation is a persistent increase in the price of goods and services in an economy, whereas stagflation is a combination of high inflation, and negative growth or high unemployment.

What is the difference between recession and stagflation?

A recession is a lasting decline in economic activity, whereas stagflation is a lasting decline in economic activity combined with lasting high inflation.