

Jason Furman's comments on Ben Bernanke & Olivier Blanchard's "What Caused the U.S. Pandemic-Era Inflation?"

May 23, 2023

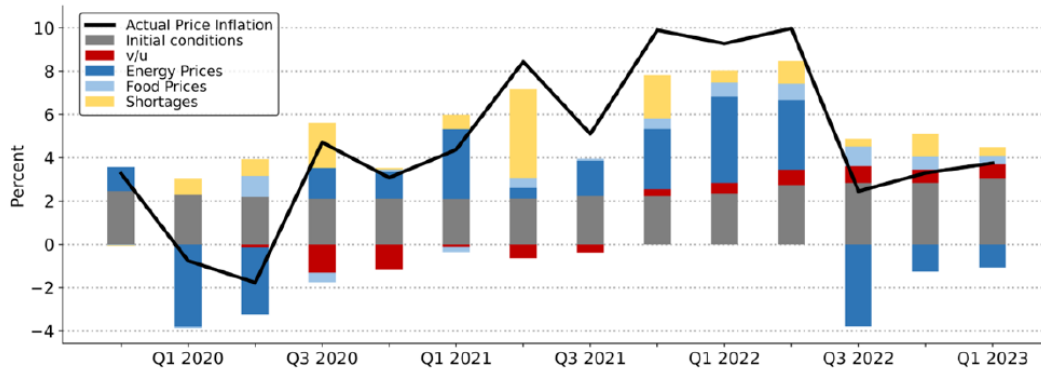
This is a wonderful paper. It's incredibly elegant. It shows how much you can do with a model that I can understand. It uses models, estimation, etc., that harken back to a number of papers I'd read from Ben and Olivier back in as early as graduate school. I'm largely in agreement with the conclusion and the path forward. If I had 20 minutes for my comments, I would continue for 10 more with my praise. But I only have 10 minutes and want to describe some of the ways in which I think the paper doesn't settle one of the biggest debates, and how I would interpret some aspects of it differently than they do.

The issue is that the exogenous shocks in model – food, energy shortages, productivity – are all endogenous. And so you're really looking at changes in endogenous things and that none of them map exactly to what happened in terms of policy. I think the fundamental debate between the optimists and the pessimists wasn't the slope of the Phillips Curve and would you get inflation through the labor market, but it was a broader debate. On the one side was the series of unfortunate events view: Basically the model was correct, but the inflation happened because who could have forecast a whole set of unfortunate events? Now, those unfortunate events started out with the vaccines being effective, which in the first half of 2021 was the reason for inflation. In the second half of 2021, the unfortunate event was the vaccines were ineffective, which also caused higher inflation, the microchip shortages, the ports clogged, the Russian invasion, etc. These are all things no forecaster could have known about. They are exogenous shocks. On the other side is the original sin view: All of this was due to fiscal and monetary policy. And fiscal and monetary policy don't just need to operate through the labor market. They can operate through a number of these other channels as well, like shortages. My own guess coming into this paper and my own view coming out of this paper is that core PC inflation has been at about 5% annual rate and that most of that was original sin. It was predictable. You just couldn't think the whole inflation was going to operate through the labor market. There'd be other channels for demand and that most of the excess of headline over core was an unfortunate accident, which was the Russian invasion of Ukraine, with very little of that bleeding into core.

Olivier showed you this decomposition:

The Bernanke-Blanchard decomposition

FIGURE 12. THE SOURCES OF PRICE INFLATION, 2020Q1 to 2023Q1



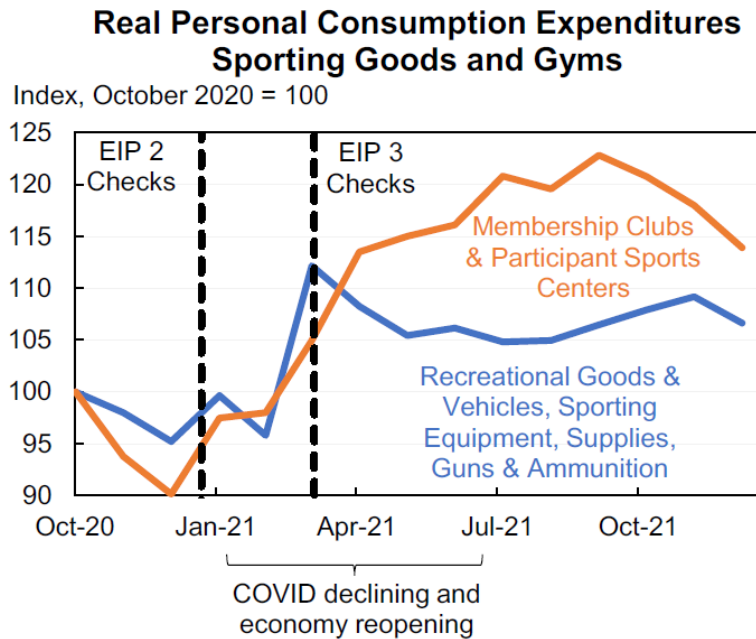
Source: Bernanke and Blanchard (2023).

And as you see in the dark blue and the light blue, you get the food and energy. And this is for overall inflation. There's something really striking about this finding that they don't draw out in their paper, which is that these contributions from their model, the food and energy contributions, are exactly the same as the BLS contribution of food and energy to overall inflation. So these are two pairs of bars. The left bar is their shock. It's how much food and energy contribute to overall inflation based on the model. And then on the right side, it's just mechanical. If food went up 10%, food is 10% of overall inflation, it adds one percentage point to inflation. That's what the BLS publishes every month. And the sum of them are those diamonds. The dark diamond is what they estimate. The hollow one is what the BLS does. The fact that those are basically the same is consistent with there being essentially zero pass through from food and energy to core, not just with a lag, but contemporaneously as well. I think that's quite important because there's been a lot of discussion about the past year. I think that's broadly consistent with a lot of research, by the way, that says when gasoline prices go up, airfares go up, but people can't afford to buy as much, other things go down. And some previous papers have even found

small negative pass through from oil price increases to core. So they don't look at core in their paper. This is sort of rough. It's not going to be exactly right. It has a residual for some of the error, but it looks at the excess of inflation, CPI, above 2.3, which is the Fed's target, give or take, measured in that space. And you see shortages play a really big role in 2021, a sizable role in 2022, and some role in 2023. I don't have time to talk about it, but initial conditions, as in productivity, I'm quite worried that that's endogenous and not telling us something external, but that's a discussion for another time.

Let's look harder at shortages. The shortage story generally has two pieces. One is a set of supply chain problems made it harder to produce things largely around microchips, sometimes around ports. I think that's been pretty dramatically overstated. For example, port capacity in 2021 was 18% above what it was in 2019. That was a huge increase in what ports were processing. It just wasn't as huge as all the stuff Americans wanted to buy from abroad. I want to talk about the consumer side, which the paper talks about in interpreting its shortage shock and give you an alternative interpretation. The Peloton economy thesis – not their term. I'm not sure who first came up with it. I've heard both Justin Wolfers and Paul Krugman – is that COVID caused people to shift spending from services to goods and that this rotation was inflationary because the supply of goods is more inelastic. I'm deeply unsure about the first part of this argument, and I'm somewhat unsure about the second. So let's look at consumption spending on sporting goods and gyms. This is recreational goods, vehicles, sporting clothing, supplies, guns, and ammunition.

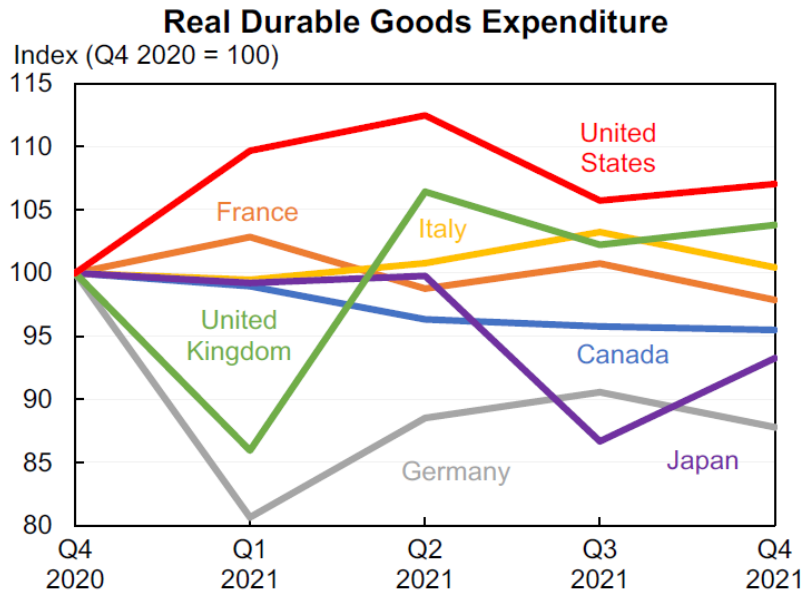
Spending on gym equipment and gyms



Source: Bureau of Economic Analysis; Macrobond; author's calculations.

You can't break it down any finer than that. And you do see a big increase in spending on this. But note the big increases are when people get their checks and those increases are happening in the first half of 2021 as the economy is reopening, COVID is coming down, people are going back. What were people doing on the services side over the same period of time? This is spending on membership, clubs, and participant sports centers. Those were rising quite sharply, too. And so what we saw in 2021 looks a lot less like COVID is keeping people home so they have to order Pelotons rather than pay gym memberships and looks a lot more like people are flush with cash. The economy is reopening. They're spending a bunch of that cash on durable goods and a bunch of non-durables. And in fact, Jonathan Parker's [research](#) finds the majority of the 2008 stimulus checks was spent on durables. You give people a large lump sum. What do they do? They try to buy a used car. You see similar things in personal care services and personal care products and overall. Moreover, the idea that the U.S. spending on goods and rotation from goods to services was exogenously caused by COVID is belied by a comparison to other G7 economies. This is real durable goods expenditures in the United States.

Many countries had more lockdowns in 2021 without increases in goods spending



Source: Organisation for Economic Co-operation and Development; Eurostat; Macrobond; author's calculations.

They just go up enormously. They go up 10% in the first half of 2021. Everywhere else, they were flat, or in Germany, they even went down quite a lot. And what's notable is most of those other economies were much slower to reopen. They had higher COVID, slower vaccination, more rules that prevented people from consuming services. So is the exogenous shock that led to the increase in spending on goods COVID, or is it that you give people a lot of money, and they spend money on goods? That should apply even more to the other economies there. So I think the shortages, at least on the demand side, really were a predictable consequence of the cash, not the COVID.

The second part – I'm less sure about this and it doesn't matter to my overall argument – is the authors in interpreting the shortage term have a model like this: Durable goods goes up. Because people are spending more on durables, they can't afford to buy as many services and the services demand shifts back. But because you have this nonlinearity, you get inflation from higher prices on the goods side,

you don't get lower prices on the services side. I think that's not necessarily where we were. I think where we were might have looked more like this: Services demand would have increased a lot, but because goods were so expensive, because of the shortages and the like, services demand only increased a little. The service sector also had huge numbers of job openings, huge amounts of there wasn't a lot of elasticity when I went out to restaurants in terms of how many people they could serve and the like. And so you're on the vertical part of the supply curve in the service sector too. So that rotation, as people spent more on goods, less on services, may not have mattered.

So let me talk about what I think the pessimists thought from the beginning, which based on this overly polemical, unfair, linear policy analysis: Give every household \$1,000,000. It's 514% of GDP and fiscal stimulus, the multiplier is 0.8, so GDP goes up 412%. The unemployment rate falls to zero. Phillips curve has a slope of 0.15. Inflation rises to 2.6. To be clear, this is not their model. Their model has a V over U – the number of vacancies over the number of unemployed workers – so it has a non-linearity. But I think this was the type of model that people were operating with. Then when we saw real GDP growth, only a little above baseline and massive inflation, you come along and run your regression and lo and behold, what do you find? The model was completely right. It was the right way to think about it.

But there was a shortage shock because there are shortages everywhere throughout the economy.

3. An Alternative Macroeconomic Approach

(Polemical) Linear policy analysis of a \$1m/household fiscal stimulus plan

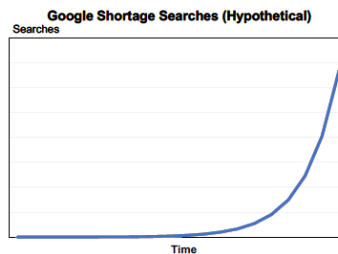
- 514% of GDP in fiscal stimulus
- Using a multiplier of 0.8, real GDP up 412%
- Unemployment rate falls to 0%
- Using a Phillips curve with a slope of 0.15, the inflation rate rises to 2.6%

What might actually happen—and how a linear analysis would interpret it

Actual Results

- Real GDP growth a little above the baseline
- Massive inflation

Clearly a “Shortage” Shock



The BB approach to quantifying macro policy operating through the labor market

Monetary/fiscal \Rightarrow *real* GDP \Rightarrow labor market \Rightarrow inflation



In the BB model monetary and fiscal policy *may* also operate through other channels including:

- Shortages
- Food and energy shocks

An alternative approach that drops the intermediate step

Monetary/fiscal \Rightarrow *nominal* GDP 

- Treat monetary and fiscal multipliers as applying to nominal GDP
- Estimate the possible increase to real GDP (e.g., in this case being above pre-COVID forecast was implausible)
- The price increase is the residual

They're doing monetary fiscal to real GDP, to the labor market. The first steps are happening in the background and then to inflation through the Phillips curve, I think a better way to capture the concern the pessimists had, the original sin view, was that if you get a lot of nominal GDP and you can't make a lot of real GDP, what are you going to get? You're going to get things through the labor market. You're going to get shortage. You're going to get higher food prices. You're going to higher energy prices, etc. And broadly, when you look at the experience, real GDP did quite well. You don't see a lot of supply shocks in real GDP. The fact that it got back to the pre-crisis forecast by the end of 2021 is amazing. A million premature deaths, people out of the labor force, less immigration, all the disruption COVID still with us, Omnicron hitting and you're back there. So in some sense the real economy did incredibly well. It's just so much money was pumped into it. Nominal GDP went up a lot and that showed up in all the different error terms in their model in terms of inflation being well above what was forecast.

So in conclusion, it's a really elegant paper. I think it's a very good way to think about inflation in normal times. I think it doesn't answer the series of unfortunate events versus original sin question. I

think it finds that food and energy do not explain any of core inflation, and I agree with that finding. The shortages are just as consistent with demand increases. I think that's a more compelling interpretation of them than anything caused by COVID or caused by supply. I think for large shocks, you almost want to ignore the labor market. You know, the inflation will show up somewhere, even if you don't know quite where and how. And regardless, I do agree with the authors about what I think their conclusion is: The improbability of a soft landing at 2.0% inflation.