Tim Phillips [00:00:00]:

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Tim Phillips [00:01:01]:

Early 2020, remember then, was a time at which finance ministers threw their fiscal policy plans into the bin, and they did everything they could to protect and stimulate their COVID hit economies. But did those policies cause inflation? And how would we even know if they did? Galina Hale of University of California, Santa Cruz, is one of the authors of a new discussion paper that uses an ingenious way to measure the inflationary effects of COVID fiscal stimuli. She joins me now. Galina, welcome back to VoxTalks Economics. Take us back to 2020. I'm not sure very many of us want to go back there, but take us back there. Remind us how enormously huge these fiscal measures were.

Galina Hale [00:01:50]:

I'm sure everybody remembers that in the beginning of 2020, when COVID started spreading through the world, a lot of countries went into some form of lockdown. And because that meant a lot of people lost their incomes, a lot of businesses lost their incomes, the government wanted to do all they could to relieve that hardship quickly. They announced pretty large fiscal measures. In some countries, fiscal measures per announcement were as high as 20% of GDP. GDP is how much a country produces in a whole year. So 20% of that as a fiscal measure is pretty unprecedented. And if you look at the cumulative actual money spent in some countries, it was over 30% of GDP throughout 2020, 2021. So quite unprecedented amount of money went into people's pockets one way or another.

Tim Phillips [00:02:41]:

And what precisely were they designed to do, these measures?

Galina Hale [00:02:46]:

So I think there were a few goals. I think the immediate goal was to relieve the hardship for people who lost their income. And the fiscal support took different forms, right? So it was not just the cash sent to people. It was also the debt forgiveness for people who owed something to the government. There were some tax deferrals. And so there were different ways in which the government was assisting people to basically survive COVID. There was also spending directly on medical expenses to allow for free COVID testing and vaccination and all these things, and also help the businesses to survive because the government didn't want the businesses that would close during COVID, because of the lockdowns, to close permanently -- and then once we got out of lockdowns we would have a major recession. So part of that was to prevent that, and part of that was to also just prevent a giant drop in aggregate demand because of people's lost income and high uncertainty and loss of confidence. So putting some money in people's pockets was also a way to stimulate aggregate demand.

Tim Phillips [00:03:56]:

So we also ought to go back to our textbooks as well. In general, what are the advantages and the disadvantages of using fiscal policy like this?

Galina Hale [00:04:05]:

If we go back to Macro 101, right?

Tim Phillips [00:04:09]:

Yeah.

Galina Hale [00:04:09]:

What you can do with fiscal policy by giving people more money essentially, or reducing their taxes, is expansionary. Fiscal policy stimulates aggregate demand. People have more money, they spend more, it allows the unemployment to be less, but you give people more money. If the economy is not producing more goods, then we have this standard more-money-chasing-the-same-amount-of-goods, the prices go up. So in the textbook when you have a fiscal expansion you will see increase in output, but you would also see increases in inflation. Depends how far you are from your potential output, right? So if the economy is really in a deep recession, then stimulating aggregate demand is likely to just shift the quantities and not affect the prices much. But if you're already close to potential output, then increasing aggregate demand is just going to be inflationary. It's not going to move much the output, its just going to all show up in prices. So that was one of the things we were trying to figure out, because the fiscal support cannot do much about supply side and the shocks were very much both demand and supply side during the COVID recession. It's not obvious whether fiscal support would have more quantity impact or price impact. So that was really our kind of an economic curiosity to go after that question. We started this research before the surge of inflation in 2022. So we just wanted to see what are the effects of fiscal support, and that's how we started the work.

Tim Phillips [00:05:41]:

Normally if you said to a policymaker "we're going to have a fiscal expansion as about 20% of GDP," they'd have a heart attack. So at the time that this was done was the consensus that this was the only thing to do?

Galina Hale [00:05:55]:

Yeah. So another thing I didn't mention is the cost of this fiscal support. Obviously it adds to the government debt. Right? At this point you're going to have to pay it back. So that's why a policymaker would have a heart attack if you say we have increased government spending by 30% of GDP. So at the time, however, I think there was no doubt that it was the right thing to do because the government imposed lockdown policies, and people in the literature still argue what's the optimal amount of lockdown in terms of economic versus medical hardship? Trade offs are very difficult questions that I'm not in a position to answer.

But given the lockdown imposed, and the economic hardship that followed, the government had to support the citizens, right? And I think in most countries that's what was done despite accumulating debt. It was just kind of a no-brainer. You had to do that in 2020. Now, the question is, once the lockdown was lifted in 2021, it was more of a decision-making kind of point. How much more fiscal stimulus do we need to provide and how it needs to be distributed? I think at the point when a lot of lockdowns were lifted already, I think the targets were more ensuring that disadvantaged segments of the population were not left behind as opposed to like, let's just throw money at everything to make sure people can survive this. So I think 2020 was survival mode. 2021 was a little bit of a fine tuning, trying to figure out how can we help people who were still struggling.

Tim Phillips [00:07:32]:

I understand the intellectual challenge of trying to work out the effect on inflation. But this was, we hope, a once in a generation event, a real one-off. Why is it important to understand if it was inflationary?

Galina Hale [00:07:48]:

In macroeconomics it's very hard to tease out what is driving what, right, because everything depends on everything. And even if it's the situation that will never repeat itself, it's still important for us to understand how the economic system worked in a situation with this very unusual supply shocks. We might have supply shocks coming from climate change, other sources, right? In fact, we've seen the war in Ukraine is another shock. And so understanding how fiscal policy works, when there is a simultaneous supply and demand shock, those situations may repeat themselves. And so there are some policy implications of learning how much fiscal support contributes to prices and therefore how much it contributes to quantities. Also, sometimes when you have an exogenous event like this, from an empirical economist point of view, the COVID crisis was a perfect example of something that did not come from economic policies or economic development. It came from completely different field and created those economic shocks that were exogenous and new and therefore you don't need to worry. Is that something in economic policies that affected one country's response more than the other country's response? COVID spread to all countries regardless of their macroeconomic policies. And so we have this nice exogeneity for the empirical study, not nice for the world, nice for the empirical study to be able to tease out something that during normal times you might not be able to see.

Tim Phillips [00:09:33]:

Well, let's have a look at the research. First of all, you took a selection of countries. How did you choose which countries you used in your research?

Galina Hale [00:09:44]:

So I have to step back to answer that question because as I mentioned, there was a big supply shock. And if you're trying to measure effect of fiscal policy on inflation, you need to control for what's happening in the real economy because everything affects inflation, right? And you cannot just say, oh, I have a variable, I want to see how it affects inflation without controlling for everything else that's going on.

However, if you look at traditional measures of real activity, either industrial production or the manufacturing index, you find that they are not moving very much, partly because of the lockdowns. And then later in 2021, they move maybe a little bit too much because of the supply chain disruption that we observed. So these are supply side shocks that we would like to control for. John Leer, who worked on creating the survey, is one of our co authors on our paper. He suggested that we looked a sentiment index that is measuring what people think the real economy is doing instead of actually those measures, that might be imperfect because of the supply shocks, and the sentiment measures are available at weekly frequency for a number of countries. And so that limited the set of countries for which we could do the analysis. Also, we select countries that actually had fiscal support measures because including a country that didn't have any fiscal support would not produce any information for us. So we ended up with mostly advanced economies: Australia, Canada, France, Germany, Japan, Spain, UK and the US. But we also had Brazil and Russia in our sample because these are countries for which sentiment data are available, and they had some fiscal support measures.

Tim Phillips [00:11:25]:

So tell me a little bit more about sentiment. How reliable is sentiment as a proxy for underlying economic activity?

Galina Hale [00:11:35]:

We actually tested for this. Yeah, right. So we said, okay, if we are claiming that sentiment measures economic activity, can we show that it has some predictive power and we actually show that it does. In the dynamic regression, you can see that changes in sentiment, they lead changes in the producer manufacturing index that is available monthly also for all these countries. So while PMI is not responding as much to anything else in the economy because of the lockdowns, whenever it does respond, that is captured a couple of months in advance by the sentiment index. We actually check that and it seems to be pretty good, at least for these countries that we're looking at.

Tim Phillips [00:12:15]:

You also need information on the timing and the size of all these policies that were enacted. Very large policies, very different policies, all at different times. Where did you get that data?

Galina Hale [00:12:28]:

A nice database is put together by Oxford University COVID-19 government response tracker you might have heard of.

Tim Phillips [00:12:35]:

I remember it well, yes.

Galina Hale [00:12:37]:

But we had to do quite a bit of work because we wanted to separate different types of fiscal support. In the paper we report the support to firms and support to consumers separately. But in our analysis we also wanted to see if there is a difference in cash versus debt forgiveness,

whether there is difference in housing related versus work related support. And we didn't find many differences, that's why we don't report those in the paper. To be able to do that, we actually dug deep into the website of the government response tracker and they have a spreadsheet essentially with all the links, that is raw data that goes into the indices they put together and then we went into those links and got the actual announcements. So we had the announcement dates, we had what was announced on each date, which is what was also government response tracker captures. But we also did textual analysis of these documents in multiple languages to find out what kind of support was announced. So we excluded all the fiscal support that went directly to medical related expenses like PPE or vaccine development, all that. We excluded that. We only kept what was going to consumers, what was going to firms, then we did all the other classification. And so that's actually the part of the research where most of the work went into is to classify this fiscal support and we wish we would have found more differences in other dimensions to kind of show off all the work we did. But we only find the differences between firm and consumer targeted support.

Tim Phillips [00:14:10]:

And explain the methodology to me because by definition there is no counterfactual, there is no "other earth".

Galina Hale [00:14:17]:

Well, the causal part is not that hard because the fiscal support was not in response to inflation, it was not response to economic activity, it was response to this exogenous pandemic and lockdown. So that is good because there is no reverse causality you need to worry about. Now what is the counterfactual? So, because we only include countries that had fiscal support, we're not including countries that didn't. We are identifying the effects from the differences in timing. We are running our regression at weekly frequency and so we know the exact date when the announcement was made. That is not always the same in all the countries and we are controlling for time fixed effects. So if whatever global inflation trends are happening are controlled for so what we are measuring is the deviation in inflation from the global trend in the 15 weeks following the announcement. And because those announcements happen at different times in different countries, that allows us to identify. So we couldn't do this work for just one country. No, because you would say well, many other things happened on the same day when this package was announced. So how do you know to attribute this to inflation? But when you do it in a panel where you're controlling for common trend, we also control for country fixed effects. Some country Brazil might have higher inflation on average than the US. So we allow for those level differences to not affect our results. We also control how severe was COVID at that time, also from the government response tracker. How severe was the lockdown, also from the government response tracker. So these also vary and allow to affect inflation separately to not contaminate the effects of fiscal policy. And we also control for any monetary policy that's happening through, including interest rates and the slope of the yield curve also as our control measures. That way we identify what is likely driven by fiscal support and nothing else. But the timing is really, the high frequency of the analysis is really, what allows us to pin down the numbers.

Tim Phillips [00:16:17]:

I seem to remember at the time there were many things happening on every single day in every country, weren't there?

Galina Hale [00:16:24]:

Right.

Tim Phillips [00:16:24]:

So ... drumroll ... did the policy measures increase inflation? If they did, how much inflation did they cause?

Galina Hale [00:16:32]:

So they did if the country didn't have any improvement in the sentiment about current economic conditions. So you ask people what do you think about current economic conditions? And they think same as before. Then 10% of GDP increase in the fiscal support announcement of that would lead to 40 basis points. So four tenths of a 1% of an inflation by about week twelve, so three months out. So there are big lags in inflation response. So the response would start about four weeks in at 20 basis points and creep into about 40 basis points by week twelve. If you announce the fiscal support at a time when people starting to feel better about the economy already, so people are saying "oh, things are going better, oh, and now I'm going to get more money," then that would be about 50% more inflationary. So an initial impact would be actually about 40 basis points, but eventually by week twelve it would be about 60 basis points. Sentiment has quite an important role to play. And maybe I'll anticipate your question -- is that something that I should expect to see? And I would say "yes". Remember in the beginning we talked about close to potential quantity versus price. Well, if the sentiment is improving, you're kind of saying well, maybe the economy is already getting better, getting closer to potential and now we're adding fiscal support. I would expect it to be more inflationary and result more in prices than if we're in a deep recession and everything is doom and gloom.

Tim Phillips [00:18:06]:

So some inflation, not a huge amount of inflation, but some inflation.

Galina Hale [00:18:10]:

Some inflation, yes.

Tim Phillips [00:18:12]:

And is the channel for that? Is it coming through the household support or the business support?

Galina Hale [00:18:16]:

We find that it's through both, but it's more through household than through businesses. The fact on fiscal support to businesses on inflation is smaller and less consistent across countries and we think it's consistent with our expectations. When you just allow people to maintain their salary, they're not necessarily going to run and spend the money, it's just business as usual for them. They don't necessarily see it as a

fiscal support as opposed to when they get cash, that's an extra income they did not necessarily expect and so they see it as a fiscal support and they can go and spend the money and that might have more inflationary effect because of that.

Tim Phillips [00:18:53]:

You got some pretty different types of economies in your panel. Did they all have the same effect?

Galina Hale [00:18:59]:

It's a good question, which I don't think I can answer because the answer is probably no. We find there is quite a bit of standard deviation in our estimates, but because our estimation relies on a panel of the countries, we cannot really do one country and not the other country. One thing we did, we separated emerging economies, which in our case is just Russia and Brazil from the rest of the group, and we found that the effects are pretty similar, but we cannot estimate for just one country. We also try to drop the US to see if the US is driving the results. Without the US the results are pretty much the same. So we cannot say it's the same across all the countries, but it doesn't look like there is one country or two countries that are driving all our results and everything else is just flat.

Tim Phillips [00:19:45]:

Everyone's got a narrative about inflation these days. Does the results that you have obtained here, do they contradict or modify the assumptions that people have made so far about the effect of these packages?

Galina Hale [00:19:59]:

I think they quantify a little bit and help understand that you cannot attribute all of the inflation we're observing now to fiscal support. Because if you wanted to do that, you will need to assume quite a bit of the dynamic effects of inflation. Inflation is very dynamic, but you also need to assume a lot of amplification. How do you get from 60 basis points to 6% inflation? So from my point of view, the correct narrative about inflation globally would be whatever people blame for inflation is a contributing factor to inflation. Fiscal support in some countries more than in others had impact on inflation, not very large. You cannot explain the whole inflation with fiscal measures, so that's one of the conclusions we're pretty solid on. But then there are other things. The supply chain disruptions also affected inflation in our paper. We do not quantify that, but there are work that shows that with very interesting data on actual stockouts to see how much stockouts contributed to inflation, and we know they did. And the energy prices and grain price increases were in Ukraine. It also depends which country you're talking about. So energy prices in Europe are much more important than energy prices in the US when it comes to calculating overall inflation. So the sources of inflation could be different in different countries. But I think if you want to explain why inflation is so high, it's all of the above. It's not one of those things.

[Voiceover] [00:21:37]:

[So if it wasn't the fiscal stimulus that caused most of the spike in core inflation in 2022, what was it? Ricardo Reis has some explanations in our episode: "How did inflation get so high?" from November 2022]

Tim Phillips [00:21:58]:

Yes, I suppose another way of talking about that is, well, you've got 6% in the UK, we've got 10% inflation. Now you're talking about 60 basis points at a time when the conversations we were having were our worries that inflation was too low and we couldn't seem to raise it. I suppose some people might say, does this matter?

Galina Hale [00:22:20]:

It's a good question. So, yeah, it matters. You can say, well, good, we were able to raise inflation and maybe that's good. We're not taking a stand on that. And in fact, expansionary fiscal policy would help raise inflation. Normally inflation is very dynamic, though higher inflation leads to higher inflationary expectations. And so it is important to know what the sources of inflation are. But I think in terms of our finding, I think our focus was mostly on trying to figure out what did these fiscal support measures actually do? They definitely helped people. Right. We know individuals who could not have survived very easily without the fiscal support. And there are a lot of studies that show small businesses, low income groups, really needed that fiscal support and it was hugely effective. And so the question is, if we were to do it again, would this inflationary result make us think we shouldn't do it? Absolutely not. We should absolutely do it. But understanding the quantitative effects on inflation also helps you evaluate how much of the fiscal support actually went into quantities as opposed to prices. Did it all go into quantities? Some of that went into crisis. And also the fact that we're looking at the sentiment also tells you when you're thinking about the timing of fiscal support, it matters. So understanding what's going on in the economy when the fiscal support is announced is important, maybe even more important than when money actually is distributed, because people would start spending an expectation of, oh, well, I'm getting a check in three months, I might as well go buy whatever I need right now. I think that's more of a nuanced result that I think is important. And also another thing that we learn is that even though we had this unprecedented global economic shock as a result of COVID the economy still seemed to work like in the undergraduate textbook. Right. So I think that's also interesting that we find, well, things are kind of as expected, maybe not as exciting, but it's good to know that our textbook is still applicable, even when things are strange.

Tim Phillips [00:24:25]:

For all undergraduates who looked at their textbooks and said, does it really work like this? Your research is one piece of evidence that, yes, it does. But it's also extremely interesting as we try to pick apart what happened during that time when people had to make policy very quickly without all the knowledge of exactly what they were doing or the implications of it. Thank you very much for talking about it, Galina.

Galina Hale [00:24:52]:

Thank you. It was fun.