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RECESSION REMEDIES:
LESSONS LEARNED FROM THE U.S. ECONOMIC POLICY RESPONSE TO COVID-19

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P R O C E E D I N G S

MS. EDELBERG: Hello. I'm Wendy Edelberg, Director of The Hamilton Project. I am delighted to be welcoming you to our first day of a two-day event, recession remedies, lesson learned from the U.S. economic policy response to COVID-19.

The COVID-19 pandemic took a devasting human toll. More than six million deaths worldwide and nearly one million of them in the United States. It also caused an extraordinary threat to the U.S. economy. It was one met by a swift, forceful, creative and largely successful response from fiscal and monetary policy.

When the next recession arrives, it will most likely not be caused by a pandemic. And policymakers will ask, what do we learn from the economic policy response to COVID-19? What should we do again perhaps with improvements? And what policies should we avoid?

The Hamilton Project and my coeditors, David Wessel and Louise Sheiner from the Hutchinson Center, put those questions to more than two dozen scholars for a book we publish today, *Recession Remedies*. It exams all that Congress, the White House and the federal reserve did over the last two years. Although, it is too earlier to give definitive answers to every question, the next recession will surely arrive before we have all of those answers. And we do know enough now to draw a few overarching lessons.

Today's event will highlight the authors of the nine different chapters. We will cover the breath of the response. Unemployment insurance, the economic impact payments also known as rebate checks, support for businesses, housing policies, support for both renters and mortgage holders, support for the state and local sector, policies aimed at the wellbeing of children, the interactions of monetary and fiscal policy and finally what lessons we learned from the use of nontraditional data.

Tomorrow, we will be in person at the Council of Foreign Relations in Washington, D.C. and streaming online. At tomorrow's event, we'll hear from our keynote speaker, Secretary Janet Yellen. And we will hear from policymakers and those who helped administer the fiscal support.

We will have two roundtable discussions tomorrow focusing on how well the federal

economic policy responses were designed and what we should keep in mind when the next recession hits.

Thank you to everyone who has submitted their questions in advance and we will continue to accept your questions throughout today's webcast at info@hamiltonproject.org. And also, through the Hamilton Project's Twitter account at HamiltonProj. Additionally, we will be live Tweeting the event using the #recessionremedies.

Okay. So, Jason, you, Tim Geiger and I wrote the first chapter. Lessons Learned from the Breath of Economic Policies during the Pandemic. So let's start our conversation with you highlighting some of the lessons that you took from our work. What lessons from our chapter do you want to highlight?

MR. FURMAN: Great. Thanks so much. And by the way, all the chapters in this volume are terrific. I learned so much from all of them. And, you know, it will just be a real resource for a long time to come.

With you, Wendy, we were partly trying to draw on the chapters but partly trying to look at the broader macro picture both in the United States and maybe we'll come back and be able to talk a little bit about compared to other countries as well.

One of the amazing things is if you look at the GDP or unemployment data, you would see the fastest, sharpest recession that the United States has ever experienced. And almost as deeper a recession as we've ever experienced. The unemployment rate, of course, got higher in the Great Depression. But if you looked at the numbers on disposable personal income or on poverty or on income by quintile or biracial group or ethnic group, you wouldn't see the recession.

In fact, you'd see the exact opposite of a recession. You'd see an enormous boom with incomes going up. And so, the first lesson is just creating a wedge between what is happening in terms of GDP which couldn't -- in this case, you didn't want to protect. In a normal recession, you might want to protect it, but maybe you can't fully protect it.

Within what's happening with GDP and what's happening with people's incomes

especially middle- and lower-income households is possible. You can use transfer policies. You can use unemployment insurance. You can use benefits like SNAP. There's just a lot of things you can do to protect families from the worse consequences.

A second related lesson is the recovery here was incredibly fast compared to the last recession, compared to most other recessions we've experienced. That we'll debate forever the ratio of importance of two factors to that speed. One is it was a different type of recession, a natural disaster in part that went away.

But that natural disaster -- or not went away. That we learned to live with. That natural disaster that lasted for, you know, a year. It lasted for two years. In some ways, it's still going on. And so, the policy response was also essential. We never could have had people go out and spend money in 2021 if they hadn't had any money left over from 2020. So policy can make a difference and a big difference at the macro level as well.

So, Wendy, you know, sometimes I talked about some of the good things policy did. Are there any sort of more negative lessons that you could draw?

MS. EDELBERG: So given the surge in inflation and consumer demand, we are experiencing. Some of the questions around the size of the fiscal support have had the tenor, well, we do have preferred? We had done much too little? And my answer to that question is no. But it's a false choice.

So I think the more useful question for future policy is should we have done a lot but less? And there I think we learn the answer is yes. Over the course of the crisis particularly in 2021, the increase in fiscal support was too large. And it is worth exploring to what degree this was noble at the time? And to what degree this is only clear in retrospect?

Doing too much can have serious downsides that might be difficult to mitigate as we are currently experiencing. I think economy gets close to its capacity to produce goods and services. Additional macroeconomic support boost demand will feed increasingly into inflation instead of improvements in output and employment.

Now, it was clear a year ago that the fiscal support in 2021 was going to push the economy in unsustainable ways. At the time, I thought that created risks from inflationary pressure and the risk of even more importantly the risk of a hard landing when the economy slowed. But I also thought at the time at the extent of support offered a lot of insurance that the recovery, at least for a time, would be robust.

Now, in hindsight, I underestimated or just failed to anticipate various factors that held back real activity and created inflationary pressures. But still, it's worth asking was the risk reward calculation the right one? And I think we can say, we can do better next time.

From a macroeconomic perspective, the timing and extent of monetary and fiscal support should be better matched to the economy's ability to provide goods and services financed by that support. But as we talk about later in the chapter and I know you and I are going to get to, Jason. There are ways of building in the size and the timing of policy that would be great improvements of the surge in fiscal support that was concentrated in the middle of 2021.

So, Jason, I know you thought about these issues too. What do you want to add?

MR. FURMAN: I agree with everything you said, Wendy. I think I might have maybe an argument that it was knowable in March of last year that this was larger than any conceivable size either in term of need of people or in terms of something like the output gap. That there are downsides to doing too much and we are living with those now as real wages are falling in the fastest pace in 40 years.

And regardless, I wouldn't just think about fiscal. I mean fiscal in some ways was complicated. You're making a decision for someone with a lot of political incentive, not just economic analysis. That's always true of fiscal policy. That is not a criticism. I've done that a lot myself. You are making a decision in January when things were more uncertain. Three thousand people dying a day in the delta wave. You weren't quite sure what the vaccines were going to be like and then it took two months for it to pass. It's harder to change.

In some ways, the feds error was probably even bigger in that they continued to make the error for month after month as the economy improved. As it was clear that vaccines, at least at first, were

working a lot better. They also have less politics in the fed and a larger number of economists. So I think in some ways they erred on the side of too large there. May have sped the recovery a bit but at the expense potentially of some problem in the future. I mean in some ways that's TBD.

I want to get to our next lesson, Wendy, which is the worse type of lesson to have. If you write an academic paper, your conclusion is more research is needed. A lot of people put a lot of thought into this volume. You hate to have any of your lessons be more research needed. But on the one place where I feel we still don't 100 percent know, but the question is so important. Policymakers need to be asking it, researchers need to is what can we do in a future recession to protect more jobs or speed the recovery of jobs and have a better job recovery?

Now, we've had quite a good one, 3.6 percent unemployment is unbelievable after what we went through two years ago. But still labor force participation hasn't recovered. And if you compare the United States to pretty much all the event's economies, we lost more jobs upfront and our recovery left us behind them in terms of employment at almost every stage of the last two years.

Now, it's interesting is that that also happened in the last crisis, in the financial crisis. And what's also interesting is it happened despite the fact that in both the financial crisis and this one, our GDP recovered faster than any other place. And so, to me a first order question is what can we do in the next recession to prevent a conditional amount of GDP maximized the number of jobs?

Maybe that's more aggressive prorated unemployment insurance. Also, called short-time compensation. Or job sharing. We have that in a lot of U.S. states. The take up was incredibly low. Maybe we need to readdress the balance of how you think about fraud prevention versus take up. But to me that's a really, really big question is can we do, you know, even better unemployment next time than we did not just this time but the last time as well.

And, Wendy, do you want to close it out with our final lessons from the chapter?

MS. EDELBERG: So let me say two things. So first, a lesson that both you and I knew before the pandemic but was laid there yet again is that four to five automatic stabilizers would help both reduce errs of doing too little and as I highlighted at the beginning and Jason talked about more, errs of

doing too much.

So policies were put in place that had abrupt and arbitrary cutoffs in the Fall of 2020, for example. Leaving people in dire straits and leaving people like me to be jumping up and down on the sidelines saying, we need to do more. But the Hamilton Project has written extensively about how to make automatic stabilizers more effective. And I encourage everyone to go look there. There's no shortage of ideas.

And the last thing I'll say is one thing I was struck both in putting into our chapter but also in editing the whole volume is how it's basically impossible to understand the effect of any policy in isolation. So like in understanding the effectiveness of policies put in place to help renters. One might think, you know, renters who we worry are going to be behind on their rent.

One might think that we should look to eviction moratoriums or the emergency rental assistance to see how effective those were. But in fact, equally or maybe even more important was the income support for households through unemployment insurance, the economic impact payments, through the expansion of the ITC.

So policies, what we learned is that policies that do more to mitigate the loss of income in the midst of a recession and help households who go into a recession, financially vulnerable. The more we do those policies, the less we need to do other policies.

So generally speaking, here too we have more to learn on these fronts. Policies need to be better targeted in future crises and that's going to require improving systems and policies in advance so we don't have to stand up new programs all at once. And so, we understand who needs help, who is not being reached by fiscal support and making sure that we have the infrastructure to help those people efficiently.

So we have a long to-do list for policymakers and a long to-do list for future academics in doing this research, but it's, you know, there are lessons that I hope will be useful for future policymakers here.

And thank you very much for the conversation, Jason. And thank you for writing the

chapter with me and with Tim. I learned a lot and I hope people enjoy the chapter and get a lot of out it.

And now, we are going to pivot to a conversation that I am going to have with two of our authors. One who wrote with coauthors The Unemployment Insurance chapter, Fiona Greig. And there she is, excellent. And Mel Stephens who coauthored our chapter on the Effectiveness of the Economic Impact Payments. I am pinch hitting as moderator here, but I'm super excited to be having this conversation with them.

In some ways -- so these chapters are after chapter one. These chapters are chapters two and three because in some ways these two policies and the enormous innovations around the unemployment insurance system and the economic impact payments did probably the heaviest lifting with regards to getting fiscal support to households.

And you really can't understand just as I said at the end of my conversation with Jason. You really can't understand the effectiveness of any other policies without understanding how unemployment insurance mattered for a particular household. And how the economic impact payments mattered.

So it is completely natural that we are now starting with both you, Mel and Fiona. And let's start with you Fiona. Why don't we start with what were your empirical findings that as you coned through how the unemployment insurance expansion mattered for the unemployed?

MS. GREIG: Thank you, Wendy. It's really great to be here and represent the work of myself, my coauthors.

You know, the unemployment insurance expansion during COVID was historic. It was really enormous and we expanded, you know, UI in three ways. We increased the level of benefits. We extended duration of benefits which we normally do, but we also expanded the eligibility of benefits. And these were really material expansions.

So in March or in June of 2020, UI represented about nine percent of all compensation. And never before had it been anywhere close. It was four-fold larger than ever before. So these were really material expansions.

So what did we learn? So number one, these expansions were actually very progressive in terms of how they offset income losses that were experienced by families. That's for two reasons. One, you know, the job losses were disproportionately experienced by lower income workers. But also, secondly, those flat supplements of $600 and $300 were, of course, disproportionately larger benefit increases for low wage workers than high wage workers.

I'd say the second empirical lessons was that, you know, the spending impacts of these UI payments were really large. And provided a really meaningful stimulus to the economy at a time when, you know, the spending of everybody else had cut, had been cut, right? At the beginning of the pandemic, we all, you know, were shut in our homes. We stopped going to restaurants. We stopped getting on airplanes. We stopped doing many, many things. And yet, what we saw in terms of spending trends among the unemployed is that their spending actually increased relative to their own baseline.

In large part because the typically unemployed worker was receiving more in unemployment benefits than they had been earning. So we saw a pretty big margin of consumed, .3, .4. So the spending impacts were large.

The third empirical lesson is if we think about the cost benefit of this kind of relief, right? The benefit is the spending impacts. They were big. Well, what about the costs? The costs we worry about are the work disincentive effects that this might be bearing down in terms of how the labor market might come back.

And when we measured those, we could detect a worker's incentive effect but they were small. Small against, you know, three different yardsticks. So they were small relative to historical literature. And, you know, in 18 other studies, we could drum up. You know, we had -- they were much smaller. Small in terms of the aggregate impact this would have delivered if we didn't have these supplements compared to the big aggregate pool of missing workers that we had at the time. And then, of course, small in comparison to the stunning impacts that I mentioned.

So that was a third really important and perhaps biggest surprise out of this UI experiment. That the work disincentive effects weren't as big as perhaps many might have thought.

And then finally, you know, another important lesson was specifically about the PUA program, which was a huge expansion. Represented about 40 percent of claims when it was up and running. And this was really quite successful in increasing access to benefits and ensuring income losses for people who normally didn't have access, weren't eligible, right? These were self-employed gig workers. People who were experiencing COVID themselves or caring for others who were.

These tended to be individuals who were at the margins of the labor market. They were lower income. Either our most youngest workers or eldest workers. And yet, we didn't necessarily see that there were greater work disincentive effects among this program either than traditional UI. So all told, we thought this program was a success.

Now, there are some administrative shortcomings that I think are really important to acknowledge that were costly in terms of not just consumer welfare, but also government expense. So these are things like delays in UI payments especially at the beginning of the pandemic which were, you know, especially important in the PUA program. Which we have to stand up a fresh. Red tape, right? People kept getting kicked off of UI at different moments after their first 52 weeks. Disparities in UI recipiency were still a challenge. And, of course, an increase in overpayments.

And I think in terms of the risk of repayments and fraud is being another perhaps cost or concern around UI. I think it's important to think about this in this sort of glass half full frame actually because overpayment rates are typically around 10 percent. During COVID, the best estimates we have is that they increased to about 18 percent. But that was at a time when we effectively got rid of so much of our, you know, third party verification and our controls that are intended to prevent net fraud.

So another way of putting it with very relaxed controls, 82 percent of the time UI payments went to the right people. So, you know, those are just -- I'm going to stop. Those are some of the empirical points I wanted to make, Wendy, because it was such a big experiment and so much to learn.

MS. EDELBERG: That's super. And we will definitely come back to you because I have lots more questions. But for now, Mel, the same question to you.

What were the empirical findings that you summarized in your chapter with regards to the economic impact payments?

MR. STEPHENS: Thanks very much, Wendy. I'm really excited to be here and also, I just want to mention my collaborator, Michael Gelman, with whom I wrote this chapter, right?

And so, just a quick background on the history of checks of these types of payments. You know, the U.S. had these payments not just in 2020 and '21, but they're also a little bit instrument before. The magnitude of these checks has been increasing over time.

You know, in the past they've been about 15 percent of monthly income for a family of four. That rose a little bit back in 2008. This time around the payments were much bigger as some of the earlier discussion that you two had alluded to had mentioned where we're seeing payments around 40 percent of income and even 60 percent of income with a third round of monthly income. So it's a lot bigger than in the past, right?

You know, in looking in our chapter, we looked in survey data to see, you know, what was happening with household in using them. And particularly the lowest income households, not surprisingly, were the ones that report using these to help address the immediate needs of their family. Like in the last week when they had been surveyed, right?

And also, in reviewing the literature more broadly in terms of mitigating earning losses, unemployment insurance certainly helped the lowest income households as Fiona was mentioning. But also, economic impact payments actually played a pretty substantial role as well in offsetting large earning losses among families.

And so, a lot of, you know, these were very broadly based. They were fairly high-income thresholds. You know, many families, many households reported receiving the benefits, right, but it still turned out one of the downsides was that a lot of those were households still had not received payments. So even though we've moved to a very automated world in getting things for us electronically versus the earlier payments I mentioned were coming via check. You know, the GAO still found that nine million individuals had not received payments as of mid-September of 2020.

And so, you know, it did a lot to inject cash into the economy very quickly. And families were getting payments really quickly, but there still were some fairly vulnerable households that didn't get the checks right away. And hopefully, that's something resolved in the longer term. With the second and third round once those families had signed up, they were also able to get round two and round three pretty quickly, right? But that initial round, it was really challenging for a set of households.

In terms of the impacts. You know, the impacts turns out were somewhat similar to what we've seen in the past with the other rebates that I had mentioned before. So Connors likes to use the term, marginal propensity to consume short of MPC. It's, you know, if I give you a dollar. How much of that -- what fraction of that dollar are you actually spending, right? And so, the MPCs range between .25 and .5. What does that mean? Basically, if a family gets $100, they're spending between $25 and $50, right?

The magnitudes that we're seeing are fairly comparable to what we had seen before. Something new this time around, right, from those earlier studies and earlier episodes. Now, researchers have access to things such as transaction data. And so, we can see exactly what families are spending their income. And we saw that in the first few weeks, we see these -- a lot of money being spent right away when these needy households are receiving things.

That's something we may come back and talk about a little bit later because we know other benefits may take time to arrive and rebate these stimulus payments can come and be used, you know, in that intervening period before other types of benefits can be rolled out, right?

And so, we saw that, you know, we had a few lessons that we also went through in this chapter. And the first one is precisely this. You now are moving away from paper checks. Moving to using direct deposit. And other ways, we're getting the payments out to people very quickly. We can give the money to the households very quickly and in turn, you know, families were able to inject cash into the economy very quickly, right? You know, in a normal recession, you know, we see this lack of demand. And we're trying to offset a lack of demand.

You know, things were a little bit different this time around, of course, because with all the

shutdowns, you know, we see this fall in demand. But, you know, the inability to say, go purchase a particular goods because my favorite restaurant isn't open anymore or, you know, other things along those lines, right?

You know, another lesson that we saw is, you know, thinking about whether the payments that are made are well targeted. Are we hitting the right households? It really depends on what we want to do with the money from the policymakers' perspective, right? So I could -- you know, we kind of go over three issues where we're really focused on the two.

You know, one is of course in the households that have lost income. They become unemployed, for example. You know, getting money to them very quickly makes a lot of sense. And of course, policymakers might want to do that. On the other hand, another reason that was mentioned a few times early on with the first-round stimulus was just insurance, right?

We don't know what's going to happen. It's great for families to have money there. So if something bad happens, they can use it. And precisely when things got worse having the money in their bank account to be able to respond, you know, while you're trying to file for unemployment throughout the area of important.

And another point is also stimulating economy as I mentioned before. You know, that's a pretty big issue. A lot of people thought there was tension on there. In our chapter, we really were focusing on the household, not necessarily, you know, were firms staying open? And what's the bigger, broader economic impact there?

But, you know, in thinking about targeting benefits, you know, what the policymakers want to do? Do we want to give cash to low-income households that are most likely to have lost their job versus do you want to have money for all households because all households spending? They can inject cash into the economy and help stimulate it. You know, whether you want to target things really depends on what your motivation is, right?

As also related to -- we had two more policy lessons very quickly. One is our ability to fill holes that are left by other programs. I mentioned the timing is really one as, you know, as you alluded to

in the introduction, Wendy. This idea of potential automatic stabilizers. You can imagine that if we said, well, things are getting bad. We're going to give families cash and they can inject it into the economy. Perhaps that's something that policymakers may want to consider while people are still taking time to find the right program to enroll in.

Do I enroll in TANF? Or, you know, SNAP? Or do I enroll for UI, right? If there's something that comes directly to your bank account and you can spend right away that may help offset things in the very short run, right?

And finally, the other thing we did learn is there's a lot of very interesting interactions between all the various social programs. And it's usually very hard for researchers to dig into that because a lot of time what we know is that people might be surveyed about your, you know, the EIPs actually received. But maybe they weren't asked questions also about other government programs.

So the ability for researchers down the line. And I know again to be getting we're tired of just saying we need more data, but this truly is a situation, to my last comment, is we do need to have more data here because I think we can learn a lot more about the interactions among all programs at the state and federal level to help understand how we can better serve families in the next recession.

MS. EDELBERG: Yeah. And so, before I ask you, Fiona, about what lessons you take for policymakers. I just want to follow up, Mel, and say, yeah, it was extremely frustrating as a spectator watching you try to work through whether or not the checks really provided that insurance that we hoped that they would.

Whether or not, they were really getting to families that either didn't have access to other fiscal support. Or the access to fiscal support that they had wasn't sufficient? And it's remarkable that we actually don't know the answer to that question, you know, completely. So we hope that that's what checks did, but, you know, we need more data to know if that's really how they were most effective.

But so, Fiona, I'm going to assume since Mel is not wildly waving, you know, frantically. But I basically got that takeaway correct. So, Fiona, tell me what lessons you take from your work for policymakers in the future?

MS. GREIG: Yeah. Well, one thing I really want to underscore if it comes through. I think both what Mel is saying. What our experience was is that, you know, as economists, we tend to think about the economics of policy and perhaps not enough about the plumbing of policy.

And, you know, you're hearing from Mel. Look these payments can be fast. That is actually about the plumbing, the plumbing and proof. We went from sending checks to delivering things electronically and that will only, you know, continue to accelerate. And so, some of the key lessons around, you know, UI do relate to the plumbing, not just the economics.

But if I take the economics first because, right, we did actually do something very economically conceptually quite different, right, with these huge supplements, the extensions, et cetera. I think there is a real question as to whether we might want to consider adopting some of these expansions more permanently or as some automatic out counter reciprocal stabilizer, right?

We do have a framework whereby, you know, states extended duration of their state benefits, you know, under certain economic conditions. You know, our federal standards around that still apply. You know, federal action to even just to extend duration. And of course, the increase in let rules and the eligibility. Those were whole new, you know, programs that were legislative, you know, had to be decided upon at the time.

If we think about the level of benefits, I think there's a case to be made that, you know, we might think about increasing these or encouraging states to increase these even in normal times, right? We have replacement rates that vary across the states, but they hover, you know, around 50 percent which is low by international standards.

So bringing them up to the 60 to 70 percent could reduce the consumption drops that we see in normal times. But of course, would provide more income support especially, you know, in a future recession if we didn't want to, you know, implement supplements that more than replaced income.

Now, one sort of plumbing issue that came to a head during the pandemic was that we were actually unable to target a replacement rate, right? We were not able at the individual level to say, I want to replace a 100 percent of your wages pre-job loss. And that was a technological constraint across

the states. You know, some states were able to do -- could have done that, other states couldn't. And so, we really didn't have the systems in place that would enable that kind of individually tailored replacement rate approach to the supplements.

So, you know, were we to have that you could say, hey, let's peg that at 60 or 70 percent in normal times but we could increase that, right, if we were to face circumstances like we did during the pandemic.

On eligibility, there too I think there's a question as to whether we might consider more, you know, more sustained expansions in our ability. I think we were asking a lot of states to stand up a whole new program. I think the standard is like normally when the Department of Labor issues new guidance, states have something like, you know, two years to fully implement such new guidance. And yet, they were being asked in a matter of days to start a new program.

And so, those operational difficulties alone, I think warrant consideration of more permanent adoption of at least an eligibility framework that would contemplate some of these edge cases that came in, right? Individual, you know, independent workers, contingent workers. Sort of good cause scenarios, right, where people have lost the breadwinner in their family and other circumstances that really became very salient during the pandemic. Where it was, you know, very understandable that we would want as a policy goal to provide income supports to people who could not work because they were sick. Or could not work because they were caring for sick, right?

Like that is -- now, we're edging this into a narrative around, you know, paid leave. And paid leave, sick leave, you know, of different sorts. So all to say, now figuring out the nuts and bolts of it, you know, how to define this? Who is eligible? How to verify income? How to mitigate against, you know, moral hazard even as we did discover that we thought it was pretty low.

Those are, I think, those are questions. But they are questions that should be worked on when we're not in an emergency, right? And they can't be kind of sorted out in an emergency and then left -- and then those insights sort of left to wither, right? And that's the sense in which I think this is a problem that we should continue to work on. And continue to sharpen that eligibility framework to

contemplate some of these expansions on a more durable basis.

There's a whole other set of policy lessons that I think really are around the administrative aspects of UI. And thinking about how to sort of push the frontier of what's possible in terms of doing things fast but also doing things accurately. And I think in order to push that frontier, you know, we really do need an investment in technology, an investment in modernization and an ability for states to share with each other and with the feds any number of datasets that can help verify whether you're already receiving UI over in this state or whether you are deceased as for this state's records.

But all to say, you know, I think one analogy that came to mind as we were closing out this work is that, you know, what we experienced was, you know, an economic emergency, right? Which will happen again. And not unlike a hurricane or, you know, that FEMA has to respond to.

And when FEMA responds to a hurricane, they're not learning how to, you know, build shelter. They just go do it, right? And I wonder if we might think about that sort of disaster preparedness mindset as we modernize and strengthen and take forward the lessons from this UI experiment in terms of how do we become -- how do we create a policy that is recession ready? Emergency ready? Work centered?

And, you know, we did a lot. We did extraordinary things during the pandemic along those lines. But perhaps we can do it in a little less bootstrapped way the next time around.

MS. EDELBERG: So this book is definitely meant to create some of that urgency around doing things now.

I just want to follow up on one thing, Fiona, you mentioned a couple of times replacement rates of, let's say, 60 or 70 percent. And suggesting maybe those should be increased when, you know, the economy is really weak. Can replacement rates be too high? Like they were obviously much higher than that for a lot of households, for a lot of unemployed people during the last -- you know, during the expansions.

You know, are there equity issues? Are there incentive issues?

MS. GREIG: So yes and yes, right? We definitely saw a larger work disincentive effects

for lower income workers for whom that replacement rate went up to 150 percent, right, then workers who had lower replacement rates.

So yes. I think the replacement rates can be too high. And the higher they are it is creating an incentive for workers to rather stick around and hang on UI than to try to get it up so I think they can be too high.

Your other question was about equity. And I think the other risk of replacement rates being, you know, exceeding 100 percent or even at 100 percent is that, you know, and it was really salient during the pandemic. You know, we were -- our hearts -- my heart was pouring for the essential worker, right? Who had to go to work. Who I was relying on to go to work. Who, you know, and I felt -- I know my own heart sort of a sense of inequity that this essential worker over here was getting paid X.

And this nonessential worker that, you know, immediately displaced worker over here was getting 1.5 X, you know, their pay even if they were normally, you know, similarly paid workers.

And so, I think that horizontal equity was something that really came to the floor here. And, you know, replacement rates above 100 percent do I think rub against that.

MS. EDELBERG: So, Mel, I'd like you to talk a little bit more about what you found with the -- as you call it, marginal propensity to consume over time.

Like was the first round of checks different from the second round of checks? Different from the third round of checks? I know we don't know everything there, but what do we know?

MR. STEPHENS: Thanks. So when we started putting together this volume most of the information that was out there is about the first round of checks, right? So there's a little bit more about the second and third rounds that emerged. You know, it turns out that, you know, across the rounds, the MPC didn't vary too much in terms of what we're seeing. That is, you know, you give the family, you know, $100. They're going to spend $25 of it. That didn't vary a lot. Some very interesting work -- so there's a plenty of questions as to why that is the case? And what did we learn for the future?

You know, Fiona and her colleagues in a different -- some different work show that looking at bank account data. You see this big increase in savings. In the lowest income households,

you see their account balances going up by roughly 100 percent after the first round of EIPs. And you see them falling down.

Then you see it go back up when the next round of EIPs come in. But you still, see through December of 2021, you know, after all three rounds are out there, you see among the lowest income households, you still have, I'd say in the ballpark of like 70 percent or 80 percent. Fiona, correct me. She knows numbers way better than me.

And so, there's this big question of, you know, is this a little bit different in terms of other recessions? How do we extrapolate things out because families had so much money in their accounts, right? And so, maybe we see some drop off over time in terms of the MPCs. It's hard to say because we had little information on rounds two and three to see if there was a drop off. It perhaps could have been because families had more money in their accounts relative to what we might normally see.

But that was the biggest thing that we saw was this really stark increase in saving that was I think surprised a lot of people. I'm guessing, Fiona is probably surprised because we anticipate a lot of families going out and spending those checks when they're getting them especially at the lowest level. But, you know, this time around, there's a lot of uncertainty out there. There was a lot of closures. And so, people may respond a little bit differently than they normally have in the past.

MS. EDELBERG: So I think I want to get this number right. And let's see if I can do this without putting my glasses on. I'm not sure that I can. But I think you'll find that a family of four, a typical family of four, maybe would have gotten $11,400? I'm remembering that number correctly?

MR. STEPHENS: That number is right over all three rounds. That's correct.

MS. EDELBERG: Right. Over all three rounds for sure. So I guess a similar question in spirit to the one that I was asking Fiona about replacement rates. How should we think about how big economic impact payments should be relative to income? Like were they -- because I completely appreciate that these were over three rounds. But cumulatively, it was a great deal of money. You know, thinking about your monthly income benchmark, it's 125 percent of monthly income for a typical family.

So how should future policymakers think about how to size these checks?

MR. STEPHENS: That’s a great point and I think, you know, from a research perspective there’s just been very little research on this because usually the payments are one size fits all, right?

So we don't have a lot of great information except for the fact that on the other hand, you know, we could do this as a share of your household income, right? So of course, you have a one size fits all payment. Higher income households, it’s, you know, a lower share, but there are also you typically have higher savings. So discerning, you know, the difference between is it more income? Is it a bigger payment? Is always, I think a challenge.

Was there too much income similarly in the economy this time around? And plus, all three ways? I don't think from what we saw if we, you know, can really answer that. I do think it is something that is, you know, useful to think carefully about, right? I mean again the families that had saved a lot of money again going to the figure that was represented from Fiona’s work and our paper. You know, there’s a lot of uncertainty I think that still remains. And for families to have the ability to draw on that.

And going back to the question early on. Is it about to fix the immediate need? Is it about insurance, right? Because if it is about insurance and this money is playing an insurance role that could be really vital when other things are happening that could compound because, okay, now I’ve found a new job. I just could barely get by but what if I lose that job? Or what if someone else -- the second or third person in the household who is helping us pay the rent, they lose their job? Well, having, you know, having that money in bank accounts can be really helpful.

So it is a complex situation. And, you know, from what we examined, we really only focused on, you know, how much are they spending? But I really appreciate this question of how big should they be? Because I think that’s something that we're going to need to struggle with going forward. And very much align with what Fiona was saying with UI payments.

MS. EDELBERG: So one of the hardest things, I think, we asked you both and all of the authors to grapple with was how much of what we saw in terms of the effects of these policies over the last two years was unique to this being a pandemic? So we can’t extrapolate from this experience going

forward?

And all the ways in which things were unique because of the pandemic? Both because of the ways things shutdown, but then because of the ways that things bounced back faster than they might in a next recession? And certainly, then they have in previous recessions?

So that was exceedingly difficult, but incredibly important for policymakers in the future because we don't want them to look at policies that were particularly successful in this context of a pandemic that might not be successful outside of a pandemic. And, you know, in a normal kind of recession and vice versa? Policies that were particularly effective but only because it was a pandemic. And they shouldn’t just ditch them.

So I want to ask you what were economic effects that you saw above UI and the economic impact payments that you thought were specific or at least you had to do some work to tease out how much this was pandemic? Or this recession was special? And that influences what I think in terms of the lesson going forward? I mean, Fiona, I think this is --

MS. GREIG: Yeah, I can jump in here.

MS. EDELBERG: I mean UI is all over this in terms of the incentive effects.

MS. GREIG: Yeah. No, exactly. You know, I think the spending is robust and will probably repeat itself, right, in the next recession because UI, you know, targets people who are in a low-income state, right? And but it really was the work disincentive affects which were low. And we spent a lot of time and continue our working on this question. It’s like, okay, well, why? Why were they low?

And, you know, we’ve put down on paper a number of possibilities. You know, initially labor demand was low. Well, but in 2021 it was high. And so, you kind of rule that one out because, you know, even though the labor demand was roaring back and you had a worker shortage. It seemed like disincentive effects were still low.

The second possibility is, you know, this high savings rate. And, you know, the cash buffers that we saw did grow. Obviously, that gives families a feeling that they have more time. It’s not an emergency that they have to go back to work. They can wait for a good job or wait for a higher paying

job or, you know, they may be in transition. And so, that liquidity could have helped them or caused them to feel like, you know, this isn't an emergency.

A third thing is that, you know, in the pandemic a big share of people returning to their jobs, were returning to their old employers. A large share of people returning to work were being recalled in effect, right? And there was policy that was promoting that, right? The PPP, et cetera. Like get these workers back to work at their old employers. And, you know, so insofar as, you know, high recalls, there the decision to recall sits more with the employer, not necessarily just with the -- you know, maybe that's why we didn't see as strong of a work disincentive effect because actually well the vast majority of people were just going back to their old employer. So that's another thing.

You know, but I do think there are a whole set of very pandemic specific factors that could have been playing a big role, right? Childcare constraints. Even just the volatility of whether my child is eligible to go to school because they might have been exposed or what have you, right?

Healthcare concerns. I personally am not ready to go back and be a bartender. I don't want to be exposed. I have people at home. I have myself and my own health to worry about. So I think thinking about the ways in which the public health environment, the concerns around one's own health, the barriers to work that were pandemic related either because of supply of childcare or because of volatility of eligible for childcare were also really important.

And so, we are in the process of trying to ferret it out. You know, how much of this is really just pandemic related or weren't? And then, you know, if we can ferret it all out then you've got to start to wonder, well, what about that all those 18 studies that show much higher job effects?

Maybe we should be asking ourselves whether it's a historical publication? Who knows? So to me this is very much an important question, Wendy.

MS. EDELBERG: And, Mel, maybe one way in this in which as I'm thinking about this. I'm happy to hear anything that you want to say, but it just from my perspective. One way in which this probably influenced your thinking of the empirical effects is that in past rounds of rebate checks like in previous recessions, we did things.

Like we just looked at a person's kind of spending. Like spending on nondurables or, you know, like a small slice of spending. And then just assumed that it was a good proxy for all spending. And this time, I think you guys -- I mean, you guys worked a lot harder to think about, well, let's include durable spending. Let's think about goods versus services. And like the mix of spending could be so different.

So like that's one way in which I think the pandemic influenced the way you approached this problem. But, A, maybe you think that's wrong. And, B, what other things do you have in mind?

MR. STEPHENS: So, Wendy, I think that's right. You have to, you know, think very carefully especially in the pandemic about, you know, the effects many of which Fiona had just gone through. I was just thinking about, you know, as Fiona was talking also about the fact that, you know, having groceries delivered. And then spending time wiping them down with alcohol wipes, right? Remember back two years that was the advice that we were all being given.

And so, and there was a lot less people eating out at the time, right? And so, those types of economic effects truly are, you know, diverting where people are spending their money, right? And so, I think thinking about, you know, all categories of spending because people were doing so many different things.

I mean this recession, you know, as you mentioned, you know, you talked about nondurable spending. So things that easily might disappear in a short period of time, but, you know, there were investments in durable goods, right? It was impossible to find a bicycle, for example, for a little while there, right? Or other things that having to do with outdoor activities. And, you know, so you really want to be careful in thinking about where were people putting their dollars?

So getting to your point about total spending? That sort of broadened what we think about in terms where people are putting their dollars, and that was certainly a difference. Again, a lot of this is pandemic related. And so, but on the exact same front, you know, next time around are people going to, you know, is there going to be a big wave of bicycles that are being purchased? Or outdoor pools? Or things along those lines? Perhaps not, right?

And so, that's where it's a little bit tricky because people are making these, you know, a lot of times we focus on decisions where spending might be over a shorter period of time, but these longer-term investments in goods, you know, that really changed this time around.

And so, just as you highlight, it makes you have to think a little bit differently about what types of measures and outcomes you want to examine because every -- you know, that's what makes this one different. Prior recessions perhaps not so much, right? Using a lot of the other factors are fairly similar.

MS. EDELBERG: Fiona, did you want to jump in?

MS. GREIG: Yeah, I want to jump in with just one other thing. You know, one important theme on the UI side across some of the different innovations was that, you know, normally to get UI, there's actually quite a bit of third party, you know, verification.

An employer has to certify that the employee was in fact laid off. You know, the employer data is used to check if an employee has received a job offer and gone back to work and that sort of thing. And a lot of that was waived, right? We waived work search requirements. We waived -- we just relaxed a lot of these employer reporting requirements.

And, you know, that's just another way in which this episode was different. And I think it raises really important policy questions about, okay, well, we kind of relaxed all of this. And yes, over payment rates went up. You know, from 10 to 18 percent, but, you know, it seemed like mostly the right people got this. And that they went back to -- you know, they weren't necessarily disincentivized to go back to work.

And so, I think that raises a question around like, well, how much certification do we need? What is the sort of cost benefit on a lot of this red tape that we have in place? And should we rethink that? Can we modernize that in a much lighter weight approach that allows more people to get access to these benefits and increase the recipiency rate particularly for black, Latinx workers, low-income workers who have been left out of this system and are uninsured or unsupported by this system? And enable that access to increase even within the bounds of what we consider to be eligibility.

MS. EDELBERG: Well, thank you. We have to leave it there. Thank you very much, Mel and Fiona for participating today and for the many hours of hard work leading up to today.

And I urge everybody to read these chapters. And I hope that this discussion provides -- the intention is that it provides a really good foundation for the discussions for the remainder of the event today. Where you should keep in the back of your mind that this enormous fiscal support worked in concert with the other policies that we will be discussing. So with that I'm going to turn it over to my colleague and coeditor, David Wessel.

MR. WESSEL: Thank you very much, Wendy and also Mel and Fiona for such thorough examinations of their chapter.

One of the things that made this project challenging is that the government did so many different things. And as Wendy pointed out, it's hard to think about the whole without thinking about the pieces. But it's hard to see what the pieces did independently without thinking about the whole. So we're going to try and take a stab at that in the following panel.

I'm joined by Anna Aizer of Brown University who wrote a chapter focused on what we did for families with children. With Laurie Goodman of the Urban Institute and Paul Willen of the Federal Reserve Bank of Boston who he speaks for himself and not the Federal Reserve who looked at housing. And my Brookings' colleagues, Louise Sheiner who looked at state and local governments and how that happened.

So I want to start with you, Anna. We know recessions are hard on people in general. And the effects on children can be particularly serious because they can be long lasting. And I think we did a lot with that in mind this time around. The economic impact payments that Mel talked about, for instance, had extra money for families with children.

But in general, what did we do that benefited children in particular? And what do you think worked well and what didn't?

MS. AIZER: Thanks very much, David. That's a great question. So as you noted we know from recent evidence that a negative event in a child's life, even if it's relatively short lived can have

pretty significant long-term consequences in terms of that child's healthy development, their school performance, and even their future success in the labor market.

And that's why it's important to provide relief to families with children during negative events like recessions because the consequences can be so long lasting. And so, what worked well is your question?

A couple of things. Children are the group most likely to be living in poverty in the U.S. They are in the households with the fewest resources who have the hardest time weathering recessions. And during this recession, a lot of financial assistance was provided either directly or indirectly to families with children. They were directly targeted to the child tax credit and to a lesser extent the EIPs, which they weren't exclusively for children. Those payments increased with the number of children in the household.

And children were also indirectly targeted through aid that was provided to those individuals with less attachment to the former labor force. And so, this includes not only stimulus payments, but also the UI program. Which during this recession offered relief to many more groups not previously eligible or eligible for very much smaller amounts. So independent contractors. Those who had worked fewer hours. And these tend to be the lower income families. Often families headed by women and therefore very much indirectly targeted children.

And of these sources of financial support, the stimulus payments, UI food stamps and the child tax credit were all incredibly successful in getting more resources into the hands of the most vulnerable families with children. To get a sense of how successful?

The first two rounds of the EIPs were estimated to have lifted 3.2 million children out of poverty in 2020. The UI program listed an additional 1.4 million children out of poverty. SNAP, 1.3 million. And refundable tax credits to the EITC and the CTC, another 2.7 million children out of poverty in 2020. And you can see from the data that when these payments go out and reach households, you see reductions in food insecurity in households with children. So it is working, right? So it was helping to sort of stabilize the environment for low-income children.

And I want to mention, you know, one last thing. And this echoes comments that Fiona made previously, which is that there were all kinds of concerns about sort of negative incentive effects of providing cash assistance, income assistance that was not conditional on work, right? There were huge concerns that this was going to depress labor supply. That fewer people would return to the labor market and work because of this. In fact, we have recently found that the child tax credit, there was no such effect. It did not at all suppress labor supply in families that received a child tax credit. So that's, I think very important to keep in mind for future recessions.

What didn't work well? Okay. A couple of things. Some groups of children were left out in the first rounds of the economic impact payments. Children who were U.S. citizens, but lived in households with adults without an SSN were not eligible for the stimulus payments. There were about four million children in this group. It also excluded 17- and 18-year-olds. To be noted though that in 2021, the American Rescue Plan did make those sorts of corrections and those kids were folded into future stimulus payments.

Another thing that didn't work quite well was the relief for childcare centers. There was a lot more relief provided during this recession relative to, say, the Great Recession, but it came too late. And why do I say that?

The thing about childcare centers is their finances are quite precarious based on surveys of childcare providers. They can last maybe two weeks if there's a significant reduction in their revenues. And so, what we saw was that many childcare centers were forced to close and many have been unable to reopen. So if we want to provide support to childcare centers, we need to do it early. Otherwise, we have the problem which is that once the recession starts to evolve and labor market conditions strengthen over time, it may be the case that many working families are unable to return to work because they are no longer able to access childcare because their childcare center has closed.

So that was one thing we didn't get quite right. One of the last things is we need better data. There was the household post-data which was an attempt to sort of get real time data on the situation of Americans during the recession. But there were very few child-oriented questions in those

surveys. Very hard to get a sense of how children were doing. And then some data was just missing all together. Childcare data, again, a big hole. We really do not have a good way to sort of track family's access to childcare and that is a real problem.

So going forward those are some things that policymakers should think about.

MR. WESSEL: Great. Thank you, Anna, and I also want to thank you for Fiona talking about children having children's art behind you. It seems a very good idea. Well done.

So we will now turn to housing. And what we did is we divided our housing chapter into two parts, renters and homeowners because they really are quite different. Just to set the stage, going into the pandemic there were 123 million occupied housing units in the United States. Of those 44 million were rented and 79 million were owner occupied, but two-thirds of those owner occupied had more issues. One third had already paid off their mortgages.

And of course, their circumstances were very different. Very different between the two groups and very different than in the Great Recession of 2007, '08 and '09. So, Laurie, let me start with you. Basically, what did we do for renters?

MS. GOODMAN: My chapter was coauthored with the wonderful Susan Walters who is a professor of real estate and finance from the University of Pennsylvania. And I want to acknowledge her contribution.

Let me first set the stage. So it's important to realize that renters are less affluent than homeowners. They have lower incomes, lower wealth and were disproportionately hit by COVID-19. Also, going into the pandemic, three out of every four families that qualified for federal assistance didn't receive it due to budgetary constraints.

Forty-six percent of all rental households spend at least 30 percent of their income on rent and are considered cost burdened. Nearly a quarter spend more than 50 percent of their income on rent and are considered severely cost burdened. During the pandemic, homeowners benefited from rapid home price appreciation. Whereas, renters faced rapidly rising rental costs.

So there are three types of assistance available to renters. Direct cash assistance in the

form of enhanced unemployment insurance and economic impact payments, eviction moratoriums and emergency rental assistance.

The enhanced unemployment insurance and economic impact payments were largely sufficient to ensure the moderate- and higher-income renters who lost their jobs didn't fall behind on rent. That is the income replacement policies were sufficient if policymakers were concerned only with the incremental effect of the recession on those that were employed in the former economy before the recession. We saw this in the data. There was virtually no relationship between increases in unemployment and increases in renter delinquencies.

By contrast, lower income renters did show signs of increased distress. For renter households that were housing insecure before the pandemic, many without formal labor force attachment, the income replacement was insufficient.

The eviction moratoriums were absolutely necessary to contain the health crisis. It was particularly valuable to those families that were already strained coming into the pandemic and were then adversely affect by the pandemic, perhaps losing hours at work. Many of those renters had few alternatives. They could move in with other family members which would have created more overcrowding or become homeless.

There's no doubt the eviction moratorium reduced the COVID-19 infection and death rates, resulted in the redirection of scarce household resources to immediate needs such as groceries, which reduced food insecurity and prevented homelessness. Because after all, the rent always eat first. However, the cost of this moratorium was largely borne by landlords which had negative consequences for the tenants going forward.

In particular, many landlords differed maintenance on their property and tightened screening criteria for new tenants which will leave a legacy in the market for a long, long time to come.

Emergency rental assistance which would cover utilities, rents up to 18 months and some amount of future rent was very valuable to lower income families, those under AMI were eligible. And many of those families were strained going into the pandemic.

The ERA funds were done in a very disjointed fashion. That is, they're done in the form of grants to states, territories, local governments and Indian tribes. Grantees, many of whom had not done this before were each required to set up their own programs to distribute the funds. The funds were first authorized in December of 2020 with another slug in March of 2021. By December of 2021, only 44 percent of total funding had been spent. A quicker more streamlined roll out would have been very beneficial for tenants and would have reduced the cost of the eviction moratorium for landlords.

So together these programs largely compensated for the losses associated with the pandemic, but they didn’t address the longstanding problems of the housing market insecure segment of the population.

And then I want to echo a point that Anna made data. The crisis also highlighted the need for better data on renters and renter market conditions, both delinquencies and evictions. The lack of pre-pandemic data made it difficult to disentangle the effectiveness of policy responses and much of the pandemic data is ending as the pandemic winds down. We need to collect this data on an ongoing basis.

MR. WESSEL: Sorry. You say that UI payments and economic impact payments were basically sufficient for people to pay the rent. And then we had an eviction moratorium. And then we gave -- although as you point out not very efficiently assistance to people to pay their rent. So when you look at that combination of things. What do you think was most important? And did we kind of overdo it do you think?

MS. GOODMAN: There’s been a lot of discussion as to whether, you know, we needed the full extent of the income replacement. But certainly, did we need the entire last slug? But certainly, it worked very well. I think the emergency rental assistance could have been rolled out much earlier.

And ideally that would have been rolled out much earlier and less reliant on the eviction moratoriums because if you had implemented the emergency rental assistance quickly and efficiently, it would have made a big difference. I mean and I want to emphasize efficiently.

I mean the program was the programs. Everyone had their own set of rules. Some of

these programs had very cumbersome -- some of these programs had extremely cumbersome documentation requirements. If they were streamlined programs, simply applications, minimal documentation, clear eligibility rules. Similar to the forbearance program that I know Paul is going to talk about. It would have made a big difference and would have allowed the eviction moratoriums to be much, much shorter.

MR. WESSEL: Right. And I think that's really interesting because you're entering a point that Fiona made that we set up some programs in during the pandemic. And if we think they worked and we're going to need them again, the time now is to craft them and perfect them as best we can so we're not inventing them on the fly at the same time we're pushing out the money.

I thought also that your chapter really reminded me that we have a problem with renters and their house having unacceptable burdens before the pandemic. And so, I think what this did was highlighted for us how vulnerable many rental households are. And I think what you said in the chapter is we did a lot to help them, people who needed incremental help during the pandemic. But we're left with the same longstanding problem of inadequate housing supply and supply of affordable housing.

MS. GOODMAN: Yes. And a more permanent safety net that captures more of the population would have been -- it just shows the value of that. That way, you know, in a crisis, policymakers could focus on the smaller share of the population that falls through the cracks.

MR. WESSEL: Great. Okay. Let me turn to you, Paul. Of course, there are many more homeowners than there are renters. And we learned during the Great Recession that sometimes homeowners can be particularly vulnerable when we have a crisis in the economy. That wasn't true this time in part because people came into the pandemic with more equity in their homes and also because house prices kept rising.

But as you step back and look at what did we do for homeowners with more reduce in? What do you think of it? You need to unmute, Paul.

MR. WILLEN: Thank you, David. I want to reiterate that I'm here today as a researcher and as a concerned citizen. Not as a representative of the Federal Reserve System. So when I say we,

I'm not referring to me and Jay Powell. I'm referring to me and Chris Geradi (phonetic) and Laurie Landby-Hanson (phonetic) who are my coauthors who are also researchers and concerned citizens who happen also to work for the Federal Reserve System.

And let me also just say how happy I am to be here and how much I have learned from putting together my own paper and from seeing all the other work.

So to answer your question. It is very hard especially for someone like me who lived through the last crisis not to view the pandemic and housing through the lens of the financial crisis. And so, let me just briefly talk about what we found.

So the forbearance is kind of the central story in our policy response. And it is very easy to compare it with what happened -- what we did in the financial crisis and to compare it favorably. So forbearance worked very quickly. Borrowers were getting assistance basically in April. As you know, the pandemic started in March or the effects of the pandemic on the economy started in March. We're already helping borrowers in April.

Remember -- just as some context, the home affordable programs, they weren't even announced until February of 2009 and the crisis had started in 2007. Forbearance was easy. So we all remember from -- or many of us remember in the financial crisis what a bureaucratic nightmare all of the government programs were. And how it took several years in some cases to roll them out and then months for borrowers to get assistance.

By contrast, forbearance worked. It required no verification from borrowers. All they had to do was call their servicer and attest to hardship and they would receive a forbearance. And finally, forbearance is efficient in the sense that because the borrower, for the most part is expected to repay the money, its incentive compatible. And that's one of the reasons why it was so easy and so quick to implement because since the borrower has to pay the money back even on what turned out to be very generous terms, it means the incentive for someone to fake a need was limited.

So that's all the good parts of forbearance. I'm going to come back to this.   The bad part threw me off so just I'll discuss another policy response which was low mortgage rates. And we had

partly through policy interventions, we had the lowest mortgage rates, you know, for all practical purposes in history.

And so, we might think that helped borrowers a lot, but what we show in the paper is that was very slow to defuse unlike forbearance which happened immediately. You know, it takes time for borrowers to refinance their mortgages so it diffused very slowly. It was inefficient in the sense that an enormous amount of money went not to borrowers or to lenders but to the intermediaries who arranged the transactions. And that happens whenever we have lots of refinances and it's one of the reasons why mortgage refinance is an inefficient way to help people.

But we also highlight that the benefits of low interest rates were very poorly distributed so they tended to go obviously to people with big mortgages, but even more than that there was huge racial heterogeneity in the benefits. So we show that the, you know, black households, for example, are 15 percent of the population but they got about three percent of the payment reductions from low interest rates.

And so, let me just conclude though in saying this all sounds like I'm saying forbearance would have been a panacea in 2009, but it will be hard for us to generalize the experience because we, of course, had two things in 2020 and 2021 that we didn't have in 2009. And one of those, of course, the main one being that house prices were rising rather than falling. So borrowers had a strong incentive to maintain their homeownerships, which they didn't have in 2009.

And finally, of course, the economy recovered so much more quickly. Now, maybe that was itself the result of all the more sensible policy, but of course that meant that the benefits of -- the forbearance is something that worked because borrowers could eventually pay back their mortgages and because they had an incentive to because they had equity.

And it's hard to know whether in the future that will be something that we face. David, I think you're muted.

MR. WESSEL: You're absolutely right. So forbearance meaning that people didn't have to make their mortgage payments for something like 18 months. Were you surprised at the number of

people who decided not to take advantage of that? Given that it was pretty easy to get?

MR. WILLEN: Now, I'm muted. So the, you know, it links to again it's really hard to avoid discussing the unemployment insurance and the income support programs. So one of the concerns we had early on about forbearance was that it was going to bankrupt mortgage servicers. And so, mortgage servicers received the mortgage payments from the borrowers and they're also responsible for paying the investors.

But the rules are that they have to pay the investor regardless of whether the borrower makes the payment. So there was a lot of concern that if the borrower stopped making their payments and the servicers had to continue making their payments that the servicers would go out of business.

And so, we were quite alarmed about that, but I think once we learned about the expanded unemployment insurance, I think a lot of our alarm at that point subsided because we thought in the end there are a lot of the borrowers who we thought, you know, who lost all their income who we thought were going to need forbearance ended up not needing it.

So I think we probably were maybe pleasantly surprised at how few -- that the problem wasn't worse, but not completely surprised, no.

MR. WESSEL: Okay. Thanks. Great. Let me turn to my colleague, Louise Sheiner.

Louise, you focused on state and local governments which I think people sometimes fail to appreciate how big they are in their economy. It's about 13 percent of all employment in the United States and their revenues are about half the size of the federal government's revenues which are substantial.

So when we went into the pandemic based on experiences in past recessions, there was almost a panic that state and local government revenue's would evaporate. Why didn't that happen this time? And how much money did we give these governments anyways?

MS. SHEINER: Yes. So I think that's a great -- the exactly the right way to frame it. So coming into the pandemic, we had come out of the Great Recession where state and local governments had suffered huge revenue losses and had been a factor really holding back the recovery.

And one of the lessons that we had learned from the Great Recession is that you have to give money to state and local governments if you want a strong recovery. So that is the mindset we came in. In the Spring of 2020, people were trying to kind of estimate what the revenue losses would be for the state and local sector? And there was a wide variation, but they were mostly very, very high from $600 billion to close to a trillion dollars in losses.

And so, that was sort of the framing of it that went into the CARES Act. So over the course of 2020 and 2021, it wasn't all in the Spring of 2020. We gave state and local governments a lot of aid. When you total it up, it totals close to a trillion dollars. Some of that was direct aid just sort of general aid to the state and local governments. And some of that was targeted aid for K through 12 education, for hospitals. A lot of which went to public hospitals. A lot of which went to public institutions. So adding that all up together, you get something close a trillion dollars.

And so, what happened to revenues? So revenues actually really didn't fall at all over 2020 and 2021 surprisingly. They did fall somewhat in 2020 relative to what had been expected, but they recovered quite briskly in 2021. And so, if you look at it relative to a pre-pandemic baseline, they kind of came in as far as we know exactly where you would expect. Why was that?

So I think the biggest reason is something you keep hearing across all of the different panels is that the recovery was much stronger than anybody had anticipated. So when you're making projections of state and local revenues, the most important thing that you need to assume is what happens to the unemployment rate? What happens to GDP? All of that, the recovery was much quicker than we thought. That's most of the shortfall but not all of it.

The other things relatedly were that the housing market did continue to do quite well as we just talked about. The stock market did very well. Those are all going to be things that boost state and local revenues and spent, right? Coming both from income taxes and sales taxes and also the incredible fiscal support. So households didn't cut their spending. Well, they did cut their spending somewhat but not nearly so much as you would have expected based on the unemployment rate.

And finally, this was a very low wage recession so that meant any rule of thumb from an

unemployment rate to revenues was going to be off because this was a lower wage recession than the typical recession. Meaning that the implications were sort of macro aggregates of spending and income were less than you would have guessed.

MR. WESSEL: So, Louise, I think you say in your chapter that as best you could tell, every state and almost every local government got enough money from Washington to more than compensate for the losses caused by the pandemic, which is pretty startling when you think about it.

MS. SHEINER: Yeah. I only know state and local together. I don't actually have information as we can talk about locales but I think there was so much money. I mean so a trillion dollars is about 30 percent of one year’s state and local spending, right?

So they got a ton of money without losing. Some states did lose more revenue than others, but still. No states lost tons and tons of revenues. And so, I think on the aggregate, yes. We basically made all state and local governments whole and then some.

MR. WESSEL: Okay. So the real mystery in your chapter is why did state and local government employment fail to return to pre-pandemic levels? And I know you don't really know the answer but tell us what happened and what you speculate is going on?

MS. SHEINER: Yeah, I mean I think it’s the huge irony of this experience is that which is that after all this money that we gave them. If we say, what sectors of the economy are still sort of holding back in terms of employment? State and local are big ones.

So state and local employment fell very quickly in the Spring of 2020, which is not what happened in the Great Recession. It took a long time for employment to fall in the Great Recession. It fell immediately. It increased a little bit more as the economy recovered in the summer, but really not a lot. And even by March of 2022, it was more than three percent below the level it was before the pandemic. And after years, we would have expected some growth. So it really has been quite weak.

Why is that? Well, you know, I do as you say, try to figure it out in the chapter. And there’s no real obvious answer. I think the biggest thing has to do with the pandemic itself. And so, it’s really important to remember that this recession is not necessarily giving you lessons for other recessions

because the pandemic had so much to do with what state and local governments did.

So in the Spring of 2020, think people who are laid off, bus drivers, cafeteria workers, office workers when the offices were closed. All the office closings. Those were people who were laid off. And then they were sort of slow to return. And if you try to understand. It's hard to say it was money just because everybody eventually got so much money, right, that they didn't use it to hire people back.

There is some evidence that sort of people who -- so state and local governments that were worried about money sort of right away when they didn't know they were getting this aid and they imposed hiring freezes. They didn't lift those very quickly that had something to do. So I think money would have made some difference, but if -- another very big predictor of the changes in employment across states is really how concerned they were about COVID, right?

And the way I look at that is look at vaccination rates. Say for the high vaccination rates, we're more concerned about COVID. They are more likely to have remote school. They're more likely to have their offices closed. They are only open part time or, you know, with social distancing. And so, the caseloads were lower. They were more likely to do remote work. And I think that means both that there was less need for people.

But also, just that there was stress. It wasn't necessarily budgetary stress. But the idea of sort of expanding a program or hiring people or being innovative about how you like do, you know, work from home. I mean they could have spent the money in really innovative ways, but I think they basically didn't. And so, I think that has a lot to do with it.

And then the other thing that happened is then, you know, a lot of schools were all reopened basically. They had a lot of money and sort of job openings did increase a lot in the state and local sector. But at that time wages had increased so much in the private sector, particularly at the low end. And state and local governments just were not offering those kinds of wages, right? And we can talk a little if you want about why they didn't use the money to sort of offer higher wages?

But basically, they felt that -- I mean, they did not offer wages if you just look. If you talk to them, state and local governments are really, really worried about budgets over the long term. So

they're really, really worried about doing something now that's going to then change their expenses in five years.

So there's a whole idea of you don't want to take one-time federal money to finance something that's going to be ongoing is something that you hear over and over again. And so, I think that's one of the reasons that they're not raising wages. They're also unionized. And so, they couldn't sort of just like have selectively raised wages for new hires.

And so, you know, those are sort of my guesses of what was going on. It's hard to know. And obviously, you know, it's not just -- you know, there are many, many different state and local governments. And so, it's hard to know.

MR. WESSEL: Great. Anna, I think Louise's discussion of state and local governments calls attention to the role of schools at a time like this.

Now, one thing that's clearly pandemic specific is that in an ordinary recession or one caused by something other than a pandemic, we're not going to close the schools and send all the kids home to work on their iPads. But it seemed to me and I think you talk about this a little bit in your chapter. We were reminded about how important a delivery mechanism the schools are for reaching poor families.

So can you talk a little bit that? And what we think we should keep in mind for the next time? Even though, it won't be a pandemic, I hope?

MS. AIZER: Yeah. That's a great question. I can answer that and I have another comment on Louise's point.

MR. WESSEL: Great. Terrific.

MS. AIZER: So a number of kids, children who are undocumented are welcomed in U.S. schools. At U.S. schools, they receive free breakfast and lunch if they're eligible. When the schools closed that means that all of those kids are no longer receiving two of the meals, they used to be able to count on daily.

What the government did in response to that the fact that there were so many children. Not just those children but all the children were no longer receiving nutritious meals through the national

school lunch and breakfast programs. They provide this PDET. The pandemic EBT was essentially a way for families to replace that lost nutrient by, you know, essentially with something. They will allow them to go to the grocery stores. And of course, this went to all children. And so, it included those kids who would otherwise not receive any assistance during the pandemic because they were not legally eligible.

It took a little bit of time to get going, right? Because it was a new program, but it ended up eventually being quite successful. And because schools serve all children regardless of their parents' documentation status or their own, that is an important way in which we can continue to serve those children during a recession.

The other point I wanted to make regarding sort of Louise's findings is that if you look at the Great Recession, it was followed by pretty significant declines in state spending on schools. It took a long time to recover.

That is not going to happen in this recession in part because of the points that Louise made and the additional fundings specifically for schools that was provided by the federal government. So that's a very good thing providing additional funding for states and local governments so that schools spending does not drop precipitously during recession, which it has in the past, taking years to recover is a very important lesson from the pandemic, I think.

MR. WESSEL: Yeah, that's a good point. I think one of the things we struggled with in writing this book and drawing policy conclusions is the fear that policymakers always overreact to the last crisis. So if state and local governments were a problem in the Great Recession, we'll give them a lot of money in this recession. And then the policymakers in the next recession will read Louise's chapter and say, okay, the state and local governments don't need the money.

So what I would like to do on our remaining time is ask each of you, and you can talk about anything you want if it's on topic, but I want you each to imagine that we're on the cusp of another recession, which frankly, I think is unfortunately more likely than I had hoped when we began this project. And members of Congress are asking you, what did we do during the pandemic that we should do again

or do differently? And what should we not do because it's not a pandemic or because we learned something? And, Laurie, maybe I'll start with you. What would you tell them?

MS. GOODMAN: So I think we did a lot of things right, I think. So certainly, the enhanced unemployment benefit and the benefits and the economic incentive payments were very, very valuable. I think, you know, clearly, we need a more permanent system of rental assistance so that people aren't -- so that so many people aren't struggling all the time.

But if we're not going to do that we have to have a way -- we have to have a very smooth roll out of emergency rental assistance when it's needed. That means -- and this came up in the last session as well. The plumbing has to be in place which it was definitely not this time. Every grantee was basically setting up their own set of plumbing which was remarkably inefficient.

So I mean I think my two pieces of advice are number one the minute there is any sign of a recession act very promptly. The prompt actions made a huge, huge difference. You know, a number of people mentioned this. Anna mentioned it in her discussion and it came up in the last session as well. So the prompt actions made a huge difference and correcting the plumbing on the emergency rental systems would be my pieces of advice.

MR. WESSEL: It's interesting. I mean some of the things that you say support the case which is made in various places in the book to have more the stabilized, more automatic stabilizers. Have stuff that triggers on and triggers off that doesn't require an act of Congress to do it.

Paul, what would you say we should do again? And what should we avoid doing again? Or is it impossible to say because the housing market conditions can be so different every time you hit a recession?

MR. WILLEN: So one thing that I -- this is arguably broader than the pandemic itself was. That the way the mortgage market worked in terms of the transmission of low interest rates to households that continues to be a problem. I mean in the end most households did not refinance. So did not benefit at all. Those that did refinance paid higher rates arguably than they should have.

And this is, you know, a system where we have an instrument of policy which is to lower

interests. And, you know, for most households the main connection with interest rates is through mortgage rates. And yet, most households were unable to take advantage of it or took advantage of it less than they could have. So I guess we have discussed over the years ways in which we could make this system work better, streamline refinances.

And one of the things that is always funny about refinances is the financial system already has the risk of the mortgage. So it is a question of why we force everybody to treat that mortgage as if it's a new risk to the financial system every time someone wants to refinance. And then as we highlighted the distributional consequences of this are that the benefits tend to go to the people who need them the least. So the people with high income and large mortgage balances are the ones who get the refinances.

So I think the pandemic -- I mean so as I said in a sense not everything worked perfectly in the mortgage market, but in this case, it wasn't bad things that happened. It's good things that didn't happen. And so, I would say that's something that going forward I would hope we would revisit.

MR. WESSEL: Yeah. I'd have to say that refinancing a mortgage is certainly painful after you've already bought the house. So are you talking about like -- so the ideal from the consumer point of view would be a mortgage that had a fixed rate except it could go down and not up? Is that something that's really practical?

MR. WILLEN: Yes. I think it's more practical than people think. I mean we have, you know, a fixed rate mortgage is simple to the borrower but very complicated for the financial system.

So a ratchet mortgage which ratchets down sounds complicated but I think it's something that the financial system could handle. It might require some, you know, education or something with borrowers to help them to understand that realistically they're not going to refinance their mortgage when rates go down. And so, paying a little extra upfront to have that happen automatically is a good investment.

And then obviously, all over the world people use adjustable-rate mortgages without, you know, they didn't have a financial crisis. So there's always an open question of why we're so resistant to

adjustable-rate mortgages.

MR. WESSEL: So, Anne, I think you've touched on a number of things. But if you had to highlight something you think is really important to keep in mind before the next recession, what would be on your list?

MS. AIZER: Okay. For loan contents, cash is king. Cash and near cash. You see, for example, food stamps matter. They reduce food insecurity among children. And so, does cash assistance. And it's pretty easy to get into people's hands. We learned that during this recession. And the concerns that providing cash assistance will depress labor supply are just largely overwhelmed, right?

So there may be some effects but they are modest at best. And so, you know, we should really not be so terribly concerned about depressing labor supply by providing low-income households with financial resources so that they can weather the recession. Childcare needs help early on. And money for schools, very important. So the feds need to sort of monitor what's happening with state and local spending with respect to schools and provide assistance if needed.

MR. WESSEL: Right. I'm glad you mentioned the childcare thing because I was really struck by that in your chapter. So public childcare like Head Start. I'm thinking they can bump along. They get money. Some kids don't show up. They don't cut their budget. But private childcare is very dependent on the number of kids who come, of course.

MS. AIZER: That's right.

MR. WESSEL: And then if it closes, it closes. And it's really hard to go back to the pre-pandemic situation. So I think that was like a really -- Louise, I think you put it very well. If you're going to give them money, give it to them early because giving it to them late when they've already closed is hopeless.

So, Louise, tell me what would your lesson to policymakers be on the state and local sector?

MS. SHEINER: I have a few. So I think the most important thing is don't unlearn the lesson of the Great Recession. Don't say, well, look, money doesn't matter. I think what we learned from

the recession in this pandemic is that money is not the only thing that matters. But money does matter and there is some evidence that money did matter to some extent here especially because the state and local governments didn’t know they were going to get this money.

So having that aid to state and local governments that’s sort of function that economic conditions would have done two things. One is it would have lowered the amount of the aid we gave state and local governments this time around because economic conditions turned out better. But it would have also told governments that if things are worse than you think, there will be more forthcoming so you don't need to worry as much. So I think putting in those kinds of automatic payments to state and local governments would be a good thing.

I want to comment a little bit on what Anna said. So it’s not clear. I don't think you can conclude that we made a mistake giving so much aid to local governments. I think you can say, we gave them a lot more than they had lost and they didn’t use it for employment. And so, the whole point was to make sure they didn’t drop whatever didn’t work.

But when we think about sort of how we talked about in the first panel. Did we do too much? I think that, you know, state and local governments really do spend the money quite slowly. We don't have great data on how much they're spending is, but it’s pretty clear that they do spend money slowly.

So they're probably not the sector sort of most responsible for this sort of surge in aggregate demand and inflation. And so, if, as Anna pointed out, we give all this money and over the next four or five years, education funding is actually more robust than otherwise would have been. Or, you know, it also depends on what they use the money for. You know, you could have argued the state and local governments were underfunded before and maybe they will use it for good investments, you know. And so, we don't know.

But in terms of what you must make sure you do again is make sure that the aid is available if conditions warrant it.

MR. WESSEL: Thanks. I think what this conversation illustrates is really the strength of

this project. First of all, we did so many things during the pandemic that it's very hard to remember what each one was. And what this book does is in one volume or one website, we basically catalogue everything that happened on the economic policy response.

And the second thing we did was take advantage of the extraordinary amount of economic research that's already been done, but who could read 375 NBER papers on the housing market. And so, each of these chapters nicely summarizes what the existing work preliminary is.

And finally, I think as you can see in the conversation we've had today, we've been focused on the question of what did we learn this time that we should apply next time so that we can actually do better in the future than we've done in the past? So with that I want to thank Laurie and Paul and Louise and Anna for such a good conversation.

And I want to now turn this over to my friend, Austan Goolsbee, from the University of Chicago, Booth School of Business who is going to take us home with the remaining chapters.

MR. GOOLSBEE: I don't know if you can hear me but I can't start my video. It says the host has stopped me.

MR. WESSEL: We can hear you so start talking Austan.

MR. GOOLSBEE: Okay. Here we go.

MR. WESSEL: Here you are.

MR. GOOLSBEE: All right. So that is excellent. Let me just call this up. We've got an outstanding panel that we're going to think about the findings from these papers and the lessons for future recessions. And I just forgot what the order is. Is Jonathan Pingle supposed to go first?

Jonathan, why don't I start with you? I can't remember if you were meant to go first. But, Jonathan, is the Managing Director and the Chief Economist at UBS. Before that he was at Blackrock. He was at Brevan Howard. He started at the Fed and you've got some fascinating results in your paper thinking about the interactions and cooperation, coordinations of fiscal and monetary policies. So if you wanted to first start? Take five minutes and tell us what you found.

MR. PINGLE: Yeah. Thanks, Austan. So, you know, it was really kind of interesting

reviewing the history and looking at some of this evidence. And, you know, cooperation or coordination, you know, it was a case that got a lot of discussion in financial markets as kind of theme as we went through the pandemic. You know, there was also a period in which the Federal Reserve was reviewing their framework which generated a lot of related discussions and monetary just to policy.

You know, they did coordinate or cooperate in a few innovative ways responding to the pandemic, right? So, you know, for one example, by, you know, establishing the municipal liquidity facility, the Federal Reserve, you know, tried to backstop access to funding for state and local governments who were financing their own fiscal responses to the crisis.

You know, another example was, you know, the Feds set up in cooperation with the Treasury Department funded by the CARES Act. You know, the Paycheck Protection program liquidity facility which essentially created a secondary market in PPP loans to improve the extension of credit, you know, under the PPP program. You know, by doing so the Central Bank, you know, really attempted to make that fiscal policy, you know, more successful. And depending upon the circumstances, you know, those examples could be templates for future policy actions.

But what a lot of what we ended up focusing on was looking at the market free -- you know, Treasury markets because what was happening in the markets for U.S. treasury debt was really extraordinary. At a time when the U.S. Treasury need to place trillions of dollars of new debt relatively quickly to finance the fiscal's response, they did so effortlessly and on historically favorable terms.

And, you know, in the end, we kind of argue that the Federal Reserve played a really crucial role in facilitating that fiscal response by helping to maintain low borrowing rates across the maturity spectrum for U.S. government debt, you know, at the time when the U.S. Treasury needed to finance extraordinary sums in relatively short order.

You know, the Federal Reserve purchased almost two and a half trillion dollars of Treasury debt in just 12 months. And at the same time, many typically domestic and foreign buyers of Treasury debt, you know, really failed to meaningfully expand their holdings during the fiscal expansion to the extent they would have historically or after the GFC and many not at all. You know, all the while debt

to GDP and U.S. expanded, you know, by nearly 20 percentage points in one year and without a ripple in financial markets, which going back to the evidence just, you know, really appears extraordinary.

So in the paper we walk through the events and the evidence. You know, we consider the estimates of downward pressure on yields from the Fed's asset purchases. You know, and also estimates of upward pressure on yields that would normally be associated with the literature on debt issuance.

And overall, one of the things, you know, you realize is that the Federal Reserve displayed the ability to shift its balance sheet, you know, very quickly and by an extraordinary amount. Expanding reserves in order to purchase longer dated securities to a downward pressure on yields further out the curve and both through forward guidance for the funds, right, and ongoing purchases keep those yields well contained as the Treasury borrowed those substantial sums.

So in going through this we then end up making kind of two points. You know, one is as extraordinary as it was, you know, we think the U.S. has the capacity to do it again if needed.

But the second point we make is that we caution that the U.S. should not take that ability for granted, right? It depends on a fiscal outlook. And we also argue that it depends really crucially on, you know, keeping and protecting this sort of independent and credible Central Bank, you know, that maintains credibility for keeping inflation low and stable and maintaining, you know, correspondingly low inflation expectations.

So, you know, we think of these as sort of being crucial elements, you know, for the Federal Reserve being able to sort of step in and play this role again and sort of run this experiment a second time. I think you're on mute.

MR. GOOLSBEE: Let me just ask you a little more detail on that. The Fed, of course, argues that their asset purchases and everything that they did were -- they were just trying to promote market functioning and some accommodation. They definitely don't view it that they were financing the fiscal response. Let's call it. Is that what you're arguing that they were financing it?

MR. PINGLE: No, not directly. And, you know, our paper is not really about, you know,

we can talk about monetizing the debt sort of separately. That’s not really the issue. What we're saying is that, you know, yes. You know, at first the Feds purchases of U.S. Treasury bonds were meant to improve market functioning, right?

In March of 2020, the Treasury market seized, you know, overseas institutional treasury holders and some domestic market participants as well. They needed to raise cash quickly at the onset of the pandemic. And there was a one-way flow of selling U.S. Treasury bonds that overwhelmed intermediation. And the Feds stepped in with, you know, basically purchasing, you know, essentially a trillion dollars of treasuries in almost five weeks in order to restore that sort of normal market functioning.

Now, the fact that they're in economic crisis, there was such selling of U.S. Treasury bonds in the first place is sort of an uncomfortable fact. But the Fed did at that time, they did demonstrate that they would do whatever it took to enforce smooth market functioning. And that in itself was an important signal.

So when my coauthor, Robin and I, you know, in working on this chapter, we kept thinking like is this coordination? How coordinated is this? You know, we're not arguing that the responses of each were closely coordinated or the Fed action of buying treasuries in size of March 2020 was like with the direct intent of helping the other arm of policy. I mean, Chair Powell didn’t sit in a smoke-filled room and say, uh-huh, I’ll do this, you know, if you’ll do that.

It’s just, you know, the pandemic begged for a policy response. Monetary policy was not well suited to provide. You know, lowering interest rates was not going to backfill lost income, the lost revenue of households and businesses. And the Fed, you know, it can’t provide the types of response that fiscal policy is better suited to provide.

And on the other hand, the U.S. Treasury Department needed to issue substantial sums and do so without risking disorder, without risking a harmful backup in interest rates. They could have been disorderly or slowed the recovery. So in totality looking back when we recap events and consider who bought and sold treasury debt during the episode?

You know, we argue that the fiscal response was facilitated in important ways by the

action of the Fed. You know, keeping yields low. You know, removing an enormous sum of treasuries from private sector balance sheets. All in that sort of debt issuance by the U.S. Treasury was important.

And we also note that it's probably not coincidence that in the last two major fiscal expansions of the country, you know, World War II and the pandemic, you know, in both the Federal Reserve played an important role in keeping yields low throughout the maturity spectrum of federal debt at a time when the nation needed to finance a big crisis response.

MR. GOOLSBEE: So is that kind of a 21st century version of monetizing the debt? Or is that just a semantic thing that we're talking about?

MR. PINGLE: Yeah. I mean we had a fair amount of back and forth on that issue. I mean, you know, for the most part we don't think about it as sort of monetizing debt, right?

I mean it's not like we turned, you know, long dated government bonds that, you know, the government pays interest on and turned them into dollar bills. I mean they were -- you know, it's a little bit complicated. But the Fed issued reserves, you know, a cash like equivalent in the domestic banking system's credits, you know, to the accounts of those who sold the bonds to the Federal Reserve.

And those reserves are an instant obligation of the Fed, which is an arm of the federal government. So you've essentially swapped, you know, one obligation that you're paying interest on, you know, a U.S. Treasury bond to another obligation reserves and the Fed pays interest on reserves. So essentially, you're exchanging sort of one government instrument for another, both of which should pay interest on. It's just that, you know, the bonds have longer duration. Reserves are an overnight obligation. So you're going to put a lot of downward pressure on longer term interest rates by doing that.

Now, the one caveat to that is currency in circulation did rise pretty rapidly with the expansion of reserve balances and the asset purchases. And, you know, that does drain reserves and the federal government pays no interest on currency obviously. So there's a small element of this that, you know, was probably good for, you know, the fiscal outlook. I mean it wasn't the intent but it's more a byproduct of.

But really the first order effect is that, you know, you really just swapped one government

obligation with another. And now, the Feds in the process are starting to sort of undue this operation by allowing some of securities on their balance sheets to mature. And those will have to be reissued to the private sector by the Treasury Department kind of undoing some of this stuff.

So it's not really monetization in the way, you know, sort of the common charge is leveled.

MR. GOOLSBEE: Well, let's think a little bit about lessons for the future. You said that one of your two lessons was that the U.S. could do this again if it had to. I mean 20 percent of GDP, it sounds like a pretty big number. Can they? Are you confident that they could do that again? Or what are the limits? I mean we can't just do that over and over, can we?

MR. PINGLE: Yeah. I mean we're not really arguing that, you know, we could do this in 2022 and then again in 2024 and then again in 2026. It's more an observation that if we look at bond markets, you know, it does look like, you know, the fiscal space appears relatively amble.

I mean market implied forward estimates of real neutral rates remain low. You know, there seems to be amble general demand for U.S. government debt even as the Fed has moved to start to shrink its balance sheet. And even as, you know, yields have backed up here, they still are on an historical basis relatively low.

But, you know, we do caution that, you know, while we think we can run this experiment again, there are some important limits. You know, the trajectory of U.S. federal debt even before the pandemic, you know, it wasn't stable, right? I mean the CBO and others estimate, you know, ongoing increases in future years of debt to GDP. You know, there is going to be some limits.

So you don't want, you know, one generation using the space up to solve its problems to prevent a future generation from being able to do the same. But, you know, when we really think about what the limit -- the Fed being able to facilitate this kind of debt issuance, you know, the big limit in our mind really was inflation.

You know, it's really, you know, very rapid increases in inflation, very, very elevated inflation that undermines a Central Bank's power more generally. I mean in the academic literature and in

kind of practice. And it’s also the case that, you know, if inflation was too high headed into a crisis, you know, as a practical matter, you know, there are episodes in history. You know, that might inhibit the Federal Reserve’s response to a crisis and perhaps underwhelm.

And if this episode does prove, you know, too inflationary, you know, that could have important signals for going forward that might limit the Fed’s response. I mean you can imagine that if, you know, if this proves to be, you know, just exceptionally inflationary that every time the Fed expands its balance sheet, inflation expectations suddenly become unhinged harmfully high which then forces the Central Bank as soon as it started to ease to potentially turn around and have to tamp back down inflation expectations rather than provide an adequate amount of stimulus for the real economy.

So when we think about what the limit is, you know, the limit really is, I think, inflation. Because at the end of this episode and when we're done with everything, you know, the Fed has to have retained or reestablished its inflation fighting credibility.

MR. GOOLSBEE: So is it -- are you again giving them on the blocking and tackling lesson a grade for the future lessons that at the midterm they got a good grade, but ultimately it’s still too soon to tell? I mean so if the inflation continues then would that change your view of what the lessons are for future crises?

MR. PINGLE: Yeah. I think as we sort of have gone along in writing this chapter, the view has changed to some extent, right? I mean the elevated inflation certainly -- you know, Wendy touched on this in her comments at the beginning of the conference. Does it look like it’s too much? Well, you know, perhaps it was.

You know, on the inflation and the Fed and its ability to, you know, keep and maintain, you know, those longer running inflation expectations that make it look like this will, you know, end up being positive. I mean we don't want to argue that we shouldn’t have responded to the pandemic. And we shouldn’t have returned, you know, real final demand to sort of pre-pandemic trends.

But we don't know. We're still running this experiment. I mean it could be the case that the Fed, you know, gains credibility because they do successfully bring inflation back down. But at the

same time, you know, this inflation could persist and maybe we do start to see those longer run inflation expectations really unhinge harmfully higher and that then becomes a problem hamstringing sort of future Central Banks and we just don't know that yet. We can guess, but, you know, that's an experiment we're still running.

MR. GOOLSBEE: Okay. Let's switch now to Gab. So Gab Chodorow-Reich is at Harvard. He came from Berkley. He and I worked together during the last crisis at the Council of Economic Advisors. And he's got an outstanding paper. Has been involved in doing the research evaluating really the, let's call them the business interventions and rescues and those.

And, Gab, why don't you take five minutes and tell us -- I know you've got a 100 different programs that you had to think through, but why don't you give us an overview of the findings? Chodorow-Reich

MR. CHODOROW-REICH: Yeah. Thanks a lot, Austan, and to Wendy and Louise and David. Wendy, also we were on the Obama CA with all together. But this is really a fantastic book and I learned a lot from writing the chapter I'll describe in a moment as well as from the other chapters. I really think it will be a great resource for a bunch of people.

The jumping off point of our chapter is a remarkable number and breathe of new programs to aid businesses. And many of these were designed and implemented within weeks of the pandemic starting. We count more than $600 billion of new business subsidies just in the first year of the pandemic recession. And of course, that unprecedented support for businesses went along with much less business distress and feared and an unprecedented, unexpectedly rapid recovery.

That confluence makes attempting to say that the central problem of depression prevention has at last been solved, which is the paraphrase of Austan's college, Bob Lucas. A theme of our chapter is to say maybe not so fast. There were other factors that have been discussed today including the nature of the recession, the aid to households to help spread the recovery. And so, we really need to think hard both about what policy should have done for businesses and what these programs did on a case-by-case basis.

So we start the chapter by discussing a framework for what policy ought to do. And we focus on two efficiency reasons for business aid. The first of that is credit markets don't function perfectly and even long-term solvent firms might find themselves without liquidity to survive. And that suggests, let's focus on a particular set of firms. Those that have less access to credit markets which you can think of as primarily being smaller firms in the economy.

The second is spillover's (inaudible). So for example, when workers who lose their job, they buy less stuff and that lowers total demand. So with that backdrop, I'll discuss just a few of the major programs that we review.

The largest program in dollars and also, I think in public attention was the Paycheck Protection program or PPP. This was a program that gave for forgivable loans so basically think of these as grants. To businesses of up to 500 employees, minus a few exceptions, in an amount equal to two and a half times their monthly payroll up to $10 millions in the first two rounds of PPP. In total, it accounts for more than $450 billion in grants to businesses during the first year of the COVID pandemic.

The first observation in evaluating PPP is that a relatively small number of larger firms received a vastly disproportionate amount of the money. For example, the less than two percent of recipients that received grants above $1 million account for more than one-third of the total cost of the program.

We discussed some evidence that most of the money to these firms did not actually ultimately finance payrolls, but differently that the cost for jobs saved at large firms was relatively high. And I'm happy to get into that later.

There are somewhat findings better effects on payroll for smaller firms. But most of these studies really focus on pretty short amount of facts. So I think the overall grade to PPP is that it probably was not so crucial for the larger recipients and it's more of an incomplete grade for the smaller firms.

There are several less discussed SPA programs such as the EIVL, loans and advances that were similar to PPP but much more targeted to smaller firms and therefore might be a better model going forward.

There are some other programs that were launched by historical standards but received much less attention from the scholarly community. For example, the CARES Act authorized $50 billion in grants to air carriers.

Obviously, that was an industry that was hard hit during the shutdown. We need the air industry when things recovered, but of that money, $29 billion went out in the first year. Twenty-two billion of that went to the six largest U.S. airlines, which are all companies that broadly have access to public capital markets. Several have successfully undergone bankruptcy restructuring, albeit, not all at once. So we think there's some skepticism to that program, but it's also a call to the academic community to focus a little bit more on some of these other programs.

Finally, let me say a little bit about the Federal Reserve programs specifically the corporate bond buying program and the Main Street lending program that allowed banks to offload 95 percent of a new business loan to the Fed. These were really unprecedented both in creating channels for the Feds directly to supply credit to nonfinancial firms and in the required coordination with Treasury.

The first notable aspect of both those programs is how low the actual outlies were relative to the authorization. For the bond buying this seems to be a case where just the program announcement had important effects in calming the bond market.

But the Main Street program, it's harder to argue that it had an important effect since it supported relatively few loans. But that in itself maybe a sign of policy of success because the program was really designed -- you can get only one bank space by any capital constraints. And as it happened during this recession and this also reflects a lot of the household aid that was discussed earlier, banks were in pretty good shape through the recession.

So just to summarize in our analysis there are programs such as PPP that have received a lot of attention. We think they could have been better targeted, programs such as airline aid that seemed harder to justify and programs such as the Main Street lending facility of the Fed that played a pretty small role in this recession maybe will be more important in the next one.

MR. GOOLSBEE: So if the PPP program which was certainly got the most headlines

and it has maybe received the most attention from the economists. If it wasn't that important for the large firms and if we still don't know if it was that important for the small firms. How did people live? How did they survive without it? In a way it's been surprising how few bankruptcies there were. There has been an expansion of the new business formation. Was it the private financial markets stepped up and saved us or what happened?

MR. CHODOROW-REICH: Bankruptcies actually went down in 2020. Again, 2021 relative to before the recession and that's just extraordinary. Typically, bankruptcies are very highly correlated with the unemployment rate and that just was not the case here.

We did some analysis in the chapter looking at firms where we can see their balance sheets and we can see how they are adjusted. So those are going to be primarily larger firms that even would have received PPP, but we think it's informative to understand what the business sector did.

And we see a couple of things. First, they cut expenses very quickly and that's part of the unemployment rate going up. Now, of course, in many recessions we would worry about that. A lot of that was shut cutting payroll at a time when unemployment insurance was made much more generous so that people could receive as much income while they were unemployment as they would have while they're being employed in a time where we were largely okay as a society with people staying home because we were trying to stop this spread of disease. That adjustment may have been perfectly efficient and it allowed firms to cut expenses.

Another thing that these businesses did was they raised capital. They did that partly by drawing on credit lines that were prearranged. That's something that would have been more available to larger businesses than the smaller businesses who are less likely to have credit lines. And they did it by returning less money to shareholders. Not so much by cutting dividends but really by cutting share repurchases.

So these programs similar to dividend policy that allow firms to return money to shareholders. They sometimes receive a lot of criticism. Why are these firms giving back money? In this case, it allowed these firms a lot of flexibility to horde earnings at a time when they really needed to do so.

So that's part of the financial side of how they survived.

I think the other main aspect is it was just a much shorter recession than was feared. And so, the rapid recovery of demand both because of the household aid, because of the nature of the lockdown, because of the speed at which vaccines became available. All of that meant that demand came back relatively greatly. And you can see that in the sales numbers for these firms which rebounded relatively quickly. And so, to the extent there really was a bridge that had to be laid, there was a shorter bridge than, you know, we might have thought it would have had to be in March of 2020.

MR. GOOLSBEE: So you kind of hinted at that in your opening statement and there again. If this happened again five years from now, ten years from now what should we do different? How would you change the program to make it better or more effective?

MR. CHODOROW-REICH: Let me give you a couple of specific examples and ideas. And I do this, you know, not to second guess policymakers in March 2020. I think they faced tremendous uncertainty. They designed new programs incredibly quickly and I give a pretty high grade overall for what they did at that point.

But, of course, we know now, things now that we didn't know then. So one, is the check protection program. I think this will be controversial. There are going to be a lot of people who really want something like it. I think -- I hope we can all agree that if it's something like that is done, it is done at a smaller scale and specifically a smaller cap on the total.

So just to give you a number. If instead of a $10 million cap on payroll that cap with $250,000. And the total cost of the PPP would have been about half as much. And that would have changed the amount of money received by less than eight percent of the borrowers. And that's exactly that eight percent is the borrowers who the evidence have suggests this was least effective and the theorem we have suggests they would have been the most likely to have alternative ways to survive.

A second is the airline aid which I spoke about a little bit already. You know, I think there even if we were to think we need support to large corporations, we ought to have mechanisms in place for the federal government and ultimately the taxpayer to benefit on the upside of the sectors recover. Now,

so things like warrants instead of outright grants.

And that's, you know, ironically how some of the tarp, you know, the 2008 aid was given. And of course, that received a whole lot of political blow back, but actually did have some mechanisms built into it that I think, you know, for an airline industry would be good.

And a third example just to emphasize, you know, not just trying to mirror the way the dollars went out in this recession is the Main Street lending program. It really didn't do much because the banks were pretty healthy. I think that's a program that might have been very helpful in 2008 and 2009, which was a recession where the banks really were balance sheet constrained. And in the future recession if that were to be the case that sort of program might prove useful.

MR. GOOLSBEE: Okay. Chris, let's start on the third paper and then when we're done, we come back on some general questions.

Chris is Chief of the Industrial Output Section at the Division of Research and Statistics at the Fed. He's for the last six years, he's the perfect person to be talking about all the new data, private sector data and alternative data that we used to understand this crisis. Partly because he for the last six years has been working on the expanded measurement agenda there at the Fed.

So, Chris, this one is close to my heart. My own work on COVID used the phone mobility data. Tell us a little bit about what exists? What we learned? And what your paper shows?

MR. KURZ: Okay. Thanks. Thanks for having me and thanks for the introduction. And of course, this is a joint paper with Loria Tamartion (phonetic) and Stacy at the board. But this does not reflect any official opinion of the Federal Reserve Board.

And I think just kind of starting from the top, this is kind of the perfect paper to wrap things up with because the story of the pandemic recession is a story that, you know, we're telling through new data sources and understanding via new data sources. And it really is a story of data. And the perfect introduction to this is just hearing Mel and Anna and Laurie and others talk about how not only did they kind of look at new data through the pandemic, but they still kind of want to lean on more data to better understand things.

And this chapter was a great way of us to kind of put our thoughts down over what we've experienced and what we've been working with for the past several years, which really built on a lot of previous investment into new nontraditional data sources.

So really, I think the overall takeaway point is nontraditional data -- and this is what we mean by this will be kind of your idea of big data or nonstandard data. Not really current data that's collected by mostly private organizations. Things that aren't produced by your standard statistical agencies.

It played an invaluable role during the pandemic recession and the subsequent recovery. And really, we try to provide a list of these sources within the paper. We probably are definitely not inclusive, but we try to hit on a lot of the different data sources and like you just mentioned. I mean there's the new location-based data that's something that, you know, we've only been leveraging for a few years now. But at the same time, we point to things like railcar loadings which was an important determinant of, you know, measuring economic activity back during, you know, the start of the Great Depression.

So we try to provide a list of some of these sources in the paper and really kind of come to this idea that the benefits of nontraditional data really fall within three primary categories. And that would be timeliness, granularity and crisis specific gathering, data gathering. On timeliness is super important. We were able to see, and others were able to see changes in economic activity weeks and months before the official statistics were released. And given the repetitivity of the pandemic recession, it was absolutely important to have that kind of benefit of timeliness.

Maybe one good example, and it's kind of cherry picking, would be just thinking about traditional data. The quarterly services data came out in August for the second quarter of 2020. So if we had to wait until August of 2020 to understand what happened in the service sector for which we had flight information, restaurant reservations, movie ticket information to understand what's happening in those sectors, we would have been really behind in terms of trying to catch up to what's happening.

Now, it's also important to just kind of when we're talking about timeliness make the point

that the kind of March 2nd meetings, emergency rate cut in March 3rd. A lot of that happened prior to the availability of any information that would be able to point to what was happening in the overall economy. And some of those decisions were based on what was happening overseas. There was some imprint on like daily sentiment numbers and travel numbers at that time, but really where nontraditional data started playing a role was about mid-March of 2020.

So aside from timeliness, and this is something we’ve talked a lot about through this morning, has really been the idea of granularity. And so, what do we mean by granularity? We mean frequency. We mean geography. We mean individual characteristics. And in many ways, the pandemic recession hit different subsectors of the economy more than others. And understanding that granularity has been important to either generating a policy response or at least understanding where we should think about these effects.

Also, an important kind of benefit would be the crisis specific data gap. And that’s something that really picked up. And we mentioned a little bit earlier when we think about things like the consensus poll surveys being able to answer really important questions at that time.

And then kind of the last thing we focus on in the chapter is really the pitfalls. And there are pitfalls everywhere when we start talking about nontraditional data. And it’s something that folks really need to take into account as they move forward and think about and like how you would learn lessons from this recession and apply it.

MR. GOOLSBEE: So what are the pitfalls? I mean on one hand it seems like if we're going to have an explosion of all these new data, why not just take them at face value and use them? I mean walk us through the downside.

MR. KURZ: So I would say that the three large pitfalls -- I’ll just quickly try to hit on right now. I mean we have the outlined some more in detail in the chapter.

The three primary pitfalls are really, you know, primary pitfalls and two of them are kind of related, are things that need to be taken to account when you think about data in general. But it’s particularly important when you're thinking about nonstandard data.

Statistical agencies have hundreds of statisticians and economists and survey scientists putting in effort so that what we see that’s in a release is valid, is time consistent, is a right sample, is, you know, giving you the information that they're promising. So I think the first, you know, one of the most important things that nonstandard data that’s been leverage, a lot of them don’t have sufficient time series.

A lot of them you start collecting at the time of the pandemic and you didn’t have enough history to kind of make decisions off those data. And an important thing of this is just seasonal adjustment. If you need five, ten years of data to seasonally adjust then a year of data is not going to give you the appropriate set of information to understand when that data series change or understanding patterns or understanding what kind of holidays are important for a specific data series. So that’s a big pitfall.

The second one which is related to that is just the lack of history. You know, you have to be skeptical of the data and aware of sort of things like sample attrition. These data again, they're naturally occurring and collected by some organizations as a byproduct of another activity. And a good example here to point to which was a really relevant and important piece of information and dataset that was used by many people to make decisions or determinations about the economy come from this company called Homebase. They do clock in, clock out type software.

Again, timely, valuable and this organization is really forthcoming in providing this information for individuals to use. We used some of that information to track business exits. And an important way to think about what the value of history is, is by, I think, February of 2021 if you were looking at the Homebase data, you’d be able to say something like 33 percent of businesses had exited during the course of the pandemic. And you’d walk away looking at that statistic saying, wow, that’s a huge amount of business exit.

But you really need enough history to compare that to what happened, say, in previous years. And so, having the 2019 data to compare that to would show you that the sample attrition and this data source was something like 30 percent. So if the sample attrition was basically you’d point to would

be high enough that the excess exits were only like three percent. So walking away from some of these non-centered data sources with the idea that there's a large amount of exit and not understanding just the sample attrition in an organization that collects information and provides clock in and clock out software for free for organizations means you have a lot of turnover in that sample.

And then I'd say the last bit of important pitfall to keep in mind is that all of this data is not representative of the overall economy. And this goes back to my primary point about what statistical agencies do and the efforts they put into making them a representative sample. So understanding the representativeness is going to be key especially when you try to make determinations for the overall economy.

And just to kind of return to the Homebase example, I think in September of 2020, there are a lot of forecasts for general employment that were negative coming out of some of these non-centered data sources. So I think with the Homebase data, people were saying that there would be a negative 800,000 job loss in September of 2020. And what really happened was something like positive 300,000. And that's a really different signal to take and that's based on just putting too much weight on one nonstandard data source.

MR. GOOLSBEE: Sounds like we might foresee, let's call it, recession driven, crisis driven data gathering in the future. But as you look at this one are there any of those nontraditional data that you think would be more lasting? That we would keep, you know, in your day job at the Fed, you would keep track of it and two, three, four years down the road would still be useful and would kind of go into the cannon of traditional data?

MR. KURZ: Absolutely. The pandemic, we really witnessed fiscal agencies, government agencies and private companies all kind of coming around the idea that providing information at the height of the pandemic in the economy was really valuable. And what they came up with I think in some cases are going to be enduring.

But you're right. Some of the information such as school shutdowns, office visits, healthcare related things are probably not going to be leveraged going forward. But I would say there's

really four primary categories of information that will be leveraged going forward.

And the first one, you kind of touched on that you'd use in your own research is really the mobility and location measures. Like those speak -- when you're thinking about visits to particular restaurants or visits to type of service activities or visits to just overall places that are being generated by the nature of holding a cell phone then that's going to provide information going forward on economic activity particularly when it's service specific.

So the mobility and location measures became really valuable. And it was really great to see a lot of organizations just providing that information pro bono for either research or for policy analyses.

A lot of the series that speak -- and we cite a few papers on this -- but speak towards business exit and entry. You know, as individuals mentioned earlier. Kind of the weekly business formation statistics were really valuable in the middle of 2020 to kind of say, we think that there might be a lot of entry going on now, which was kind of contrary to the idea that we'd see this mass exodus or his kind of this depth of business dynamism.

Some of the data series that speak towards business exit too are extremely valuable because the business employment dynamic statistics, I think for the fourth quarter of 2020 just came out today. So if we're really thinking about lagging information then, you know, having an idea about what's happening with business dynamics is super valuable particularly and timely.

And being able to say something about what business exit was doing was really important at the time because we really cared about what was happening to two businesses and that loss of, say, human and physical capital that would go along with this.

Bottleneck information. I mean this all started in March of 2020 with this idea that we would see some supply chain constraints. And now, we're right back in that situation. And I think for going forward, understanding more about shipping, individual ships at ports, container traffic, rail travel that's going to be valuable. And that gives us an idea about economic activity.

Again, this goes back to my point that -- I mean this is something we used to do back

during the Great Depression. And this is something that Allen Greenspan really cared about. But understanding a little bit more about logistics in shipping is going to continue to be important.

And then lastly, just I think there has to be a really, you know, large and resilient shoutout given to consensus because the consensus poll surveys that came up, that's going to continue. I mean the value that was there that they could leverage in short time periods to answer like a specific crisis type questions was just super important.

MR. GOOLSBEE: Okay. Well, you say we've really spanned the map from monetary to fiscal to data. Let's loop back on some.

Gab, in some of your work, I was struck and I was going to ask you at the tail end of your presentation. Does that imply that there were programs that Fed announced and appeared to have market impact? You know, the municipal bond facility? Only two -- Illinois being one but there were only two people who even took up the program and yet it seemed to affect the spreads pretty significantly. Is that free? You know, can the government use its reputation? Or is the Feds' reputation? How did they do that? It seems like it was free money.

MR. CHODOROW-REICH: Yeah. It was really interesting. I'll talk about the corporate bond prime just because that was a chapter that we didn't cover, the municipal but it's a similar analogue.

So what happened is the Fed announced they were going to buy corporate bonds. Initially, it was a relatively small amount and the cap went up to $750 billion. And at the time they announced it, yields came down and they came down especially on the bonds that they were eligible to purchase.

Again, this is really impressive and for the Fed to get involved with lending to nonfinancial sector, to municipalities. And it is tempting to look at that and say, well, they were two equilibria. There was a sort of run equilibrium where yields were high and people -- the market was not so functional. And then there was a good equilibrium, the Fed just moved us to the good equilibria. And so, it was really cost less.

And that is consistent with the evidence. But there is another interpretation as well,

which is that there was some concern that these firms were not going to pay back the corporate bonds. Somebody was going to bear that loss and instead of the private sector, the Fed was saying we will bear some of that loss. And moreover, not just on the stuff that they were announcing they were going to buy and they bought, you know, in March and April of 2020. But that they were going to sort of put a floor under things and they were going to use all that capacity to absorb losses in the corporate bond market.

Now, in the event, as we've discussed, they finally recovered pretty rapidly. And so, corporate bonds did not go into a large-scale default in either municipalities. And so, the Fed got away with it. But there's an alternative reality where if this had been a much more severe and long-lasting recession where, in fact, the Fed was forced to put up the money and bear some losses. And this is just one of those things where, you know, it would be nice to see that kind of factual. We can't really tease them apart.

Once piece of evidence coming from option markets is consistent with there being some risk that these things weren't going to pay off and the Fed was actually putting some real money into it.

MR. GOOLSBEE: So, Jonathan, then I'll throw one to you as kind of in that theme of you never know what would have happened? Everything we saw was contingent on this state of the world. Do you worry about, let's call it the reputation of the Fed or the -- they were blurred some lines between fiscal policy and monetary policy where the Congress says, we want to turn all this over to the Fed to run it. Let's say it had gone badly.

Let's say the economy had not improved rapidly and we ended up losing tons of money on these programs. Do you worry that that would have redowned on us? That the next time the Fed tries to coordinate with fiscal policy people would say, oh, the Fed, those jerks. They lost us $2 trillion.

MR. PINGLE: Yeah. I mean, you know, Fed losing money is kind of an interesting concept. You know, Central Bank accounting isn't like gap accountings. But, yeah, I mean the reputation matters a lot. And I think, you know, it's important that they didn't suffer severe losses.

I mean now that's another experiment they are still running, right? We have rising interest rate, and the Fed owns lots of bonds. I mean, you know, going back to the last crisis, there was

plenty of work done by monetary affairs and elsewhere that, you know, what happens if, you know, the loses put the Fed in a negative capital position? And there are ways out of it.

I mean you'll still have an operating Fed and it won't -- that alone won't hamstring their ability to provide monetary policy. But I think the -- you know, to Gabriel's point, right, I mean the politization is a potential issue as well. I mean when I looked at sort of the corporate -- it reminds you of the corporate bond program, you know, from the point of view of both having been with the Fed and a market participant was, you know, the Federal Reserve was created -- the primary lending market was via the banks.

The idea that now we have a substantial amount of nonbank lending that occurs in the private economy, you know, it might be worth having a discussion about the extent to which the Federal Reserve's role is to backstop, you know, some of those other sources of lending like, you know, the investment grade of bond market.

But, you know, the way the post-Dodd Frank, you know, use of, you know, the 133 authorities went with the coordination with the Treasury's required. There was definitely Treasury coordination, but you could see when the facilities were being pulled back, you know, by the administration that there was a certain amount of tension between the two parties over whether or not those facilities should have been wound down at the start of the 2021.

And I think that is an uncomfortable position for the Federal Reserve where it wants to be -- you know, its independence is really crucial. And the extent to which it could be drawn into some of these programs and then some of them go bad. You could just to the politization of the Fed. And I think that is kind of a dangerous worry. It's not necessarily that I think that the Fed would have a problem with taking the loss. They certainly took risks after the financial crisis, but I think you walk forward the logic of some of this and the politization could be a problem when we really do need to protect its independence as an institution.

MR. GOOLSBEE: Well, I want to thank all three of the groups that wrote the papers. They're really outstanding. It feels like this book is going to be an excellent resource for us going forward.

We're basically right on time and I turn it over to our illustrious leader, Wendy, to take it from here.

MS. EDELBERG: Excellent. So on behalf of me and David Wessel and Louise Sheiner, thank you so much for joining us today. And again, I encourage you to join us tomorrow. We'll be at 1777 S Street, Northwest from 9:30 to 12:00. And our keynote speaker will be Janet Yellen. So we hope to see you tomorrow. And if not, streaming online. Thanks very much.

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