

**MONETARY POLICY AND THE
STATE OF THE ECONOMY**

VIRTUAL HEARING
BEFORE THE
COMMITTEE ON FINANCIAL SERVICES
U.S. HOUSE OF REPRESENTATIVES
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FIRST SESSION

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MONETARY POLICY AND THE STATE OF THE ECONOMY

Wednesday, July 14, 2021

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON FINANCIAL SERVICES,
Washington, D.C.

The committee met, pursuant to notice, at 12 p.m., via Webex, Hon. Maxine Waters [chairwoman of the committee] presiding.

Members present: Representatives Waters, Maloney, Sherman, Meeks, Scott, Green, Cleaver, Perlmutter, Himes, Beatty, Gottheimer, Axne, Casten, Torres, Lynch, Adams, Tlaib, Dean, Ocasio-Cortez, Garcia of Illinois, Garcia of Texas, Williams of Georgia, Auchincloss; McHenry, Lucas, Luetkemeyer, Huizenga, Wagner, Barr, Williams of Texas, Hill, Emmer, Zeldin, Loudermilk, Mooney, Davidson, Budd, Kustoff, Hollingsworth, Gonzalez of Ohio, Rose, Steil, Timmons, Taylor, and Sessions.

Chairwoman WATERS. The Financial Services Committee will come to order.

Without objection, the Chair is authorized to declare a recess of the committee at any time.

As a reminder, I ask all Members to keep themselves muted when they are not being recognized by the Chair. The staff has been instructed not to mute Members, except when a Member is not being recognized by the Chair and there is inadvertent background noise.

Members are also reminded that they may only participate in one remote proceeding at a time. If you are participating today, please keep your camera on. If you choose to attend a different remote proceeding, please turn your camera off.

Members who were unable to ask questions in our February 24th hearing with Chair Powell will be given priority to ask their questions today, and we will return to our normal order of recognition once those Members have asked their questions.

Before we begin, I will recognize myself to call up the resolution offered by Ranking Member McHenry naming Republican Members to subcommittees. Copies of the resolution were made available in advance. So, without objection, the resolution is adopted.

Today's hearing is entitled, "Monetary Policy and the State of the Economy." I now recognize myself for 4 minutes to give an opening statement.

First, I would like to welcome back Chair Powell. We are delighted to have you with us today. Much has happened since the last time you testified on the Fed's Monetary Policy Report in February. Since then, Democrats passed and President Biden signed

into law the American Rescue Plan. Because of the American Rescue Plan, more than 58 percent of adults in the United States have been fully vaccinated, and businesses are reopening.

More than 3 million jobs were added to our economy in the Biden Administration's first 5 months, the most in any President's first 5 months, compared to just over 2 million jobs created during the first 12 months of Trump's reckless tenure. And the latest jobs report shows that 850,000 jobs were added to the economy in June alone, a tremendous increase that beat market expectations.

Simply put, without the American Rescue Plan and the extraordinary leadership from the Biden Administration and Democrats in Congress, our economy would not be on the track to recovery. But we still have more work to do to put this crisis firmly behind us and build a more resilient economy for the future. For example, while the unemployment rate continues to fall, joblessness remains higher for Black and Latinx workers than it does for White workers. To be clear, we will not have a full recovery without closing this gap.

Also, while inflation has risen in recent months, Chair Powell, you and other experts have attributed this to short-term factors. Consumer demand is way up with people once again dining out, buying cars, and purchasing homes, but supply chains haven't yet kept up with this pace, which as a result, has led to higher prices. I think the Fed is right when they say that this dynamic will subside, but I expect the Fed to continue to monitor high prices as it fulfills its dual mandate to promote price stability and full employment.

At the same time, Congress should be considering whether it is better to address semiconductor shortages and soaring home prices through smart investments or face higher interest rates from the Fed.

The COVID-19 pandemic disrupted life for all of us and shifted the way we think about the economy. We see this in the huge number of women and people of color who have left the workplace. We see this in a generation of young people weighed down by student loan debt. And we see this in the surprising percentage of workers who have quit their jobs, even as the unemployment rate remains elevated. We are in a moment of transformation that requires a fresh approach and investments that will close the racial wealth and income gaps, address climate change and our childcare crisis, and finally, end homelessness.

The Fed must also play a central role in this economic transformation. The Fed must ensure that our economy recovers equitably, reverse deregulatory actions that rolled back rules for Wall Street, and shore up protections so that our financial system is less vulnerable to shocks.

Whether by partnering with the Treasury to implement a framework focused on climate change and financial stability, exploring a Central Bank Digital Currency (CBDC), and implementing faster payments or strengthening its outdated approach to bank mergers, the Fed must fulfill its role in ensuring a strong and inclusive recovery.

Chair Powell, I look forward to your testimony this afternoon.

And I now recognize the ranking member of the committee, the gentleman from North Carolina, Mr. McHenry, for 4 minutes.

Mr. MCHENRY. Thank you, Madam Chairwoman.

Chairman Powell, welcome back, albeit virtually.

There is a great deal of uncertainty right now. What I am certain of is this: You have earned and deserve another term as Chair of the Federal Reserve. You have proven to be a steady hand throughout this pandemic and our ongoing recovery, and you have defended the independence of the Fed. Thank you for your service and your leadership.

Now, we are going to spend the next 3 hours telling you everything you have done wrong, but you do deserve another term. In all seriousness, though, the Federal Reserve needs to be laser-focused on our economic recovery. Instead, I am seeing more headlines about the Fed's actions to address issues like climate change. While a noble cause, this should be something originating in Congress, not in the central bank.

As far as our economic rebound, we are facing some very serious challenges. Simply put, America has a jobs problem. Not long ago, there weren't enough jobs, but that is not the case at this time. There are more than 9 million jobs waiting to be filled. Employers across the country are competing for labor, offering signing bonuses, back-to-work incentives, and higher wages. The National Federation of Independent Business (NFIB) released a survey yesterday reporting that 63 percent of small businesses have already increased wages to attract workers. We should be seeing a boom in return to work, but we are not.

Throughout the spring, job numbers continued to fall short of expectations. Yes, the June report showed that 850,000 jobs were added, but this misses the larger picture. The labor force participation rate remained unchanged at 61.6 percent. The number of long-term unemployed Americans has increased by 233,000, and companies continue to struggle to hire enough workers to meet their business needs. We need a plan to get people back to work, not just in the short term, but in the long term. That is what we should be focused on.

I wish my Democrat colleagues felt the same way. Instead, they want to continue the spending binge they are all about on a laundry list of progressive ideas that have no hope of bipartisan support, and have nothing to do with getting Americans back to work. The \$2 trillion COVID package that was passed in March wasn't enough spending for them. Now, we are hearing that Senate Democrats want as much as \$3.5 trillion in new spending, and to increase taxes on businesses of all sizes. And on top of that, another trillion for hard infrastructure.

None of this is sustainable. This spend-first-and-ask-questions-later approach to fixing our economy will not work. Our economy simply cannot handle this level of spending. Long term, it will lead to sluggish growth, persistent unemployment, and a declining standard of living. Simply put, the Democrats are addicted to spending. Taxpayers, families, and business owners will bear the consequences.

We should instead focus on creating the kind of real economic growth that has proven to be enduring and stable. That means a

focus on regulatory relief, sound money, and a competitive tax system. This will deliver the kind of broad prosperity that defines our uniquely American system of free enterprise. To have a recovery that works for all Americans, we need to get Americans back to work.

Madam Chairwoman, thank you for holding this hearing.

I would like to welcome our newest Republican member of the committee, a gentleman who is not new to Congress but is a returning Member of Congress, and has been on leave—he left the House Banking Committee, and he has been on leave with the Rules Committee. And under our Rules, he gets to come back to his home base that he left years ago. And so, we are grateful to have Pete Sessions back with us on this committee and in this room, and we look forward to his service. We have so many great Texans on this committee, and we are glad to have him on the committee as well.

And, with that, Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you very much.

And welcome back, Pete Sessions. We are glad to have you back.

At this time, I will recognize the gentleman from Connecticut, Mr. Himes, for 1 minute.

Mr. HIMES. Thank you, Madam Chairwoman.

And, Chair Powell, welcome once again before the committee. We are going to be hanging on your every word today with all that is going on out there.

Mr. Chairman, 3 weeks ago, I had the privilege of being appointed by the Speaker to Chair the Select Committee on Economic Disparity and Fairness in Growth. I have reason to believe that the ranking member may also come from this committee and that membership will come from this committee as well.

Mr. Chairman, I was enormously gratified to see a statement you made in May to the National Community Reinvestment Coalition when you said, “The Fed is focused on these long-standing disparities because they weigh on the productive capacity of our economy. We will only reach our full potential when everyone can contribute to and share in the benefits of our prosperity.”

Mr. Chairman, as you know, we are seeing economic disparities in this country that we have never seen before, and I appreciate you making the case that apart from the moral issue, there is a profound economic reason to address those disparities inasmuch as it is damaging our productive capacity. The committee looks forward to working with you on this issue in a bipartisan way, and I really thank you for highlighting that. And we will ask you to continue to reflect on what the Fed can do to address those sorts of disparities.

And, with that, I look forward to your testimony, and I yield back.

Chairwoman WATERS. Thank you very much.

I now recognize the gentleman from Kentucky, Mr. Barr, for 1 minute.

Mr. BARR. Thank you, Madam Chairwoman.

And, Chairman Powell, welcome back to the committee. I join the ranking member’s view that you have earned another term.

The Consumer Price Index (CPI) data released yesterday, though, does paint a grim picture. Inflation is accelerating at the fastest pace in 13 years. The 5.4 percent year over year increase is the highest since August 2008. Core CPI surged to 4.5 percent, the sharpest increase in almost 30 years, and 47 percent of small businesses raised average selling prices in June, the highest share since 1981.

Let's be clear: Inflation is a tax hike on everyday consumers and small businesses. While accommodative monetary policies, supply chain bottlenecks, and increased consumer demand associated with reopening the economy are contributing to the rise in prices, reckless government spending and the prolonged policy to pay people not to work are exacerbating the problem. The Biden Administration's desire to tax and spend compromises any hope we have that this inflation is transitory and paints us into a corner of lasting inflation that will decrease the purchasing power of American consumers and small businesses.

I look forward to today's testimony about the real and immediate risk of higher inflation.

I yield back.

Chairwoman WATERS. Thank you very much.

I would like to take this moment to welcome our distinguished witness for today, the Honorable Jerome Powell, the Chair of the Board of Governors of the Federal Reserve System.

You will have 5 minutes to summarize your testimony. You should be able to see a timer on your screen that will indicate how much time you have left, and a chime will go off at the end of your time. I would ask you to be mindful of the timer, and quickly wrap up your testimony if you hear the chime.

And without objection, your written statement will be made a part of the record.

Chair Powell, you are now recognized for 5 minutes to present your oral testimony.

STATEMENT OF THE HONORABLE JEROME H. POWELL, CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Mr. POWELL. Thank you, Chairwoman Waters, Ranking Member McHenry, and members of the committee. I am pleased to present the Federal Reserve's semi-annual Monetary Policy Report.

At the Fed, we are strongly committed to achieving the monetary policy goals that Congress has given us: maximum employment; and price stability. We pursue these goals based solely on data and objective analysis, and we are committed to doing so in a clear and transparent manner.

Today, I will review the current economic situation before turning to monetary policy.

Over the first half of 2021, ongoing vaccinations have led to a reopening of the economy in strong economic growth, supported by accommodative monetary and fiscal policy. Real gross domestic product this year appears to be on track to post its fastest increase in decades. Household spending is rising at an especially rapid pace boosted by strong fiscal support, accommodative financial conditions, and the reopening of the economy. Housing demand re-

mains very strong, and overall business investment is increasing at a solid pace.

As described in our Monetary Policy Report, supply constraints have been restraining activity in some industries, most notably in the motor vehicle industry, where the worldwide shortage of semiconductors has sharply curtailed production so far this year.

Conditions in the labor market have continued to improve, but there is still a long way to go. Labor demand appears to be very strong. Job openings are at a record high, hiring is robust, and many workers are leaving their current jobs to search for better ones. Indeed, employers added 1.7 million workers from April through June. However, the unemployment rate remained elevated in June at 5.9 percent, and this figure understates the shortfall in employment, particularly as participation in the labor market has not moved up from the low rates that have prevailed for most of the last year.

Job gains should be strong in the coming months as public health conditions continue to improve, and as some of the other pandemic-related factors currently weighing them down diminish.

As discussed in the Monetary Policy Report, the pandemic-induced declines in employment last year were largest for workers with lower wages, and for African Americans and Hispanics. Despite substantial improvements for all racial and ethnic groups, the hardest-hit groups still have the most ground left to regain.

Inflation has increased notably and will likely remain elevated in the coming months before moderating. Inflation is being temporarily boosted by base effects as the sharp pandemic-related price increases from last spring drop out of the 12-month calculation. In addition, strong demand in sectors where production bottlenecks or other supply constraints have limited production has led to especially rapid price increases for some goods and services, which should partially reverse as the effects of the bottlenecks unwind. Prices for services that were hard hit by the pandemic have also jumped in recent months, as demand for these services has surged with the reopening of the economy.

To avoid sustained periods of unusually low or high inflation, the Federal Open Market Committee (FOMC) monetary policy framework seeks longer-term inflation expectations that are well-anchored at 2 percent, the FOMC's longer-run inflation objective. Measures of longer-term inflation expectations have moved up from their pandemic lows and are in a range that is broadly consistent with the FOMC's longer-run inflation goal.

Two boxes in the July Monetary Policy Report discuss recent developments in inflation and inflation expectations. Sustainably achieving maximum employment and price stability depends on a stable financial system, and we continue to monitor vulnerabilities here. While asset valuations have generally risen with improving fundamentals as well as increased investor risk appetite, and household balance sheets are on average quite strong, business leverage has been declining from high levels, and the institutions at the core of the financial system remain resilient.

Turning to monetary policy, at our June meeting, the FOMC kept the Federal funds rate near zero and maintained the pace of our asset purchases. These measures, along with our strong guid-

ance on interest rates and on our balance sheet, will ensure that monetary policy will continue to deliver powerful support to the economy until the recovery is complete. We continue to expect that it will be appropriate to maintain the current target range for the Federal funds rate until labor market conditions have reached levels consistent with the Committee's assessment of maximum employment, and inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time.

As the FOMC reiterated in our June policy statement, with inflation having run persistently below 2 percent, we will aim to achieve inflation moderately above 2 percent for some time so that inflation averages 2 percent over time, and longer-term inflation expectations remain well-anchored at 2 percent.

As always, in assessing the appropriate stance of policy, we will continue to monitor the implications of incoming information for the economic outlook and would be prepared to adjust the stance of monetary policy, as appropriate, if we saw signs that the path of inflation or longer-term inflation expectations were moving materially and persistently beyond levels consistent with our goal.

In addition, we are continuing to increase our holdings of Treasury securities and agency mortgage-backed securities (MBS), at least at their current base, until substantial further progress has been made toward our maximum employment and price stability goals. These purchases have materially eased financial conditions and are providing substantial support for the economy.

At our June meeting, the Committee discussed the economy's progress toward our goals since we adopted our asset purchase guidance last December. While reaching the standard of substantial further progress is still a ways off, participants expect that progress will continue, and we will continue these discussions in coming meetings. As we have said, we will provide advance notice before announcing any decision to make changes to our purchases.

To wrap up, we understand that our actions affect communities, families, and businesses across the country. Everything we do is in service to our public mission. The resumption of our Fed Listens initiative will further strengthen our ongoing efforts to learn from a broad range of groups about how they are recovering from the economic hardships brought on by the pandemic. We at the Federal Reserve will do everything we can to support the recovery and to foster progress toward our goals of maximum employment and stable prices.

Thank you. I look forward to our discussion.

[The prepared statement of Chairman Powell can be found on page 56 of the appendix.]

Chairwoman WATERS. Thank you very much, Chairman Powell.

And I would like to clarify that the end time for this hearing is 3 p.m. Pacific time, and 12 p.m. Eastern time. So, thank you very much.

And at this time, I would now like to recognize myself for 5 minutes for questions.

Chair Powell, I want to understand some of the data behind the recent inflation figures, specifically as they relate to housing and home prices. According to the Monetary Policy Report we are discussing today, "New construction, home sales, and residential im-

provements have all been well above pre-pandemic levels, and demand has outpaced supply, as construction has been limited by material shortages and sales have been constrained by low inventories.”

Demand for housing clearly outweighs the supply of housing. Chair Powell, you said that this is a problem of first-time home buyers for sure. Can you elaborate on what you meant by that?

Mr. POWELL. Housing prices are moving up across the country at a high rate, and I suppose the good news is that this is not driven by the kind of reckless, irresponsible lending that led to the housing bubble, which in turn led to the last financial crisis. Those kinds of things are not happening, at least so far. Nonetheless, housing prices are moving up and, of course, that makes it more difficult for entry-level buyers to get into the housing market. So, that is a concern.

I will also point out, though, that a number of things are driving up housing prices, and certainly, low rates are part of that. There are also changes in preference. Because of COVID, people have wanted to move out of cities and into surrounding areas. So, single-family housing demand has been quite high. In addition, prices have been driven up by material shortages and things like that, which we would hope would be alleviated.

Chairwoman WATERS. Okay. So, Chairman Powell, a lack of supply and constraints around the housing stock are a fact in the recent increase in the housing cost. If the Fed were to raise interest rates, what do you project the impact would be on addressing housing supply challenges?

Mr. POWELL. It wouldn't have any affect on the supply side, as I think you are suggesting. There are limitations around the availability of some raw materials and of labor and of zoning and things like that, and nothing we can do can really affect that. It is true that interest rates are one factor that is supporting demand, but we really can't do much about the supply side.

Chairwoman WATERS. Conversely, do you expect that increasing the housing supply would help alleviate inflation?

Mr. POWELL. Sure, I do think that more housing supply, if demand were to remain constant, would certainly imply that prices would stop going up as much as they have been.

Chairwoman WATERS. The Great Recession was long, slow, and inequitable in part because fiscal support provided by Congress was insufficient, and we left too much up to the Fed to stimulate the economy through low interest rates. I believe strongly that we cannot repeat that mistake. And as I look around at what is causing surging prices, I see a lot of places where more investment will help with long-term economic growth, especially more housing.

Congress and the Biden Administration have a job to do right now. It is for this reason I am reintroducing my Housing is Infrastructure Act this week, to ensure that Congress finally makes long-overdue investments in the housing market. This bill will provide an historic investment of more than \$600 billion to ensure that affordable housing is available all across the country.

As you know, I am focused very much on housing, and I understand that there is a great need for affordable housing. Homelessness is increasing all over this country, and some cities have given

up on even trying to control the camps that are popping up on sidewalks and under bridges.

How important do you think investment in housing is to this economy?

Mr. POWELL. The housing industry is a big one, and the problem of affordable housing is a big one too, albeit it is largely outside of the ambit of the Fed's responsibilities, but it's certainly a very important issue. And I think, as you point out, the rise in homelessness in the face of a very strong recovery is actually evidence of the unevenness of the recovery, which is something we try to keep in mind as well.

Chairwoman WATERS. Thank you very much.

I will now recognize the ranking member of the committee, Mr. McHenry, for 5 minutes for questions.

Mr. MCHENRY. Chair Powell, thank you for being back here. We have a lot of debate about monetary policy, but fiscal policy is also an important discussion.

Chair Powell, I recognize that you have a say over monetary policy but not fiscal policy. That is the responsibility of Congress. But, Chair Powell, when Congress enacts new spending, does the Fed incorporate that new spending into its economic projections?

Mr. POWELL. Yes, we do. Of course, we don't—as you know, we don't comment on or try in any way to play a role in fiscal policy, in particular, fiscal policies; but, yes, we take it as an external factor that we would factor into our models and into our assessment of the economy.

Mr. MCHENRY. Okay. That spending impacts the course of the Fed's decision-making. And the Fed will follow, in essence, right? You have no say over it, but you will incorporate that into your decision-making. Will adding another \$4.5 trillion in new spending impact the Fed's decision-making?

Mr. POWELL. I should be clear, it is one of many factors that we consider. Our focus is on maximum employment and price stability. One thing would be—you would want to know how much of it is paid for and that kind of thing, but sort of the net deficit spending would enter into anybody's projections of the economy, and ultimately into projections of the labor market, and of inflation over time. It is hard to say exactly how without knowing a lot of the details, because it also matters what money is spent on and over what period of time and that sort of thing.

Mr. MCHENRY. Sure. So, the spend rate matters, but fiscal policy, both tax and spend policy, impacts the Fed's decision-making. For those in Congress who are saying that irresponsible spending won't impact the Fed's decision-making, it won't impact our economy long term, that certainly is not in keeping with how these decisions are made.

I want to switch subjects a little bit. Chair Powell, as you know, there has been great interest in central bank digital currencies (CBDCs). Many countries, like China in particular, are focused on establishing a CBDC. You indicated earlier this year that the Fed would study it and issue a White Paper on the subject. What is the status of that report?

Mr. POWELL. We expect to publish a report around—it could be early September, plus or minus, right in that timeframe. And the

status of it is—and we are working hard on it right now, but let me tell you what it is really. We are going to address digital payments broadly. So, that means stablecoins. It means crypto assets. It means the CBDC. That whole group of issues and payment mechanisms, which we think are really at a critical point in terms of the appropriate regulation, and in the case of a central bank digital currency laying out, really, questions for the public to respond to about what good it can do, and what the cost and benefits of it would be. We want to begin, really, a major public consultation across many different groups, including Congress, of course, on a CBDC and also on stablecoins and crypto.

Mr. MCHENRY. There are certainly advantages to a central bank digital currency or a faster payment system, but there are also risks. That is the case, right? This is not a riskless proposition; it is a pretty bold proposition for the Federal Reserve, is it not?

Mr. POWELL. Yes. And we will lay out the possible potential benefits. We will put those out on paper, and also the potential risks that are undertaken. And I think those have been written up in many forums around the world, and I think both are real, and a lot depends on the U.S. institutional context and on why we would need a central bank digital currency and how you weigh those costs and benefits. That is really the nature of the exercise.

Mr. MCHENRY. Stablecoins certainly have some advantages in terms of a faster payment system, and have some of the attributes of a CBDC, but there are some risks with stablecoins right now, are there not? Are there concerns you have about stablecoins?

Mr. POWELL. Yes. I think the issue—stablecoins are a lot like money market funds or bank deposits or a narrow bank, depending on the terms of it and that kind of thing. But without the regulation—and I think we have a tradition in this country where the public's money is held in what is supposed to be a very safe asset. We have a pretty strong regulatory framework around bank deposits, for example, or money market funds. That really doesn't exist for stablecoins. And if they are going to be a significant part of the payments universe, which we don't think crypto assets will be, but stablecoins might be, then we need an appropriate regulatory framework which, frankly, we don't have.

Mr. MCHENRY. Thank you.

Chairwoman WATERS. Thank you very much.

Clarification: This hearing will end 3 p.m. Eastern time, and 12 p.m. Pacific time. Why didn't somebody say something?

Mr. MCHENRY. It is a relief for all of us.

Mr. POWELL. I am relieved, Madam Chairwoman.

Ms. TLAIB. Yes. We don't like interrupting our chairwoman. That is why. We knew you would figure it out.

Chairwoman WATERS. Thank you. The gentlewoman from New York, Mrs. Maloney, who is also the Chair of the House Committee on Oversight and Reform, is now recognized for 5 minutes.

Mrs. MALONEY. Thank you for that correction.

Chairwoman WATERS. You are welcome.

Mrs. MALONEY. Chair Powell, it is very good to see you again. Last month, when you testified before the House Select Subcommittee on the Coronavirus Crisis, you and I discussed the current economic recovery, and I expressed concern, along with other

Members, about prematurely cutting off this recovery by raising interest rates too soon.

I want to touch on a related topic today, and that is the Fed's asset purchases. As you know, the Fed is currently supporting the economy by purchasing \$120 billion a month in Treasuries and mortgage securities, and the Fed has said that it will continue these purchases until, "substantial further progress has been made toward the committee's maximum employment and price stability goals."

The minutes from last month's Fed meeting stated that the Fed is continuing its asset purchases because participants generally did not believe that the goal of, "substantial further progress," has been made yet. And I agree. I think it is far too early for the Fed to start tapering its asset purchases and holding back on its support for the economy.

So, Chairman Powell, would you please elaborate on what you believe, "substantial further progress," looks like? What do you need to see happen before you will support tapering the Fed's asset purchases?

Mr. POWELL. I would say this: We didn't try to write down a particular set of numbers that would capture what we meant by that, and it would have been complicated and not particularly worthwhile, so we thought. We said, "substantial further progress," which is similar to what we did during the recovery from the global financial crisis years ago. We had a similar set of words for when we would taper asset purchases.

The thing is, it is very difficult to be precise about it, because with maximum employment, there aren't three or four or five or six metrics that you can point to; it really is a very broad range of things, including wages, unemployment, levels of employment, participation, all of those things. So we just said, "substantial further progress." And we also said that we would provide advance notice, well in advance of actually tapering, understanding that this is somewhat of a discretionary test and that we don't want to surprise the markets or the public. So, we will provide lots of notice as we go forward on that.

By the way, we have another FOMC meeting a couple of weeks from today, and we will have another round of discussions on this very topic.

Mrs. MALONEY. Great. Thank you.

Chair Powell, in May, President Biden took action, through an Executive Order, to address the serious threat that the climate crisis poses to our economy, and we are seeing numerous examples of that changing climate in extreme weather events that resulted from this threat. For example, we saw extreme heat across the Pacific Northwest, which will have cascading effects on the U.S. economy.

And part of that Executive Order was tasking Secretary Yellen with assessing climate-related financial risks through the Financial Stability Oversight Council (FSOC), of which the Fed is a member. And I know the Fed presented on climate risk during the first FSOC meeting of this year.

Can you provide us with an update on the Fed's current work with FSOC on this topic, and the Fed's broader work to address cli-

mate change in our financial system, particularly how these risks can impact our broader economy through supply chain disruptions or disruptions to massive industries such as agriculture?

Mr. POWELL. Sure. I would be glad to. The Fed's work on climate change really exists as part of our preexisting mandates for supervising financial institutions and for the overall stability of the financial system. As far as individual financial institutions are concerned, as supervisors, we want them to be aware of and capable of managing and understanding all of the risks that they run, including the risks to their business activities and business model from climate change. We are in the beginning stages of working up a program that will engage with the financial institutions and make sure that happens.

On the financial system more broadly, we have an overlapping effort that looks carefully at the broader financial system and asks, how will climate change affect financial markets and other financial institutions that are not banks, for example, insurance companies and many others like that, asset managers?

So, those are really two efforts that we are working on, and that is what we reported on to the FSOC.

Mrs. MALONEY. My time has expired. Thank you very much.

I yield back. Thank you.

Chairwoman WATERS. The gentlewoman from Missouri, Mrs. Wagner, is now recognized for 5 minutes.

Mrs. WAGNER. Thank you, Madam Chairwoman.

And, Chairman Powell, thank you for being here with us again today. You and I have discussed at length my very grave concerns with higher inflation and the increased cost that consumers and businesses are experiencing today. In February, you appeared before this committee and reiterated that the price spikes are only temporary and said they will decrease in time and inflation will move towards your goal of 2 percent.

I can tell you that the families and businesses that I represent in Missouri's Second Congressional District aren't feeling that these price spikes are very temporary. I am concerned with the most recent Consumer Price Index data showing price increases that are much higher than expectations.

Housing costs, as we have discussed here, are skyrocketing. Food costs are higher. Electricity and gas prices are up. Even travel and hospitality costs have seen a great increase. I understand that some of these increases are due to supply chain disruptions and labor shortages, but to have prices consistently higher across-the-board than they were forecasted to be is deeply troubling as we look toward a strong economic growth for the rest of the year and beyond as we pull out of this pandemic.

Chairman Powell, is it the Fed's policies or the Biden Administration's policy that is surrounded with massive spending that is causing consumer prices to skyrocket?

Mr. POWELL. I can't really address that. I can tell you why I think we are having this inflation that we are having now. First of all, you are right, the incoming inflation data have been higher than expected and hoped for, but they are actually still consistent with what we have been talking about. The very high inflation readings are coming from a small group of goods and services that

are directly tied to the reopening of the economy. It is new cars, used cars, rental cars, hotel rooms, airplane tickets, things that we understand that connection, but—

Mrs. WAGNER. With all due respect, Chairman Powell, it is housing, it is appliances, it is food prices, it is electricity, it is gas. Tell me, to what extent is the Federal Reserve willing to see consumer prices increase before intervention is necessary?

Mr. POWELL. We are monitoring the situation very carefully, and we are committed to price stability. And if we were to see that inflation was remaining high, and remaining materially higher above our target for a period of time, and that it was threatening to uproot inflation expectations and create a risk of a longer period of inflation, then we would absolutely change our policy as appropriate.

Mrs. WAGNER. Unemployment is still well above the 3.5 percent figure it reached prior to the pandemic, and the labor force participation rate remains lower than in February of 2020. Now, a lot of that is because the Administration is still, frankly, paying people not to work, while job openings remain high, at 9.2 million.

In the FOMC minutes from June, some participants believed that the unemployment rate of 3.5 percent that the previous Administration achieved is not feasible.

Chairman Powell, with 9.2 million job openings, and many employers raising wages and offering hiring bonuses, et cetera, what is causing some members of the FOMC to believe a 3.5 percent unemployment rate is not achievable?

Mr. POWELL. I don't know that anyone said that. I didn't hear anyone say that 3.5 percent unemployment—

Mrs. WAGNER. It is in the minutes. It is in the minutes from June.

Mr. POWELL. No, it is not. It must be something else. It must be something that says—you might say that about labor force participation, for example, or employment to population, but I don't think—I didn't hear anybody say that we couldn't get back to 3.5 percent unemployment.

In any case, I don't believe that. Let me just say that. I don't believe that. I think it is a long road back. It took us quite a long—it took us 8 years of an expansion to get to 3.5 percent, but I think there is every reason to think that we can get back to that level.

Mrs. WAGNER. With a vaccine readily available, and small businesses with unfilled positions, what do you believe is causing the unemployment rate to remain steadily above 3.5 percent?

Mr. POWELL. I think you are right that the demand for labor is very, very high, with all-time record job openings, and there are also significant numbers of unemployed people. The market doesn't seem to clear, and I think some factors are weighing on labor supply, people going back to work. We think that with those factors such as school reopenings and perhaps also unemployment insurance, those things will pass, and we do think that, as a result, there will be very strong job creation.

Mrs. WAGNER. Thank you, Chairman Powell. My time has expired.

And I yield back.

Chairwoman WATERS. The gentleman from New York, Mr. Meeks, who is also the Chair of the House Committee on Foreign Affairs, is now recognized for 5 minutes.

Mr. MEEKS. Thank you, Madam Chairwoman. And welcome back, Chairman Powell.

As you know, the Biden Administration recently issued an Executive Order promoting competition in the American economy and encouraging the attorney general, in consultation with the primary Federal banking agencies, to update existing guidelines on bank mergers, to provide more robust scrutiny on these transactions. And I support this Executive Order, considering the impact that bank [inaudible] can have on communities of color.

Now, compliance with the Community Reinvestment Act (CRA) is an important measure that the Department of Justice (DOJ) and the Fed considered during the bank merger review process. And as you know, I publicly supported the Fed's direction in modernizing CRA regulations so that things like the bank merger review process can adequately reflect the economic needs of today.

Can you please explain how the Fed plans to coordinate with the DOJ in light of the bank merger Executive Order, and will the Fed's Community Reinvestment Act reform efforts and the DOJ's bank merger updates happen in silos or in tandem?

Mr. POWELL. Thank you. We actually coordinate pretty closely with the Department of Justice on banking and trust standards. We each look at each merger, and so we understand each other. And we would look forward, to the extent Justice, I think, under the Executive Order, is encouraged to take a fresh look at bank merger standards. We would, of course, closely coordinate and try to understand what is going on. We haven't made any decision to change our merger standards, but we would certainly monitor that carefully and act appropriately.

Again, I can't presume to know what will happen out of this, but it is a process that we will go through in coordination with Justice.

Mr. MEEKS. The coordination is important, I believe, to act in tandem so that there are not several different CRA rules and regulations that come out, as we have talked about with the OCC and others. So, I appreciate the Fed making sure that there is some continuity in that regard and working in tandem.

Also, the pandemic has really disrupted the housing market, as was indicated by the chairwoman. I look at the disproportionate number of Black and Brown homeowners, particularly in my district, as well as in New York City at large.

Now, in the pandemic's early days, the Fed rightfully intervened and purchased mortgage-backed securities (MBS) in the billions, which helped keep the interest rates low, I understand. However, we have also experienced a rise now in housing prices, which some attribute to the Fed's asset purchases, although others cite supply chain challenges.

I understand the debate at the Fed as to how quickly it should taper its MBS purchases, but what are some of the economic factors you are considering as you weigh both sides of this argument?

Mr. POWELL. Housing prices are going up because of both demand and supply reasons. And you touched on them, Congressman. On the supply side, it is prices of raw materials and lack of labor,

labor costs, zoning difficulties, all of those things. So, it is not just a demand story.

On the demand side, low interest rates are certainly making mortgages cheaper and, therefore, supporting prices in housing. That is certainly a factor. There are other factors too. Household balance sheets are very strong right now because people were kind of forced to save because they couldn't go on trips, and they couldn't go to restaurants for a year. So, there are big amounts of savings on people's balance sheets. All of that goes into demand for housing.

Sorry. Your question on that was what?

Mr. MEEKS. What are some of the economic factors that you are considering, in that argument—

Mr. POWELL. Mortgage-backed securities (MBS), in particular. Interest rates—our low interest rates and Treasury purchases and MBS all go into creating a low interest rate environment and go into mortgage rates. Mortgage-backed securities purchases really work a lot like Treasury purchases. They aren't especially important in what is happening with housing prices. Nonetheless, they clearly are a factor among factors.

This is one of the things that we will be considering as we go through this process of evaluating what to taper and in what form, what will be the composition of asset purchases going forward. Those are all issues that we will be discussing at this next meeting in a couple of weeks.

Mr. MEEKS. Thank you. My time has expired. I yield back.

Chairwoman WATERS. Thank you very much.

The gentleman from Indiana, Mr. Hollingsworth, is now recognized for 5 minutes.

Mr. HOLLINGSWORTH. Good afternoon, Chairman Powell. I appreciate you being here, and I certainly appreciate you answering our questions. I know this remains a tricky time in the recovery, and our collective understanding about the Fed's effort and reasoning here is very important.

I have a long preamble that I hope ends at a question, so take a little bit of a journey with me.

First and foremost, I want you to know I am in no way besmirching the good work the Fed has done over the last year. The extraordinary economic cessation necessitated extreme action, and you took that action with vigor. I am thankful for that, and my view on that is unchanged.

Second, my question is not meant to imply that you need a hawkish stance. I think we can all agree that monetary policy is very accommodative at present, perhaps at the furthest end of the accommodative side of the spectrum as is conceivable. I am merely questioning the degree of accommodative stance, not asking to return to a restrictive side of the spectrum.

Third, I have on many occasion endorsed your new symmetrical approach to inflation target. I believe this is exactly the right answer. My question today is not tied to recent inflation numbers, nor would I prognosticate about whether it is transitory or not, whether it is a monetary phenomenon, a demand phenomenon, nor the magnitude of what it may reach.

But here is the crux of my question. I think there is a lot of data out in the economy showing that it is a wash in liquidity. A panoply of statistics indicate the tremendous/unprecedented increase in liquidity over recent years. In recent weeks alone, you have raised the reverse repo rate to .05 percent, and the uptake on that product has been tremendous, which in and of itself is a reaction to money markets being overwhelmed with liquidity, which in and of itself is a reaction to bank deposits being overwhelmed. Yet, the ultra, ultra accommodative stance by the Fed continues.

And when asked about this over the last few months—and I think you indicated this in your earlier testimony—I have heard you say that there needs to be further healing in the labor market for that ultra, ultra accommodative stance to change.

I agree with this. There is much room to go, but what I don't understand about that answer is that a cornucopia of evidence suggests that challenges in the labor market are not related to monetary policy and, frankly, aren't susceptible to monetary policy's aid. The Fed's—and no indictment on the Fed—monetary policy writ large isn't the right vehicle and doesn't have the right tools to resolve skills mismatch, to resolve work/no work incentive balancing, and to resolve geographic mismatch. As you said earlier, there isn't a lack of demand in the job market.

Getting to the specifics of my question, I believe the Fed is significantly distorting the financial economy for very little, if any, maybe marginal impact on the real economy. To couch specifically inside your mandate, are you jeopardizing long-term full employment and price stability by virtue of extreme monetary policy and picking up very little short-term benefit in full employment?

I wondered if you might talk about your reasoning and your colleagues' reasoning for remaining and retaining that extreme accommodative stance, and using the labor market as justification, despite significant evidence indicating that the labor market needs are not monetary policy-related.

Mr. POWELL. I would just say this: Policy is highly accommodative. That is correct. We are a long way from full employment. We have, as you know, 5.9 percent unemployment, and the true number is actually substantially above that. So, we have a ways to go. And we see everything that you see, but I guess what we see is that our task for tapering asset purchases is an appropriate one, and we are making progress toward that. We are, in fact, considering—

Mr. HOLLINGSWORTH. Just to needle into that for a second, we are making progress. I do not believe that progress is a result of that monthly asset purchases, and I think I have seen significant evidence which indicates that monetary policy isn't making an impact on that. Other factors are making an impact on that. And I wonder whether the financial distortion that is occurring—and by its nature, monetary policy—isn't causing long-term problems for very little short-term gain?

Mr. POWELL. I guess that is where I would differ, is I do think monetary policy is supporting demand and demand broadly in the economy, and the recovery of the weak sectors and all of that. So, it is still appropriate that monetary policy be highly accommodative.

Mr. HOLLINGSWORTH. You believe that the difference between \$60 billion and \$120 billion or zero billion and purchasing \$120 billion is a material impact on the point at which we will reach full employment?

Mr. POWELL. It is hard to say that with any specificity, but yes, I think our overall policy stance is appropriate. And as you know, we are very much in the process of walking down the road and asking those very questions, and first on tapering. But I also think we are a good ways away from maximum employment. And one of the conditions for lifting interest rates is that we are at labor market conditions that are comparable in the range of maximum [inaudible].

Chairwoman WATERS. Thank you very much. The gentleman's time has expired.

The gentleman from Massachusetts, Mr. Lynch, is now recognized for 5 minutes.

Mr. LYNCH. Thank you, Madam Chairwoman.

And, Chairman Powell, thank you so much for your willingness to help the committee with its work.

I was very pleased to hear in your opening remarks that the Fed plans an open dialogue with the public and with stakeholders regarding CBDCs, as well as cryptocurrency generally. I think that is much-needed. And I am very proud of the fact that the Boston Fed, under the leadership of Eric Rosengren, has been working with MIT in their cryptocurrency on this digital dollar for the United States and for the Fed.

I am a little bit worried about the pace, though. We see—I think there are 86 separate central banks that are already engaged in this. Do we risk sacrificing the primacy and the reserve currency status by, I think some would argue, slowness in response to this? And does this dialogue that you envision stretch out the timeline for adopting, say, a digital dollar for the United States? Does it delay that considerably?

Mr. POWELL. Actually, I think the opposite. I think this is the beginning of—we think—accelerating that decision process. We have a lot of work left to do on the technical side and on the policy side, but a critical part of it is just the public consultation.

But on reserve currency, the U.S. is the reserve currency. There really isn't a good competitor out there, because all of the things you need to be the reserve currency, really the United States has them. We are not in danger of losing it, certainly not to China, which doesn't have an open capital account and that kind of thing. It is the kind of status that, as you well know, lasts for many, many years.

I am really concerned about getting this right. It does carry risks, but it does have benefits. It is quite specific to the institutional context of each country, and I want to get it right. We are the reserve currency. We have first-mover advantage by virtue of that. So, I think it is way more important to get it right than it is to do it fast.

Mr. LYNCH. Fair enough.

Let me ask you another question. It is a little off topic, but recently, China has taken somewhat hostile action against initial public offerings (IPOs) being launched in the United States. Didi,

the ride-hailing business in China, is one of the recent examples. The Chinese government has offered several different reasons for wanting these Chinese companies to register in China versus in the United States. They have given various reasons for that, the security of data being one of them.

I was wondering if you had—this is probably a better question for SEC Chairman Gensler, but I wondered if you had any thoughts on that, about what the ultimate reasons were for China taking that action?

Mr. POWELL. Yes. I would pass that to my friend, Gary Gensler. I think it is right over his home plate there for him. I will just say it is important that we have open capital accounts and open capital markets and global rules that we all abide by. But I don't know how to address that one, because it is really for the SEC.

Mr. LYNCH. Okay. And, lastly, do you think that—I have 1 minute left. Do you think that maybe more swift action on a digital currency for the Fed would have a calming effect on the variety and the number of cryptocurrencies and stablecoins that we see are coming out? Wouldn't that be a more viable and reliable alternative than having all of these hundreds and perhaps a thousand different cryptocurrencies emerging?

Mr. POWELL. I think that may be the case, and I think that is one of the arguments that are offered in favor of a digital currency, is that particularly, you wouldn't need stablecoins, you wouldn't need cryptocurrencies if you had a digital U.S. currency. I think that is one of the stronger arguments in its favor.

Mr. LYNCH. That is great.

Madam Chairwoman, I yield back. Thank you.

Chairwoman WATERS. Thank you very much.

The gentleman from Ohio, Mr. Gonzalez, is now recognized for 5 minutes.

Mr. GONZALEZ OF OHIO. Thank you, Madam Chairwoman.

And thank you, Chairman Powell.

I want to pick up where my friend, Mr. Hollingsworth, left off and focus specifically on the unemployment piece. And, frankly, when I talk to my businesses back home, where I am currently seated, the two biggest issues that they face, in particular small businesses, are employment, not being able to get people back to work, and inflation. So, this is a timely hearing right in your wheelhouse.

First, with respect to unemployment, in the Monetary Policy Report, you cite several factors that are keeping people out of the workforce, most of which—or all of which—are virus-related, so, early retirements, caregiving responsibilities, fear of COVID, and expanded unemployment benefits.

Using those factors which you cited in the Monetary Policy Report as responsible for diminished employment, would you agree that the zero interest rate posture is not a primary driver of getting people back into the workforce today?

And maybe said differently, do you think if you lowered us to negative interest rates, that would materially change the unemployment rate?

Mr. POWELL. Let me try to answer that this way. I would agree with you that the most important thing—it would be very impor-

tant if we were to see a significant increase, as we expect we will see, in labor supply, just showing up in the form of better matching in the labor market.

There are all these open jobs, and there are many, many unemployed people, but they just don't seem to be matching up, and maybe there is a speed limit on that.

But in any case, as those factors wane, we should see more of that, and that is probably of first order importance at this time.

Mr. GONZALEZ OF OHIO. Okay. So, not the rate of interest. And I think that is important because the commitment is to keep rates at zero until we get back to full employment, but we know what is happening, is it is inflating asset bubbles, it is pushing people further and further out on the risk curve.

I would argue it is creating systemic risk in a variety of markets. And so, I would just encourage you all to consider that.

And now moving on to the inflation bit, the common refrain from the Fed has been that inflation is transitory, there is nothing to worry about, and you will maintain rates at zero until inflation is moderately above 2 percent for, "some time." And you have said that a handful of times here.

We are looking at 4 consecutive months now, including the previous month, at over 5 percent. So, how long is, "some time," and what factors are you looking at that will tell you whether this is transitory or something more systemic?

Mr. POWELL. Okay. Let me say first on maximum employment, even after this expected wave of supply comes, it is likely that we will still be short of maximum employment, and at that time, support for demand will be appropriate.

That is why we wouldn't see that it is time to raise interest rates now, because we think it will take some time, even after this, to get there.

So, getting to your inflation question—

Mr. GONZALEZ OF OHIO. Which is basically, how long is, "some time?" Because it keeps being used, "We will keep it low for some time."

Mr. POWELL. The answer really is, it depends. You are really asking about that part of the guidance and how do we think about that. Right now, of course, inflation is not moderately above 2 percent. It is well above 2 percent. And it is nothing like, "moderately."

So the question will be—and this will be a question for the committee, where does this leave us in 6 months or so when inflation, as we expect, does move down, how will that part of the guidance work?

And it will depend on the path of the economy. It really will. It may be that we will look back and see it as having been met. It may be that we won't. We are not going to address that right now. But it is a good question.

Mr. GONZALEZ OF OHIO. Okay. Thank you.

I want to switch to stablecoins and pick up where Mr. McHenry left off, specifically on Tether.

In recent months, there has been increased scrutiny of the stablecoin Tether due to concerns regarding the assets backing the

coin, particularly the amount backed by commercial paper, as opposed to U.S. dollars, which is what they originally said.

President Rosengren of the Boston Fed said that Tether does create a challenge and that we need to take seriously what happens when people run from these instruments very quickly.

Do you share these concerns? And is that the sort of thing that you will be looking at and providing guidance on with the White Paper?

Mr. POWELL. Yes. Absolutely, yes. Commercial paper is short-term overnight obligations of companies, and most of the time they are investment grade, most of the time they are very liquid, and it is all good.

But in both of the last two financial—during the acute phase of the crisis, the market just disappears, and that is when people will want their money.

It is really simple. These are economic activities that are very similar to bank deposits and money market funds, and they need to be regulated in comparable ways. That is how I see it.

Mr. GONZALEZ OF OHIO. I yield back.

Chairwoman WATERS. Thank you. The gentleman's time has expired.

The gentleman from New York—I'm sorry, from New Jersey—Mr. Gottheimer, is now recognized for 5 minutes.

Mr. GOTTHEIMER. Thank you, Chairwoman Waters, and it is definitely New Jersey.

Chairwoman WATERS. Yes.

Mr. GOTTHEIMER. And thank you, Chairman Powell, for being here today.

The State and Local Tax (SALT) deduction cap jammed through Congress in the 2017 tax hike bill raised taxes for the majority of families in my district. These are my community's teachers and first responders, small business owners, young people trying to start a family, all groups who are struggling in this pandemic and now trying to get back on their feet.

When you were before this committee earlier this year with Treasury Secretary Yellen, the Secretary said that the SALT cap led to, "disparate treatment," and that she would work with me to ensure that the inequities caused by the cap would be remedied.

Chairman Powell, is increasing disposable income for households a crucial tool to stimulate the economy and ensure that our communities see the economic activity necessary to help small businesses come back from the pandemic? And do you think SALT is a part of that solution, reinstating the SALT deduction?

Mr. POWELL. We have really important jobs and powerful tools, but one of them is not fiscal policy. We don't really want to play a role on that. So, I would have to leave that with you.

Mr. GOTTHEIMER. Okay. I figured that would be your answer, but I was going to ask it anyway.

I will turn to inflation, since there have been lots of questions today about that.

Given the movements we are seeing in inflation across commodities, housing, and wages, should we be concerned about what happens to long-term interest rates once the Fed stops purchasing

long-dated Treasuries? And if long rates go up, what will happen, do you believe, to the economy?

Mr. POWELL. I wouldn't want to make a forecast. It is very hard to forecast long-term rates. If anybody had forecasted that we would be able to borrow the amounts we have borrowed in the last 10 years, and that the Federal funds rate would be at 1.—the 10-year, sorry, the 10-year Treasury would be at 1.4 percent—no one would have forecast that. So, it is really hard to say.

There is tremendous demand for U.S. Treasuries around the world. We are the safe asset. We are the reserve currency. And in any case, our role is to do maximum employment and price stability, and not fiscal policy.

Mr. GOTTHEIMER. Since the Fed is by far the largest buyer, you don't think that long-term rates will go up meaningfully when this occurs, when you stop?

Mr. POWELL. Honestly, they may or may not. Markets, as you know, work through expectation. So if markets foresee what we are going to do, then presumably, to some extent at least, what we are going to do should already be baked in. And it is very hard to predict markets' reactions to these things.

But one of the reasons we are being so very transparent is that markets will incorporate the timing and the form of the taper that we are going to ultimately undertake here, because we will have sort of communicated it well in advance.

Mr. GOTTHEIMER. Thank you.

Chairman, you said that one of the causes of the inflation that consumers are experiencing is from supply bottlenecks. Some of these supply issues are being attributed to strains on supply chains because America's infrastructure is unable to take on the increased demand as our economy reopens.

Would you agree that these bottlenecks would be alleviated in part through the robust direct investment in infrastructure, addressing our issues with roads and bridges, rails and ports, and that spending in long-term infrastructure projects would help in keeping inflation under control?

Mr. POWELL. Again, I wouldn't want to be seen as supporting any particular bill or form of spending. I do think it is clear, though, that investments in infrastructure, in good infrastructure, can add to economic potential, provided the money is well spent.

But, again, I don't want to—it is not appropriate for me to get involved in these discussions you are having.

Mr. GOTTHEIMER. I understand. I will espouse one, a bipartisan infrastructure package from the Problem Solvers Caucus in the House, working with a bipartisan group in the Senate, to try to get investment in infrastructure into law and our economy back on track, and set up for long-term success.

I believe that will obviously help deal with some of the challenges we are facing in making these investments in roads and bridges and rail and energy infrastructure and broadband connectivity, all crucial to ensure that America remains competitive on the global stage.

Last question there on the global stage, China spent about \$3.7 trillion in infrastructure outside of the United States last year. Are

you concerned at all about China's activity on this front and the spending they are doing outside the United States?

Mr. POWELL. The issues of international economic relations are really with the Treasury Department and the State Department, not with us.

Mr. GOTTHEIMER. I will yield back, Madam Chairwoman.

Thank you so much, Chairman Powell, for being here today.

Mr. POWELL. Thank you.

Chairwoman WATERS. Thank you very much, Mr. Gottheimer, and you forgot to add housing—

Mr. GOTTHEIMER. Sorry. I meant to add it. Pardon me. You are right, Chairwoman Waters.

Chairwoman WATERS. The gentleman from Tennessee, Mr. Rose, is now recognized for 5 minutes.

Mr. ROSE. Thank you, Chairwoman Waters, and Ranking Member McHenry.

And thank you, Chairman Powell, for being here today and for your leadership throughout the pandemic and now during our economic recovery. I am going to go ahead and dive right in.

Chair Powell, in November the Fed took important steps to provide temporary relief for certain community banking organizations which experienced an unexpected and sharp increase in assets due to their participation in Federal coronavirus response programs, such as the Paycheck Protection Program.

That regulatory relief is in effect until December 31st of this year, and since that deadline was put into place, the Biden Administration, along with House Democrats, passed a \$2 trillion bill that will have an impact that extends past the end of the year.

Do you believe that the end-of-year deadline is sufficient, and would you be open to extending the regulatory flexibility past that date?

Mr. POWELL. I don't know, to be perfectly honest. I would be happy to take a look at that and get back to you.

I am well aware of the programs and of the deadline, but I don't have an informed view of whether they would be need to be extended. But I will look into it.

Mr. ROSE. In building off of that, I hear constantly as I visit with community banks back here in middle Tennessee, that regulatory compliance continues to be one of their top expenses or costs.

I think this brings up the broader question of whether we should be looking into permanently raising the threshold for increased regulatory and reporting standards for community banking organizations?

What are your thoughts on that, Chair Powell? Is that something you would support?

Mr. POWELL. Again, I would have to look at that.

I will say that we are very well aware of the pressures that are added to community banks because of fixed regulatory costs. You need to be bigger with fixed costs, and we try hard not to be part of the problem.

We see community banks under pressure. We see the number diminishing. And we have a whole subcommittee, led here by Governor Bowman, a former banker, that is designed to stop that sort

of thing from happening. But it is something we work on all the time.

Mr. ROSE. I would just encourage you to do that, and to look at those thresholds, because what I hear repeatedly, and as a former director of a small national bank, community bank here in my community, it appears that the dramatic increase in assets resulting from the fiscal stimulus and other measures may not be as transitory as we would have first expected, and has increased the balance sheets of these banks dramatically. So, I hope you will take a look at that.

In June, the unemployment rate was 5.9 percent, a far cry from the 3.5 percent pre-pandemic. Labor force participation has not moved up from the low rates that have prevailed for much of the past year.

In the Monetary Policy Report you submitted to the committee, you write that enhanced unemployment benefits have allowed workers to reduce the intensity of their job search.

Chair Powell, do you believe that the most recent stimulus in the American Rescue Act is the reason for prolonged high unemployment rates? And has it, in fact, slowed down our economic recovery?

Mr. POWELL. There are a bunch of factors, there are four or five—I think Mr. Gonzalez or somebody went through them—and it is very hard to untangle them. But it may be that unemployment insurance, for example, enables people to look a little bit longer and try to find a better job. And in the long run, that will be better for the economy.

We are going to find out, though, because the enhanced unemployment insurance will be gone within 60 days, and in many States, it is gone already. We will be able to look at the data. And it is too early to say, by the way. We can't really see a difference between States that have and haven't eliminated that. So, we are going to be able to see.

My own suspicion is, it is one of a number of factors and it interacts with the other factors, and it will be really hard to get a clear answer on exactly how important that is.

Mr. ROSE. How could another \$3.5 trillion, as proposed by Senate Budget Committee Chair Sanders, further stifle our economic recovery?

Mr. POWELL. That would seem to be a question for you really. Again, I don't comment on fiscal policy, and I would really leave that one with you, if I could.

Mr. ROSE. Switching gears a little in my remaining time, I want to talk about the Global Systemically Important Bank (G-SIB) surcharge.

Throughout the pandemic our largest banks remained strong and stable due to high asset quality and robust capital and liquidity positions.

I believe that over the years, the G-SIB surcharge has worked as it was intended, and if the G-SIBs do not maintain a sufficient capital cushion to absorb losses, it could undermine our economy. It seems that I am out of time, but I would welcome your response for the record to the questions I will submit.

Mr. POWELL. Thank you. I am happy to do that.

Mr. ROSE. I yield back, Madam Chairwoman.

Chairwoman WATERS. Thank you very much.

The gentlewoman from Pennsylvania, Ms. Dean, is now recognized for 5 minutes.

Ms. DEAN. Thank you, Madam Chairwoman.

And, Chairman Powell, it is always good to be with you and to learn from what you are doing in your role.

I, too, thank you for your steady leadership and stewardship over the course of your tenure, but maybe never so important as over the course of the last 18 months and moving forward.

I also thank you for your recognition that this recovery has not been even. While we are enjoying a regrowth in our economy in really robust ways, I appreciate that you recognize it has not been even across all sectors.

I wanted to continue the conversation around inflation, and I say this as somebody who wants to be able to translate this to my constituents, I prefer plain English whenever possible

I really appreciate your testimony around inflation. But if we talk about supply chain and the vulnerabilities that come in as a result during this economic reopening, the supply chain with manufactured goods, driving what is called transitory inflation.

You cite, in your own testimony, the car industry. The biggest example may be the price of used cars, up 10 percent in April alone, and a number of factors, one of which is a particular worldwide shortage of semiconductors, slowing down the rate of new car manufacturing, therefore, causing dealers to have fewer cars on the lot, and buyers moving more toward pre-owned. All of these things are inflationary.

What are your thoughts? And how can I explain this to my constituents? Around this level of inflation, in these smaller groups of goods and services, what should we be watching? And if you could, again in plain English, what is the Fed doing in terms of this temporary, or what might be called transitory inflation?

Mr. POWELL. We always have the issue, and central banks generally always have the issue of looking at price increases and asking whether they are really threatening inflation. By inflation, we mean year after year after year prices go up.

And if something is a one-time price increase, then you don't react to it with monetary policy because, frankly, the way monetary policy works would be by slowing down the economy, slowing down the recovery and, therefore, reducing inflationary pressure. So, you wouldn't react to something that is likely to go away.

We have to look at this current situation where we have a number of categories of goods and services where inflation is moving up, as I mentioned, higher than we expected, and a little bit more persistent than we had expected and hoped.

But we look at them and we look at the story, and the story, as you mentioned, around used cars and new cars and rental cars is all kind of the same story; it is a shortage of semiconductors.

There is also very high demand for various reasons. People are using less public transportation. They have money because they haven't been able to spend it. And it is just a perfect storm of high demand and low supply.

And it should pass. Unless we think there is going to be a multiyear shortage of used cars in the United States, we should look at this as temporary. And we very much think that it is, and so do all of the forecasters I have seen think that these price increases for used cars and new cars will top out.

And then, in all likelihood, at some point in the future, and we can't say exactly when, they will decline, because supply will come back.

Ms. DEAN. And do you think rather than—I appreciate that, those recommendations and what your actions are.

Is this a time, when you see this kind of transitory inflation, of a need for greater public or private investment?

Mr. POWELL. I think what investment does is, it raises the potential growth rate of the country and makes workers more productive and companies more productive and countries more productive and that raises living standards.

And more of it is generally better. As long as it is money well-invested, then it is worth looking seriously at, at any time.

Ms. DEAN. I agree, and I would not call any of the things that we are trying to do irresponsible spending. I think you have demonstrated and the economy is demonstrating that our investment has been responsible spending, to the growth of our economy, and to the growth of working-class families.

I want to pivot to another thing that I care very much about, which is credit rating agencies. Last session, in a bipartisan way, I had the opportunity to work with Chairwoman Waters and Representative Barr, to introduce H.R. 6934, the Uniform Treatment of NRSROs Act, which requires the Fed to treat all nationally recognized statistical rating organizations (NRSROs) uniformly so that more creditworthy companies could have access to the emergency lending.

I knew I would run out of time. I don't know if you would be able to speak to the NRSROs' expansion?

Mr. POWELL. Just briefly, I guess.

At the very beginning of the crisis, we really had to get these facilities up and running, and we just kind of worked with the Big Three.

We then consistently expanded, over and over again expanded the group of agencies that we work with, as you know. I would be happy to talk about this more offline, if you would like.

Ms. DEAN. Thank you so much.

Thank you. I yield back.

Chairwoman WATERS. Thank you.

The gentleman from Wisconsin, Mr. Steil, is now recognized for 5 minutes.

Mr. STEIL. Thank you, Madam Chairwoman.

And thank you, Chairman Powell, for being here today.

I want to stay on the topic of inflation. As you know, I have been a bit of a broken record on this issue because it is so important to families in Wisconsin and across our country.

In fact, the prospect of rising inflation—I brought this up in our committee last July, and again last December, and in those hearings, you continued to suggest that you are not ready to take action

to head off inflation. And yesterday, we received more data confirming that prices are continuing to rise.

And inflation is not an abstract concern. Although the White House social media team put out information that a Fourth of July barbecue went down 16 cents from last year, and the Biden Administration can claim what they want, but families are seeing rapid price increases with their own eyes.

Now, I know it is not your role to comment on fiscal policy, but I am very concerned about President Biden's spending plans and its impact on inflation.

Last month's increase in consumer prices of 5.4 percent was the largest jump that we have seen since August of 2008, right before the financial crisis.

And over the past year, used cars have gone up 30 percent. Plane tickets have gone up 24 percent. Shoes are up 7 percent. We have seen increases in coffee, sugar, cotton, and propane, all double digits, and higher material costs have added \$36,000 to the price of a new home.

I know you have responded to inflation concerns by saying that the price increases we are seeing are temporary and they will subside as supply chain and labor markets return to normal after COVID.

But even if it is partially the case that inflation expectations may be changing and rising, the prospects of a more persistent impact—in fact, a poll conducted recently showed that 87 percent of Americans said they are concerned about inflation. And on Monday, the New York Fed reported that consumers expected to see higher inflation over the medium term.

Can you comment on how the Fed responds to signs that consumers are beginning to expect more persistent inflation?

Mr. POWELL. Sure. We monitor that. We think inflation expectations are very, very important. In a way, if businesses and households think that inflation should be 2 percent, then it probably will be 2 percent, because they will expect that, and they will demand that, in fact.

We monitor inflation expectations through surveys of households, surveys of experts, and the market. As you know, you can get inflation compensation readings out of the difference between Treasury Inflation-Protected Securities (TIPS) and regular Treasuries.

We look at all of those things. I would say that they all went down as a group at the beginning of the pandemic, which is not good, and they have all moved back up as a group just about to a level that is in the range of consistent with our 2 percent inflation goal over time.

We watch this very carefully, and we would be very concerned if they were to move persistently and materially above 2 percent, and we would react to that.

Mr. STEIL. Let me build on this discussion. I want to just build on the distinction between transitory and persistent inflation, in particular how it impacts home prices.

According to the Case-Shiller Index, home prices have risen more than 14 percent over the past year. That is a very significant increase, and it is enough to put home ownership out of the reach of some Americans.

Meanwhile, the Fed is continuing to buy around \$40 billion in mortgage-backed securities.

And here is my concern. If inflation is, in fact, as you suggest, temporary, does the potential abatement of inflation present a potential for a reset of housing prices?

And if so, what are the likely impacts on homeowners, and what will be the impact on the Fed's MBS holdings?

Mr. POWELL. Housing prices, as I am sure you know, don't go directly into inflation. Housing is an asset, and housing prices are not a factor in inflation. What is a factor are rents. And then, in effect, what the economists do is they take the value of a home and they impute a rental cost to it. They add it in. It is just the way they do it.

Housing prices went up 15 percent overall last year. That is too much. That is much higher than would be a normal level for housing prices to go up. I don't know what housing prices will do in the future.

But there is just a lot of demand. As you know, people want to live in the suburbs now, they want to move out of cities, they want bigger houses. They have saved all this money because they couldn't travel and go to restaurants. There is a lot of demand.

So, even if mortgage rates go up, as they ultimately will, I think we will be looking at a lot of demand. Then the question will be, how much supply can be brought to the market? And that is really out of our control. But, as you know, when you look around your district, it is a question of zoning, it is a question of materials, labor, all of those things.

Mr. STEIL. But if I could, if we zero in the material costs, we have seen about a \$36,000 increase in costs due to the material cost, largely inflation—look at lumber and other areas—maybe we can continue this discussion offline, but I appreciate your time, as I am out of time, and I will yield back.

Mr. POWELL. I would be glad to do that.

Chairwoman WATERS. Thank you.

The gentlewoman from North Carolina, Ms. Adams, is now recognized for 5 minutes.

Ms. ADAMS. Thank you, Madam Chairwoman.

And thank you, Chairman Powell, for being back with us.

Like my colleagues, I want to touch on inflation.

You have described current inflationary pressures as transitory and cited supply bottlenecks and temporary factors like the high price of lumber as the reason why inflation has been high in recent months.

And though this may be temporary, these bottlenecks have had real-world consequences. For example, my local housing partnership had to pause the construction of an affordable housing site because of a funding gap caused by the spike in lumber prices.

And while lumber prices can be tied to the previous Administration's actions, I know that many are still concerned about the rise in core prices. So, I am hoping that you can help us put some of these concerns to bed.

Would you tell us why you believe that the recent inflation trends are temporary as the economy reopens, and what other factors are playing into the upward pressure on prices?

Mr. POWELL. I would be glad to try.

As you know, all of these industries kind of shut down a little more than a year ago on the expectation that we were looking at a really bad, difficult time. And then, sooner than expected, the economy has reopened, and demand for housing and demand for many other things—cars, you name it—is really high, because people saved money. With all of the congressional fiscal support, more than 100 percent of income lost was replaced.

Really, the consumer is in very good shape to spend. And what is happening is, there is a lot of demand. But on the supply side, it is just hard. They can't build enough houses. There isn't enough lumber.

You mentioned lumber prices. Lumber prices went way up, and they have gone way down. They are still twice as high as they were before the pandemic came, but they are way off their high.

We don't know it, but we think that will be the pattern at least for some of these things, where they go very, very high and then they come down as supply and demand come together, as more supply comes online to meet the higher demand.

So, we have a very large but ultimately very flexible economy. It will adapt, we believe. It is not one of those economies that is rigid and has a lot of structural rigidities in it. It will adapt, and fairly quickly, just as it adapted to the pandemic much more quickly and better than, frankly, people expected.

So, I think that will happen. And when that happens, we should see—I don't say that prices will come back down, but the level of inflation will return to more normal levels.

Ms. ADAMS. Okay. Yes. Even with the unemployment rate still elevated near 6 percent, there are reports that employers are offering higher wages and incentives to attract workers back to work in the workforce. And I have always said that working hard isn't enough if you don't make enough.

So, Chairman Powell, to what do you attribute the trend of workers receiving incentives to reenter the workforce? And does the Fed view these conditions as favorable even if the reasons for them are not?

Mr. POWELL. We are seeing this particularly in service industries where there are still lots and lots of job openings. And for many people who used to work in service industries, in relatively low-paid jobs, what we are seeing is incentives to go back.

There clearly is a very, very high level of demand for people to come into these jobs. And for whatever reason, people are taking a little bit of time to maybe look for a better job.

And knowing that they are going to go back—these are people who were working in February 2020. They want to work. These are people who want to work.

But they may be taking a little bit of extra time in many cases to look for a job that pays better or that they like better. Or their preferences for working from home may have changed. They might want to find a job where they can work from home. Who knows?

But in any case, we are seeing difficulty in matching jobs and people up. And there really isn't a precedent. We can't look back and see the last time that this happened; there is no last time that this happened. So, we are kind of finding out as we go.

But I really do think, come back in 6 months, and there will be a whole lot of these people back to work, and wages will have moved up a little bit for people at the low end, and that is not a bad thing.

Ms. ADAMS. Okay. Great. Thank you so much, and thank you for joining us today.

Madam Chairwoman, I yield back.

Mr. POWELL. Thank you.

Chairwoman WATERS. Thank you very much.

The gentleman from South Carolina, Mr. Timmons, is now recognized for 5 minutes.

Mr. TIMMONS. Thank you, Madam Chairwoman, for holding this hearing.

And thank you, Chair Powell, for being with us today and sharing your insight on recent developments in our economy.

We have all seen the inflation numbers. Some may say it is only temporary, that this was bound to happen coming out of the pandemic, and there may be some truth to those arguments.

But I think any economic observer realizes that usually with things like this, there is not a singular issue causing our trouble but rather several converging factors.

What is most frustrating, I think to me, is that despite the very real inflation we are experiencing, temporary or not—and that is yet to be truly determined—and it seems that while you, Mr. Chairman, are still firmly in the transitory inflation camp, the Federal Open Market Committee minutes showed that there is an increasing amount of disagreement on the Board of Governors on just how temporary it may be.

And what is most frustrating to me about this entire episode is that after all of the fiscal stimulus that Congress has provided for the economy since March of last year, and now even with the greatest levels of inflation that we have seen since the financial crisis, this Congress is seriously considering spending several trillion dollars more, and most likely it will nowhere near be paid for.

And I know you will not speak to the merits, or lack thereof, of any specific pieces of legislation, and I am not asking you to. But as the Chair of the Federal Reserve, where one of your statutory mandates is inflation control, could you provide us an expectation of the type of inflation we should be prepared for if Congress was to spend another \$3 trillion in the next few months? And let's just say that only \$1 trillion of that would be paid for with an assortment of tax increases.

Mr. POWELL. No, I wouldn't really be able to provide you a real time. That is what the Congressional Budget Office will be happy to do, is make that forecast for you. That is not something I can do here on the spot.

Mr. TIMMONS. I had a feeling that would be the answer, but I think the answer to this question is obvious. The high levels of inflation we are seeing would only increase and stick around longer. We would certainly not have transitory inflation if we poured that amount of fiscal gas on the fire.

I also think the labor shortage we are seeing is a big piece of this puzzle, as several of my colleagues have already alluded to. Dozens and dozens of businesses in my district cannot get people to return

to work, and have critical businesses in their supply chain with the same problem. This is creating scarcity, which results in higher inflation.

In South Carolina, we are returning to work at a drastically higher rate than the rest of the country. Our unemployment claims are down 93 percent from the pandemic high last year, leading the country in this regard.

A recent survey showed that 1.8 million people have turned down work because of the overly-generous unemployment benefits, and that is a large chunk of that 9 million person labor gap we keep mentioning.

Could this problem be avoided if Congress simply removed disincentives to return to work, such as the unemployment benefits that in many States are in place through September?

Mr. POWELL. I think that has already happened. Those will be expiring in September. By the end of September, essentially all of those benefits are gone. And in many States, they are already gone, as you know in South Carolina. So, we will see that.

I think whatever effect those things are having now, it won't last much longer.

Mr. TIMMONS. Well, South Carolina depends on businesses in other States, and when those States are not able to produce whatever is being supplied to South Carolina, it is creating a problem for my State. So, I just think that we have created a disincentive to return to work, and that is not good.

One last question on inflation. If the Fed were to move to increase interest rates, one result would be the increased debt service cost to the Federal Government's \$30 trillion-plus debt.

Is that a factor that you would take into consideration when deciding to potentially change the benchmark rate?

Mr. POWELL. No, absolutely not.

Mr. TIMMONS. So, hundreds of billions of dollars in increased cost to our debt service is not a factor in that?

Mr. POWELL. No. First of all, the market will anticipate that we are raising rates, so it is probably baked in to some pretty significant extent.

Second, we borrow all across the curve. So, when we raise short-term rates, it doesn't necessarily have a big effect on the government's borrowing costs very quickly.

In any case, we are here to achieve maximum employment, price stability, financial stability, supervise the banks, and look out for the payment system. We are not in a position of considering the—and the United States doesn't have to be in a position where that kind of consideration gets into monetary policy, and it will not.

Mr. TIMMONS. The United States doesn't have to right now, so I guess, hopefully, we will always be in that position.

I have a couple of questions on cybersecurity, but I will submit those for the record. And thank you for your time.

With that, Madam Chairwoman, I yield back. Thank you.

Chairwoman WATERS. Thank you very much.

The gentleman from Massachusetts, Mr. Auchincloss, is now recognized for 5 minutes.

Mr. AUCHINCLOSS. Thank you, Madam Chairwoman, and thank you, Chairman Powell, for being with us this afternoon.

Many of my colleagues have asked some really terrific, probing questions about inflation in the short term and the effects on our economy and on getting back to work. I want to zoom out a little bit and ask about more long-term effects.

One of the trends over the last, at least 25 years, has been the increasing returns to capital relative to the returns to labor, and there have been a lot of good theories about why that is happening, from undermining workers' organizing power to increased automation and technology.

But it is clear that it would require sort of a discontinuous event to break that trend, and this pandemic seems like it could be. We are seeing that businesses that are striving to get people back into the labor force and back to work are offering higher wages, more flexibility, and better benefits, really both quantitative and non-quantitative remuneration for employment.

Do you think that the COVID-19 pandemic could be a discontinuous event that could actually change the balance between returns to labor versus returns to capital, whether it could give sort of a secular jolt to workers' bargaining power in the long-term?

Mr. POWELL. I don't know. There are so many things that are possible, and there will be things that cut in different directions.

A lot of what we have seen is just increasing returns to education, and people with relatively low skills and education having stagnant incomes and wages, and people at the high end, with lots of education, receiving very high levels of compensation.

And a lot of that is just that productivity is amplified by technology and knowledge and the ability to use it and by globalization, too. So, there are a lot of factors that go into that.

The pandemic will do a number of things, but it would hard to assess which way it will point. It is a good conversation to have.

Mr. AUCHINCLOSS. I hear your point about the increasing returns to education and technology. Certainly, that has been evident in Massachusetts in the life sciences and clean energy and cybersecurity spaces.

But there is also a huge portion of the workforce, primarily service economy workers, whose jobs are not automatable, they are not routine either manually or cognitively, and they can't be automated. And even they have had downward pressure on their wages in the preceding decades.

But now we are starting to see an uptick in what they can command in the labor market. And for them in particular, do you think that they can have persistent wage increases over the next few years as we recover?

Mr. POWELL. I know the research you are referring to, and that is very important research that shows exactly what you suggest. And if you saw people at the lower end getting paid more, it would be hard for anybody to be against that.

Could we be seeing that? What we are seeing is sort of entry level—people going into jobs in the service sectors, which tend to be relatively low paid, we are seeing—that is where we are seeing the pay increases.

It would be hard to say that is a bad thing in and of itself. You would want to see people getting paid well who are at the bottom end of the income spectrum.

Everyone was celebrating when wages were going up for people more in the bottom quartile in the last couple of years of the last expansion. I don't know anybody who didn't celebrate that. So, it is possible, and we will have to see.

Mr. AUCHINCLOSS. Let's put forward as a premise that we do see some of that wage inflation for the service economy—how concerned should we be that inflation for basic staples would eat up that increased purchasing power and actually be, on net, a negative?

Mr. POWELL. It is hard to say. Service companies, a lot of them, do operate on a relatively modest margin and have a tendency to pass those wage costs along over time. These are hard questions to answer in the abstract.

Part of what is happening, though, is there will be more automation in these jobs, and we are seeing that. For a lot of these jobs, we are going to find out how much those jobs can be done with automation because businesses—we have been hearing this for a year and a half—are really looking hard at that now.

Over time, though, that can make the people who remain in those jobs more productive, and their wages can go up as a result.

Mr. AUCHINCLOSS. I appreciate your time, Chairman Powell.

I yield back.

Chairwoman WATERS. Thank you very much.

The gentleman from Oklahoma, Mr. Lucas, is now recognized for 5 minutes.

Mr. LUCAS. Thank you, Madam Chairwoman, and I appreciate that.

Chairman Powell, it has been my observation that we are all the product of our experiences, and the things that happened to us in our younger lives tend to scar us forever.

My grandparents were young men and women in the Great Depression of the 1930s. The Dust Bowl in western Oklahoma and the Southwest scarred them for life. My grandparents, to the day they died, were afraid the Great Depression was coming back.

My parents were young men and women in the 1950s, and experienced a horrendous drought in the Southwest United States. To the day he died, my father was convinced that this rain was the last rain, it would never rain again.

I was a beginning farmer and a college student in the 1978 to 1982 period when we went through the last, what I would describe almost as super inflation spike, coming out of the Carter years, and when your predecessors decided to strangle inflation out of the system, it was really hard on me and a lot of people across this great country.

So, like my parents and grandparents, as I see this 5.4 percent year-over-year number in the June Consumer Price Indexes, I am nervous about this. When I borrowed cow seed money in 1981 at 20 percent, that made an impression on me.

I am nervous, and I guess my question to you is, how much longer can we sustain numbers like this before you become nervous?

Mr. POWELL. As I have said before, we do expect that we will be able to see whether the narrative we are feeling turns out to be

right, and I would say we would be able to see that. It won't take forever for us to be able to see that.

And if we do see that inflation expectations are moving up or inflation is on a path to remain well above our goals and at risk of setting us off on a period of high inflation, then we will use our tools to guide inflation back down to 2 percent.

In the end, it will be transitory, and people need to have faith in the central bank that we will do that.

But we won't do it just because—honestly, it would be a mistake to do it at a time when we really do believe—and virtually all forecasters do believe—that these things will come down of their own accord as the economy reopens. It would be a mistake to act prematurely.

We really have to weigh the risks of the two things, and at a certain point, the risks may flip. But right now, the risks to me are clear.

Mr. LUCAS. I appreciate that, Mr. Chairman. And just understand, like my elders of two generations before, I will sleep with one eye open until these numbers begin to come down. And if they do not, then I realize, like your predecessors, you will have to take the necessary action.

Along that line, Chairman, you made clear that the Federal Reserve expects the labor force participation to gradually improve, and we are all optimistic and hopeful about that. And the Monetary Policy Report also highlights that maximum employment could look much different than it was prior to COVID-19.

Can you discuss with us what you see as the potential long-lasting effects on the labor market, and how the FOMC will approach the question of what maximum employment should be moving forward in the new norm, whatever the new norm is in the post-COVID world?

Mr. POWELL. Sure. I would say that patience will characterize our approach on that.

But what we saw at the end of the last expansion was people staying in the labor market more than would have been predicted by the numbers.

And so, labor force participation kept moving up, up, up, to numbers that people didn't think we would see again, well above 63 percent, and sustained there for a couple of years, which was an upside surprise.

What we have seen since the pandemic is a wave of retirements. And we won't really know the implications of that for some years, but it could just be that it was a catch-up for the people who stayed in the labor market.

I guess the point is, we can't really know what labor force participation is going to be and what the trend will be, and what the right number is going to be.

Ultimately, though, you will be able to tell with wages. One of the features of our new framework is that we think if we don't see upward pressure on inflation and on wages, then we are not going to say that the labor market is tight, even if unemployment is really low and participation is high. We won't see that.

But if we do, then that will tell us that maybe it is, and we will have to see where those numbers are. I think that, as I mentioned

earlier, there is a degree of humility that forecasters need to have. We have much to be humble about. And this is another area where that is appropriate.

Mr. LUCAS. Thank you, Chairman Powell.

And thank you, Chairwoman Waters. I yield back.

Chairwoman WATERS. The gentlewoman from New York, Ms. Ocasio-Cortez, is now recognized for 5 minutes.

Ms. OCASIO-CORTEZ. Thank you so much, Madam Chairwoman.

And thank you, Chair Powell, for being here with us today.

As has been alluded to throughout this hearing, we have seen that supply bottlenecks and pandemic-related factors have been one of the primary reasons that have led to price increases.

Whether it is computer chip complications delaying the production of new vehicles, and prompting a rush on used vehicles, the price of lumber, shipping container logistics, et cetera, we know that these price increases were not caused by changes in interest rates. They were caused by supply chain complications.

Now, just to reiterate, you have said that these price increases are transitory, correct?

Mr. POWELL. Yes. We said that we think they will be. Of course, we lack certainty on that. But we do believe that is the case.

Ms. OCASIO-CORTEZ. Thank you. And if drivers of rates of inflation are supply chain issues and potential areas of underinvestment, do you think that these issues are best resolved through investments, making that supply chain more resilient, or higher interest rates?

Mr. POWELL. If we see things that are temporary or transitory, and that should move through and go away because they are associated with an event, the opening of the economy, then it would be inappropriate for us to tighten policy, which really the point of is to slow down economic activity and slow the recovery. It would be inappropriate. It is a difficult judgment to make, though, is the thing.

Ms. OCASIO-CORTEZ. Thank you.

Recently, the Bureau of Labor Standards (BLS) reported that the first 3 months of 2021 were the best quarter of wage growth since at least 2001.

Now, my concern, just to be frank, is that a misplaced diagnosis playing out with inflation could cause the Federal Reserve to prematurely raise rates and constrain wage and employment gains that have been beneficial to millions of Americans.

This means that if we do take that step back, millions of Americans, especially marginalized communities, will be left with limited opportunities to be employed at an adequate and livable wage.

In fact, the FOMC is projecting multiple interest rate increases before the end of 2023 and before they project achieving the pre-pandemic unemployment rate. And at the June FOMC meeting, the median FOMC members' projection of the longer-run employment rate was about 4 percent, correct?

Mr. POWELL. Yes, that is right.

Ms. OCASIO-CORTEZ. Yet before the pandemic, the unemployment rate reached 3.5 percent without triggering inflation, correct?

Mr. POWELL. That is right.

Ms. OCASIO-CORTEZ. And in fact, in 2019, despite some pick-up in wage growth, especially at the bottom, there didn't appear to be any signs of the economy overheating.

And as you said in November 2019, the benefits of long expansion are only now reaching many communities, and that there is plenty of room to build on the impressive gains achieved so far.

If indeed there was still room to expand in the months before COVID, that suggests that with time, the economy can return to a trend of GDP and employment above the one it was experiencing before the crisis.

Now, do you believe this to be the case? Do you believe that the long-term longer run implies that 3.5 percent is too low, and do you think that we will be able to reach lower unemployment and higher labor force participation levels than the pre-pandemic ones?

Mr. POWELL. Oh, I have every reason to think, and I do think, that we will be able to get back to 3.5 percent unemployment.

Participation is very much affected [audio malfunction]. I am quite sure we can get to high levels of participation again.

Ms. OCASIO-CORTEZ. Okay. Thank you.

And to disaggregate a little bit kind of on this line between monetary and fiscal policy, what we saw was that [audio malfunction] The World Bank recently summarized estimates from market forecasters that the United States may be the only country that will leave the pandemic with higher GDP than pre-pandemic projections have estimated.

It is enormous success, and that is, GDP will actually be higher as a result—or after COVID [audio malfunction].

Would you say that some of the fiscal policy interventions, like the American Rescue Plan, stimulus checks, et cetera, have played a role in that outcome?

Mr. POWELL. Oh, yes, I think so. The forecast of many is that by the middle of next year, we will be above the prior trend, not the prior level, but the prior growth trend, which is an incredible achievement. And I attribute that to the CARES Act. And the fiscal policy that went so far so fast I think will in history [audio malfunction].

Ms. OCASIO-CORTEZ. Thank you very much.

Chairwoman WATERS. Thank you. The gentlelady's time has expired.

The gentleman from Texas, Mr. Sessions, is now recognized for 5 minutes.

Mr. SESSIONS. Thank you. Thank you very much, Madam Chairwoman, and it is good to see you, Chairman Powell. Thank you very much for joining us today.

I wanted to have you take the majority of my time to talk with us about your 12 regional banks and what they are seeing across the country for recovery, as you see it, and these banks' reporting of their successes and the things that they see as perhaps things that are inhibiting or causing you to think about your national plan around the country.

Thank you.

Mr. POWELL. You would like me to talk about that a little bit?

Mr. SESSIONS. Yes, sir.

Mr. POWELL. Okay. I would be glad to.

One of the great features of our system is that we have 12 Reserve Banks around the country, and they are in every community in the country. And they come back, and they extract a lot of data, a lot of information on not just businesses, but also universities, health centers, and everything. The story they are telling is like what we have been talking about today. You have very fast growth and a lot of money out there to spend on the part of people. You have a lot of churn in the labor market. People are quitting their jobs at incredibly high rates. Typically, that happens when labor markets are really tight. This happens to be happening while there are a lot of unemployed people. So, we have never seen anything like this, and they bring back reports about that.

Businesses have a hard time finding people. People are looking for better jobs. They are taking a little bit more time to find it, to find the appropriate job. That is one thing.

There is also a lot of unevenness. You still have sectors of the economy that are struggling to get back to where they were. A number of them are above where they were. Housing, for example—we are building more houses. We have been building more houses than we had really seen since the global financial crisis.

People see price pressures broadly across the country, as we have discussed here today, that comes back. If you look at our Beige Book, you will see that broadly. It is in raw materials and to some extent in wages. You will see that as well.

It is all of the things we have been talking about. It would be hard to summarize it. But we really do get a very nuanced picture around different areas of the country, different sectors of the economy, which I think is a tremendous benefit to our policymaking process and also to the public.

I hope that is helpful.

Mr. SESSIONS. Waco, Texas, that I represent, was the first City in Texas to get back to its employment rate pre-COVID, and it was done through a series of things, but I think mostly because people really did not have an opportunity to have an underpinning of money that was coming in. They had to go to work. We are not a big government town. People get out and work.

And I want to join my colleagues in saying, first of all, thank you for taking the time to be before the committee again today.

But in that process, I hope that there is healthy debate that you not only encourage within your system, but you also recognize that there are a good number of Republicans who believe that the government propping up the system is inhibiting actually people taking jobs, getting back to GDP as opposed to Consumer Price Index raises, and that we really see that the short- and long-term answer would be people getting jobs, going back to work, schools reopening, and the success of not only the marketplace, but the stability of America as we have known her.

I will be interested over the next few months in your evaluation about what is working and what is not working, if you are able to spot that in the markets and actually give feedback to States and Governors and the President and certainly this committee on the facts and factors that seem to be successful.

I think that success that you have said today is getting us to a 2 percent inflation rate. I don't have any problem with that at all. I could buy that.

But getting to necessarily us, because we want to say somebody wants a better job, but we have record numbers of people leaving, I think we need to point to successes. And I hope one of those factors is also employment.

I want to thank you again for taking the time to be here

And, Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you very much.

The gentleman from New York, Mr. Torres, is now recognized for 5 minutes.

Mr. TORRES. Thank you, Madam Chairwoman.

And Chairman Powell, thank you for being with us.

I have a few questions for you based largely on a recent New York Times op-ed written by Karen Petrou. In the op-ed, Ms. Petrou points out that lower interest rates benefit those with assets rather than those with savings, thereby deepening inequality.

Do you agree with that assessment?

Mr. POWELL. No, I don't agree with that assessment.

The bottom line with interest rates is that low interest rates support a strong labor market. They support demand and they support a strong labor market. And you saw this during the course of the last long expansion, a very strong labor market.

And all of the people that we talk to—and we talk to many, many people out in the country who either live in or represent low- and moderate-income communities or both, and they never come in and say, “Wow, you really should raise interest rates because you are increasing [inaudible].” We literally never hear that from them.

What we hear is, they really like our policy, they like our focus on maximum employment. To say you want to focus on maximum employment, that goes in the direction of having a supportive monetary policy. That is really what I would say to that.

Wealth inequality is something that goes up, by the way, over the course of a business expansion, because people who own homes and businesses and stocks and bonds and things like that, as the economy is healthy for a period of 10 years, they are going to benefit in their wealth.

Does anyone seriously argue that we should try to stop that from happening by raising rates at the cost of putting people at the bottom end of the income spectrum back to work? No, of course we wouldn't do that.

So, I think we are doing the right thing with what we do. And we are ultimately giving people a shot to get a good job and get a good wage and accumulate that wealth.

Mr. TORRES. I am going to quickly interject. In the same op-ed, Ms. Petrou points out that companies are taking out cheap debt not to finance investments and infrastructure and workforce alone but, rather, to finance larger profits and stop buybacks.

What is your response to that argument?

Mr. POWELL. I think businesses make rational decisions generally about what they should invest in, and when they should give money back to their shareholders. What that has to do with monetary policy is not clear to me. I see an economy that created 3.5

percent unemployment and wage gains for the lowest-paid people over the last 2 years or so of the last expansion, and all of that in the context of low interest rates and accommodative monetary policy. So, I guess I am just not seeing that.

Mr. TORRES. I know the Fed has a statutory obligation to promote price stability and maximum employment. What are your thoughts on the relationship between monetary policy and inequality? What do you take to be your obligations with respect to wealth inequality in America?

Mr. POWELL. We don't take inequality as a mandate. We have these disparate outcomes in the economy over the years, which have, frankly, in some cases, gotten worse and we see those as weighing on the potential for the economy. I think everyone does. If you don't have a chance to take part in contributing to, and then benefiting from the economy, then the economy is not all that it can be.

Now, what can the Fed do? We can support maximum employment. That is what we can do. We can push the job market to a place where—consistent with our price stability obligations where jobs are widely available. Really, though, we can't be the lead on that. It is fiscal policy, education, and things like that, that are really going to matter much more over time than monetary policy, but I think it is appropriate for us to call it out and to use our tools as we can.

Mr. TORRES. And my final question before my time expires is about the multifamily housing market. In New York City, we draw more than half of our revenues from real estate, and when real estate fails, it has implications for a wide range of actors. It has implications for tenants who suffer from deferred maintenance. It has implications for property owners. It has implications for local governments, which depend heavily on property taxes and sewer and water fees. And it has implications for the financial system that might have an interest in those properties.

What role can the Fed play in shoring up multifamily properties and real estate [inaudible]? And that will be my final question.

Mr. POWELL. We really can't directly operate on that. I would say what we do is we supervise banks who do lending and we make sure that they have good risk management practices and conduct themselves professionally and with appropriate care in the loans that they make, and have capital for losses, should they have them.

Chairwoman WATERS. Thank you very much. The gentleman's time has expired.

The gentleman from Missouri, Mr. Luetkemeyer, is now recognized for 5 minutes.

Mr. LUETKEMEYER. Thank you, Madam Chairwoman.

And welcome, Chairman Powell. It is good to see you again. I always enjoy our conversations.

You have been asked a lot of questions today on a wide range of topics, and by the time you get to the end of the day here, it seems like everything has already been asked. I have a whole bunch of questions here and you pretty well got them all. Let me go back and kind of clarify a few things that I have on my end from the standpoint of concerns, also, as the ranking member on the House Small Business Committee.

These things affect small businesses as well, a lot of things you have been talking about today. And one of them that has really been harmful is this \$300 unemployment benefit. This morning, there was a Morning Consult poll that came out which said that 1.8 million people turned down jobs due to the unemployment benefits. Recently, there was another poll which said that 40 percent can make more staying home and drawing this benefit than they can by going to work.

You indicated a while ago that you look at all vulnerabilities. It would seem to me that this would be a vulnerability that you need to be factoring into your equations for the economy and the projections. Would you agree with that?

Mr. POWELL. The thing is, those enhanced unemployment benefits are lapsing now, in many States already lapsing, and lapsing at the Federal level by September. In macroeconomic time, that is a short period of time. I do think that unemployment insurance has been interacting with other things, like the lack of childcare, like schools being closed in a lot of places, fear of COVID, various things, and I think you will see that is no longer a factor come the fall. It may take a while for things—

Mr. LUETKEMEYER. I would agree with that, but I would hope that you would agree also that it is a factor. Right now, in your projections, when you see that some States—and, in fact, I have an article right here from the The Wall Street Journal just a couple of weeks ago which indicates that Americans are leaving unemployment rolls more quickly in States cutting off benefits. That is the headline. So, it seems to me that would be an extraneous variable or vulnerability that you would be taking into consideration.

I guess that is just my point, that small businesses are directly affected by this. The number of folks is staggering when you start looking at those sort of things with the concerns that they have.

I have another issue that I want to talk to you very quickly about here with regards to the International Monetary Fund (IMF). I don't know if you saw this article, but I saw an article today with regards to—it said the Biden Administration backed an IMF proposal to issue an unprecedented \$650 billion worth of special drawing rights this year alone, which will also help reshape the international financial system.

Would you like to comment on that? That seems to be—have you seen the article or are you aware of it?

Mr. POWELL. I am familiar with the issue, and it is very much an issue for the Treasury Department and maybe for you, but it is not an issue for the Fed. We don't have any role in that at all.

Mr. LUETKEMEYER. The article goes on to talks about affecting the reserve currency status of the United States. So, I would think that would be a pretty important take on that for you, would it not?

Mr. POWELL. Yes. Again, the Special Drawing Rights (SDR) issue has to do with funding the IMF. It would be hard to say that single action will be the thing that threatens our status as the reserve currency. And the Fed doesn't own the reserve currency issue; that is an issue we share with other parts of the government as well.

Mr. LUETKEMEYER. Just quickly, I know the Chinese are trying to compete economically with us. Would you say that they are try-

ing to weaponize their economy against us to try and take us over? Would that be a fair statement?

Mr. POWELL. I would go so far as to say we certainly are in a strategic and economic competition with China, but ultimately, these questions about competition with other countries are really for the Administration, not for the Fed.

Mr. LUETKEMEYER. With respect, sir, this hearing is about monetary policy and the state of the economy. It would seem to me that things that would affect the economy, challenges to our economy, would be something that we would talk about, especially when it is monetary policy. And it would seem that the Chinese—if our money and investment money is going over there to empower and help their economy against our economy, it seems to me that would be something of interest to you, would it not?

Mr. POWELL. Those are issues that are absolutely in the province of the Treasury Department and the Administration and the Congress. You have given us helpful tools and independence and all that, and if we wander all over the landscape taking on issues that are really not assigned to us, then I would have a hard time explaining to you why we should be independent.

Mr. LUETKEMEYER. Okay. Mr. Chairman, I appreciate your conversation this morning. You and I are really going to disagree on this one, but I think it is a very important issue with regards to our economy. Thank you very much.

And I yield back, Madam Chairwoman.

Chairwoman WATERS. Thank you. The gentleman's time has expired.

The gentlewoman from Ohio, Mrs. Beatty, who is also the Chair of our Subcommittee on Diversity and Inclusion, is now recognized for 5 minutes.

Mrs. BEATTY. Thank you so much, Madam Chairwoman, for holding this hearing today, and I thank our ranking member as well.

But also, let me just thank my friend, Chairman Powell. Thank you so much for being here and for always being willing to reach out and discuss, whether it is monetary policy or if we are looking at forecasting of what the future looks like, on the state of the economy.

First, I know you don't weigh in directly, but I think it is worth me noting that as I have been looking at the vacant seats, there is a vacant Governor seat at the Federal Reserve that has not been appointed yet. I know it is appointed by the President, but just as an FYI to you, I would like to see someone nominated with more diversity. We have had long and ongoing conversations about diversity.

We have heard a lot because of the pandemic, and as you stated in your Monetary Policy Report—which I have had an opportunity to go through, thank you—we have heard a lot about housing costs, lumber, et cetera, but housing is so important to us. I serve on the Housing Committee, and purchasing homes has continued to have an upward trajectory, especially in cities in the Midwest, like my city.

And despite the strong housing market, the Federal Reserve has continued to purchase mortgage-backed securities at \$40 billion per month. Can you briefly explain the Federal Reserve's thought proc-

ess on the need for these purchases and if these purchases will have any effect on the cost of housing?

Mr. POWELL. Sure. We buy Treasuries and mortgage-backed securities, and we really buy them for the same reason. They are not intended to provide support directly to any industry, including the housing industry. That said, low interest rates and asset purchases like that do keep longer-term interest rates low. They do support low mortgage rates, which does directly support the housing industry. But it is not that we are looking at the housing market and thinking, this is for the housing market; it is really more that we want to support overall demand, and we want to support demand because we are still a long way from maximum employment. And we think it is appropriate.

Even once people start going back to work at higher rates, which we expect later this year, we still think it will be—some time will have to pass for us to get all the way back to that place where we were in February of 2020, or a place like that [inaudible]

Mrs. BEATTY. Let me quickly go to my second question. In the first few months of 2021, the price of lumber—as we heard earlier—skyrocketed to more than \$1,730 per thousand board feet in May. But in the last few months, as suppliers have come back online, prices have plunged 60 percent, and now are negative for the year.

Is this the type of transitory inflation that the Federal Reserve was anticipating? And how do you differentiate between the rising prices due to supplier constraints as a result of the pandemic and the potential long-term inflation?

Mr. POWELL. Broadly, yes. That is the kind of thing that I wish we had seen more of. Lumber, of course, is a great example, but we would like to see a bunch more examples. But it is the same story. It is a situation where there is a shortage, there is a lot of demand, supply can't react, and prices go up. In the case of lumber, there is just a lot of buying, almost panic buying. We may be seeing some of that with used cars right now where we have very, very high rates, but that is one of the things we expect is that our very flexible economy will equilibrate supply and demand and you will see inflation move down and maybe even have the prices themselves move down as we get here.

Mrs. BEATTY. And that is a great answer, because that is another reason when we talk about infrastructure, we should be talking about housing and the supply and demand for housing.

My last is basically a statement, in my last 30 seconds. In your report, you have an area that is called, "Special Topics," and it talks about the uneven recovery in the labor force participation. You might want to take a look at it, because it makes a true statement that factors are still contributing to the disparities with certain populations, whether it is age, poverty, or race. Black Americans are not listed.

And let me make it very clear, when we talk about unemployment rates, when we say it is great for America, it is double in the negative for Black folks; we are still struggling. You mentioned Hispanics, but there is no mention of Black Americans. So, I would like somebody to take a look at that, because we still are dealing with very high unemployment rates.

Mr. POWELL. Thank you.

Chairwoman WATERS. Thank you very much. The gentlelady's time has expired.

The gentleman from Michigan, Mr. Huizenga, is now recognized for 5 minutes.

Mr. HUIZENGA. Thank you, Madam Chairwoman.

There has been a lot of discussion about lumber from my colleague from Ohio, who just discussed that as to whether that may or may not indicate transitory inflation [inaudible] Actually buys lumber. One of the things that I do is, we have a real estate development firm as a family, and we are also in the sand and gravel operation, so I am intimately involved in construction.

I can tell you that the lumber that I had to buy at the beginning of this year, which is currently being used to build a home that is hopefully going to be occupied—it was going to be at the beginning of August, but now it looks like it is going to be more like the middle of September because of supply constraints, labor constraints, demand, and all of the things that are going on. I am not going to be able to lower the price of that condominium because of current lumber prices. Those are baked in and fixed.

And that is why I think a lot of my colleagues aren't really understanding the effects of what those price increases mean in the longer run. And at the end of the day, I wish I could go back and rewrite that contract, but when it is already stick and concrete in the ground and it is going up and it is has a roof on it, I can't do that. So, that is going to be a problem with which I think this Administration is going to have to wrestle.

And, Mr. Powell, I know you have had a lot of discussions about inflation today. I am not going to dive too deep into it, but I needed to make sure that I lent my name, and as people are having the tally of who was bringing up inflation, I wanted to be one of those people. I didn't think I would find myself in agreement with Larry Summers on some of his concerns about what has been going on with inflation, but whether it is Larry Summers or the National Federation of Independent Business (NFIB), which is saying that nearly half of their members—by the way, I am also a member of the NFIB—have had to do price increases, which are affecting their customers.

We have to keep an eye on inflation. And my parting thought on this is, and what I am afraid of is, we won't know it is too late until, frankly, it is too late. And that is the problem with having such a retrospective look-back when you are diving into those numbers.

You don't have to respond to that. You are welcome to, if you would like to. But I do want to hit on the London Interbank Offered Rate (LIBOR). That is something that has not been brought up today. You have been very committed in your support, as well as other financial regulators, of completing the conversion away from the LIBOR [inaudible] benchmarks.

It is absolutely essential, I do believe, to provide a little certainty for those tough legacy LIBOR contracts, and you have expressed that in the past. You have also stated in previous testimony that although the Secured Overnight Funding rate (SOFR) will serve a significant part of the market, you said, "Market participation

should seek to transition away from the London Interbank Offered Rate (LIBOR) in the manner that is most appropriate given their specific circumstances.”

Now, I have heard from many financial institutions in Michigan and across the country that the Secured Overnight Financing Rate (SOFR) doesn't necessarily fit all of their needs for their various sized institutions. In the last few weeks, we have heard rhetoric coming out of members of the FSOC about the need to put parameters on the choice that financial institutions have to determine which benchmark replacement works best for their institution, their customers, or their lending activity.

And while I agree there needs to be a standard for qualified labor replacement rate, I am concerned that some of the most recent statements sound like the Federal Reserve and other U.S. financial regulators may be changing their previous views before this committee suggesting that SOFR, based on the repo market, a market dominated by the largest money center banks, should be imposed on every institution and borrower as a one-size-fits-all solution.

So, Chair Powell, is the Federal Reserve's view that there should be a choice among qualified benchmarks as it relates to those regional and community institutions that believe they are more appropriate options, other than SOFR, given their business model, lending activity, size, and customer base?

Mr. POWELL. Yes. Honestly, I think we have been pretty clear on that. We think the use of SOFR is voluntary and market participants can use other suitable replacement rates if they see fit.

Mr. HUIZENGA. So, SOFR needs to be put into legislation or does there need to be more of that hard legacy escape and certainty on that?

Mr. POWELL. I do think we need legislation for the hard tail, as you say. I think it would be appropriate to have SOFR in the legislation, but not as an exclusive thing. It is going to be the rate for—at least for capital markets and derivatives and things.

Mr. HUIZENGA. I look forward to continuing this conversation.

Mr. POWELL. I would be glad to.

Mr. HUIZENGA. Thank you.

Chairwoman WATERS. Thank you very much.

The gentleman from California, Mr. Sherman, who is also the Chair of our Subcommittee on Investor Protection, Entrepreneurship, and Capital Markets, is now recognized for 5 minutes.

Mr. SHERMAN. Thank you.

I want to thank and agree with the ranking member that our witness deserves a second term. I want to thank Josh Gottheimer for bringing up the importance of the State and local tax deduction. And Mr. Huizenga focused our attention on LIBOR and its great importance. And, Mr. Chairman, I know you have testified just how critically important it is that we have Federal legislation in that area.

I do want to correct any misconceptions about the legislation that I am proposing. It is not the purpose of the Federal Government to impose SOFR on any institution anywhere in the country that writes a good instrument and specifies whatever rate they want.

I am old enough to remember that most mortgages that were adjustable were 11th District cost of funds, whatever they want to use. The question is, do we want to have a voluntary system where the instrument doesn't specify what rate to use? And if voluntary means, well, the creditor volunteers one rate and the debtor volunteers another rate, then my friends in the trial lawyer field will have a heyday.

The focus here is not to force anything on anybody if they draft an instrument that specifies what they want. But if they have an instrument from which no one can determine what is the amount of interest to be paid, we need to provide that answer. We have to do it in a way that we are not indicating that SOFR is the standard to be used in instruments going forward. It is not the Federal rate, it is not the preferred rate, it is not the rate that small banks will choose to use in many cases in their instruments in the future.

I want to thank Chairman Powell for his testimony in the past on the importance of wire fraud. I am disappointed that you are not moving toward a payee-named system for wire fraud, but I am pleased that you are looking at other ways to make sure that we don't have people who wire their money to account, "12345," thinking it is going to the person they are buying a house from and instead it is going to a Nigerian prince.

I also want to applaud the Fed for consistently, year after year, remitting \$50- or \$100 billion to the Federal Treasury and, in effect, profit. And I know that this is unintentional but I think you should focus on it because it is very important.

As to a Federal digital currency, Chairman Powell, is it the intention that any such currency would fully implement the know-your-customer and anti-money laundering standards?

Mr. POWELL. We are at the very early design stages, but the answer to your question is going to wind up being yes.

Mr. SHERMAN. Good. And you have said that crypto wouldn't become a currency. Crypto means hidden, and that is the great advantage that cryptocurrencies will have over a Federal digital currency, because they are designed to be crypto, hidden from the U.S. Government, especially the IRS. And, of course, that pleases what I call the anarchists, pseudo-patriots, who half of the time are telling us that the Federal Government needs to enforce laws and have a strong foreign policy and enforce our sanctions and achieve our national security goals without deploying our troops, and spend the other half of their time being delighted whenever anyone strikes a blow for liberty by evading our tax laws or sanctions laws, et cetera.

Looking at fiscal policy, you can't determine or project monetary policy without some guess as to what our deficit will be. What do you use when you tell us what you are intending to do with the monetary policy? What is your expectation on the level of the Federal debt?

Mr. POWELL. It is not so much the level of the Federal debt. What we are looking at is basically spending and deficit spending and that kind of thing. And by the way, the assumptions we make are in the middle of the road. It is just what the Congressional Budget Office (CBO) said.

Mr. SHERMAN. My time has expired. Thank you.

Chairwoman WATERS. Thank you very much. The gentleman's time has expired.

The gentleman from Kentucky, Mr. Barr, is now recognized for 5 minutes.

Mr. BARR. Good afternoon, Chairman Powell. It's good to see you. Thanks again for your leadership.

Inflation is the topic of the day. I want to talk a little bit about timing and communication of normalization, with the backdrop of accelerating inflation. And I understand your position that some of this is transitory, and supply chain bottlenecks that could work itself out. I also recognize the slight change in the inflation-targeting framework under which you are working.

But I do worry that if inflation expectations continue to rise, regardless of these supply chain issues that resolve themselves, you could have a self-fulfilling prophesy and inflation could get away from the Fed.

My question is, given the fact that the FOMC has committed to communicating any shift in the pace of asset purchases well in advance to ensure market stability and clarity for market participants, I worry that these movements in CPI and other inflation metrics in recent months have proven to be pretty rapid and significant. Is there a risk of upward price pressures outpacing the Fed's preferred timeline for communicating adjustments in its balance sheet policy and when you start the tapering process?

Mr. POWELL. No, there is nothing in the guidance or in our framework that would prevent us from doing the right thing at the right time.

Mr. BARR. Okay. So, you do not believe that inflation could move so quickly that the Fed would be forced to make asset purchase adjustments or even increase the Fed funds rate precipitously without the requisite communications runway?

Mr. POWELL. That is a separate question. I am just saying we can deal with whatever happens with inflation within the context of our framework and within the context of our guidance. I don't expect the outcome that you are talking about, which would be very surprising if something like that happened, where we really had to move very quickly. It doesn't tend to work that way, but I think we are in a good position to move as is appropriate no matter which way things go.

Mr. BARR. You probably saw, Chairman Powell, The Wall Street Journal article today, "Higher Inflation is Here to Stay For Years, Economists Forecast." What do these economists have wrong, that the Fed has right? In other words, why is the consensus at the FOMC that, maybe with the exception of Mr. Kaplan with the Dallas Fed, that this is transitory as opposed to a sticky inflation? Why, in your judgment, or the FOMC's judgment, are these economists wrong? And speak to this issue about self-fulfilling inflation expectations and why that is not a concern.

Mr. POWELL. Okay. I will come back to that. I don't have that survey in front of me, but I think that, and you can correct me here, the median estimate for inflation for 2022 was less than 2.5 percent, and that is CPI, or maybe it was PCE, I don't know. But that would be much more consistent with our framework than with what our critics are saying. That would be very much in the range

of what FOMC participants are expecting, or at the high end of it, but within that range.

So, I think that is what you may have in front of you, Congressman, I don't know. I don't have that.

Mr. BARR. Here is what we as Members of Congress are hearing, and I know you get this data and also anecdotal evidence filtering up through your district banks. But I just spoke to the Chamber of Commerce in central Kentucky at lunchtime today. This inflation concern is real. It is not just that lumber prices are up and the home builders are upset. And it is not just that the fixed-income seniors are upset because the price of food is up, and the restauranteurs are having to pay more for food, and the trucking companies and the commuters are having to pay more for fuel costs.

We are hearing, according to the National Federation of Independent Business (NFIB), that 47 percent of small businesses raised average selling prices in June. That is the highest since 1981. I hope this is transitory, but I hope the Fed is hearing the same thing that we are hearing.

Mr. POWELL. We are. As you know, we have a great network through the Reserve Banks. We hear that through a loudspeaker every day. We are absolutely hearing that.

Let me get to your earlier question. If you want, I can go back to expectation.

Mr. BARR. Sure.

Mr. POWELL. That is absolutely the thing we monitor carefully, and we don't see any problems on that front. But if expectations do move up in a way that is troubling, which is to say materially above and for a persistent time, we would be concerned and we would react to that.

Mr. BARR. I appreciate your vigilance, Mr. Chairman.

And I yield back.

Chairwoman WATERS. Thank you very much.

The gentleman from Missouri, Mr. Cleaver, who is also the Chair of our Subcommittee on Housing, Community Development, and Insurance, is now recognized for 5 minutes.

Mr. CLEAVER. Thank you, Madam Chairwoman.

And thank you, Chairman Powell, for being here with us today. And let me preface my one question by saying that we have been working with your staff on the issue of the Community Reinvestment Act (CRA). Our chairwoman has made affordable housing appropriately and necessarily the major issue of our time, and hopefully the whole nation is going to be focused on it even as we are struggling with the short-term inflation. So, thank you for your participation and support. I hope the OCC can participate as seriously as your staff has done.

But my one question is, although I represent Missouri's Fifth Congressional District, I was born and raised—and all of my family members are still—in Texas. A local TV station down in Dallas did an investigation, and it was very alarming because they found that the lack of banking services in low-income and minority communities in Dallas County south of I-30—I don't expect you to be familiar with that—but the Community Reinvestment Act requires that banks draw assessment areas that meet the credit needs of

entire communities. And this TV station, WFAA, found that 20 percent of banks in Dallas County drew maps that exclude all or parts of southern Dallas County. And in one example, a bank in Dallas County was found to service all of Ellis County, where I was born, and Somervell, Hood, Parker, and Tarrant Counties, which are Fort Worth counties, but only the half of Dallas County which is above I-30. And the Federal Reserve identified no evidence of discrimination.

The CRA, though, requires that the assessment areas contain entire counties, cities, or towns, and not arbitrarily exclude low- to moderate-income geographies. I am just rambling on, but let me ask you the question, and that is, what more needs to be done to ensure that bank assessment areas incorporate not only tracts where banks have significant activity, but also low- to moderate-income or minority communities which are within the same geographical areas, where lower bank activity actually may reflect a legacy of redlining or discrimination in the housing and finance sectors?

I apologize for going on and on, but I needed to go through all of that to get that question to you.

Mr. POWELL. Thank you. And you or your staff brought this article to the attention of our staff, who brought it to my attention, and I have had a chance to look at it. And, yes, it is very troubling on its face, the article. And it just shows that we need real vigilance in making sure that banks honor their obligations to serve minority communities, low- and moderate-income communities and minority communities within their operating areas.

So, that one got our attention, and we can't talk about individual institutions, of course, but we take this very seriously, and we appreciate your bringing it to our attention.

Mr. CLEAVER. Thank you, Mr. Chairman.

I yield back, Madam Chairwoman.

Chairwoman WATERS. Thank you very much, Mr. Cleaver.

The gentleman from Texas, Mr. Williams, is now recognized for 5 minutes. And we are certainly going to hear about what is happening in the automobile industry.

Mr. WILLIAMS OF TEXAS. Thank you for that lead-in, Madam Chairwoman.

Chairman Powell, I am actually sitting here in one of my car dealerships in Texas and listening to how used car prices are driving inflation, which they do, but with that in mind, I cannot say that this is the very best time to trade your car in. You are going to get more than you ever thought you would get. But it is an issue. The idea that used cars are appreciating is something that you would have never thought you would have said, but we are seeing it as we speak, and that is the truth.

I want to thank you for coming today. And yesterday, I had the pleasure of speaking with some Main Street American business leaders, of which I am one, as you know, and how they have been recovering from the COVID-19 pandemic in the Small Business Committee where we talk to them.

Some of the issues that were brought up were that these businesses were having trouble finding workers, as we talked about today; inflation increasing and the cost of goods, and that they are

purchasing from their large suppliers, they are paying more; and then the threat of tax increases.

Now, one business owner in my district from Cleburne, Texas, and Congressman Cleaver knows where that is, reminded us that this isn't very complicated. Small businesses operate on very tight margins and any increase in the tax rate is detrimental to their ability to operate. Specifically, he mentioned that they were looking to plan out their capital expenditures for next year. They have already begun investing less simply because of the threat of higher corporate and capital gains taxes coming in 2022.

I want to make sure that the factors that the Federal Reserve is tracking, which could be a drain on the economy, are aligned with what Main Street America's fears are that we are hearing from business people all over the country and certainly in our States and our districts.

So, Chairman Powell, as you look at the economic outlook of our small businesses and the country moving forward, can you talk about some of the factors that could be limiting growth, to which the Federal Reserve is paying attention?

Mr. POWELL. I would be glad to. I have to say, the first thing that comes to mind is difficulties, challenges in hiring. We are hearing that very, very widely. If you look at our Beige Book, in all districts, small businesses are having a hard time hiring. And it is, again, widespread, and we think that will abate, though, as the factors that I talked about today passing will be gone later this year and we will see a lot of hiring. That is one.

I think there is a lot of optimism. There is a lot of demand. People have money to spend, so we are hearing positive things about that. I know people are very worried about inflation too. We hear that loud and clear from everybody. It is really going through the economy and through every business. And as we have discussed a lot here today, it does have the feeling of something that is associated with the reopening of the economy and that things should settle down as the economy is fully reopened and supply and demand recalibrate and maybe prices move around and people get into their new jobs and we are in a new normal, I hope, soon. But as of right now, this is something that is on every small businessperson's mind.

Mr. WILLIAMS OF TEXAS. Thank you. I wanted to get your quick take on the speed with which the private sector was able to get COVID relief money to those in need. We have not seen the same success through the SBA's shuttered venue program, which was created back in December, and still hadn't gotten out the money to many of these struggling businesses.

Moving forward, do you think we should be looking to get the private sector more involved as we deal with distributing government aid?

Mr. POWELL. That is a question for you. I will say, if I may, the real way that our emergency lending programs worked was they agitated or they supported as a backstop private markets to work. And having the private markets step in and make the loans was just so much better than having us make the loans and having those done. In that sense, it really worked, the backstops did. They

didn't have to make the loans because the market started working and that is always a better answer.

Mr. WILLIAMS OF TEXAS. Thank you. Quickly, can you elaborate on what the Financial Stability Board (FSB) means when it says that climate-related risk might be transferred or amplified, and can you give me a quick potential scenario or example?

Mr. POWELL. Without having it in front of me, I think what the FSB would mean about that is that the financial sector, financial institutions could amplify a risk and it would be along the lines of changes in the climate that had very bad effects on a particular agricultural area, for example, over time, and that bank failures have a way of amplifying shocks rather than absorbing them.

Mr. WILLIAMS OF TEXAS. Okay. Thank you.

I yield back, Madam Chairwoman. And just in closing, this is a great time to buy a car.

Chairwoman WATERS. Thank you very much.

The gentleman from Georgia, Mr. Scott, who is also the Chair of the House Agriculture Committee, is now recognized for 5 minutes.

Mr. SCOTT. Madam Chairwoman, I just want to say that my great colleague, Congressman Williams, is not only just a great entrepreneur in the car business, he is also one of the great all-star third basemen for my Atlanta Braves in Major League Baseball.

Chairwoman WATERS. That is right.

Mr. SCOTT. Yes, indeed.

Chairwoman WATERS. That is right. Thank you for reminding us.

Mr. SCOTT. He is a good man.

Chair Powell, it is good to have you back.

Last month, you stated before the House Select Subcommittee on the Coronavirus Crisis that, "A recent decline in commodity prices was evidence that price pressures will cool as supply bottlenecks from reopening the economy are worked out and stimulus fails, maintaining that our concurrent inflation is temporary and would eventually move back to a 2 percent target."

I want to ask you, while there is no doubt that soaring prices for commodities have fueled a sense of optimism for our farmers, our agriculture producers, this growing season, given the volatility around the price of commodities, are your views on price pressures still the same today?

Mr. POWELL. I would say, we continue to see prices come in and, this week, exceed our expectation. And that is not what we are hoping to see, but this latest CPI reading was above where forecasters thought it would be, pretty much all forecasters. But, yes, it is still the same story. It is still the same parts of the economy that are producing this inflation. It is a pretty narrow group of things that are producing these high readings. But we are anxious, like everybody else, to see that inflation pass through.

Mr. SCOTT. Thank you for that answer. And I agree that a return to a more stable inflation rate would indeed be advantageous to our economy. But as we know, the increase in commodity prices drives up consumer prices over the long-term, even after inflation returns to normal. And, unfortunately, wage increases will not keep pace, creating real hardship for people on fixed incomes, retirees, and many of our low-income households.

Let me ask you this: Considering how the incremental wage increases failed to keep pace with the rising costs of living, can you elaborate for us on what trends the Fed expects to see between commodity inflations and earnings, at least until we have returned to a 2 percent inflation rate?

Mr. POWELL. We don't have any ability to forecast commodity prices any more than anyone else does. They do what they are going to do. Again, our expectation is that, over time, the reopening of the economy will be a process that we go through and that these imbalances that we are seeing will abate, and we hope that happens sooner—it is very difficult to say exactly when that will happen. It seems likely that it will happen, but the amounts by which inflation will move up and the timing of it passing through are very hard to predict.

Mr. SCOTT. How much time do we have? How much longer will we be in this thrust? You feel confident it will happen. What is your best estimate about when we will be back to normal?

Mr. POWELL. Before we get fully vaccinated, I think we will know generally whether this framework for understanding it is the right one. So, we would want to begin to see more things like what happened with lumber. We would want to begin to see more of these prices flatten out and then perhaps come down, hopefully as lumber did. That is what we would like to see.

Ultimately, though, price stability is half of our mandate. And if we see inflation moving up in a way that is really troubling and that risks a period of troublingly high inflation, then we will use our tools to bring inflation back down to 2 percent.

Mr. SCOTT. Thank you very much, Chairman Powell. And you are doing a great job. Keep it up.

Chairwoman WATERS. Thank you very much. The gentleman's time has expired.

The gentleman from Arkansas, Mr. Hill, is now recognized.

Mr. HILL. Thank you, Madam Chairwoman.

And it is great, Chair Powell, to see you, to have you back before the committee. All of our members really appreciate the chance to visit and seek your wisdom on all of these topics.

I do hope the Fed is right that this persistent inflation that we are experiencing—record high inflation for many, many years is, in fact, transitory. It's super important, too, for families here in central Arkansas who only have \$48,000 in median income, and they are all telling our offices that they are seeing such persistent and large price increases from their grocery cart to their gas to their home improvement projects. And it is a bigger difference for them than it is for some economist at the Federal Reserve who makes \$175,000 a year, and gets to work from home, and doesn't bear all of those normal challenges that a family here in Arkansas does. So, I hope the FOMC is right that it is transitory.

Since the beginning of January 2021, the balance sheet of the Fed has increased by \$750 billion. We are now over \$8 trillion at the Federal Reserve. And as we have talked about today, you continue to purchase about \$120 billion in assets per month: \$80 billion in U.S. Treasuries; and \$40 billion in agency MBS.

Of the total balance sheet, that makes up about 29 percent of agency MBS and about 63 percent in the U.S. Treasury securities. Is that approximately right?

Mr. POWELL. That sounds about right.

Mr. HILL. And, Chair Powell, isn't it true that the recent July Monetary Policy Report outlined that, "the housing sector remains remarkably strong." I know you have testified some about housing, but do you agree that is what the Monetary Policy Report says?

Mr. POWELL. Yes.

Mr. HILL. Given the acceleration of home prices that you and I talked about back in February when you were before the committee, and the vigorous expansion of mortgage lending, is it really necessary to be buying the \$120 billion of assets a month, particularly as it relates to the MBS portion? What is the logic in maintaining that MBS portion?

Mr. POWELL. Really, we look at the whole things that we are buying. It is Treasuries and mortgage-backed securities, and they have roughly the same kind of effect on the economy, either of them. MBS maybe have very modestly greater effects on housing, and that is not why we were buying them in the first place.

But as you know, we are in a process of looking at tapering those purchases. We had a meeting about it back in June. We have another one in a couple of weeks. And if we continue to make progress toward our goal that we articulated last year, then you will see us begin to reduce those purchases.

Mr. HILL. I noted that Fed Governor Waller made some comments after the recent meeting, saying that right now, the housing markets were on fire and don't really need any other unnecessary support. Will that be taken into consideration as you look to that taper and the potential design of how one would taper?

Mr. POWELL. Yes. I would say the timing and the composition of the taper are the two main things, along with whether we are meeting our goal of substantial further progress in December. Those will be in the conversation for sure.

Mr. HILL. And help me with something that is a flow of funds contradiction for me. We have this massive—I know you don't refer to it as QE, so I won't; I will be differential to you—stimulus, and buying \$120 billion of securities monthly, and yet we have seen huge spikes in the Federal Reserve's reverse repos, which in turns drains that liquidity back out of the system, soaking it up.

How does that make sense to an ordinary review? And I do think your description in the Monetary Policy Report was good, but how does that make sense to the markets?

Mr. POWELL. The first repo facility is really there to keep the Federal funds rate in the target, and for a couple of big reasons, there has been downward pressure on short-term rates.

Mr. HILL. Wouldn't that indicate that there is just not that much demand to take those liabilities and invest them in assets in the banking system, that maybe we have essentially way, way too much liquidity on the books of the banks?

Mr. POWELL. You could say there is a shortage of safe short assets, you know [inaudible], and so that is why that is happening. There is just a shortage of T-Bills, not a lot of T-Bills, and the Treasury general account is shrinking down too, so—

Mr. HILL. Last topic, and we can answer this offline, but Congressman Himes and I have introduced the 21st Century Dollar Act to help our strategy for the U.S. dollar. I am interested if you are going to maintain the cut-off date for our international swaps through December 31st.

Mr. POWELL. Those swaps really work. They did a great job, as you know. They were a fundamental part of our program to stabilize the global financial markets and dollar funding markets, in particular, which are really important for our economy. We have extended them to December 31st. I made a decision not to extend them beyond that. I don't know that we would unless conditions change.

Mr. HILL. Thank you. I yield back.

Chairwoman WATERS. Thank you very much.

The gentleman from Illinois, Mr. Foster, is recognized for 5 minutes.

Mr. FOSTER. Thank you, Madam Chairwoman.

I would like to, first, extend my apologies for having missed most of this hearing. We have actually found something more interesting than Fed Monetary Policy, which is a hearing I was chairing in the House Science Committee on the origins of the coronavirus, which was, I have to say, a rather interesting subject.

And I also would like to thank my colleague from Arkansas for stealing the question that I intended to ask about the differential effects of buying mortgage-backed securities versus other government-guaranteed assets. And I appreciate your answer to that.

One of the good things the Fed has been doing for the last several years is instead of just publishing household net worth as if there was only one consumer in the country, actually publishing it by wealth slices. And you can see in your numbers, for example, that the top 1 percent wealthiest have about a third of the wealth in our country; the next 9 percent have about another third; and then between 50 percent and 90 percent have pretty much the last third; and the bottom half, according to the numbers by the Federal Reserve, have only 2 percent of the wealth. And this is very much related to how you model the economy, because there are many of the policies that we are thinking of implementing and many of the effects of your policies that have very different effects on the top versus the bottom. For example, things that affect stock market valuations essentially only affect the top 10 percent of the United States.

Do you incorporate that in your modeling, when you are trying to look into the future? Are you now using economic models that look at the different behavior of the different wealth strata in the United States?

Mr. POWELL. Yes, where it is appropriate. For example, those are much higher marginal propensities to consume among people at the lower end of the income spectrum, and lower at the top, we do incorporate those. Again, where it is appropriate, we do that, yes. Also, in modeling monetary policy, it matters as well.

Mr. FOSTER. Certainly. If you have, sir, some sort of write-up on that, that you could get to us, I would very much appreciate it. Because I think that getting the coefficients there correct is really im-

portant to understanding how your policy decisions are going to affect not just the American economy.

Do you have any general feelings on the apparent disconnect of the stock market with the feelings of ordinary families? There were instances during the COVID crisis where there was a scream of pain from the general public, and yet the stock market was hitting record highs. What is your thinking on that?

Mr. POWELL. I never express an opinion on the level of the stock market, but remember what the stock market is doing, it is pricing in future cash flows, as you well know. So, it is thinking ahead and, I think, in this particular—what happened last year was pretty early on. At the beginning, there was this crash, and then pretty early on, after the CARES Act passed and the things that we did, markets really recovered very quickly, beginning pretty early, looking ahead to what became a pretty strong recovery. And markets were more right than a lot of forecasters were, because the recovery did exceed expectations. I can't comment on the actual level, though.

Mr. FOSTER. And are you fairly satisfied with your response to the stress on the Treasury's market? Do you need any new tools? Would you like to have any more—what is the current—or the thinking in retrospect on that?

Mr. POWELL. I think the work is not done there. I think we are in the middle of bringing that work to a conclusion about what went wrong, what are the right tools, how deep out into the tail do we need to insure, and all of those questions, I think, will come around. I don't think we are done with that project at all. I think this will be over the next 12 months, probably. There will be a lot of ideas and discussion. The idea of central clearings is out there. There are a lot of ideas.

Mr. FOSTER. Just the imbalance of supply and demand may have been one of the critical factors there. And what you did there may actually have been very important in preserving the dollar's position as the currency that you want to have your country's economy connected to. And so, that was well done.

Anyway, thank you, again. You are doing a heck of a job, and the end of the tunnel is in sight, and I hope we will all come out of this in good shape.

Mr. POWELL. Thank you.

Chairwoman WATERS. Thank you very much.

Ladies and gentlemen, Members, we have a hard stop that we negotiated with Mr. Powell, and he is going to have to leave now, and so we will not be able to call on any more Members at this time. But those who were not able to raise their questions or to make their statements will be first in line when he returns.

I would like to thank Mr. Powell for his testimony today.

The Chair notes that some Members may have additional questions for this witness, which they may wish to submit in writing. Without objection, the hearing record will remain open for 5 legislative days for Members to submit written questions to this witness and to place his responses in the record. Also, without objection, Members will have 5 legislative days to submit extraneous materials to the Chair for inclusion in the record.

With that, this hearing is adjourned.

[Whereupon, at 2:57 p.m., the hearing was adjourned.]

A P P E N D I X

July 14, 2021

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Statement by

Jerome H. Powell

Chair

Board of Governors of the Federal Reserve System

before the

Committee on Financial Services

U.S. House of Representatives

July 14, 2021

Chairwoman Waters, Ranking Member McHenry, and other members of the Committee, I am pleased to present the Federal Reserve's semiannual *Monetary Policy Report*.

At the Federal Reserve, we are strongly committed to achieving the monetary policy goals that Congress has given us: maximum employment and price stability. We pursue these goals based solely on data and objective analysis, and we are committed to doing so in a clear and transparent manner. Today I will review the current economic situation before turning to monetary policy.

Current Economic Situation and Outlook

Over the first half of 2021, ongoing vaccinations have led to a reopening of the economy and strong economic growth, supported by accommodative monetary and fiscal policy. Real gross domestic product this year appears to be on track to post its fastest rate of increase in decades. Household spending is rising at an especially rapid pace, boosted by strong fiscal support, accommodative financial conditions, and the reopening of the economy. Housing demand remains very strong, and overall business investment is increasing at a solid pace. As described in the *Monetary Policy Report*, supply constraints have been restraining activity in some industries, most notably in the motor vehicle industry, where the worldwide shortage of semiconductors has sharply curtailed production so far this year.

Conditions in the labor market have continued to improve, but there is still a long way to go. Labor demand appears to be very strong; job openings are at a record high, hiring is robust, and many workers are leaving their current jobs to search for better ones. Indeed, employers added 1.7 million workers from April through June. However, the unemployment rate remained elevated in June at 5.9 percent, and this figure understates the shortfall in employment, particularly as participation in the labor market has not moved up from the low rates that have

prevailed for most of the past year. Job gains should be strong in coming months as public health conditions continue to improve and as some of the other pandemic-related factors currently weighing them down diminish.

As discussed in the *Monetary Policy Report*, the pandemic-induced declines in employment last year were largest for workers with lower wages and for African Americans and Hispanics. Despite substantial improvements for all racial and ethnic groups, the hardest-hit groups still have the most ground left to regain.

Inflation has increased notably and will likely remain elevated in coming months before moderating. Inflation is being temporarily boosted by base effects, as the sharp pandemic-related price declines from last spring drop out of the 12-month calculation. In addition, strong demand in sectors where production bottlenecks or other supply constraints have limited production has led to especially rapid price increases for some goods and services, which should partially reverse as the effects of the bottlenecks unwind. Prices for services that were hard hit by the pandemic have also jumped in recent months as demand for these services has surged with the reopening of the economy.

To avoid sustained periods of unusually low or high inflation, the Federal Open Market Committee's (FOMC) monetary policy framework seeks longer-term inflation expectations that are well anchored at 2 percent, the Committee's longer-run inflation objective. Measures of longer-term inflation expectations have moved up from their pandemic lows and are in a range that is broadly consistent with the FOMC's longer-run inflation goal. Two boxes in the July *Monetary Policy Report* discuss recent developments in inflation and inflation expectations.

Sustainably achieving maximum employment and price stability depends on a stable financial system, and we continue to monitor vulnerabilities here. While asset valuations have

generally risen with improving fundamentals as well as increased investor risk appetite, household balance sheets are, on average, quite strong, business leverage has been declining from high levels, and the institutions at the core of the financial system remain resilient.

Monetary Policy

I will now turn to monetary policy. At our June meeting, the FOMC kept the federal funds rate near zero and maintained the pace of our asset purchases. These measures, along with our strong guidance on interest rates and on our balance sheet, will ensure that monetary policy will continue to deliver powerful support to the economy until the recovery is complete.

We continue to expect that it will be appropriate to maintain the current target range for the federal funds rate until labor market conditions have reached levels consistent with the Committee's assessment of maximum employment and inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time. As the Committee reiterated in our June policy statement, with inflation having run persistently below 2 percent, we will aim to achieve inflation moderately above 2 percent for some time so that inflation averages 2 percent over time and longer-term inflation expectations remain well anchored at 2 percent. As always, in assessing the appropriate stance of monetary policy, we will continue to monitor the implications of incoming information for the economic outlook and would be prepared to adjust the stance of monetary policy as appropriate if we saw signs that the path of inflation or longer-term inflation expectations were moving materially and persistently beyond levels consistent with our goal.

In addition, we are continuing to increase our holdings of Treasury securities and agency mortgage-backed securities at least at their current pace until substantial further progress has been made toward our maximum-employment and price-stability goals. These purchases have materially eased financial conditions and are providing substantial support to the economy.

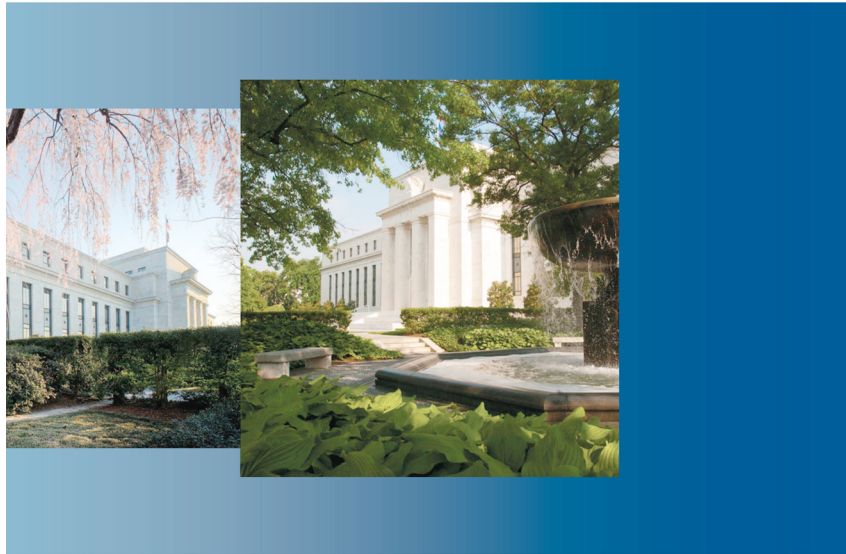
At our June meeting, the Committee discussed the economy's progress toward our goals since we adopted our asset purchase guidance last December. While reaching the standard of "substantial further progress" is still a ways off, participants expect that progress will continue. We will continue these discussions in coming meetings. As we have said, we will provide advance notice before announcing any decision to make changes to our purchases.

We understand that our actions affect communities, families, and businesses across the country. Everything we do is in service to our public mission. The resumption of our *Fed Listens* initiative will further strengthen our ongoing efforts to learn from a broad range of groups about how they are recovering from the economic hardships brought on by the pandemic. We at the Federal Reserve will do everything we can to support the recovery and foster progress toward our statutory goals of maximum employment and stable prices.

Thank you. I am happy to take your questions.

MONETARY POLICY REPORT

July 9, 2021



Board of Governors of the Federal Reserve System

LETTER OF TRANSMITTAL



BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM

Washington, D.C., July 9, 2021

THE PRESIDENT OF THE SENATE
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES

The Board of Governors is pleased to submit its *Monetary Policy Report* pursuant to section 2B of the Federal Reserve Act.

Sincerely,

A handwritten signature in cursive script that reads "Jerome H. Powell".

Jerome H. Powell, Chair

STATEMENT ON LONGER-RUN GOALS AND MONETARY POLICY STRATEGY

Adopted effective January 24, 2012; as amended effective January 26, 2021

The Federal Open Market Committee (FOMC) is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decisionmaking by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.

Employment, inflation, and long-term interest rates fluctuate over time in response to economic and financial disturbances. Monetary policy plays an important role in stabilizing the economy in response to these disturbances. The Committee's primary means of adjusting the stance of monetary policy is through changes in the target range for the federal funds rate. The Committee judges that the level of the federal funds rate consistent with maximum employment and price stability over the longer run has declined relative to its historical average. Therefore, the federal funds rate is likely to be constrained by its effective lower bound more frequently than in the past. Owing in part to the proximity of interest rates to the effective lower bound, the Committee judges that downward risks to employment and inflation have increased. The Committee is prepared to use its full range of tools to achieve its maximum employment and price stability goals.

The maximum level of employment is a broad-based and inclusive goal that is not directly measurable and changes over time owing largely to nonmonetary factors that affect the structure and dynamics of the labor market. Consequently, it would not be appropriate to specify a fixed goal for employment; rather, the Committee's policy decisions must be informed by assessments of the shortfalls of employment from its maximum level, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments.

The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee reaffirms its judgment that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. The Committee judges that longer-term inflation expectations that are well anchored at 2 percent foster price stability and moderate long-term interest rates and enhance the Committee's ability to promote maximum employment in the face of significant economic disturbances. In order to anchor longer-term inflation expectations at this level, the Committee seeks to achieve inflation that averages 2 percent over time, and therefore judges that, following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time.

Monetary policy actions tend to influence economic activity, employment, and prices with a lag. In setting monetary policy, the Committee seeks over time to mitigate shortfalls of employment from the Committee's assessment of its maximum level and deviations of inflation from its longer-run goal. Moreover, sustainably achieving maximum employment and price stability depends on a stable financial system. Therefore, the Committee's policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals.

The Committee's employment and inflation objectives are generally complementary. However, under circumstances in which the Committee judges that the objectives are not complementary, it takes into account the employment shortfalls and inflation deviations and the potentially different time horizons over which employment and inflation are projected to return to levels judged consistent with its mandate.

The Committee intends to review these principles and to make adjustments as appropriate at its annual organizational meeting each January, and to undertake roughly every 5 years a thorough public review of its monetary policy strategy, tools, and communication practices.

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NOTE: This report reflects information that was publicly available as of noon EDT on July 7, 2021.

Unless otherwise stated, the time series in the figures extend through, for daily data, July 6, 2021; for monthly data, May 2021; and, for quarterly data, 2021:Q1. In bar charts, except as noted, the change for a given period is measured to its final quarter from the final quarter of the preceding period.

For figures 20, 32, and 44, note that the S&P/Case-Shiller U.S. National Home Price Index, the S&P 500 Index, and the Dow Jones Bank Index are products of S&P Dow Jones Indices LLC and/or its affiliates and have been licensed for use by the Board. Copyright © 2021 S&P Dow Jones Indices LLC, a division of S&P Global, and/or its affiliates. All rights reserved. Redistribution, reproduction, and/or photocopying in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. For more information on any of S&P Dow Jones Indices LLC's indices, please visit www.spdji.com. S&P® is a registered trademark of Standard & Poor's Financial Services LLC, and Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC. Neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates, nor their third-party licensors make any representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent, and neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates, nor their third-party licensors shall have any liability for any errors, omissions, or interruptions of any index or the data included therein.

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SUMMARY

Over the first half of 2021, progress on vaccinations has led to a reopening of the economy and strong economic growth, supported by accommodative monetary and fiscal policy. However, the effects of the COVID-19 pandemic have continued to weigh on the U.S. economy, and employment has remained well below pre-pandemic levels. Furthermore, shortages of material inputs and difficulties in hiring have held down activity in a number of industries. In part because of these bottlenecks and other largely transitory factors, PCE (personal consumption expenditures) prices rose 3.9 percent over the 12 months ending in May.

Over the first half of the year, the Federal Open Market Committee (FOMC) held its policy rate near zero and continued to purchase Treasury securities and agency mortgage-backed securities to support the economic recovery. These measures, along with the Committee's guidance on interest rates and the Federal Reserve's balance sheet, will help ensure that monetary policy continues to deliver powerful support to the economy until the recovery is complete.

Recent Economic and Financial Developments

The labor market. The labor market continued to recover over the first six months of 2021. Job gains averaged 540,000 per month, and the unemployment rate moved down from 6.7 percent in December to 5.9 percent in June. Although labor market improvement has been rapid, the unemployment rate remained elevated in June, and labor force participation has not moved up from the low rates that have prevailed for much of the past year. A surge in labor demand that has outpaced the recovery in labor supply has resulted in a jump in job vacancies and a step-up in wage gains in recent months.

Inflation. Consumer price inflation, as measured by the 12-month change in the PCE price index, moved up from 1.2 percent at the end of last year to 3.9 percent in May. The 12-month measure of inflation that excludes food and energy items (so-called core inflation) was 3.4 percent in May, up from 1.4 percent at the end of last year. Some of the strength in recent 12-month inflation readings reflects the comparison of current prices with prices that sank at the onset of the pandemic as households curtailed spending—a transitory result of “base effects.” More lasting but likely still temporary upward pressure on inflation has come from prices for goods experiencing supply chain bottlenecks, such as motor vehicles and appliances. In addition, prices for some services, such as airfares and lodging, have moved up sharply in recent months toward more normal levels as demand has recovered. Both survey-based and market-based measures of longer-term inflation expectations have risen since the end of last year, largely reversing the downward drift in those measures in recent years, and are in a range that is broadly consistent with the FOMC's longer-run inflation objective.

Economic activity. In the first quarter, real gross domestic product (GDP) increased 6.4 percent, propelled by a surge in household consumption and a solid increase in business investment but restrained by a substantial drawdown in inventories as firms contended with production bottlenecks. Data for the second quarter suggest a further robust increase in demand. Against a backdrop of elevated household savings, accommodative financial conditions, ongoing fiscal support, and the reopening of the economy, the strength in household spending has persisted, reflecting continued strong spending on durable goods and solid progress toward more normal levels of spending on services.

Financial conditions. Since mid-February, equity prices and yields on nominal Treasury securities at longer maturities increased, as the rapid deployment of highly effective COVID-19 vaccines in the United States and the support provided by fiscal policy boosted optimism regarding the economic outlook. Despite having increased since February, mortgage rates for households remain near historical lows. Overall financing conditions for businesses and households eased further since February, as market-based lending conditions remained accommodative and bank-lending conditions eased markedly. Large firms, as well as those households that have solid credit ratings, continued to experience ample access to financing. However, financing conditions remained tight for small businesses and households with low credit scores.

Financial stability. While some financial vulnerabilities have increased since the previous *Monetary Policy Report*, the institutions at the core of the financial system remain resilient. Asset valuations have generally risen across risky asset classes with improving fundamentals as well as increased investor risk appetite, including in equity and corporate bond markets. Vulnerabilities from both business and household debt have continued to decline in the first quarter of 2021, reflecting a slower pace of business borrowing, an improvement in business earnings, and government programs that have supported business and household incomes. Even so, business-sector debt outstanding remains high relative to income, and some businesses and households are still under considerable strain. In the financial sector, leverage at banks and broker-dealers remains low, while available measures of leverage at hedge funds increased into early 2021 and are high. Issuance volumes of collateralized loan obligations and asset-backed securities recovered strongly through the first quarter of 2021, while issuance of non-agency commercial mortgage-backed securities was weak in that quarter. Funding risks at domestic banks continued to be low in the first

quarter, but structural vulnerabilities persist at some types of money market funds and bank-loan and bond mutual funds. (See the box “Developments Related to Financial Stability” in Part 1.)

International developments. Foreign GDP growth moderated at the start of the year, as some countries tightened public health restrictions to contain renewed COVID-19 outbreaks. Compared with last spring, many foreign economies exhibited greater resilience to public-health-related restrictions, and their governments have continued to provide fiscal support. Recent indicators suggest a pickup in activity in advanced foreign economies this spring following an increase in vaccination rates and an easing of restrictions. However, conditions in emerging market economies are more mixed, in part dependent on their success in containing outbreaks and the availability of vaccines. Inflation has been rising in many economies, as the price declines seen last spring reversed and commodity prices ramped up. Monetary and fiscal policies continue to be supportive, but some foreign central banks are adopting or signaling less-accommodative policy stances.

Foreign financial conditions generally improved or held steady. Equity prices and longer-term sovereign yields increased across advanced foreign economies, boosted by their ongoing reopening. Equity markets in emerging market economies were mixed, and flows into dedicated emerging market funds slowed. After trending lower since the spring of 2020, the foreign exchange value of the dollar has changed little on net since the start of the year.

Monetary Policy

Interest rate policy. To continue to support the economic recovery, the FOMC has kept the target range for the federal funds rate near zero and has maintained the monthly pace of its asset purchases. The Committee expects it will be appropriate to maintain the current

target range for the federal funds rate until labor market conditions have reached levels consistent with its assessments of maximum employment and inflation has risen to 2 percent and is on track to moderately exceed that rate for some time.

Balance sheet policy. With the federal funds rate near zero, the Federal Reserve has also continued to undertake asset purchases, increasing its holdings of Treasury securities by \$80 billion per month and its holdings of agency mortgage-backed securities by \$40 billion per month. These purchases help foster smooth market functioning and accommodative financial conditions, thereby supporting the flow of credit to households and businesses. The Committee expects these purchases to continue at least at this pace until substantial further progress has been made toward its maximum-employment and price-stability goals. In coming meetings, the Committee will continue to assess the economy’s progress toward these goals since the Committee adopted its asset purchase guidance last December.

In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee is prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee’s goals.

Special Topics

The uneven recovery in labor force participation. The labor force participation rate (LFPR) has improved very little since early in the recovery and remains well below pre-pandemic levels. Relative to its February 2020 level, the LFPR remains especially low for individuals without a college education, for individuals aged 55 and older, and for Hispanics and Latinos. Factors likely contributing both to the incomplete recovery of the LFPR and to differences across groups include a

surge in retirements, increased caregiving responsibilities, and individuals’ fear of contracting COVID-19; expansions to the availability, duration, and level of unemployment insurance benefits may also have supported individuals who withdrew from the labor force. Many of these factors should have a diminishing effect on participation in the coming months as public health conditions continue to improve and as expanded unemployment insurance expires. (See the box “The Uneven Recovery in Labor Force Participation” in Part 1.)

Recent inflation developments. Consumer price inflation has increased notably this spring as a surge in demand has run up against production bottlenecks and hiring difficulties. As these extraordinary circumstances pass, supply and demand should move closer to balance, and inflation is widely expected to move down. (See the box “Recent Inflation Developments” in Part 1.)

Supply chain bottlenecks in U.S. manufacturing and trade. Supply chain bottlenecks have hampered U.S. manufacturers’ ability to procure the inputs needed to meet the surge in demand that followed widespread factory shutdowns during the first half of last year. Additionally, a massive influx of goods has exceeded the capacity of U.S. ports, extending manufacturers’ wait times for imported parts. The stress on supply chains is reflected in historically high order backlogs and historically low customer inventories; these stresses, together with strong demand, have led to increased price pressures. When these bottlenecks will resolve is uncertain, as they reflect the global supply chain as well as industry-specific factors, but for some goods, such as lumber, the previous sharp increases in prices have begun to reverse. (See the box “Supply Chain Bottlenecks in U.S. Manufacturing and Trade” in Part 1.)

Inflation expectations. To avoid sustained periods of unusually low or high inflation, a fundamental aspect of the FOMC’s monetary

policy framework is for longer-term inflation expectations to be well anchored at the Committee's 2 percent longer-run inflation objective. Even though the pace of price increases has jumped in the first half of this year, recent readings on various measures of inflation expectations indicate that inflation is expected to return to levels broadly consistent with the FOMC's 2 percent longer-run inflation objective after a period of temporarily higher inflation. That said, upside risks to the inflation outlook in the near term have increased. (See the box "Assessing the Recent Rise in Inflation Expectations" in Part 1.)

Monetary policy rules. Simple monetary policy rules, which relate a policy interest rate to a small number of other economic variables, can provide useful guidance to policymakers. Many of the rules have prescribed strongly negative values of the federal funds rate since the start of the pandemic-driven recession. Because of the effective lower bound for the federal funds rate, the Federal Reserve's other monetary policy tools—namely, forward guidance and asset purchases—have been

critical for providing the necessary support to the economy through this challenging period. (See the box "Monetary Policy Rules, the Effective Lower Bound, and the Economic Recovery" in Part 2.)

The Federal Reserve's balance sheet. Since January, the growth in reserves, the drawdown of the Treasury General Account, and the surge in usage of the overnight reverse repurchase agreement (ON RRP) facility have significantly affected the composition of the Federal Reserve's liabilities. Against a backdrop of low short-term market interest rates and ample liquidity, the use of the ON RRP facility has increased substantially since April and has reached a recent high of nearly \$1 trillion, compared with usage near zero in February. Factors contributing to this increase included the decline in Treasury bill supply, downward pressure on money market rates, and the recent technical adjustment to the Federal Reserve's administered rates. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets" in Part 2.)

PART 1 RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

Domestic Developments

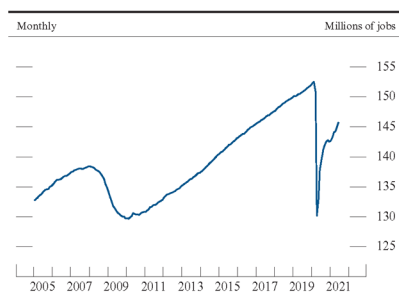
The labor market improved substantially in the first half of the year as the economy reopened and activity rebounded

Payroll employment increased by 3.2 million jobs in the first half of 2021, driven by a 1.6 million job gain in the leisure and hospitality sector, where the largest employment losses occurred last year. Despite the substantial improvement in the labor market, employment remained well below its pre-pandemic level (figure 1). In addition, although the unemployment rate declined 0.8 percentage point in the first half of the year, to 5.9 percent in June, it remained well above its pre-pandemic level (figure 2). This figure understates the shortfall in employment, particularly as factors related to the pandemic appear to be weighing on participation in the labor market.

A brisk increase in labor demand outpaced the return of labor supply . . .

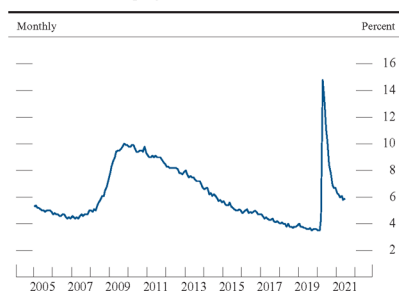
With economic activity rebounding, labor demand rose briskly in the spring, while the supply of labor struggled to keep up. Employers reported widespread hiring difficulties, job openings jumped to about 30 percent above the average level for 2019, and the ratio of job openings to job seekers surged (figure 3). With a dwindling pool of temporarily laid-off workers to recall, hiring increasingly involved reallocation of workers across firms and industries, a more time-consuming process. In addition, enhanced unemployment benefits have allowed potential workers to be more selective and reduce the intensity of their job search. Faced with a challenging environment for hiring, many employers raised wages to attract new workers and lengthened the workweeks of existing employees.

1. Nonfarm payroll employment



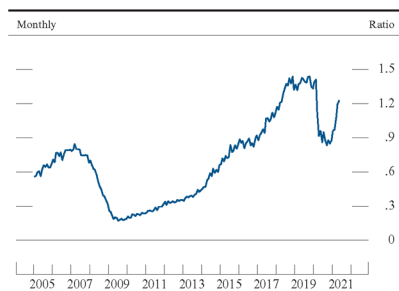
NOTE: The data extend through June 2021.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

2. Civilian unemployment rate



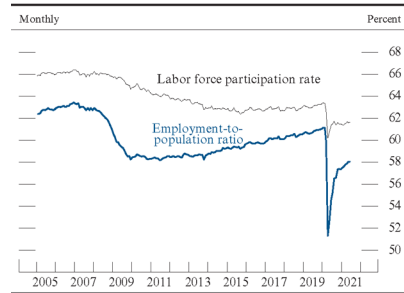
NOTE: The data extend through June 2021.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

3. Ratio of job openings to job seekers



NOTE: The data are the ratio of job openings to unemployed excluding temporary layoffs.
SOURCE: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey.

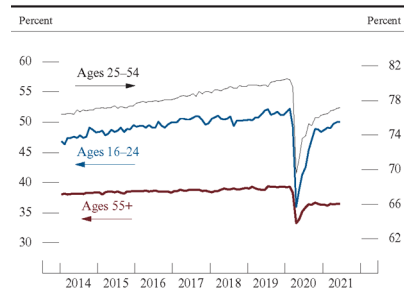
4. Labor force participation rate and employment-to-population ratio



NOTE: The labor force participation rate and the employment-to-population ratio are percentages of the population aged 16 and over and extend through June 2021.

SOURCE: Bureau of Labor Statistics via Haver Analytics.

5. Employment-to-population ratio, by age



NOTE: The data are monthly, extend through June 2021, and are seasonally adjusted.

SOURCE: Bureau of Labor Statistics via Haver Analytics.

... which was restrained by ongoing effects of the pandemic ...

Several pandemic-related factors continued to weigh on labor supply in the spring. The share of working-age adults either employed or actively seeking work—the labor force participation rate—has remained low after falling dramatically with the onset of the pandemic and stood at 61.6 percent in June (figure 4). With less than half of the population fully vaccinated for COVID-19 and inoculation rates far lower in some places, safety in the workplace remained a salient issue for many potential workers, and caregiving demands were still elevated for many households. Furthermore, a surge in retirements both last year and this year, possibly in response to health-related concerns or job loss induced by the pandemic, reduced the pool of potential hires for employers (figure 5).

... and much slack remains in the labor market ...

Although the unemployment rate has moved down sharply from its pandemic high, broad measures of labor conditions continue to point to substantial slack in the labor market. The employment-to-population ratio, which encompasses both unemployment and labor force participation, remains well below the trend observed in recent years, at 58.0 percent in June. Adjusted to include workers who have exited the labor force since the start of the pandemic and workers on temporary layoff misclassified as nonparticipants, the unemployment rate was about 8.7 percent in June.¹

1. Since the beginning of the pandemic, some people on temporary layoff, who should be counted as unemployed, have instead been recorded as “employed but not at work.” Had these workers been correctly classified, the Bureau of Labor Statistics estimates that the unemployment rate in June would have been as much as 0.2 percentage point above the reported rate.

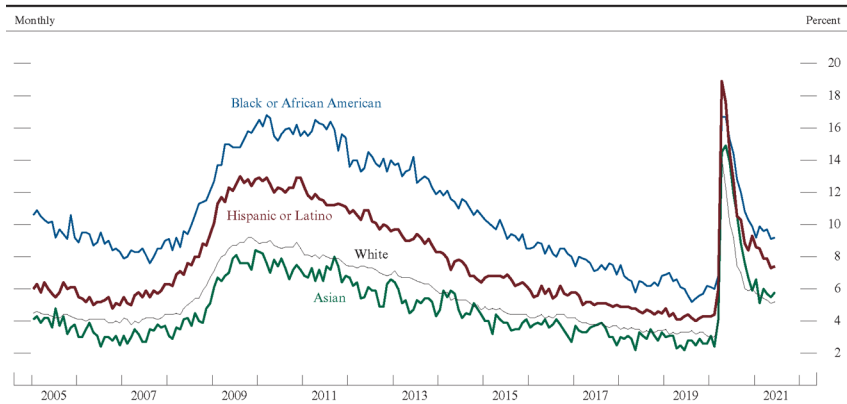
... especially for some groups that have been particularly hard hit by the crisis

Further progress has been made since the turn of the year in reversing the pandemic-induced spike in unemployment for all racial and ethnic groups (figure 6). That said, improvement in the labor market has been uneven. The effect of the pandemic on employment was largest for workers with lower wages, for workers with lower educational attainment, and for African Americans and Hispanics, and these hard-hit groups still have the most ground left to regain. And the pandemic seems to have taken a particularly large toll on the labor force participation of mothers, especially Hispanic mothers. (See the box “The Uneven Recovery in Labor Force Participation.”)

Wages have risen sharply as the economy has reopened . . .

Amid the transition to a more normal pace of economic activity, labor market pressures have led to a step-up in wage gains so far this year. Total hourly compensation as measured by the employment cost index rose at an annual rate of 4.0 percent over the first three months

6. Unemployment rate, by race and ethnicity



NOTE: The data extend through June 2021. Unemployment rate measures total unemployed as a percentage of the labor force. Persons whose ethnicity is identified as Hispanic or Latino may be of any race. Small sample sizes preclude reliable estimates for Native Americans and other groups for which monthly data are not reported by the Bureau of Labor Statistics.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

The Uneven Recovery in Labor Force Participation

By many measures, the labor market has only partially recovered from the depths of the pandemic-driven recession. This discussion presents comparisons of recent readings on labor market conditions to those just before the pandemic. However, the reactions of businesses and workers to the pandemic may have long-lasting effects on the structure of the labor market. For example, the pandemic seems to have accelerated the adoption of new technologies by firms and the pace of retirements by workers. The post-pandemic labor market and the characteristics of maximum employment may well be different from those of early 2020.

As shown in the top bar of figure A, in June the percentage of the population aged 16 and older that is employed—or the employment-to-population (EPOP) ratio—was about 3 percentage points below its pre-pandemic (February 2020) level. This figure decomposes the decline in the EPOP ratio into the amount attributable to a decline in the percentage of the population working or actively looking for work, or the labor force participation rate (LFPR, light-blue bar), and an increase in unemployment (dark-blue bar).¹ About one-half of the decline in the EPOP ratio since February 2020 reflects a decline in the LFPR, which in June was 1¾ percentage points below its pre-pandemic level, while the rest is due to elevated unemployment.

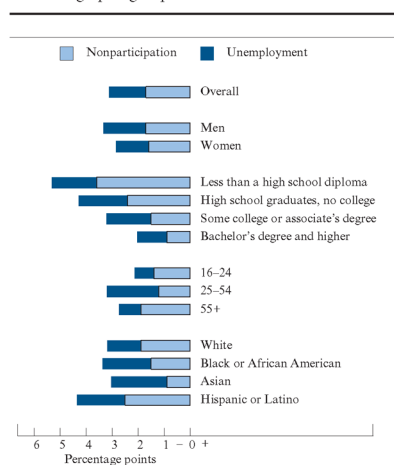
Differences in these measures across various demographic groups existed even before the recession, and they widened after the start of the pandemic. While they have generally narrowed somewhat over the past year, the figure illustrates that differences across groups relative to pre-pandemic levels remain significant: EPOP ratios are more depressed for those without a college education relative to the college educated and for Hispanics relative to others, with much of these differences reflecting larger declines in the LFPRs of these groups.² The EPOP ratio is depressed more for those aged 25 to 54 relative to other ages, while the LFPR has fallen by more for those aged 55 or older.

While the unemployment rate has moved down gradually but steadily since peaking in April 2020, improvements in the LFPR have been less consistent, and since August 2020, the LFPR has fluctuated in a narrow, low range despite broader improvement in labor

1. The unemployment series in figure A shows changes in the number of unemployed workers as a percentage of the civilian population aged 16 or older. This measure differs from the unemployment rate, which is the number of unemployed individuals as a percentage of the civilian labor force.

2. For further discussion of factors contributing to these differences, see the box “Disparities in Job Loss during the Pandemic” in Board of Governors of the Federal Reserve System (2021), *Monetary Policy Report* (Washington: Board of Governors, February), pp. 12–14, https://www.federalreserve.gov/monetarypolicy/files/20210219_mprfullreport.pdf.

A. Change in employment-to-population ratio, by demographic group



NOTE: The data are seasonally adjusted and extend from February 2020 to June 2021. Small sample sizes preclude reliable estimates for Native Americans and other groups for which monthly data are not reported by the Bureau of Labor Statistics.

SOURCE: Bureau of Labor Statistics via Haver Analytics.

market conditions. The LFPRs for most of the groups shown in figure A also remain well below pre-pandemic levels. The rest of this discussion covers three reasons why the recovery in the LFPR remains incomplete, and that also may help explain why the recovery has been weaker for some groups than others—namely, a surge in retirements, heightened caregiving responsibilities, and individuals’ fears of contracting COVID-19. In addition, expansions to the availability, amount, and duration of unemployment insurance (UI) benefits have given many individuals the financial means to be more selective when finding a new job, especially if pandemic- or individual-specific factors have limited their ability to quickly reenter the labor force.

Retirements: Even in the absence of the pandemic, the aging of the baby boomer cohort would likely have implied an increase in the share of the population that is retired relative to pre-pandemic levels of around 0.3 percentage point.³ However, the share of the population in the Current Population Survey (CPS) that

(continued)

3. For estimates of the effect of population aging on the LFPR in the decade before the start of the pandemic, see, for example, Joshua Montes (2018), “CBO’s Projection of Labor Force Participation Rates,” Working Paper 2018-04

B. Percent of the population not in the labor force and retired, change from January and February 2020 to April and May 2021

Group	Not in the labor force	Not in the labor force and retired
All individuals aged 16 and older	1.7	1.0
Aged 55 and older	1.7	1.9
Men	1.9	1.8
Women	1.5	2.0
White	1.8	1.8
Black or African American	.9	1.8
Asian	3.8	4.2
Hispanic or Latino	2.5	2.9

NOTE: Federal Reserve Board staff estimates from microdata in the Current Population Survey (CPS). Estimates are not seasonally adjusted. Small sample sizes preclude reliable estimates for Native Americans and other groups not included in the table.

SOURCE: Census Bureau, CPS.

indicates being out of the labor force and retired jumped at the start of the pandemic and, as shown in figure B, has increased by 1 percentage point since early 2020—accounting for more than one-half of the 1.7 percentage point decline in the aggregate LFPR over this period.⁴ Among individuals aged 55 and older, the increase has been larger for women than for men and larger for Hispanics and Asians than for whites and Blacks.

Caregiving responsibilities: Figure C shows that nonparticipation in the labor force associated with caregiving has increased 0.7 percentage point.⁵ This increase likely reflects in part the difficulties imposed on parents and other caregivers from in-person education not being fully available to many K–12 students, and some of these parents may have decided to stop working or looking for work to help care for their children and facilitate their virtual education.⁶

(Washington: Congressional Budget Office, March), <https://www.cbo.gov/system/files/115th-congress-2017-2018/workingpaper/53616-wp-laborforceparticipation.pdf>.

4. The Federal Reserve Board staff estimates presented in figures B and C are derived from non-labor force participants' responses in the CPS to the question "What best describes your current situation at this time?"; some possible responses include "in retirement," "disabled," "in school," and "taking care of house or family." These figures do not correspond exactly with figure A because figures B and C use data through May 2021 (which is the latest month for which CPS microdata were available at the time of writing) and show data that are not seasonally adjusted. Figures B and C display two-month averages because these data can have considerable noise at monthly frequency.

5. Nonparticipation in the labor force associated with caregiving is measured as nonparticipants in the CPS who report "taking care of house or family" as their current situation.

6. Indeed, according to the Return to Learn Tracker (R2L), even as of June 7, 2021, only 54 percent of districts provided fully in-person education. More information is available on the R2L website at <https://www.returntolearntracker.net>.

C. Percent of the population not in the labor force and caregiving, change from January and February 2020 to April and May 2021

Group	Not in the labor force	Not in the labor force and caregiving
All individuals aged 16 and older	1.7	.7
Women aged 25 to 54 without children	1.8	1.0
Mothers aged 25 to 54 with only children aged 5 and younger	1.4	1.4
Mothers aged 25 to 54 with children aged 6 to 17	2.6	2.6
White	2.7	2.5
Black or African American	2.8	3.6
Asian	2.3	1.3
Hispanic or Latino	5.0	4.0
Fathers aged 25 to 54 with children aged 6 to 17	.7	.6

NOTE: Federal Reserve Board staff estimates from microdata in the Current Population Survey (CPS). Estimates are not seasonally adjusted. Individuals not in the labor force and caregiving are those who are not in the labor force and report "taking care of house or family" as their current situation. Small sample sizes preclude reliable estimates for Native Americans and other groups not included in the table.

SOURCE: Census Bureau, CPS.

Consistent with a considerable effect from students' virtual education, estimates from the figure also show that the increase in nonparticipation for caregiving reasons has been larger for mothers aged 25 to 54 with children aged 6 to 17 (2.6 percentage points) than for women without their own children in the home (1.0 percentage point), women who only have children aged 5 and younger (1.4 percentage points), and fathers (0.6 percentage point) and accounts for all of the decline in the LFPR for mothers.⁷ The increase in nonparticipation for caregiving has been especially large for Black and Hispanic mothers, and it accounts for much of the larger decline in the LFPR for these groups.⁸

(continued on next page)

7. The increase in nonparticipation due to caregiving concerns for women with younger children may reflect the lack of available childcare facilities during much of the pandemic. For adults without their own school-age children, the increase may reflect that some of these individuals have also likely had to stop working or looking for work in order to assist with children of relatives or with elderly or disabled relatives rather than risk care outside of the home. Indeed, the increase in nonparticipation for caregiving reasons among women who are not mothers is larger for those with other adult household members who report being disabled or are aged 65 or older.

8. These differences may in part reflect that the groups with larger increases in nonparticipation due to caregiving were less likely to work in telecommute-capable occupations before COVID-19; for example, based on May 2021 Federal Reserve Board staff estimates from the CPS, 19 percent of white mothers aged 25 to 54 with kids aged 6 to 17 report telecommuting due to COVID, compared with 15 percent of Black mothers and 12 percent of Hispanic mothers. It may also

Uneven Recovery *(continued)*

Fear of the COVID-19 virus: Individuals' fears of contracting the COVID-19 virus are likely also still depressing labor force participation somewhat and may in part be reflected in the factors previously discussed; COVID-19 fears may be especially relevant for those who would otherwise be working on-site in high-contact industries and occupations—and even for some fully vaccinated individuals, such as older and immunocompromised workers who are at higher risk for severe illness or death from COVID-19. Consistent with the importance of this reason, data from the Census Bureau's Household Pulse Survey show that between May 26 and June 7, 2021, about 1 percent of the population reported not working or having recently looked for work because of fears of COVID-19.⁹ This share was higher for Blacks and Hispanics, those aged 18 to 24, and individuals with no college education, which aligns with demographic differences in the share of individuals employed in high-contact industries before COVID-19 and with differences in individuals' ability to work from home.

Expanded unemployment insurance: The pandemic recession prompted an unprecedented expansion in the availability and level of support of UI. A suite of federal programs has extended benefits to groups normally ineligible for UI, increased the potential duration of benefits, and boosted the weekly benefit amounts received by UI claimants.¹⁰ Complementing the new programs, many states broadened UI eligibility

reflect that in-person education was less common in school districts with a larger share of Black and Hispanic students; for example, data from the Return to Learn Tracker for June 7 show that fully in-person education was more common in majority-white school districts than majority-Black or majority-Hispanic school districts.

9. The data are Federal Reserve Board staff calculations from week 31 of the Household Pulse Survey Public Use File. The percentage not working due to fears of COVID-19 is measured as the percentage of respondents who say that their main reason for not working was concern about "getting or spreading the coronavirus." The data can be found on the Census Bureau's website at <https://www.census.gov/programs-surveys/household-pulse-survey/datasets.html>.

10. These programs are Pandemic Unemployment Assistance (PUA), which provides benefits to pandemic-affected individuals with insufficient wage and salary earnings to qualify for regular UI benefits; Pandemic Emergency Unemployment Compensation (PEUC), which provides additional weeks of coverage to workers who exhaust their regular UI benefits; and Federal Pandemic Unemployment Compensation (FPUC), which currently provides \$300 in supplemental benefits to all UI claimants, including those in the PUA and PEUC programs. See Tomaz Cajner, Andrew Figura, Brendan M. Price, David Ratner, and Alison Weingarden (2020), "Reconciling Unemployment Claims with Job Losses in the First Months of the COVID-19 Crisis," Finance and Economics Discussion Series 2020-055 (Washington: Board of Governors of the Federal Reserve System, July), <https://doi.org/10.17016/FEDS.2020.055>.

at the start of the pandemic by temporarily suspending work search requirements and relaxing other eligibility criteria. While the income support from expanded UI and other fiscal stimulus likely led some jobseekers to search less intensively or to be more selective in accepting job offers, the effects of these programs on labor force participation are not clear.¹¹ The support from enhanced UI has been especially consequential for lower-wage workers, who have borne the brunt of recent job losses and who have benefited most from broader coverage and higher benefit levels.¹²

The path ahead: Many of the factors constraining labor force participation should gradually abate in the coming months, and, as they do, the overall participation rate should rise and the demographic disparities in labor force participation that widened during the pandemic will likely continue to narrow. Fears of getting or spreading COVID-19 are likely to recede if vaccination rates continue to climb and if caseloads continue to diminish, and caregiving responsibilities should ease if most students return to in-person instruction in the fall. With federal pandemic UI programs slated to end in September and many states withdrawing from them in advance of their nationwide expiration, any effects of enhanced UI benefits on labor force participation will likely wane soon as well. The spate of retirements spurred by the pandemic will continue to weigh on labor force participation for some time, but this factor should leave a gradually diminishing imprint over the next few years, because these workers were likely poised to retire soon even in the absence of the pandemic. The full effect of the pandemic on the structure of the labor market remains to be seen, and the characteristics of maximum employment may well be different from those of early 2020.

11. Research into the labor market effects of pandemic UI policy has largely centered on FPUC, rather than the broader set of state and federal policy changes, and has focused on employment rather than labor market participation. Several recent studies have found that \$600 weekly benefit increases under FPUC had at most a modest effect on employment last year, in part because UI generosity has less effect on hiring when the labor market is slack. (See, for example, Nicolas Petrosky-Nadeau and Robert G. Valletta (2021), "UI Generosity and Job Acceptance: Effects of the 2020 CARES Act," Working Paper Series 2021-13 (San Francisco: Federal Reserve Bank of San Francisco, June), <https://www.frbsf.org/economic-research/files/wp2021-13.pdf>.) Less is known about the possible effects of FPUC, PEUC, and PUA on labor force participation, particularly in the tighter labor market conditions prevailing in 2021.

12. The \$300 FPUC supplement to weekly UI benefits replaces a larger portion of lost earnings for workers displaced from lower-wage jobs, while PUA has made benefits available to self-employed workers, labor market entrants, and other groups with limited earnings histories.

of the year, lifting the 12-month change up to 2.8 percent (figure 7). More timely indicators show continuing large wage gains, though swings in the composition of the workforce make these difficult to interpret.² In particular, average hourly earnings exhibited very large monthly increases in April, May, and June despite being held down in those months by large job gains in industries with below-average wages. Compensation per hour in the business sector, a broad-based but volatile measure of wages, salaries, and benefits, rose 8 percent through the first quarter, bolstered significantly by changes in the composition of the workforce.³

... and price inflation has stepped up, boosted by returning demand and by supply bottlenecks . . .

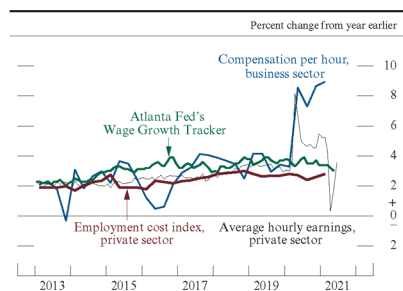
As measured by the 12-month change in the price index for personal consumption expenditures (PCE), inflation jumped from 1.2 percent in December 2020 to 3.9 percent in May, well above the FOMC's longer-run objective of 2 percent (figure 8). The closely watched core PCE price index, which excludes more volatile components, rose 3.4 percent over the 12 months ending in May. The price acceleration appears to have arisen largely from a small number of categories, as suggested by muted movements in the Dallas trimmed mean index, which removes the largest price changes.⁴ For example, sharp price

2. Early in the pandemic, job losses were much larger for lower-wage workers, raising average wages and measured wage growth. This process is now being reversed as many lower-wage workers, particularly in services, have been rehired, thus lowering average wages and measured wage growth. Consequently, in the 12-month changes, large composition effects obscure the underlying movements in wages of typical workers.

3. Over the same period, labor productivity in the business sector is estimated to have increased 4 percent, much faster than the pre-pandemic trend. Both compensation and productivity have been affected by changes in the composition of inputs and outputs that may be largely transitory. Nevertheless, some of the increases may reflect more persistent factors.

4. The trimmed mean omits the highest and lowest price changes, removing products representing roughly half of the PCE basket by consumption share.

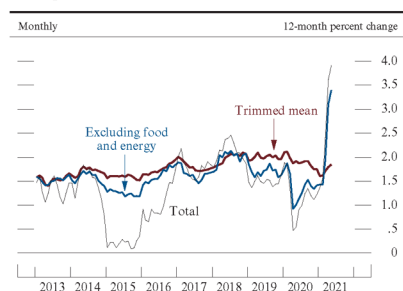
7. Measures of change in hourly compensation



NOTE: Business-sector compensation is on a 4-quarter percent change basis. For the private-sector employment cost index, change is over the 12 months ending in the last month of each quarter; for private-sector average hourly earnings, the data are 12-month percent changes and extend through June 2021; for the Atlanta Fed's Wage Growth Tracker, the data are shown as a 3-month moving average of the 12-month percent change.

SOURCE: Bureau of Labor Statistics; Federal Reserve Bank of Atlanta, Wage Growth Tracker; all via Haver Analytics.

8. Change in the price index for personal consumption expenditures



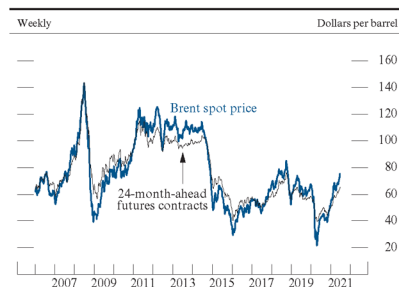
SOURCE: For trimmed mean, Federal Reserve Bank of Dallas; for all else, Bureau of Economic Analysis; all via Haver Analytics.

9. Nonfuel import prices and industrial metals indexes



NOTE: The data for nonfuel import prices are monthly. The data for industrial metals are weekly averages of daily data and extend through July 2, 2021.
SOURCE: For nonfuel import prices, Bureau of Labor Statistics; for industrial metals, S&P GSCI Industrial Metals Spot Index via Haver Analytics.

10. Spot and futures prices for crude oil



NOTE: The data are weekly averages of daily data and extend through July 2, 2021.
SOURCE: ICE Brent Futures via Bloomberg.

increases for goods have been concentrated among a subset of products experiencing strong demand coupled with supply chain bottlenecks. In addition, as demand for services has returned to normal, some prices have bounced back from levels depressed following the onset of the pandemic. (See the box “Recent Inflation Developments.”)

... with further upward pressure on inflation from rising import prices

Increased import prices also contributed to the step-up in consumer price inflation in the first half of 2021, boosted by commodity prices, which rose in response to strong demand for goods. The effects of higher import prices have been exacerbated by bottlenecks abroad that have raised transport costs (figure 9). (See the box “Supply Chain Bottlenecks in U.S. Manufacturing and Trade.”)

After a sharp recovery in late 2020 and early 2021, oil prices have risen over \$10 per barrel in the past few months, a substantial increase but less dramatic than some of the increases for nonfuel commodity prices. Even though oil consumption is still well below pre-pandemic levels, oil production is also down, and oil prices are now above pre-pandemic levels (figure 10). Oil demand continues to be held back by the slow recovery in travel and commuting. Meanwhile, OPEC (Organization of the Petroleum Exporting Countries) and its partners, notably Russia, have only slowly increased their production toward pre-pandemic levels, offsetting the effect of weak demand.

Survey-reported inflation expectations and market-based inflation compensation measures have moved up in recent months

Survey-based measures of inflation expectations at medium- and longer-term horizons have moved up over the first half of the year. These measures, which exhibited a downward drift in recent years, have returned to levels last observed 5 to 10 years ago. Similarly, market measures of longer-term

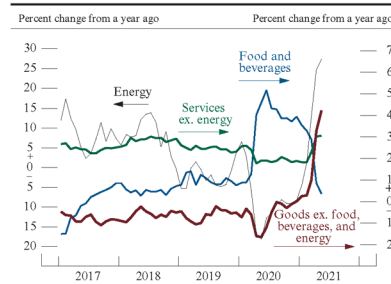
Recent Inflation Developments

Since the beginning of this year, personal consumption expenditures (PCE) inflation—as measured by 12-month percent changes—has increased markedly, reaching 3.9 percent in May (figure 8 in the main text). The sharp increase in inflation this year reflects both a rebound in prices from pandemic-induced price declines last spring and imbalances between demand and supply associated with a strong increase in aggregate demand amid supply chain bottlenecks, hiring difficulties, and other capacity constraints.

As global demand has surged, prices for crude oil and other traded commodities, such as livestock, crops, and metals, have increased notably (figures 9 and 10 in the main text). Commodity prices started to rebound during the second half of last year as the global economy partially reopened and have continued to rise this year, in some cases reaching multiyear highs. These prices most directly affect food and energy consumer prices (the blue and black lines, respectively, in figure A). However, readings from manufacturing surveys and anecdotes reported in the Federal Reserve's Beige Book suggest rising costs for raw materials have contributed to inflation for other goods as well (the red line in figure A). More recently, prices of some commodities, such as lumber, have come down from their peaks in the spring or have flattened out, suggesting that inflation pressures from commodities might ease in the coming months or even reverse.

Supply chain bottlenecks are another factor pushing up consumer prices this year. As the economy reopened and as consumer demand for goods surged, many producers have reported shortages of critical parts and packaging materials, as well as delivery delays. (See the box "Supply Chain Bottlenecks in U.S. Manufacturing and Trade.") Supply chain bottlenecks have been particularly constraining in the motor vehicle sector, where global shortages of semiconductors and other parts have curtailed production, at the same time that demand by households and rental companies has been strong. Prices for motor vehicles—particularly used vehicles—have jumped in recent months and are currently at levels well above their pre-COVID-19 trends (figure B, top-left panel). Strong demand amid supply chain bottlenecks has also boosted prices for other durable goods in recent months, but the pattern is not quite as pronounced as it is for motor vehicles (figure B, top-right panel). In fact, the rise in prices

A. Personal consumption expenditures price indexes



NOTE: The data are monthly.

SOURCE: Bureau of Labor Statistics via Haver Analytics.

connected to the motor vehicle sector—including prices for new and used vehicle purchases and vehicle rental services—accounts for almost one-third of the increase in PCE prices in April and May.

Regarding services prices, demand for certain non-energy services that were severely curtailed by social distancing during the pandemic has surged this spring as the vaccines have become widely available (the green line in figure A). Just as the drop in demand last year led to a step-down in prices for categories related to travel and group activities, the resurgence in demand for these services is pushing up prices this year. As two prominent examples, airline fares and prices for hotel accommodations have jumped since the beginning of the year but so far remain somewhat below their pre-COVID trends (figure B, bottom panels).

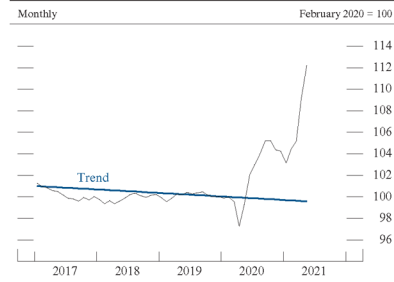
Even as demand for services appears to be strong and growing, many service-sector businesses have reported difficulties in finding workers quickly enough to ramp up their operations accordingly. These reports are consistent with most available measures of wage growth, which have stepped up notably since the beginning of the year. Wage gains have been especially large in the leisure and hospitality sector and in other service industries that have relatively low average wages, which has likely contributed to the rise in inflation for certain categories of spending, such as food away from home.

(continued on next page)

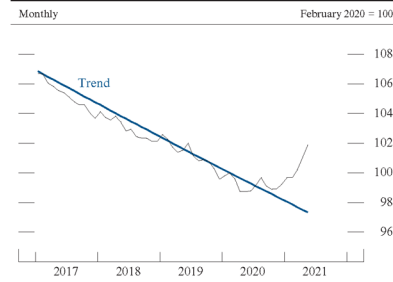
Recent Inflation Developments *(continued)*

B. Personal consumption expenditures prices and pre-COVID-19 trends

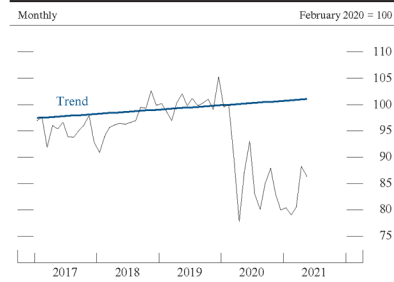
B1. Motor vehicles



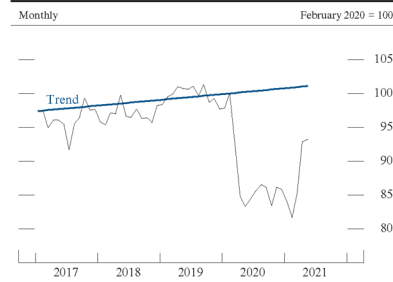
B2. Durables excluding motor vehicles



B3. Airline fares



B4. Hotel accommodations



NOTE: Trend is calculated from February 2017 to February 2020.
SOURCE: Bureau of Economic Analysis; FRB calculations.

Overall, an important part of the rise in inflation this spring appears to be due to a surge in demand, including the rebound in travel-related spending, running up against short-run production bottlenecks and hiring difficulties. As these extraordinary circumstances pass, supply and demand should

become better aligned, and inflation is widely expected to move down toward the FOMC's 2 percent longer-run goal. (For a more detailed discussion of recent developments in inflation expectations, see the box "Assessing the Recent Rise in Inflation Expectations.")

Supply Chain Bottlenecks in U.S. Manufacturing and Trade

The strong U.S. demand for goods has been faced with a supply chain that has struggled to keep pace. With the onset of the pandemic in the spring of 2020, many manufacturers sharply curtailed production in expectation of a long downturn and a drawn-out recovery. Companies laid off workers, idled plants, and canceled orders for materials. In many cases, however, the pause in demand was much shorter and the rebound in demand was much stronger than anticipated, and by late 2020, factories in some industries were scrambling to find the workers, parts, and materials to fill a rush of new orders. As demand for goods surged in the second half of 2020, U.S. import volumes shot up to record levels and have remained elevated. The massive influx of goods combined with COVID-19-related staffing issues have overwhelmed U.S. ports, resulting in additional challenges for manufacturers that experience extended wait times for imported parts.

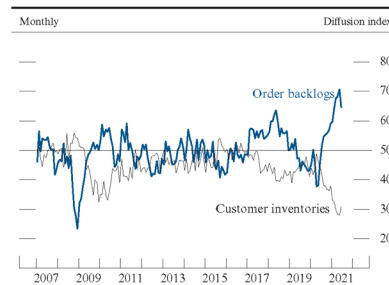
Ample evidence—including widespread anecdotes of shortages mentioned in the press and in the Federal Reserve's Beige Book—points to broad and sometimes deep supply chain disruptions across the manufacturing sector. The challenges in procuring materials are also reflected in reports from the Institute for Supply Management on order backlogs, which recently reached historical highs at the same time as customer inventories were at historical lows (figure A).¹ Additionally, roughly one-fourth of all manufacturers cannot produce at full capacity because of an insufficient supply of materials, labor, or both (figure B).² Amid strong demand, these shortages have put upward pressure on the prices manufacturers pay for parts and materials (figure C).

A few key manufacturing industries have experienced pronounced supply disruptions or shortfalls. Perhaps most notably, the burst in

1. The Institute for Supply Management survey asks respondents whether their customers' inventories are currently "too high," "too low," or "about right." Values below 50 indicate more respondents perceived customers' inventories as "too low" than "too high." Similarly, respondents are asked to compare the current month's backlog of orders with the previous month's backlog; values above 50 suggest more respondents reported higher backlogs than reported lower backlogs.

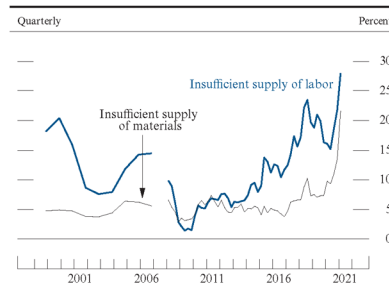
2. Labor shortages appear increasingly problematic. Although manufacturers have long expressed challenges in attracting and retaining workers, the most recent reading from the Bureau of Labor Statistics reported 814,000 job openings in the sector, nearly double the 2017–19 average.

A. Customer inventories and order backlogs



NOTE: The data extend through June 2021.
SOURCE: Institute for Supply Management, Manufacturing ISM Report on Business.

B. Reasons production is below capacity



NOTE: Gaps in series represent the end of the Annual Survey of Plant Capacity in 2006 and the start of the Quarterly Survey of Plant Capacity in 2008.

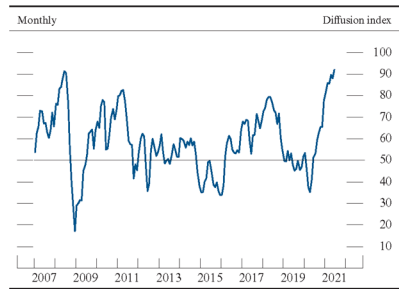
SOURCE: Census Bureau, Manufacturing and Construction Division, Quarterly Survey of Plant Capacity Utilization.

demand for consumer electronics contributed to full order books, long lead times, and shortages of semiconductors; these shortages led to widespread shutdowns and slowdowns at several U.S. motor vehicle assembly plants.³ Lumber supply has also fallen
(continued on next page)

3. The semiconductor shortage was exacerbated when a chip factory in Japan closed for about a month in the spring after being damaged by a fire; the company announced that it expects shipments to return to pre-fire levels in late July.

Supply Chain Bottlenecks *(continued)*

C. Prices paid by manufacturers for materials



NOTE: Values greater than 50 indicate that more respondents paid higher prices for material inputs relative to a month earlier than reported lower prices. The data extend through June 2021.

SOURCE: Institute for Supply Management, Manufacturing ISM Report on Business.

short, as last year's increase in remodeling projects and new home construction outpaced production at sawmills. Meanwhile, supply bottlenecks for steel emerged last fall after a resurgence in orders surprised mill operators that had not yet fully restarted steelmaking equipment idled in the early days of the pandemic.⁴ Finally, extremely cold temperatures in mid-February caused extensive damage to several petrochemical facilities along the Gulf Coast, resulting

4. More than half of the nation's blast furnaces were idled last year, and a few were permanently shuttered; the vast majority of the idled furnaces were restarted by this spring.

in acute shortages; the outages resolved slowly, and only in early May did operations essentially return to normal.

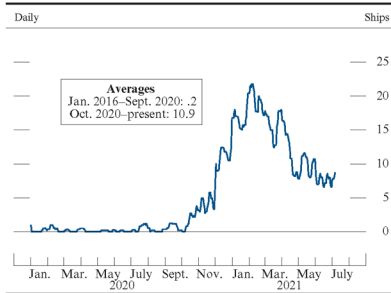
Logjams at some of the nation's ports—particularly on the West Coast—resulted from the unprecedented volume of imports and were compounded by limitations on labor attributable to COVID-19 precautions and to isolated outbreaks among dock workers. For example, since the fall of 2020, the Port of Los Angeles, the nation's busiest port, has had more ships to unload than it could easily accommodate. Typically, ships have little to no wait before they reach a berth at the port, but since last October, on average, more than 10 ships have been waiting at anchor at any given time (figure D). While this number has retreated from its peak, ships are still spending an extended time in the port. Continued high import volumes have hampered the port's progress in resolving congestion even as the quick pace of vaccinations in the United States has allowed the port to resume processing incoming containers at full capacity.

In addition to the congestion at ports, carriers have raised shipping rates and imposed large surcharges on containers sent to the United States.⁵ These delays and elevated costs have likely discouraged additional imports of low-value, high-volume products, contributing to higher prices and reduced inputs for

(continued)

5. Air freight rates have also risen sharply, as many goods normally shipped by sea are being transported by air to avoid extended delays. Furthermore, pandemic-related restrictions on international travel have limited the number of international flights, reducing the supply of cargo space for air shipments and further increasing prices.

D. Ships waiting at anchor (Port of Los Angeles)

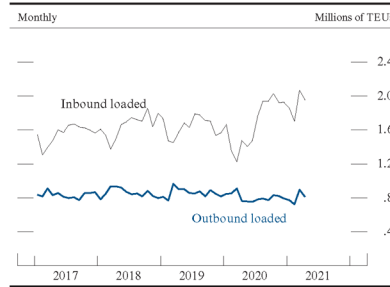


NOTE: The data are 7-day moving averages.
SOURCE: Port of Los Angeles.

U.S. manufacturers. Relatedly, the higher inbound rates have created a challenge for U.S. exports in the form of a container shortage. Shipping rates for U.S. exports have risen by much less than rates for inbound shipments, so carriers find it more profitable at times to quickly return empty containers for another inbound U.S. delivery than to receive modest revenue from taking on U.S. exports. Thus, although the number of inbound loaded containers skyrocketed in the second half of last year, the number of outbound loaded containers stayed below pre-pandemic levels until March 2021 (figure E).

In summary, trade and production bottlenecks have been an important factor as the economy emerges from

E. Container flows at U.S. ports

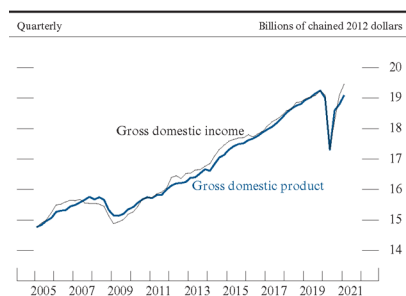


NOTE: The data extend through April 2021. The data include the ports of Baltimore, Charleston, Houston, Los Angeles, Long Beach, New York and New Jersey, Oakland, Savannah, Seattle, and Tacoma, which accounted for 91 percent of total throughput at U.S. ports in 2019. TEUs are 20-foot equivalent units.

SOURCE: Maryland Port Administration; South Carolina Ports Authority; Port of Houston Authority; Port of Los Angeles; Port of Long Beach; Port of New York and New Jersey; Port of Oakland; Georgia Ports Authority; Northwest Seaport Alliance; all via Haver Analytics; Federal Reserve Board staff calculations.

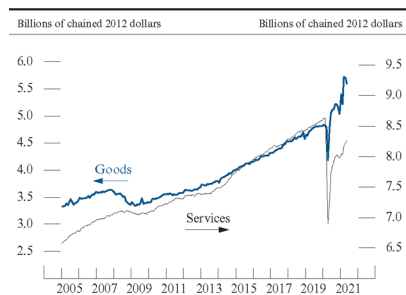
the pandemic. As producers and the distribution network work through these bottlenecks, production is expected to pick up and price pressures to ease—for example, lumber prices have come down from their late-spring peaks. The time frame for the resolution of these bottlenecks is uncertain, as they reflect both the global supply chain and some industry-specific reasons for the tight conditions.

11. Real gross domestic product and gross domestic income



SOURCE: Bureau of Economic Analysis via Haver Analytics.

12. Real personal consumption expenditures



NOTE: The data are monthly.

SOURCE: Bureau of Economic Analysis via Haver Analytics.

inflation compensation—including inflation swaps and the yield gap between nominal Treasury securities and Treasury Inflation-Protected Securities—continued to climb in 2021, returning to the range observed in the 2010–14 period. (See the box “Assessing the Recent Rise in Inflation Expectations.”)

Gross domestic product surged in the first half of the year . . .

Real gross domestic product (GDP) rose at a brisk annual rate of 6½ percent in the first quarter and, with indicators suggesting another strong increase in the second quarter, appears to have now recovered to its pre-pandemic level (figure 11). Even so, supply chain bottlenecks, hiring difficulties, and other capacity constraints have damped the economic rebound to some degree this year, causing order backlogs and longer delivery times and leading producers to meet demand in part by drawing down inventories rather than from new production.

. . . driven by a sharp increase in household spending . . .

The rebound in GDP primarily reflects a resurgence of household spending, driven by the reopening of the economy and additional fiscal support. In particular, the easing of voluntary and mandatory social distancing has spurred an increase in services spending, such as more prevalent dining out, hotel stays, and air travel (figure 12). Still, concerns about COVID-19 continue to limit in-person interactions, and services spending has yet to reach its pre-pandemic level. Spending on goods, which quickly recovered in the second half of 2020, soared from January through May. Spending on durable goods has been especially strong, including on motor vehicles, where sales reached levels among the highest on record in March and April before being held back in May by extremely low dealer inventories.

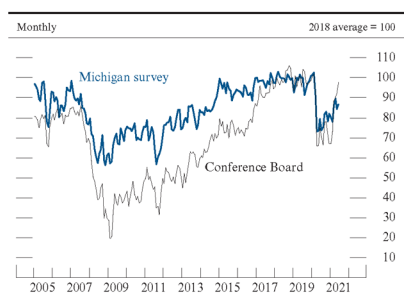
... supported by rising personal income, consumer sentiment, and wealth ...

The marked increase in personal consumption has been supported by increasing income, accumulated savings, rising housing and stock market wealth, low interest rates, and improving consumer sentiment (figure 13). Disposable personal income—that is, household income net of taxes—surged in the first quarter of this year, boosted by further fiscal support, including stimulus checks and enhanced unemployment insurance benefits, along with solid gains in wages and compensation. Meanwhile, the continuing brisk rise in house prices and stock prices has boosted the wealth of homeowners and equity investors (figure 14). The tremendous gains in income have led to a very elevated saving rate (figure 15). That said, these aggregate figures mask important variation across households, and many low-income households, especially those whose earnings declined as a result of the pandemic and recession, have seen their finances stretched.

... and ready access to credit for households with good credit profiles

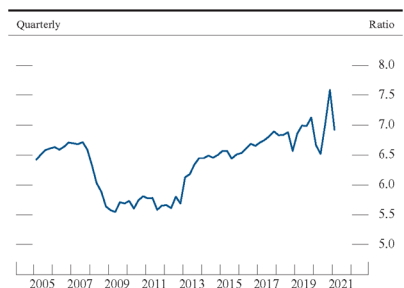
Household borrowing has expanded moderately. Consumer loans have grown at a modest pace so far this year, driven by the continued expansion of auto loans (figure 16). Banks reported significant easing of lending standards on consumer loans in the first quarter of 2021 after a moderate easing in the last quarter of the previous year, though standards remain tight relative to the period just before the pandemic. Delinquency rates for nonprime auto and credit card borrowers remained well below pre-pandemic levels, likely stemming from forbearance programs and fiscal support. Mortgage credit is broadly available to high-credit-score borrowers who meet standard conforming loan criteria but continues to be tight for borrowers with lower credit scores. Historically low mortgage rates have led to elevated refinance and purchase activity, supported by accommodative credit

13. Indexes of consumer sentiment



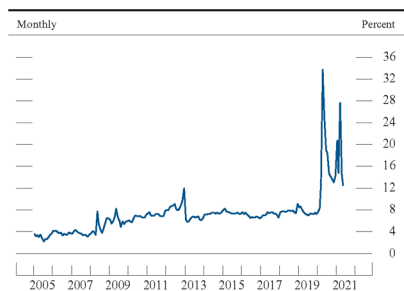
NOTE: The data extend through June 2021.
SOURCE: University of Michigan Surveys of Consumers; Conference Board.

14. Wealth-to-income ratio



NOTE: The series is the ratio of household net worth to disposable personal income.
SOURCE: For net worth, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; for income, Bureau of Economic Analysis via Haver Analytics.

15. Personal saving rate



SOURCE: Bureau of Economic Analysis via Haver Analytics.

Assessing the Recent Rise in Inflation Expectations

The sharp rise in inflation so far this year (see the box “Recent Inflation Developments”) has raised the question of whether the recent elevated pace of price increases (1) will abate, as the effects of the strong rebound in aggregate demand and accompanying supply chain bottlenecks fade, without calling for a change in the path of monetary policy or (2) will instead be followed by a period of higher inflation pressures and call for a change in the stance of monetary policy. The latter situation could arise if longer-term inflation expectations were to rise persistently above levels consistent with the Federal Open Market Committee’s (FOMC) longer-run inflation goal. Inflation expectations are often seen as a driver of actual inflation, which is why a fundamental aspect of the FOMC’s monetary policy framework is for longer-term inflation expectations to be well anchored at the Committee’s 2 percent longer-run inflation objective.¹ In monitoring the inflation outlook, the FOMC considers a variety of financial and economic data in order to gauge whether inflation expectations are consistent with meeting its inflation objective. Recent readings on these measures indicate that inflation is expected to return to levels consistent with the Committee’s 2 percent longer-run inflation objective after a period of temporarily higher inflation. That said, some measures suggest that the upside risks to the inflation outlook in the near term have increased.

Information concerning inflation expectations can be obtained from various sources, including financial instruments linked to inflation and surveys of financial market participants, professional forecasters, households, and businesses. For example, the compensation that investors require to hold certain financial instruments whose payouts are linked to inflation sheds light on financial market participants’ expectations regarding inflation. Inflation compensation implied by the yields on Treasury securities, known as the Treasury Inflation-Protected Securities (TIPS) breakeven inflation rate, is defined as the difference between yields on conventional Treasury securities and yields on TIPS, which are linked to actual outcomes regarding headline consumer price index (CPI) inflation. An alternative market-based measure of inflation compensation can be derived from inflation swaps,

1. For a discussion of the role inflation expectations play in inflation dynamics, see Janet L. Yellen (2015), “Inflation Dynamics and Monetary Policy,” speech delivered at the Philip Gable Memorial Lecture, University of Massachusetts, Amherst, September 24, <https://www.federalreserve.gov/newsevents/speech/yellen20150924a.htm>.

which are contracts in which two parties agree to swap fixed nominal payments for floating cash flows that are tied to cumulative CPI inflation over some horizon.

Longer-horizon TIPS- and swaps-based measures of inflation compensation have both moved up since the start of the year. The TIPS-based measure of 10-year inflation compensation increased from an annual rate close to 2 percent in the beginning of 2021 to somewhat above 2¼ percent in early July. Over the same period, the swaps-based measure increased from around 2¼ percent to 2½ percent. To shed further light on how the recent economic developments are influencing investors’ views on the inflation rate likely to prevail at different horizons, it is useful to split the recent rise in inflation compensation over the next 10 years into changes in inflation compensation for the next year and for subsequent 1-year periods starting at times between 1 and 9 years from now. The result of this exercise suggests that market-based measures of inflation compensation over the next year have increased about 1½ percentage points since early 2021, reaching levels above 3 percent in early July. Measures of inflation compensation for the period beyond the next year have also moved up but by a much smaller amount than have measures of 1-year inflation compensation. In particular, inflation compensation beyond five years has reversed the large declines seen earlier in the pandemic, bouncing back to levels consistent with those observed before 2014, when measures of longer-term inflation compensation ran modestly above 2 percent on a CPI basis, and before these measures showed signs that CPI inflation expectations may have drifted down (figure A).

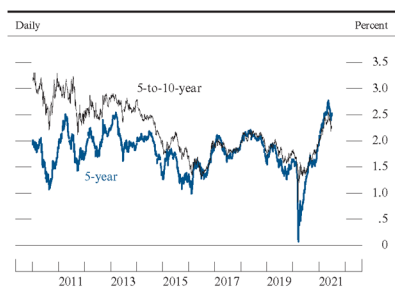
If the recent readings on inflation compensation could be interpreted as direct measures of expected CPI inflation, they would suggest that investors currently anticipate that average CPI inflation will temporarily run somewhat above 3 percent over the next year before moving back down. Over the longer run, assuming no wedge between inflation compensation and inflation expectations, market-based measures indicate that investors are expecting CPI inflation to settle at around 2¼ percent. This pattern is consistent with expectations of CPI inflation moving to levels in line with the FOMC’s longer-run inflation goal of 2 percent PCE (personal consumption expenditures) inflation.²

TIPS- and swaps-based measures of inflation compensation, however, reflect not only expected

(continued)

2. The Committee’s 2 percent longer-run inflation objective is stated in terms of the PCE price index, and PCE inflation

A. Inflation compensation implied by Treasury Inflation-Protected Securities



NOTE: The data are at a business-day frequency and are based on smoothed nominal and inflation-indexed Treasury yield curves.
SOURCE: Federal Reserve Bank of New York; Federal Reserve Board staff calculations.

inflation, but also other factors, including the inflation risk premium and possibly other premiums driven by liquidity differences and shifts in demand and supply of TIPS relative to those of nominal Treasury securities. The presence of these additional factors can make it difficult to ascertain the information regarding expected inflation embedded in market-based measures of inflation compensation.³ Survey-based measures, in contrast, provide information about inflation

tends to run somewhat below CPI inflation, which is used in pricing TIPS and inflation swaps. Over the past two decades, PCE price inflation has run, on average, around ¼ percentage point lower than CPI inflation, though this wedge has varied from year to year.

3. The Federal Reserve System staff maintains several term structure models to disentangle the various components of inflation compensation. For more details, see, for example, Michael Abrahams, Tobias Adrian, Richard K. Crump, Emanuel Moench, and Rui Yu (2016), “Decomposing Real and Nominal Yield Curves,” *Journal of Monetary Economics*, vol. 84 (December), pp. 182–200; Jens H.E. Christensen, Jose A. Lopez, and Glenn D. Rudebusch (2010), “Inflation Expectations and Risk Premiums in an Arbitrage-Free Model of Nominal and Real Bond Yields,” *Journal of Money, Credit and Banking*, vol. 42 (September), pp. 143–78; Stefania D’Amico, Don H. Kim, and Min Wei (2018), “Tips from TIPS: The Informational Content of Treasury Inflation-Protected Security Prices,” *Journal of Financial and Quantitative Analysis*, vol. 53 (February), pp. 395–436; and Andrea Ajello, Luca Benzoni, and Olena Chyruk (2020), “Core and ‘Crust’: Consumer Prices and the Term Structure of Interest Rates,” *Review of Financial Studies*, vol. 33 (August), pp. 3719–65.

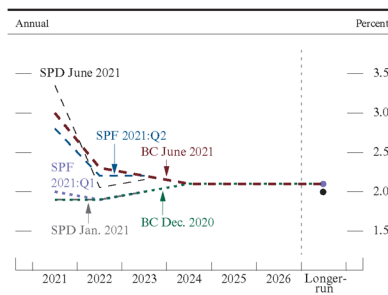
expectations that is not obscured by the presence of these risk premiums.

Information about inflation expectations obtained from surveys of financial market participants, economists, and professional forecasters tells a story similar to that of market-based measures. Since the turn of the year, projections of PCE inflation for 2021 as a whole, obtained from information in the Blue Chip Financial Forecasts, the Survey of Professional Forecasters, and the Survey of Primary Dealers, increased substantially to well above 2 percent. Over the same period, the projections of PCE inflation beyond 2022 appear, in comparison, to be little changed at levels just over 2 percent (figure B). This pattern suggests that these forecasters expect the recent jump in inflation to be transitory and that survey respondents do not appear to have revised their views regarding the longer-term inflation rate in response to the recent strong readings on inflation.

Even if financial market participants and professional forecasters see inflation returning to levels close to 2 percent after a bout of higher inflation as the most likely outcome, they still could have judged that the likelihood of higher inflation had increased. Probability

(continued on next page)

B. Survey-based measures of personal consumption expenditures inflation expectations



NOTE: The data are for expectations of year-over-year percent changes. The mean of Blue Chip (BC) survey responses and medians of the Survey of Professional Forecasters (SPF) and Survey of Primary Dealers (SPD) are shown. Longer-run expectations are 5-to-10-year expectations for the BC survey and SPF. Gaps represent unreported forecast horizons, and dots represent the longer-run value of the series that have a gap after 2023. The BC and SPF 2021:Q1 series end at 2.1 percent in the longer run, and the SPF 2021:Q2 and the SPD series end at 2.0 percent.

SOURCE: Blue Chip Financial Forecasts; Federal Reserve Bank of Philadelphia, SPF; Federal Reserve Bank of New York, SPD.

Rise in Inflation Expectations *(continued)*

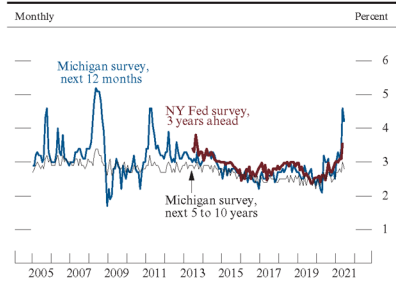
distributions of future inflation derived from surveys provide information on how respondents' views about the likelihood of various outcomes for inflation have evolved. Since the turn of the year, the probability distribution of PCE inflation for 2022 derived from the Survey of Professional Forecasters suggests that the average respondent now appears to attach lower probabilities to outcomes of inflation below 2 percent, and somewhat higher odds of inflation running above 3 percent, which suggests that respondents' perceived upside risks to inflation in the near term have shifted up somewhat.⁴

Finally, survey-based measures of households' inflation expectations have also moved up in recent months. And, similarly to the other surveys, the movements have been more pronounced in the near- to medium-term inflation expectations. In the University of Michigan Surveys of Consumers, households' expectations for inflation over the next 12 months in June were markedly higher than in February and well above the expectations for average inflation over the next 5 to 10 years (figure C). Over the same period, the median value of inflation expectations over the next

5 to 10 years picked up only slightly. Nevertheless, the latest reading is above its pre-pandemic level and stands close to levels last seen consistently in 2015 when this measure started drifting down and raised concerns that households' expectations might have slipped below the FOMC's 2 percent longer-run goal. In the Survey of Consumer Expectations, conducted by the Federal Reserve Bank of New York, the median of respondents' expected inflation rate 3 years ahead also increased sharply in May, the highest reading since the summer of 2013.

The common inflation expectations (CIE) index constructed by Federal Reserve Board staff—a series that takes many measures of inflation expectations and inflation compensation and consolidates them into a single indicator—has continued to edge up in recent quarters, more than reversing the moderate decline recorded in the middle of last year (figure D).⁵ Taking a somewhat longer view, the CIE has now also reversed the net decline since 2014 and has brought the index up to levels that are likely more consistent with the FOMC's longer-term goal of 2 percent PCE inflation.

C. Survey measures of consumers' inflation expectations

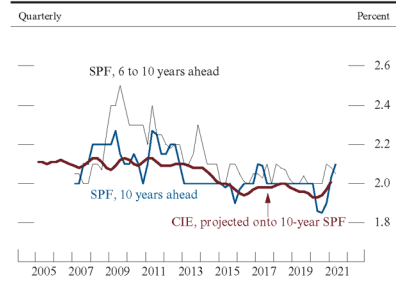


NOTE: The series are medians of the survey responses. The NY Fed data begin in June 2013. The Michigan survey data extend through June 2021.

SOURCE: University of Michigan Surveys of Consumers; Federal Reserve Bank of New York, Survey of Consumer Expectations.

4. Of note, distributions of CPI inflation 5 to 10 years ahead derived from the Federal Reserve Bank of New York's Survey of Primary Dealers and Survey of Market Participants have remained stable over the year, consistent with the stability of survey-based measures of longer-run inflation expectations.

D. Survey of Professional Forecasters inflation expectations and Index of Common Inflation Expectations



NOTE: The Survey of Professional Forecasters (SPF) data begin in 2007:Q1 and extend through 2021:Q2.

SOURCE: Federal Reserve Bank of Philadelphia, SPF; Federal Reserve Board, Index of Common Inflation Expectations (CIE).

5. For more details, see Hie Joo Ahn and Chad Fulton (2021), "Research Data Series: Index of Common Inflation Expectations," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, March 5), <https://doi.org/10.17016/2380-7172.2873>.

standards for high-credit-score borrowers (figure 17).

The housing sector remains remarkably strong

Residential investment surged following the shutdown last spring and has remained at a high level since then. Low mortgage rates have boosted demand, as have adaptations to the pandemic, including working from and spending more time at home. New construction, home sales, and residential improvements have all been well above pre-pandemic levels, and demand has outpaced supply, as construction has been limited by material shortages and sales have been constrained by low inventories (figures 18 and 19). This tension has fueled a sizable rise in home prices and driven down the inventory of homes for sale to extraordinarily low levels (figure 20).

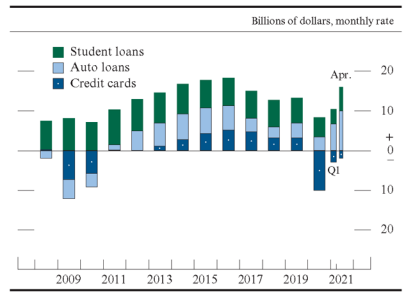
Business investment has recovered from its plunge last year and continues to rise at a solid pace . . .

Solid business investment in the first half of the year has been supported by the unwinding of pandemic disruptions, accommodative monetary policy and fiscal support, and the strong business outlook. Investment in equipment and intangibles has led the rise in investment, especially investment in high-technology equipment and software driven by the shift to remote work and other changes to business practices. Investment in structures in the oil and gas sector also has risen in recent quarters, spurred by a turnaround in oil prices. In contrast, investment in structures outside of the drilling and mining sector has been subdued after falling sharply last year (figure 21).

. . . amid financing conditions that remain accommodative for nonfinancial corporations

Financing conditions for nonfinancial firms through capital markets have remained broadly

16. Consumer credit flows



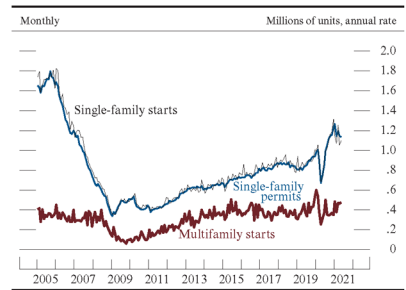
NOTE: The data are seasonally adjusted by the Federal Reserve Board. SOURCE: Federal Reserve Board, Statistical Release G.19, "Consumer Credit."

17. Mortgage rates



NOTE: The data are contract rates on 30-year, fixed-rate conventional home mortgage commitments and extend through July 1, 2021. SOURCE: Freddie Mac Primary Mortgage Market Survey.

18. Private housing starts and permits



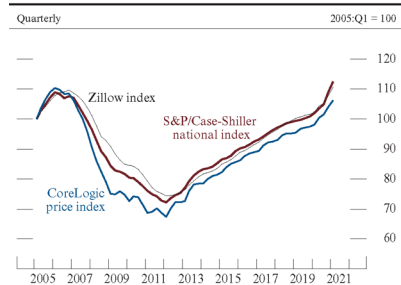
SOURCE: Census Bureau via Haver Analytics.

19. New and existing home sales



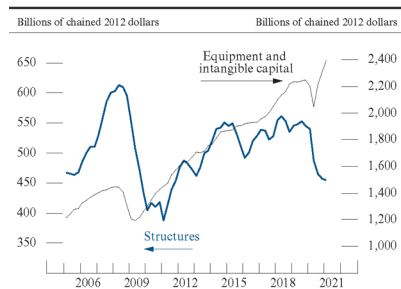
NOTE: The data are monthly. New home sales include only single-family sales. Existing home sales include single-family, condo, and co-op sales.
 SOURCE: For new home sales, Census Bureau; for existing home sales, National Association of Realtors; all via Haver Analytics.

20. Real prices of existing single-family houses



NOTE: Series are deflated by the personal consumption expenditures price index.
 SOURCE: CoreLogic Home Price Index; Zillow; S&P/Case-Shiller U.S. National Home Price Index. The S&P/Case-Shiller index is a product of S&P Dow Jones Indices LLC and/or its affiliates. (For Dow Jones Indices licensing information, see the note on the Contents page.)

21. Real business fixed investment



NOTE: Business fixed investment is known as “private nonresidential fixed investment” in the national income and product accounts. The data are quarterly.
 SOURCE: Bureau of Economic Analysis via Haver Analytics.

accommodative since the start of the year and continued to be supported by historically low interest rates. The gross issuance of nonfinancial corporate bonds continued to be solid during the first part of year and was particularly strong in March for investment-grade firms (figure 22). Corporate bond yields have remained at historically low levels, and corporate bond spreads have narrowed to very low levels, supported in part by signs of improvement in the credit quality of nonfinancial firms.

In contrast, net bank lending to businesses has been subdued so far this year. For commercial and industrial loans, increasing new loan originations have been obscured to some degree by balance reductions due to forgiveness of loans under the Paycheck Protection Program (PPP). Commercial real estate loans have remained little changed, held down in part by weak growth in construction and land development loans amid tighter credit standards earlier in the year.

For small businesses, privately financed lending has climbed smartly since the turn of the year, as the PPP has increased access to credit. Outside of the PPP, credit availability for small businesses remains fairly tight, demand for such credit is weak, and default risk is still elevated. Small business loan performance has improved, and the share of small businesses expecting to require additional financial assistance has moved down, though hotels and restaurants report ongoing stress.

Exports have partly recovered as imports have continued to increase

U.S. exports have moved higher in recent months but still remain below pre-pandemic levels (figure 23). Despite the robust recovery for goods exports, the overall contribution to GDP from exports has been held down by the continuing depressed level of service exports given ongoing restraint in international travel. In contrast to the relatively modest recovery of exports, imports have soared since

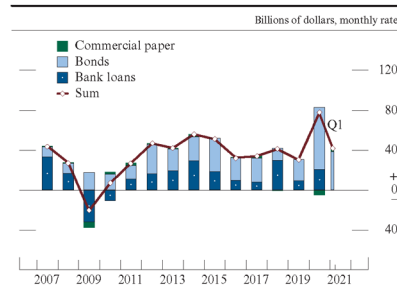
last summer, boosted by strong demand for both immediate consumption and rebuilding inventories. High levels of imports have strained the ability of the international logistics channel to deliver goods to U.S. customers in a timely fashion. Given the recent strength of imports relative to the milder recovery in exports, both the nominal trade deficit and current account deficit, relative to GDP, widened since 2019 (figure 24).

Federal fiscal actions provided substantial support to economic activity while also significantly raising the budget deficit

Federal fiscal policies enacted in response to the pandemic, most recently the American Rescue Plan, continue to fuel the economic recovery now under way. Stimulus checks have boosted most household incomes, and supplemental unemployment insurance has supported households affected by job loss. Increased grants-in-aid to state and local governments and business programs have supported aggregate demand as well. The Congressional Budget Office estimates that pandemic-related fiscal policies enacted to date will increase federal expenditures or reduce federal revenues by over \$5 trillion over 10 years, with much of the effect on the deficit occurring in fiscal years 2020 and 2021.⁵ These discretionary fiscal measures, combined with the automatic stabilizers—the reduction in tax receipts and increase in transfers that occur as a consequence of depressed economic activity—caused the federal deficit to surge to 15 percent of nominal GDP in fiscal 2020

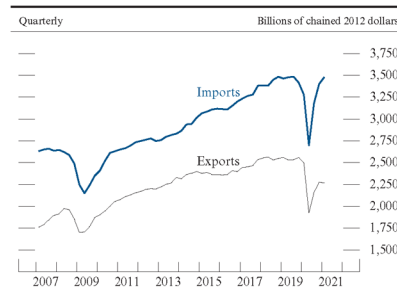
5. For more information, see Congressional Budget Office (2020), *The Effects of Pandemic-Related Legislation on Output* (Washington: CBO, September), <https://www.cbo.gov/publication/56537>; Congressional Budget Office (2020), “Summary Estimate for Divisions M through FF; H.R. 133, Consolidated Appropriations Act, 2021,” January 14, https://www.cbo.gov/system/files/2021-01/PL_116-260_Summary.pdf; and Congressional Budget Office (2021), “Estimated Budgetary Effects of H.R. 1319, American Rescue Plan Act of 2021,” March 10, <https://www.cbo.gov/publication/57056>.

22. Selected components of net debt financing for nonfinancial businesses



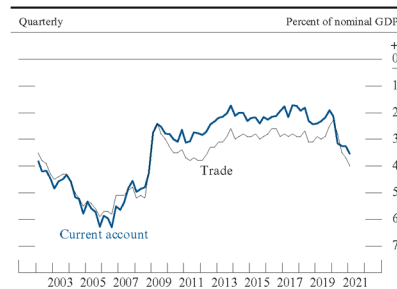
SOURCE: Mergent Inc., Fixed Income Securities Database; S&P Global, Leveraged Commentary & Data; DTCC Solutions LLC, an affiliate of the Depository Trust & Clearing Corporation. This publication includes data licensed from DTCC Solutions LLC, an affiliate of the Depository Trust & Clearing Corporation. (For the DTCC licensing disclaimer, see the note on the Contents page.)

23. Real imports and exports of goods and services



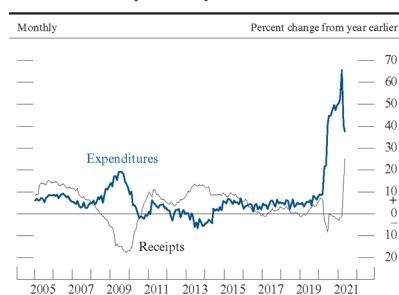
SOURCE: Bureau of Economic Analysis via Haver Analytics.

24. U.S. trade and current account balances



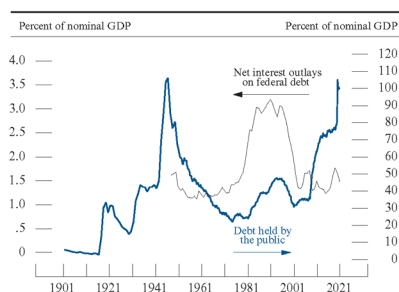
NOTE: GDP is gross domestic product. SOURCE: Bureau of Economic Analysis via Haver Analytics.

25. Federal receipts and expenditures



NOTE: The data are 12-month moving sums.
SOURCE: Office of Management and Budget via Haver Analytics.

26. Federal government debt and net interest outlays



NOTE: The data for net interest outlays are annual, begin in 1948, and extend through 2021. Net interest outlays are the cost of servicing the debt held by the public. Federal debt held by the public equals federal debt less Treasury securities held in federal employee defined-benefit retirement accounts, evaluated at the end of the quarter. The data for federal debt are annual from 1901 to 1951 and quarterly thereafter. GDP is gross domestic product.

SOURCE: For GDP, Bureau of Economic Analysis via Haver Analytics; for federal debt, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

(figure 25). Federal debt held by the public jumped to around 100 percent of nominal GDP—the highest debt-to-GDP ratio since 1947—and is expected to rise further this fiscal year (figure 26).⁶

Challenges to state and local government financing have been mitigated by federal aid

The pandemic pushed down state and local government tax collections and induced additional COVID-related expenses. In response, federal policymakers provided a historic level of fiscal support to state and local governments, covering budget shortfalls in aggregate, although some governments continue to confront pandemic-related fiscal stress. Moreover, the drag on state tax receipts from the pandemic is abating, as revenues have moved up smartly so far this year (figure 27). Property tax receipts—the primary tax source for local governments—have increased steadily during the pandemic. State and local government payrolls, though, have only edged up from their lows at the onset of the pandemic, and they remain 5 percent below pre-pandemic levels, including notably lower education employment (figure 28). Finally, municipal bond market conditions continued to be generally accommodative this year. Issuance has been robust, as yields remained historically low and bond spreads relative to Treasury securities have declined moderately so far this year.

Financial Developments

The path of the federal funds rate expected to prevail over the next year remains near zero

Market-based measures of the path that the federal funds rate is expected to take over the

6. Even before accounting for the additional budget effects from the most recent fiscal policy, the American Rescue Plan, the CBO projected in February that the debt-to-GDP ratio would rise in 2021. See Congressional Budget Office (2021), *The Budget and Economic Outlook: 2021 to 2031* (Washington: CBO, February), <https://www.cbo.gov/system/files/2021-02/56970-Outlook.pdf>.

next few years remain below 0.25 percent until the fourth quarter of 2022, about two quarters earlier than in February (figure 29).⁷ The shift in the path followed news of the rapid deployment in the United States of highly effective COVID-19 vaccines, the reopening of contact-intensive sectors of the economy, and expectations that further support for aggregate demand would be coming from fiscal policy.

Survey-based measures of the expected path of the policy rate shifted up somewhat since the start of the year. According to the results of two surveys that the Federal Reserve Bank of New York conducted in June—the Survey of Primary Dealers and the Survey of Market Participants—the median respondent of each survey views the most likely path of the federal funds rate as remaining in its current range of 0 to ¼ percent until the third quarter of 2023, a quarter earlier than in March.⁸

Longer-term nominal Treasury yields were little changed . . .

Yields on nominal Treasury securities at longer maturities were little changed, on net, since mid-February (figure 30). Concurrently, near-term uncertainty about longer-term interest rates—as measured by volatility of near-term swap options (swaptions) on 10-year swap interest rates—remained roughly unchanged, on net, since February.

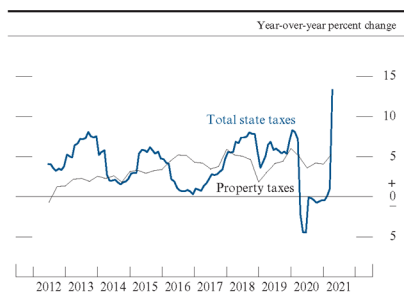
. . . while spreads of other long-term debt to Treasury securities narrowed modestly on net

Across different categories of corporate credit, bond yields are little changed since mid-February and have remained near the lowest levels of their historical distributions. Spreads

7. These measures are based on a straight read of market quotes and are not adjusted for term premiums.

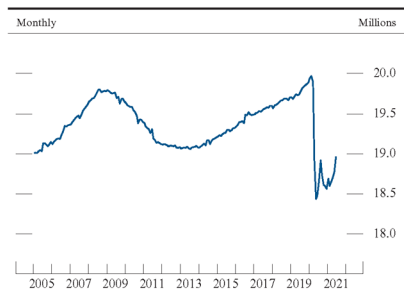
8. The results of the Survey of Primary Dealers and the Survey of Market Participants are available on the Federal Reserve Bank of New York’s website at https://www.newyorkfed.org/markets/primarydealer_survey_questions.html and https://www.newyorkfed.org/markets/survey_market_participants, respectively.

27. State and local tax receipts



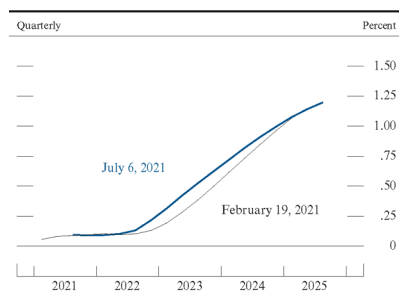
NOTE: State tax data are year-over-year percent changes of 12-month moving averages, begin in June 2012, extend through April 2021, and are aggregated over all states except Wyoming, for which data are not available. Revenues from Washington, DC, are also excluded. Data for March and April are missing for New Mexico, as this state has longer reporting lags than others. Property tax data are year-over-year percent changes of 4-quarter moving averages, begin in 2012:Q2, and are primarily collected by local governments.
SOURCE: State Tax and Economic Review, State and Local Finance Initiative at Urban Institute; Census Bureau.

28. State and local government payroll employment



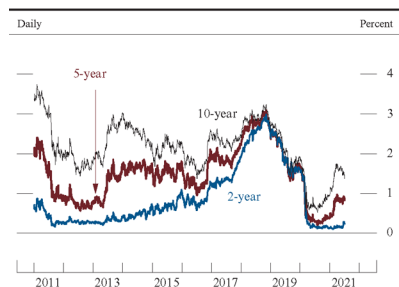
NOTE: The data are seasonally adjusted and extend through June 2021.
SOURCE: Bureau of Labor Statistics, National Compensation Survey via Haver Analytics.

29. Market-implied federal funds rate path



NOTE: The federal funds rate path is implied by quotes on overnight index swaps—a derivative contract tied to the effective federal funds rate. The implied path as of February 19, 2021, is compared with that as of July 6, 2021. The path is estimated with a spline approach, assuming a term premium of 0 basis points. The February 19, 2021, path extends through 2025:Q1 and the July 6, 2021, path through 2025:Q3.
SOURCE: Bloomberg; Federal Reserve Board staff estimates.

30. Yields on nominal Treasury securities



SOURCE: Department of the Treasury via Haver Analytics.

31. Yield and spread on agency mortgage-backed securities



NOTE: The data are daily. Yield shown is for the Fannie Mae 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value. Spread shown is to the average of the 5-year and 10-year nominal Treasury yields.
SOURCE: Department of the Treasury; J.P. Morgan. Courtesy of J.P. Morgan Chase & Co., Copyright 2021.

of corporate bond yields over comparable-maturity Treasury securities have narrowed modestly and stand somewhat below the levels prevailing at the onset of the pandemic, supported in part by signs of improvement in the credit quality of nonfinancial firms.

Since mid-February, yields on 30-year agency mortgage-backed securities—an important factor entering into the pricing of home mortgages—were little changed, on net, while those on comparable-maturity Treasury securities increased a bit, leaving their spread modestly lower on net (figure 31). Municipal bond spreads over rates on longer-term Treasury securities have declined moderately across credit categories since mid-February and stand at the lower end of the historical distribution, while municipal bond yields across credit categories are at about their all-time lowest historical levels.

Broad equity price indexes increased moderately

Broad stock price indexes have continued to rise since mid-February, as strong corporate earnings, optimism about the pace of vaccinations, additional fiscal stimulus, and signs of a faster pace of economic recovery outweighed concerns about high valuations, higher inflation, and prospects for the control of the virus abroad (figure 32). Prices of cyclical stocks, including those associated with companies in the basic materials, energy, and industrial sectors, outperformed broad equity price indexes. Banks’ stock prices have also risen notably, on net, as the improved economic outlook and banks’ reports of strong first-quarter earnings provided a further boost to investor optimism regarding the banking sector. Measures of realized and option-implied stock price volatility for the S&P 500 index—the 20-day realized volatility and the VIX, respectively—have declined somewhat and are near their historical medians (figure 33). (For a discussion of financial stability issues, see the box “Developments Related to Financial Stability.”)

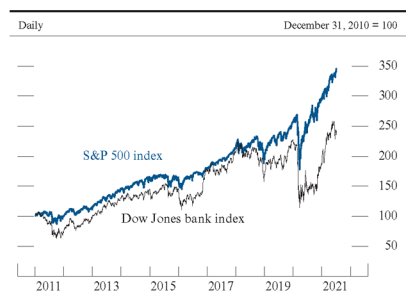
Markets for Treasury securities, mortgage-backed securities, and corporate and municipal bonds have functioned well . . .

Measures of market liquidity for Treasury securities—such as measures of market depth and bid-ask spreads—remained close to pre-pandemic levels overall, particularly for shorter-dated securities. However, longer-dated Treasury securities and some portions of the mortgage-backed securities market—notably those classes of securities excluded from Federal Reserve open market purchases—remain somewhat less liquid than before the onset of the pandemic. Measures of market functioning in the corporate and municipal bond markets remained stable since February, with these markets functioning roughly as they did in the months before the pandemic. Bid-ask spreads across corporate bond credit categories have been slightly below pre-pandemic levels, and issuance of corporate bonds in primary markets has been solid. Municipal bond market liquidity—as measured by round-trip transaction costs—has come back to near pre-pandemic levels.

. . . while short-term funding market conditions remained stable

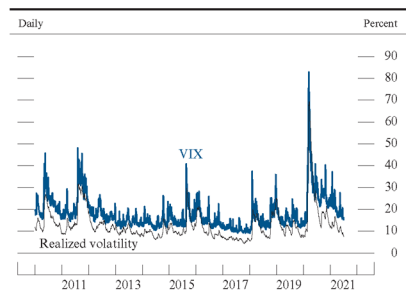
The effective federal funds rate (EFFR) and other overnight unsecured rates have seen some slight downward pressure relative to the interest rate on excess reserves since mid-February. The EFFR has nevertheless been comparatively stable, while other short-term interest rates registered more sizable declines. Secured overnight rates traded lower, with the Secured Overnight Financing Rate trading at or just above the offering rate on the overnight reverse repurchase agreement (ON RRP) facility since mid-March. Ample liquidity, arising from substantial increases in reserves, has, in conjunction with paydowns of Treasury bills, driven short-term interest rates lower. Notwithstanding the very low level of rates—including small volumes of negative-rate trading in overnight repurchase agreements on most days between mid-March

32. Equity prices



SOURCE: S&P Dow Jones Indices LLC via Bloomberg. (For Dow Jones Indices licensing information, see the note on the Contents page.)

33. S&P 500 volatility



NOTE: The VIX is a measure of implied volatility that represents the expected annualized change in the S&P 500 index over the following 30 days. For realized volatility, 5-minute S&P 500 returns are used in an exponentially weighted moving average with 75 percent of weight distributed over the past 20 days.

SOURCE: Cboe Volatility Index® (VIX®) via Bloomberg; Federal Reserve Board staff estimates.

Developments Related to Financial Stability

While some financial vulnerabilities have increased since February, the institutions at the core of the financial system remain resilient. This discussion reviews vulnerabilities in the U.S. financial system. The framework used by the Federal Reserve Board for assessing the resilience of the U.S. financial system focuses on financial vulnerabilities in four broad areas: asset valuations, business and household debt, leverage in the financial sector, and funding risks.

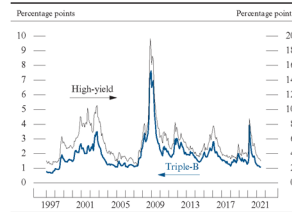
Prices of risky assets have generally increased in the first half of 2021. They have been buoyed by the rapid deployment of highly effective COVID-19 vaccines in the United States, the support provided by fiscal policy, and increased investor risk appetite. Broad equity market indexes have reached record highs in recent months, and the ratio of prices to forecasts of earnings remains high relative to its historical distribution (figure A). Option-implied volatility has been declining throughout the first half of 2021 and now stands at about its historical median. Yields on corporate bonds and leveraged loans remain low. On balance, indicators of commercial real estate (CRE) valuations remain high; however, low transaction volumes—especially for distressed properties—may mask declines in commercial property values. Supported by relatively low mortgage rates and shifting supply and demand dynamics brought about by the pandemic, house prices have increased at double-digit annual rates for several months amid strong home sales. The surge in

A. Forward price-to-earnings ratio of S&P 500 firms



NOTE: The data extend through June 2021. The series represents the aggregate forward price-to-earnings ratio of S&P 500 firms based on expected earnings for 12 months ahead.
SOURCE: Federal Reserve Board staff calculations using Refinitiv (formerly Thomson Reuters); Institutional Brokers' Estimate System estimates.

B. Corporate bond spreads to similar-maturity Treasury securities



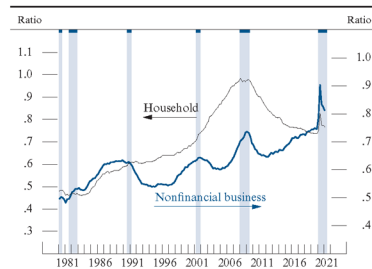
NOTE: The data are monthly and extend through June 2021. The triple-B series reflects the effective yield of the ICE Bank of America Merrill Lynch (BoAML) 7-to-10-year triple-B U.S. Corporate Index (C3M4), and the high-yield series reflects the effective yield of the ICE BoAML 7-to-10-year U.S. Cash Pay High Yield Index (J4A0). Treasury yields from the smoothed yield curve are estimated from off-the-run securities.
SOURCE: ICE Data Indices, LLC, used with permission; Department of the Treasury.

the prices of a variety of crypto-assets also reflects in part increased risk appetite. Long-term Treasury yields have risen since mid-February but remain low by historical standards. The high asset prices in part reflect the continued low level of Treasury yields. However, valuations for some assets are elevated relative to historical norms even when using measures that account for Treasury yields (figure B). Asset prices may be vulnerable to significant declines should investor risk appetite fall, interest rates rise unexpectedly, or the recovery stall.

Vulnerabilities from both business and household debt have declined through the first quarter of 2021, reflecting a slower pace of business borrowing, an improvement in business earnings, and government programs that have supported business and household incomes. Even so, some businesses and households remain under considerable strain. Business debt outstanding changed little in the second half of 2020 and first quarter of 2021, although it remains high relative to gross domestic product (figure C). Recovering earnings and the low level of interest rates have generally aided businesses' ability to carry debt. Some smaller businesses continue to face significant financial strains but have been supported by government

(continued)

C. Nonfinancial business- and household-sector credit-to-GDP ratios



NOTE: The data are quarterly. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research (NBER). As of the publication of this report, the NBER has not declared an end to the current recession. GDP is gross domestic product.

SOURCE: Federal Reserve Board staff calculations based on Bureau of Economic Analysis, national income and product accounts, and Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

programs, including the Paycheck Protection Program (PPP). Debt owed by households remains at a moderate level relative to income. Household borrowing continues to be heavily concentrated among borrowers with high credit scores. Moreover, government actions taken in response to the pandemic have provided significant support to household balance sheets and incomes, with many households saving more and holding more liquid assets.

In the financial sector, leverage at banks and broker-dealers remained low, while leverage at hedge funds and life insurance companies continued to be high. The common equity Tier 1 ratio for most banks increased, on net, over 2020 and into the first quarter of 2021. Measures of credit quality of bank loans have also improved in the first quarter of 2021. Moreover, the share of loan balances in loss-mitigation programs at the largest banks has declined. The shares of credit cards and auto loans in loss mitigation have seen larger declines, while the shares of residential real estate, commercial and industrial, and CRE loans remain high. Nevertheless, some uncertainty remains about the ability of borrowers in loss-mitigation programs to meet their obligations after those programs end and government support runs out. Broker-dealer leverage remained near historically low levels through the first quarter of 2021, although dealers continue to finance

sizable inventories of Treasury securities. No notable effect on Treasury market functioning followed the expiration in March 2021 of temporary changes to the supplementary leverage ratio, which were implemented to ease strains in Treasury market intermediation in the initial weeks of the pandemic. Most measures of hedge fund leverage increased in the second half of 2020 into the beginning of 2021 and are now above their historical averages. A few recent episodes have highlighted the opacity of risky exposures and the need for greater transparency at hedge funds and other leveraged financial entities that can transmit stress to the financial system. The Financial Stability Oversight Council has restarted its Hedge Fund Working Group to improve data sharing, identify risks, and strengthen the financial system. Leverage at life insurance companies remains historically high as of the first quarter of 2021. Issuance volumes of non-agency securities recovered somewhat in the first quarter of 2021, although the recovery was uneven across asset classes.¹ Collateralized loan obligation and asset-backed securities issuance was elevated, whereas non-agency commercial mortgage-backed securities issuance was weak.

Funding risks at domestic banks remained low, as these banks rely only modestly on short-term wholesale funding and maintain sizable holdings of high-quality liquid assets. Liquidity ratios were well above regulatory requirements at most large domestic banks as of the first quarter of 2021. Assets under management at prime and tax-exempt money market funds (MMFs) have declined since the middle of 2020, but vulnerabilities at these funds remain and call for structural fixes.

The President's Working Group on Financial Markets released a report in December 2020 outlining potential reforms to address risks from the MMF sector.² Subsequently, the Securities and Exchange Commission issued a request for comment on these potential reforms and summarized its findings.³ If

(continued on next page)

1. Securitization can add leverage to the financial system through its use of "special purpose entities," which are generally subject to rules such as risk retention that are less stringent than banks' regulatory capital requirements.

2. See U.S. Department of the Treasury (2020), "President's Working Group on Financial Markets Releases Report on Money Market Funds," press release, December 22, <https://home.treasury.gov/news/press-releases/sm1219>.

3. See U.S. Securities and Exchange Commission (2021), "SEC Requests Comment on Potential Money Market Fund Reform Options Highlighted in President's Working Group

Developments Related to Financial Stability *(continued)*

properly calibrated, some of these reforms—such as swing pricing, a minimum balance at risk, and capital buffers—could significantly reduce the run risk associated with MMFs. Meanwhile, the Money Market Mutual Fund Liquidity Facility and the Commercial Paper Funding Facility, which were deployed during the COVID-19 pandemic to backstop short-term funding markets, expired at the end of March with no material effect on these markets. Bond and bank loan mutual funds benefited from net inflows but are exposed to risks due to large holdings of illiquid assets.

A routine survey of market contacts on salient shocks to financial stability highlights several important risks. A worsening of the global pandemic could stress the financial systems in emerging markets and some European countries. Further, if global interest rates were to rise abruptly, some emerging market economies could experience additional fiscal strains. These risks, if realized, could interact with financial vulnerabilities and pose additional risks to the U.S. financial system.

Developments Associated with Facilities to Support the Economy during the COVID-19 Crisis

In the immediate wake of the pandemic, the Federal Reserve took forceful actions and established emergency lending facilities, with the approval of the Secretary of the Treasury as needed. These actions and facilities supported the flow of credit to households and businesses and served as backstop measures that have given investors confidence that support would be available should conditions deteriorate substantially.

Most of the facilities established at the onset of the pandemic expired at the end of December 2020, the beginning of January 2021, or the end of March 2021. These facilities expired with no notable effect on financial market functioning.

Report," press release, February 4, <https://www.sec.gov/news/press-release/2021-25>.

The termination date of the Federal Reserve's Paycheck Protection Program Liquidity Facility, which currently has \$90.6 billion in loans outstanding funded to the PPP, was extended to July 30, 2021. The Federal Reserve has begun winding down the portfolio of the Secondary Market Corporate Credit Facility, an emergency lending facility that closed on December 31, 2020.⁴ The portfolio sales have been gradual and orderly and have aimed to minimize the potential for any adverse effect on market functioning by taking into account daily liquidity and trading conditions for exchange-traded funds and corporate bonds. To date, these sales have had no notable effect on mutual fund flows or price effects in the market.

The Federal Reserve also took actions to reduce spillovers to the U.S. economy from foreign financial stresses. Temporary U.S. dollar liquidity swap lines were established in March 2020, in addition to the preexisting standing lines, and have improved liquidity conditions in dollar funding markets in the United States and abroad by providing foreign central banks with the capacity to deliver U.S. dollar funding to institutions in their jurisdictions during times of market stress. The FIMA (Foreign and International Monetary Authorities) Repo Facility has helped support the smooth functioning of the U.S. Treasury market by providing a temporary source of U.S. dollars to a broad range of countries, many of which do not have swap line arrangements with the Federal Reserve. The Federal Reserve recently announced the extension of its temporary swap lines through December 31, 2021, which should help sustain improvements in global U.S. dollar funding markets.

4. See Board of Governors of the Federal Reserve System (2021), "Federal Reserve Board Announces Plans to Begin Winding Down the Portfolio of the Secondary Market Corporate Credit Facility," press release, June 2, <https://www.federalreserve.gov/newsevents/pressreleases/monetary20210602a.htm>.

and mid-June—short-term funding markets have functioned smoothly since February.

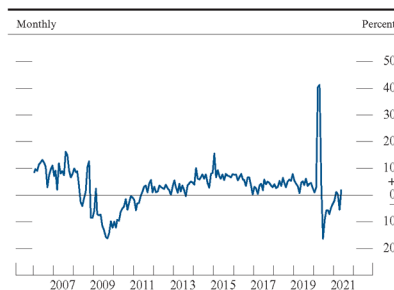
Money market funds increased significantly their holdings of overnight repurchase agreements

Since February, assets under management of government money market funds (MMFs) have gradually increased to an all-time high of nearly \$4 trillion amid the disbursement of fiscal relief payments to individuals, states, and municipalities, and as some banks have reportedly taken steps to discourage additional deposit inflows. Against the backdrop of a sizable decrease in outstanding Treasury bill supply, government MMFs reduced their holdings of Treasury and agency securities while increasing their holdings of overnight repurchase agreements, including with the Federal Reserve. This development led to record levels of usage of the Federal Reserve’s ON RRP facility in late May and June. (See the box “Developments in the Federal Reserve’s Balance Sheet and Money Markets” in Part 2.)

Bank credit remained little changed, while lending standards eased

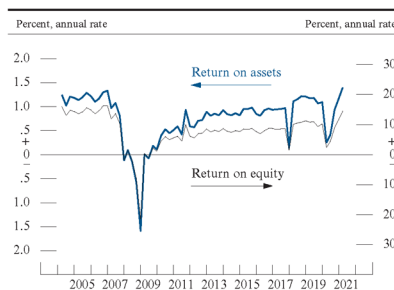
Total loans and leases outstanding at commercial banks remained little changed in the first half of the year (figure 34). The April Senior Loan Officer Opinion Survey on Bank Lending Practices, conducted by the Federal Reserve, reported easier standards for most business and household loans over the first quarter of the year. Bank profitability increased over the first quarter of 2021 (figure 35). Delinquency rates on bank loans remain low but may increase later in the year, as foreclosure moratoriums and payment forbearance programs are set to expire.

34. Growth in total loans and leases



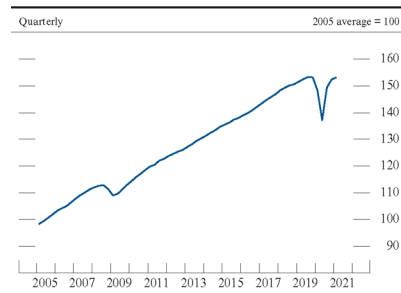
NOTE: The data are calculated as monthly annualized growth rates and are seasonally and break adjusted.
SOURCE: Federal Reserve Board, Statistical Release H.8, “Assets and Liabilities of Commercial Banks in the United States.”

35. Profitability of bank holding companies



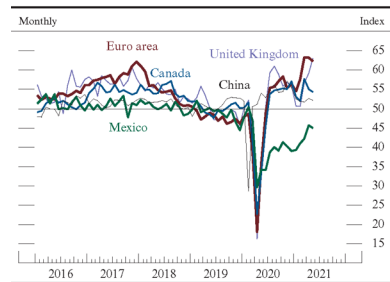
NOTE: The data are quarterly and are seasonally adjusted.
SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

36. Foreign real gross domestic product



NOTE: Foreign gross domestic product is computed on a representative sample of 40 countries and aggregated using U.S. trade weights.
SOURCE: Federal Reserve Bank of Dallas, Database of Global Economic Indicators, "Real Gross Domestic Product."

37. Manufacturing output purchasing managers index in selected foreign economies



NOTE: For the foreign manufacturing output purchasing managers index (PMI), values greater than (less than) 50 indicate better (worse) business conditions, on average, for the participants surveyed relative to conditions at the time of the previous survey.
SOURCE: IHS Markit, Global Sector PMI.

38. Services purchasing managers index in selected foreign economies



NOTE: For the foreign services output purchasing managers index (PMI), values greater than (less than) 50 indicate better (worse) business conditions, on average, for the participants surveyed relative to conditions at the time of the previous survey.
SOURCE: IHS Markit, Global Sector PMI.

International Developments

The recovery abroad slowed in the first half of the year . . .

A resurgence of COVID-19 cases late last year led to substantial tightening in social-distancing restrictions in many foreign economies. Consequently, foreign GDP growth slowed in the last quarter of 2020 and the first quarter of 2021, as several advanced foreign economies (AFE) experienced contractions in activity (figure 36). In most AFEs, the level of GDP in the first quarter remained below its pre-pandemic peak. However, compared with last spring, many foreign economies exhibited greater resilience to public health restrictions, and their governments have continued to provide fiscal support. Recent available indicators suggest a pickup for AFEs in GDP growth in the second quarter of this year as vaccination rates increased and restrictions were eased (figures 37 and 38).

Although the situation in the AFEs appears to be improving, conditions in emerging market economies (EMEs) are more mixed, partly reflecting differences in success in containing COVID-19 outbreaks. Also, the pace of vaccinations in many EMEs remains slow due to supply shortages and other logistical challenges. Some higher-income Asian economies, where infections have so far remained mostly under control, experienced surprisingly fast growth, boosted by increased export demand and a partial recovery in domestic consumption. Most notably, the levels of GDP in China and in other industrialized EMEs such as Taiwan—which had managed to remain fairly insulated from the virus but has seen outbreaks recently—are already roughly 8 percent above their pre-pandemic levels (figure 39). Conversely, in many Latin American countries and some South and Southeast Asian economies, infection outbreaks led to continuing or increased public health restrictions and social distancing. Reflecting these headwinds, recent economic indicators suggest a decline in

growth in the second quarter of 2021 in many of these EMEs following a sharp rebound in the first quarter, with economic activity still well below pre-pandemic levels.

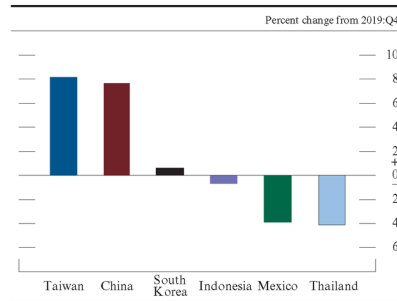
Unemployment rates in Europe are about 1 percentage point higher in early 2021 than before the pandemic (figure 40). This relatively muted change is partly a result of wage subsidy programs that kept workers on payrolls and employment protection regulations that limited rapid job destruction. Hours worked, however, have fallen more substantially, suggesting that the extent of economic slack in Europe may be greater than indicated by the unemployment rate. The unemployment trajectory in Canada was more similar to that in the United States, with a rapid increase early last spring followed by a steep decline subsequently.

... amid a pickup in inflation and continued policy support

Inflation rates abroad have increased in recent months. In many AFEs, inflation readings moved up since the beginning of the year after substantial declines last year (figure 41). The rise in inflation was largely driven by base effects due to low price levels in 2020 as well as run-ups in energy prices. In some EMEs, currency depreciation and higher food prices are also contributing to inflation pressures. Even so, core inflation readings in many AFEs still point to moderate underlying inflation pressure, suggesting that the observed rise in inflation so far this year largely reflects temporary factors.

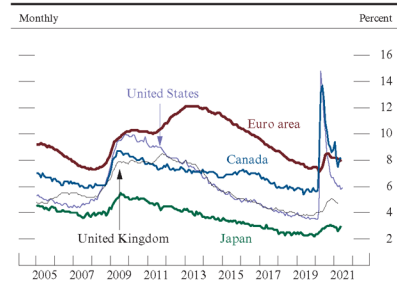
Monetary policy abroad remained accommodative, as central banks focused on supporting growth and viewed the recent rise in inflation as transitory. Market-implied policy paths in many AFEs continue to signal a period of monetary accommodation, although paths in Canada and the United Kingdom moved higher this year (figure 42). The European Central Bank increased its pace of asset purchases in the spring, and the Bank of Japan's yield curve control policy

39. Real gross domestic product in selected emerging market economies



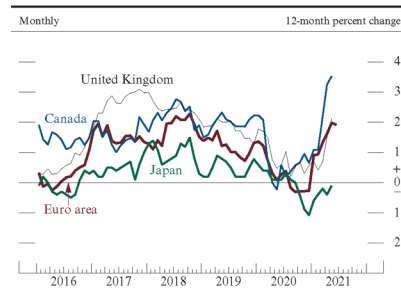
NOTE: The data are for 2021:Q1.
SOURCE: For Taiwan, Directorate General of Budget, Accounting and Statistics; for China, National Bureau of Statistics of China; for South Korea, Bank of Korea; for Indonesia, Badan Pusat Statistik; for Mexico, Instituto Nacional de Estadística y Geografía; for Thailand, Office of the National Economic and Social Development Board; all via Haver Analytics.

40. Unemployment rate in selected advanced economies



NOTE: The data for the United Kingdom extend through March 2021 and are centered 3-month averages of monthly data. The data for the United States extend through June 2021.
SOURCE: For the United Kingdom, Office for National Statistics; for Japan, Ministry of Health, Labour and Welfare; for the euro area, Statistical Office of the European Communities; for Canada, Statistics Canada; for the United States, Bureau of Labor Statistics; all via Haver Analytics.

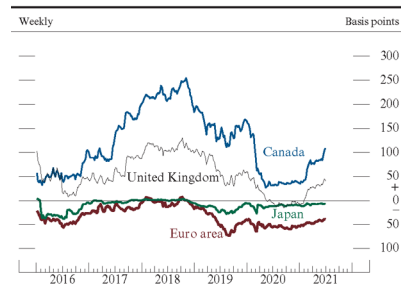
41. Consumer price inflation in selected advanced foreign economies



NOTE: The data for the euro area incorporate the flash estimate for June 2021.

SOURCE: For the United Kingdom, Office for National Statistics; for Japan, Ministry of Internal Affairs and Communications; for the euro area, Statistical Office of the European Communities; for Canada, Statistics Canada; all via Haver Analytics.

42. 24-month policy expectations for selected advanced foreign economies



NOTE: The data are weekly averages of daily 24-month market-implied central bank policy rates. The 24-month policy rates are implied by quotes on overnight index swaps tied to the policy rates. The data extend through July 2, 2021.

SOURCE: Bloomberg; Federal Reserve Board staff estimations.

proved effective in containing a rise in bond yields. By contrast, while still maintaining an accommodative policy rate, the Bank of Canada announced plans to end liquidity support programs and started slowing its pace of asset purchases. The Bank of England also slowed its pace of asset purchases but indicated that its policy stance remains accommodative. Monetary policy in EMEs was generally accommodative as well, but some EME central banks—including in Brazil, Russia, and Turkey—increased policy rates, citing concerns about inflationary pressures. The Bank of Mexico, while leaving its policy rate unchanged, highlighted concerns about financial market volatility and past peso depreciation.

Improved outlook led to increases in foreign yields and equity prices . . .

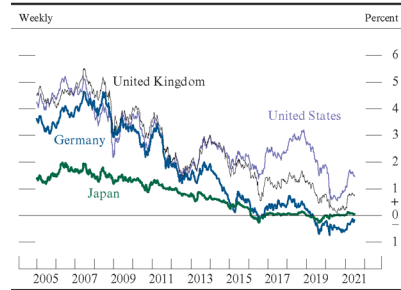
Longer-term sovereign yields and market-based inflation compensation measures increased in some major advanced economies, as the economic outlook brightened and commodity prices rose (figure 43). Despite the increase, market-based inflation compensation in many AFEs remained below the inflation target of their respective central banks. Japanese yields were little changed due to the Bank of Japan’s yield curve control policy. Equity markets in AFEs generally rose despite the new wave of COVID-19 infections earlier this year, as many economies proved resilient to increased case numbers and lockdowns and the vaccine rollout allowed gradual reopening (figure 44).

Equities in emerging markets were mixed. Since the beginning of the year, equity prices in some EMEs, including South Korea, Taiwan, and Mexico, improved considerably, but equity prices in other countries, including China, underperformed (figure 45). Inflows into dedicated EME investment funds slowed this year but remained positive, and EME bond spreads moved little so far this year (figure 46).

... and the dollar remained little changed

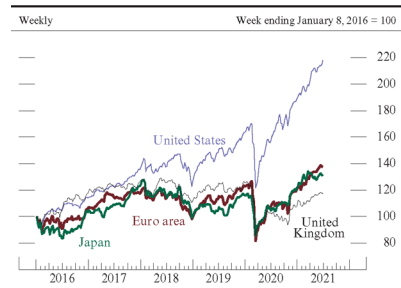
After depreciating sharply in late 2020, the broad dollar index—a measure of the trade-weighted value of the dollar against foreign currencies—has changed little, on net, since the beginning of the year. It has strengthened somewhat recently, amid increases in medium-term U.S. yields (figure 47). Among AFE currencies, the dollar appreciated most against the Japanese yen, as Japanese yields moved least. Since the beginning of the year, the U.S. dollar depreciated against the Canadian dollar, which was buoyed by higher commodity prices and signs of a stronger-than-expected recovery in Canada (figure 48).

43. Nominal 10-year government bond yields in selected advanced economies



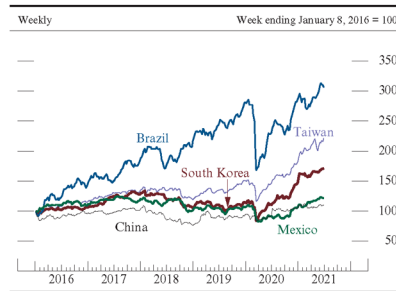
NOTE: The data are weekly averages of daily benchmark yields and extend through July 2, 2021.
SOURCE: Bloomberg.

44. Equity indexes for selected advanced economies



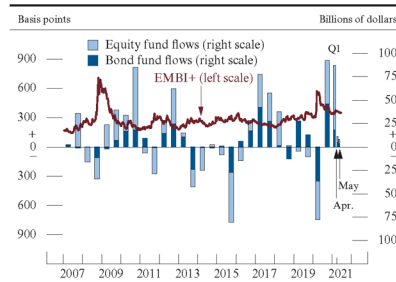
NOTE: The data are weekly averages of daily data and extend through July 2, 2021.
SOURCE: For euro area, Dow Jones Euro Stoxx Index; for Japan, Tokyo Stock Price Index; for United Kingdom, Financial Times Stock Exchange 100 Index; for United States, S&P 500 Index; all via Bloomberg. (For Dow Jones Indices licensing information, see the note on the Contents page.)

45. Equity indexes for selected emerging market economies



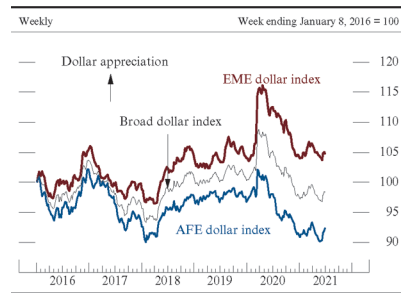
NOTE: The data are weekly averages of daily data and extend through July 2, 2021.
SOURCE: For China, Shanghai Composite Index; for Brazil, Bovespa Index; for South Korea, Korean Composite Index; for Mexico, IPC Index; for Taiwan, TAIEIX; all via Bloomberg.

46. Emerging market mutual fund flows and spreads



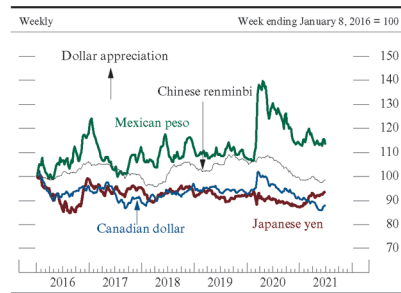
NOTE: The bond and equity fund flows data are semiannual sums of weekly data from December 28, 2006, to December 30, 2020; a quarterly sum of weekly data from December 31, 2020, to March 31, 2021; and monthly sums of weekly data from April 1, 2021, to May 26, 2021. Weekly data span Thursday through Wednesday, and the semiannual, quarterly, and monthly values are sums over weekly data for weeks ending in that half year, quarter, or month. The fund flows data exclude funds located in China. The J.P. Morgan Emerging Markets Bond Index Plus (EMBI+) data are weekly averages of daily data and extend through July 2, 2021. The EMBI+ data exclude Venezuela.
SOURCE: For bond and equity fund flows, EPFR Global; for EMBI+, J.P. Morgan Emerging Markets Bond Index Plus via Bloomberg.

47. U.S. dollar exchange rate indexes



NOTE: The data, which are in foreign currency units per dollar, are weekly averages of daily values of the broad dollar index, advanced foreign economies (AFE) dollar index, and emerging market economies (EME) dollar index. The weekly data extend through July 2, 2021. As indicated by the leftmost arrow, increases in the data reflect U.S. dollar appreciation and decreases reflect U.S. dollar depreciation.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

48. Exchange rate indexes for selected economies



NOTE: The data, which are in foreign currency units per dollar, are weekly averages of daily data and extend through July 2, 2021. As indicated by the leftmost arrow, increases in the data reflect U.S. dollar appreciation and decreases reflect U.S. dollar depreciation.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

PART 2 MONETARY POLICY

The Federal Open Market Committee maintained the federal funds rate near zero as it seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run . . .

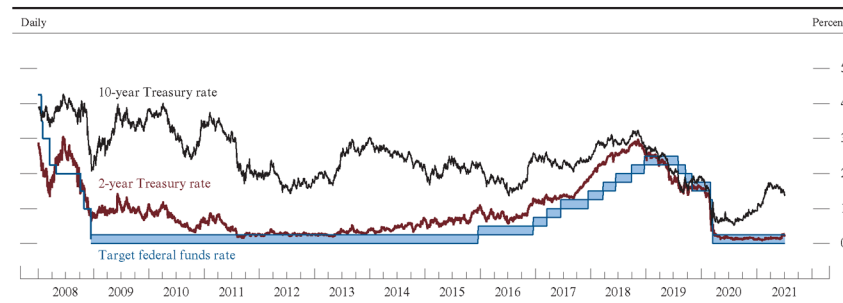
As part of its actions to ensure that monetary policy will continue to deliver powerful support to the economy until the recovery is complete, the Federal Open Market Committee (FOMC) has maintained the target range for the federal funds rate at 0 to ¼ percent (figure 49). The Committee has indicated that it expects it will be appropriate to maintain the target range for the federal funds rate at 0 to ¼ percent until labor market conditions have reached levels consistent with the Committee’s assessments of maximum employment and inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time. With inflation having run persistently below the Committee’s longer-run goal, the Committee will aim to achieve inflation moderately above 2 percent for some time so that inflation averages 2 percent over time and longer-term

inflation expectations remain well anchored at 2 percent. The Committee expects to maintain an accommodative stance of monetary policy until these outcomes are achieved.

. . . and the Committee increased the holdings of Treasury securities and agency mortgage-backed securities in the System Open Market Account

In addition, the Federal Reserve has continued to expand its holdings of Treasury securities by \$80 billion per month and its holdings of agency mortgage-backed securities (MBS) by \$40 billion per month. These asset purchases help foster smooth market functioning and accommodative financial conditions, thereby supporting the flow of credit to households and businesses. The Committee’s current guidance regarding asset purchases indicates that increases in the holdings of Treasury securities and agency MBS in the System Open Market Account will continue at least at this pace until substantial further progress has been made toward its maximum-employment and price-stability goals since the Committee

49. Selected interest rates



NOTE: The 2-year and 10-year Treasury rates are the constant-maturity yields based on the most actively traded securities.
SOURCE: Department of the Treasury; Federal Reserve Board.

adopted its asset purchase guidance last December. In addition, the minutes of the June 2021 FOMC meeting noted the importance that policymakers attach to clear communications about the Committee's assessment of progress toward its longer-run goals and to providing these communications well in advance of the time when progress can be judged substantial enough to warrant a change in the pace of asset purchases.⁹ In coming meetings, the FOMC will continue to assess the economy's progress toward the Committee's goals.

The FOMC is committed to using its full range of tools to promote maximum employment and price stability

Progress on vaccinations will likely continue to reduce the effects of the public health crisis on the economy, but risks to the economic outlook remain. The Federal Reserve is committed to using its full range of tools to support the U.S. economy in this challenging time, thereby promoting its maximum-employment and price-stability goals. The Committee will continue to monitor the implications of incoming information for the economic outlook and is prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will continue to take into account a wide range of information, including readings on public health, labor market conditions, inflation pressures and inflation expectations, and financial and international developments.

In addition to considering a wide range of economic and financial data and information gathered from business contacts and other informed parties around the country,

⁹ The minutes for the June 2021 FOMC meeting are available on the Board's website at <https://www.federalreserve.gov/monetarypolicy/fomccalendars.htm>.

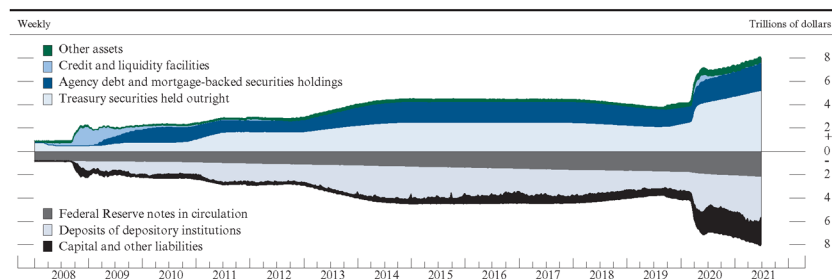
policymakers routinely consult prescriptions for the policy interest rate provided by various monetary policy rules. These rule prescriptions can provide useful benchmarks for the FOMC. Simple rules cannot capture the complexities of monetary policy, and many practical considerations make it undesirable for the FOMC to adhere strictly to the prescriptions of any specific rule. However, some principles associated with good monetary policy can be illustrated by these policy rules (see the box "Monetary Policy Rules, the Effective Lower Bound, and the Economic Recovery"). The FOMC's framework for conducting monetary policy involves a systematic approach in keeping with key principles of good monetary policy but allows for more flexibility than is implied by simple policy rules.

The size of the Federal Reserve's balance sheet continued to grow, reflecting purchases of U.S. Treasury securities and agency mortgage-backed securities

The Federal Reserve's balance sheet has grown to \$8.1 trillion from \$7.4 trillion at the end of January, reflecting continued asset purchases to help foster smooth market functioning and accommodative financial conditions, thereby supporting the flow of credit to households and businesses (figure 50). The Federal Reserve has continued rolling over at auction all principal payments from its holdings of Treasury securities. Principal payments received from agency MBS and agency debt continue to be reinvested into agency MBS. After the March FOMC meeting, in light of the sustained smooth functioning of markets for agency commercial mortgage-backed securities (CMBS), the Federal Reserve ended regular purchases of agency CMBS.

The increase in aggregate asset holdings on the Federal Reserve's balance sheet arising from Treasury security and agency MBS purchases has been offset in part by declines in several other asset categories. Outstanding balances at many of the Federal Reserve's emergency liquidity and credit facilities

50. Federal Reserve assets and liabilities



NOTE: "Agency debt and mortgage-backed securities holdings" includes agency residential mortgage-backed securities and agency commercial mortgage-backed securities. "Credit and liquidity facilities" consists of primary, secondary, and seasonal credit; term auction credit; central bank liquidity swaps; support for Maiden Lane, Bear Stearns Companies, Inc., and AIG; and other credit and liquidity facilities, including the Primary Dealer Credit Facility, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, the Term Asset-Backed Securities Loan Facility, the Primary and Secondary Market Corporate Credit Facilities, the Paycheck Protection Program Liquidity Facility, the Municipal Liquidity Facility, and the Main Street Lending Program. "Other assets" includes repurchase agreements, FIMA (Foreign and International Monetary Authorities) repurchase agreements, and unamortized premiums and discounts on securities held outright. "Capital and other liabilities" includes reverse repurchase agreements, the U.S. Treasury General Account, and the U.S. Treasury Supplementary Financing Account. The data extend through June 30, 2021. The key identifies shaded areas in order from top to bottom.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

have declined since the end of January, and most facilities have now expired.¹⁰ In June, the Federal Reserve Board announced plans to begin winding down the portfolio of the Secondary Market Corporate Credit Facility (SMCCF). The SMCCF proved very important in restoring market functioning last year, supporting the availability of credit for large employers, and bolstering employment through the COVID-19 pandemic. The winding down of the SMCCF portfolio has been gradual and orderly and has not produced any adverse effect on market

functioning. Draws on central bank liquidity swap lines have decreased further to near zero, and usage of repurchase operations has remained at zero since February. In contrast, the Paycheck Protection Program Liquidity Facility has expanded to around \$80 billion since the end of January.

Reserves have increased significantly to around \$4 trillion, mostly because of asset purchases and the large drawdown in the Treasury General Account from around \$1.6 trillion in January to about \$850 billion in June. However, reserves have been relatively stable more recently given a substantial increase in the use of the overnight reverse repurchase agreement facility. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets.")

10. A list of credit and liquidity facilities established by the Federal Reserve in response to COVID-19 is available on the Board's website at <https://www.federalreserve.gov/funding-credit-liquidity-and-loan-facilities.htm>.

Monetary Policy Rules, the Effective Lower Bound, and the Economic Recovery

Simple interest rate rules relate a policy interest rate, such as the federal funds rate, to a small number of other economic variables—typically including the deviation of inflation from its target value and a measure of resource slack in the economy. Policymakers consult prescriptions of the policy interest rate derived from a variety of policy rules for guidance, without mechanically following the prescriptions of any particular rule. This discussion examines the prescriptions of a number of interest rate rules. One simplification these rules typically adopt is ignoring the effective lower bound (ELB) on interest rates, and many of the rules have prescribed negative values for the federal funds rate since the onset of the pandemic-driven recession.

Most rules analyzed in the research literature respond to deviations—both positive and negative—of resource utilization from its trend level because they were informed by historical periods and economic models in which high resource utilization is accompanied by inflation pressure. By contrast, the Federal Open Market Committee’s (FOMC) Statement on Longer-Run Goals and Monetary Policy Strategy indicates that policymakers would not respond to high employment unless it was accompanied by signs of unwanted increases in inflation or the emergence of other risks that could impede the attainment of the Committee’s goals.¹ Accordingly, this discussion examines—in addition to the prescriptions of a number of commonly studied monetary policy rules—the prescriptions of a modified simple rule that, all else being equal, does not mechanically call for policy rate increases as unemployment drops below its estimated longer-run level.²

1. For a discussion of changes made to the statement, see the box “The FOMC’s Revised Statement on Longer-Run Goals and Monetary Policy Strategy” in Board of Governors of the Federal Reserve System (2021), *Monetary Policy Report* (Washington: Board of Governors, February), pp. 40–41, https://www.federalreserve.gov/monetarypolicy/files/20210219_mprfullreport.pdf.

2. Other key features of the Committee’s monetary policy strategy outlined in its statement, including the aim of having inflation average 2 percent over time to ensure that longer-term inflation expectations remain well anchored, are not incorporated in the simple rules analyzed in this discussion. For a description of the revised statement, see Jerome H. Powell (2020), “New Economic Challenges and the Fed’s Monetary Policy Review,” speech delivered at “Navigating

Policy Rules: Some Key Design Principles and Limitations

In many stylized models of the economy, desirable economic outcomes can be achieved by following a monetary policy rule that incorporates key principles of good monetary policy. One such principle is that monetary policy should respond in a predictable way to changes in economic conditions, thus fostering public understanding of policymakers’ goals and strategy. A second principle is that, to stabilize inflation, the policy rate should be adjusted over time in response to persistent increases or decreases in inflation to an extent sufficient to ensure a return of inflation to the central bank’s longer-run objective.

Simple monetary policy rules also have important limitations. As noted earlier, simple rules do not typically recognize that the ELB limits the extent to which the policy rate can be lowered to support the economy, which may impart a downward bias to both employment and inflation. To mitigate the challenges posed by the ELB and anchor longer-term inflation expectations at 2 percent, the Committee indicates in its statement that it “seeks to achieve inflation that averages 2 percent over time, and therefore judges that, following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time.”³ None of the simple rules analyzed in this discussion include any mechanism to offset the downward bias in inflation imposed by the ELB. As such, they do not reflect these important aspects of the FOMC’s monetary policy strategy.

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the Decade Ahead: Implications for Monetary Policy,” an economic policy symposium sponsored by the Federal Reserve Bank of Kansas City, held in Jackson Hole, Wyo. (via webcast), August 27, <https://www.federalreserve.gov/newsevents/speech/powell20200827a.htm>.

3. The statement recognizes the ELB as an important consideration in the conduct of monetary policy by indicating that “the federal funds rate is likely to be constrained by its effective lower bound more frequently than in the past.” In part because of the proximity of interest rates to the ELB, the Committee judges that downward risks to employment and inflation have increased. The Committee is prepared to use its full range of tools to achieve its maximum-employment and price-stability goals.

Another limitation is that simple rules respond to only a small set of economic variables and thus necessarily abstract from many of the considerations that the FOMC takes into account. For example, a simple rule might respond to movements in a specific labor market indicator, such as the overall unemployment rate. However, no single labor market indicator can precisely capture the size of the shortfall from maximum employment or identify when a strong labor market can be sustained without putting undue upward pressure on inflation; many labor market indicators must be assessed.⁴ Similarly, simple policy rules that systematically call for increases in the policy rate as slack in the labor market diminishes might fail to recognize the benefits of sustaining a strong labor market.⁵

Finally, simple rules for the policy rate do not explicitly recognize that the monetary policy toolkit includes other tools—notably, large-scale asset purchases and forward guidance, which are especially relevant when the policy rate is constrained by the ELB. (See the box “Developments in the Federal Reserve’s Balance Sheet and Money Markets.”)

Policy Rules: Descriptions

Economists have analyzed many monetary policy rules, including the well-known Taylor (1993) rule, the “balanced approach” rule, the “adjusted Taylor (1993)” rule, and the “first difference” rule.⁶ In addition to these

4. See Lael Brainard (2021), “How Should We Think about Full Employment in the Federal Reserve’s Dual Mandate?” speech delivered at the Ec10, Principles of Economics, Lecture, Faculty of Arts and Sciences, Harvard University, Cambridge, Mass. (via webcast), February 24, <https://www.federalreserve.gov/newsevents/speech/brainard20210224a.htm>.

5. For examples of the benefits associated with strong labor market conditions, see *Fed Listens: Perspectives from the Public*, which summarizes the feedback received from the community as part of the FOMC’s 2019–20 review of its monetary policy strategy, tools, and communication practices and is available on the Board’s website at <https://www.federalreserve.gov/publications/files/fedlistens-report-20200612.pdf>.

6. The Taylor (1993) rule was suggested in John B. Taylor (1993), “Discretion versus Policy Rules in Practice,” *Carnegie-Rochester Conference Series on Public Policy*, vol. 39 (December), pp. 195–214. The balanced-approach rule was analyzed in John B. Taylor (1999), “A Historical Analysis of Monetary Policy Rules,” in John B. Taylor, ed., *Monetary Policy Rules* (Chicago: University of Chicago Press), pp. 319–41. The

rules, figure A shows a “balanced approach (shortfalls)” rule, which represents one simple way to illustrate the Committee’s focus on shortfalls from maximum employment. All of the policy rules analyzed in this discussion embody the key principles of good monetary policy previously noted as well as the important limitations.

All five rules feature the unemployment rate gap, measured as the difference between an estimate of the rate of unemployment in the longer run (u_t^L) and the current unemployment rate; the first-difference rule includes the change in the unemployment rate gap rather than its level.⁷ All of the rules abstract from the uncertainty that surrounds estimates of the unemployment rate gap. In addition, all of the rules include the difference between inflation and the FOMC’s longer-run objective of 2 percent.⁸ All but the

(continued on next page)

adjusted Taylor (1993) rule was studied in David Reischneider and John C. Williams (2000), “Three Lessons for Monetary Policy in a Low-Inflation Era,” *Journal of Money, Credit and Banking*, vol. 32 (November), pp. 936–66. The first-difference rule is based on a rule suggested by Athanasios Orphanides (2003), “Historical Monetary Policy Analysis and the Taylor Rule,” *Journal of Monetary Economics*, vol. 50 (July), pp. 983–1022. A review of policy rules is in John B. Taylor and John C. Williams (2011), “Simple and Robust Rules for Monetary Policy,” in Benjamin M. Friedman and Michael Woodford, eds., *Handbook of Monetary Economics*, vol. 3B (Amsterdam: North-Holland), pp. 829–59. The same volume of the *Handbook of Monetary Economics* also discusses approaches other than policy rules for deriving policy rate prescriptions.

7. The original Taylor (1993) rule represented slack in resource utilization using an output gap (the difference between the current level of real gross domestic product (GDP) and the level that GDP would be if the economy were operating at maximum employment, measured in percent of the latter). The rules in figure A represent slack in resource utilization using the unemployment gap instead, because that gap better captures the FOMC’s statutory goal to promote maximum employment. Movements in these alternative measures of resource utilization are highly correlated. For more information, see the note below figure A.

8. None of these rules take into account historical inflation performance. As such, these rules do not incorporate the aim of achieving inflation that averages 2 percent over time as described in the FOMC’s Statement on Longer-Run Goals and Monetary Policy Strategy. In particular, that statement indicates that “the Committee seeks to achieve inflation that averages 2 percent over time, and therefore judges that, following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time.”

Monetary Policy Rules (continued)

A. Monetary policy rules

Taylor (1993) rule	$R_t^{T93} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t)$
Balanced-approach rule	$R_t^{BA} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2(u_t^{LR} - u_t)$
Balanced-approach (shortfalls) rule	$R_t^{SBA} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2\min\{(u_t^{LR} - u_t), 0\}$
Adjusted Taylor (1993) rule	$R_t^{T93adj} = \max\{R_t^{T93} - Z_t, \text{ELB}\}$
First-difference rule	$R_t^{FD} = R_{t-1} + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t) - (u_{t-4}^{LR} - u_{t-4})$

NOTE: R_t^{T93} , R_t^{BA} , R_t^{SBA} , R_t^{T93adj} , and R_t^{FD} represent the values of the nominal federal funds rate prescribed by the Taylor (1993), balanced-approach, balanced-approach (shortfalls), adjusted Taylor (1993), and first-difference rules, respectively.

R_t denotes the realized nominal federal funds rate for quarter t , π_t is the 4-quarter price inflation for quarter t , u_t is the unemployment rate in quarter t , and r_t^{LR} is the level of the neutral real federal funds rate in the longer run that is expected to be consistent with sustaining maximum employment and inflation at the Federal Open Market Committee's 2 percent longer-run objective, π^{LR} . In addition, u_t^{LR} is the rate of unemployment expected in the longer run. Z_t is the cumulative sum of past deviations of the federal funds rate from the prescriptions of the Taylor (1993) rule when that rule prescribes setting the federal funds rate below an effective lower bound (ELB) of 12.5 basis points.

The Taylor (1993) rule and other policy rules are generally written in terms of the deviation of real output from its full capacity level. In these equations, the output gap has been replaced with the gap between the rate of unemployment in the longer run and its actual level (using a relationship known as Okun's law) to represent the rules in terms of the unemployment rate. The rules are implemented as responding to core personal consumption expenditures (PCE) inflation rather than to headline PCE inflation because current and near-term core inflation rates tend to outperform headline inflation rates as predictors of the medium-term behavior of headline inflation. Box note 6 provides references for the policy rules.

first-difference rule include an estimate of the neutral real interest rate in the longer run (r_t^{LR}).⁹

By construction, the balanced-approach (shortfalls) rule prescribes identical policy rates to those prescribed by the balanced-approach rule at times when the unemployment rate is above its estimated longer-run

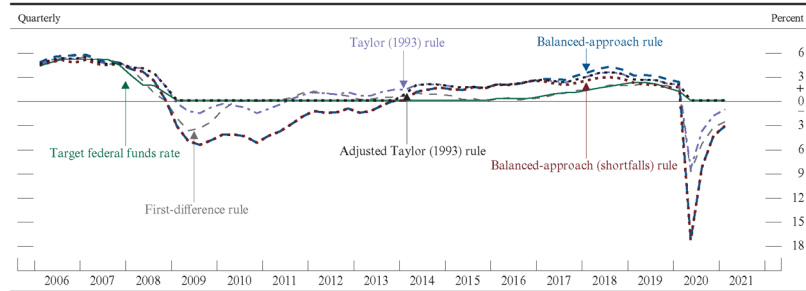
level. However, when the unemployment rate is below that level, the balanced-approach (shortfalls) rule is more accommodative than the balanced-approach rule because it does not call for the policy rate to rise as the unemployment rate drops further.

Unlike the other simple rules featured here, the adjusted Taylor (1993) rule recognizes that the federal funds rate cannot be reduced materially below the ELB. To make up for the cumulative shortfall in accommodation following a recession during which the federal funds rate has fallen to its ELB, the adjusted Taylor (1993) rule prescribes delaying the return of the policy rate to the (positive) levels prescribed by the standard Taylor (1993) rule until after the economy begins to recover.

(continued)

9. The neutral real interest rate in the longer run (r_t^{LR}) is the level of the real federal funds rate that is expected to be consistent, in the longer run, with maximum employment and stable inflation. Like u_t^{LR} , r_t^{LR} is determined largely by nonmonetary factors. The first-difference rule shown in figure A does not involve an estimate of r_t^{LR} . However, this rule has its own shortcomings. For example, research suggests that this sort of rule often results in greater volatility in employment and inflation relative to what would be obtained under the Taylor (1993) and balanced-approach rules.

B. Historical federal funds rate prescriptions from simple policy rules



NOTE: The rules use historical values of the federal funds rate, core personal consumption expenditures inflation, and the unemployment rate. Quarterly projections of longer-run values for the federal funds rate and the unemployment rate are derived through interpolations of the biannual projections from Blue Chip Economic Indicators. The longer-run value for inflation is taken as 2 percent.

SOURCE: Federal Reserve Bank of Philadelphia; Wolters Kluwer, Blue Chip Economic Indicators; Federal Reserve Board staff estimates.

Policy Rules: Prescriptions

Figure B shows historical prescriptions for the federal funds rate from the five rules. For each period, the figure reports the policy rates prescribed by the rules, taking as given the prevailing economic conditions and estimates of u_t^{LR} and r_t^{LR} at the time. The four rules whose formulas do not impose a lower bound on the value of the federal funds rate imply prescriptions of strongly negative policy rates in response to the pandemic-driven recession, well below their respective troughs in the 2008–09 recession. The prescriptions of the balanced-approach and balanced-approach (shortfalls) rules are the most negative because these rules call for relatively large responses to resource slack. The negative prescriptions of the four rules show the extent to which policymakers' ability to support the economy through reductions in the federal funds rate has been constrained by the ELB during the pandemic-driven recession—a constraint that underlines the importance of the FOMC's other policy actions at the time, including forward guidance about the federal funds rate and large-scale asset purchases.

Regarding the recovery from the 2008–09 recession, all of the simple rules shown here prescribed departure from the ELB well before the FOMC determined that it was appropriate to raise the federal funds rate. The FOMC judged, on the basis of a wide range of information available at the time, that it was appropriate to maintain a more accommodative path of the federal funds rate than prescribed by these rules. Similarly, in the aftermath of the pandemic-driven recession, the FOMC has been drawing from a broad range of indicators, analyses, and judgments in making its determinations concerning the appropriate stance for monetary policy, including readings on public health, labor market conditions, inflation pressures and inflation expectations, and financial and international developments. Under the FOMC's flexible form of average inflation targeting, departure from the ELB might be delayed relative to the simple rules by the desire to see inflation run moderately above 2 percent for some time. While the simple rules are concerned with period-by-period inflation, the Committee aims for a sustained return of inflation to the 2 percent objective.

Developments in the Federal Reserve’s Balance Sheet and Money Markets

The Federal Reserve’s asset purchases since March 2020 have resulted in a large and rapid expansion of the federal Reserve’s balance sheet. Federal Reserve assets totaled \$4.2 trillion before the pandemic in January 2020 and have since grown to \$8.1 trillion (figure A). As net asset purchases proceed at a pace of \$120 billion per month, the Federal Reserve’s total liabilities increase correspondingly.¹ Alongside this growth in aggregate liabilities arising from asset purchases, there have also been large compositional shifts between liabilities this year due to factors that are not directly related to monetary policy decisions (figure B). This discussion reviews recent developments in the Federal Reserve’s balance sheet and associated changes in money market conditions.

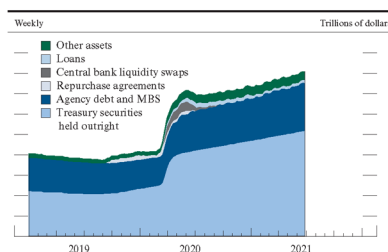
Reserve balances are the largest liability on the Federal Reserve’s balance sheet. Federal Reserve asset purchases are settled by adding reserves to the banking system; thus, the magnitude of asset purchases since the onset of the pandemic has brought reserves to record levels.² Reserves grew substantially earlier this year, from \$3.1 trillion in early January to \$3.9 trillion by early April. The level of reserves was, however, mostly stable from April to June 2021, reflecting growth in other liabilities such as the overnight reverse repurchase agreement (ON RRP) facility.

In light of the Federal Reserve’s role as fiscal agent for the federal government, the U.S. Treasury holds balances in the Treasury General Account (TGA), which is another liability on the Federal Reserve’s balance sheet. Changes in the TGA affect other Federal Reserve liabilities such as reserves and may have implications for money market conditions. A reduction in the TGA increases the level of reserves, other things being equal, as the Treasury makes payments to individuals and businesses, which may increase private deposits in the banking system. An important recent development in this regard has been the substantial drawdown of the TGA over the first half of 2021. With the enactment

1. For general explanations of several liabilities on the Federal Reserve’s balance sheet, see the box “The Role of Liabilities in Determining the Size of the Federal Reserve’s Balance Sheet” in Board of Governors of the Federal Reserve System (2019), *Monetary Policy Report* (Washington: Board of Governors, February), pp. 41–43, https://www.federalreserve.gov/monetarypolicy/files/20190222_mprfullreport.pdf.

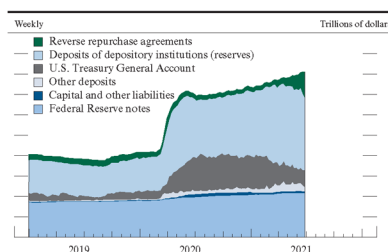
2. Reserves consist of deposits held at Federal Reserve Banks by depository institutions, such as commercial banks, savings banks, credit unions, thrift institutions, and U.S. branches and agencies of foreign banks. Reserve balances allow depository institutions to facilitate daily payment flows, both in ordinary times and in stress scenarios, without borrowing funds or selling assets.

A. Federal Reserve assets



NOTE: The data extend through June 30, 2021. MBS is mortgage-backed securities. The key identifies shaded areas in order from top to bottom. SOURCE: Federal Reserve Board, Statistical Release H.4.1, “Factors Affecting Reserve Balances.”

B. Federal Reserve liabilities



NOTE: The data extend through June 30, 2021. “Capital and other liabilities” includes Treasury contributions. The key identifies shaded areas in order from top to bottom. SOURCE: Federal Reserve Board, Statistical Release H.4.1, “Factors Affecting Reserve Balances.”

of pandemic-related fiscal stimulus measures through multiple rounds of federal legislation in 2020 and 2021, the Treasury’s balance in the TGA increased to unprecedentedly high levels. As shown in figure C, as the bulk of the most recent fiscal stimulus payments and tax refunds came to an end, the Treasury lowered its outstanding balance in the TGA from about \$1.6 trillion at the end of January 2020 to about \$850 billion by the end of June 2021. As the Treasury sought to reduce its TGA balance, the Treasury also lowered its net issuance of Treasury bills substantially in 2021.

The developments with reserves, the TGA, and Treasury bill issuance have affected money markets in 2021. The recent large increases in reserves, resulting

(continued)

C. Balance sheet comparison (Billions of dollars)

	6/30/2021	1/27/2021	Change
Assets			
Total securities			
Treasury securities	5,183	4,766	417
Agency debt and MBS	2,322	2,072	250
Net unamortized premiums	351	345	6
Repurchase agreements	0	1	-1
Loans and lending facilities			
PPPLF	91	47	44
Other loans and lending facilities	72	91	-19
Central bank liquidity swaps	1	10	-9
Other assets	58	74	-16
Total assets	8,079	7,405	674
Liabilities and capital			
Federal Reserve notes	2,184	2,097	87
Reserves held by depository institutions	3,512	3,229	283
Reverse repurchase agreements			
Foreign official and international accounts	269	209	60
Others	992	1	991
U.S. Treasury General Account	852	1,613	-761
Other deposits	230	203	27
Other liabilities and capital	40	52	-12
Total liabilities and capital	8,079	7,405	674

NOTE: MBS is mortgage-backed securities. PPPLF is Paycheck Protection Program Liquidity Facility.
SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

from both asset purchases and reductions in the TGA, have put broad but modest downward pressure on short-term interest rates over recent months. Additionally, the net declines in Treasury bill supply have put downward pressure on bill yields, which similarly affected rates on close substitutes to bills such as repurchase agreements (repos) collateralized by Treasury securities.³

In this environment of ample liquidity and downward pressure on money market rates, the Federal Reserve's ON RRP facility has seen a historically large increase in usage since April 2021, primarily driven by greater participation from government money market funds. Take-up at the ON RRP facility reached record levels—nearly \$1 trillion by the end of June 2021. In light of the potential for expanded use of the facility and given growth in money market fund assets under management in recent years, the Federal Open Market Committee (FOMC) raised the per-counterparty cap on ON RRP participation to \$80 billion per day from \$30 billion at the March 2021 FOMC meeting. With the increase in usage, the ON RRP facility continued

3. For further information on recent money market developments, see the Financial Developments section in Part 1 of this report.

to serve its intended purpose of helping to provide a floor under short-term interest rates.⁴

The recent spike in facility usage reflected government money market funds turning to the facility because of their large inflows. Certain banks reportedly sought to limit further growth of their reserve holdings and of certain deposit liabilities. This phenomenon has reportedly been important in recent months in driving additional inflows into money market funds in lieu of bank deposits. Additionally, money market funds faced a relative lack of eligible short-term investments amid declining Treasury bill supply and reduced demand for repo funding on the part of borrowers. In this situation, the ON RRP has provided money market funds with an additional investment option for these inflows despite its offering rate being at 0 percent through mid-June.

Other deposits, another liability on the Federal Reserve's balance sheet, include deposits from government-sponsored enterprises (GSEs) and designated financial market utilities. These deposits roughly doubled since the beginning of 2021 to \$408 billion by mid-June, reflecting in part the same money market conditions that drove higher ON RRP take-up.

Following the June 2021 FOMC meeting, the Federal Reserve made a technical adjustment to its administered rates: interest on excess reserves and the ON RRP offering rate. Both rates were increased 5 basis points in order to keep the federal funds rate well within the FOMC's target range and to support smooth functioning of short-term funding markets. ON RRP take-up rose substantially over subsequent days. This increase reflected shifts to the ON RRP from GSEs' deposits at the Federal Reserve that do not earn interest as well as additional participation from money market funds. Following the technical adjustment, short-term market interest rates adjusted slightly higher, largely in step with the increase in administered rates. The effective federal funds rate rose to 10 basis points, while the Secured Overnight Financing Rate increased to 5 basis points.

4. The ON RRP facility helps keep the effective federal funds rate from falling below the target range set by the FOMC, as institutions with access to the ON RRP should be unwilling to lend funds below the ON RRP's pre-announced offering rate. The ON RRP facility is primarily used by nonbank counterparties such as money market funds. The rate offered through the ON RRP facility complements the interest on excess reserves rate in supporting effective monetary policy implementation. The Federal Reserve provides a similar service to foreign official and international accounts (primarily foreign central banks), though these balances have not seen notable growth in recent months.

PART 3

SUMMARY OF ECONOMIC PROJECTIONS

The following material was released after the conclusion of the June 15–16, 2021, meeting of the Federal Open Market Committee.

In conjunction with the Federal Open Market Committee (FOMC) meeting held on June 15–16, 2021, meeting participants submitted their projections of the most likely outcomes for real gross domestic product (GDP) growth, the unemployment rate, and inflation for each year from 2021 to 2023 and over the longer run. Each participant's projections were based on information available at the time of the meeting, together with her or his assessment of appropriate monetary policy—including a path for the federal funds rate and its longer-run value—and assumptions about other factors likely to affect economic outcomes.

The longer-run projections represent each participant's assessment of the value to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. "Appropriate monetary policy" is defined as the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her individual interpretation of the statutory mandate to promote maximum employment and price stability.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assumptions of projected appropriate monetary policy, June 2021
Percent

Variable	Median ¹				Central tendency ²				Range ³			
	2021	2022	2023	Longer run	2021	2022	2023	Longer run	2021	2022	2023	Longer run
Change in real GDP.....	7.0	3.3	2.4	1.8	6.8–7.3	2.8–3.8	2.0–2.5	1.8–2.0	6.3–7.8	2.6–4.2	1.7–2.7	1.6–2.2
March projection.....	6.5	3.3	2.2	1.8	5.8–6.6	3.0–3.8	2.0–2.5	1.8–2.0	5.0–7.3	2.5–4.4	1.7–2.6	1.6–2.2
Unemployment rate.....	4.5	3.8	3.5	4.0	4.4–4.8	3.5–4.0	3.2–3.8	3.8–4.3	4.2–5.0	3.2–4.2	3.0–3.9	3.5–4.5
March projection.....	4.5	3.9	3.5	4.0	4.2–4.7	3.6–4.0	3.2–3.8	3.8–4.3	4.0–5.5	3.2–4.2	3.0–4.0	3.5–4.5
PCE inflation.....	3.4	2.1	2.2	2.0	3.1–3.5	1.9–2.3	2.0–2.2	2.0	3.0–3.9	1.6–2.5	1.9–2.3	2.0
March projection.....	2.4	2.0	2.1	2.0	2.2–2.4	1.8–2.1	2.0–2.2	2.0	2.1–2.6	1.8–2.3	1.9–2.3	2.0
Core PCE inflation ⁴	3.0	2.1	2.1		2.9–3.1	1.9–2.3	2.0–2.2		2.7–3.3	1.7–2.5	2.0–2.3	
March projection.....	2.2	2.0	2.1		2.0–2.3	1.9–2.1	2.0–2.2		1.9–2.5	1.8–2.3	1.9–2.3	
Memorandum: Projected appropriate policy path												
Federal funds rate	0.1	0.1	0.6	2.5	0.1	0.1–0.4	0.1–1.1	2.3–2.5	0.1	0.1–0.6	0.1–1.6	2.0–3.0
March projection.....	0.1	0.1	0.1	2.5	0.1	0.1–0.4	0.1–0.9	2.3–2.5	0.1	0.1–0.6	0.1–1.1	2.0–3.0

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 16–17, 2021. One participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate in conjunction with the March 16–17, 2021, meeting, and one participant did not submit such projections in conjunction with the June 15–16, 2021, meeting.

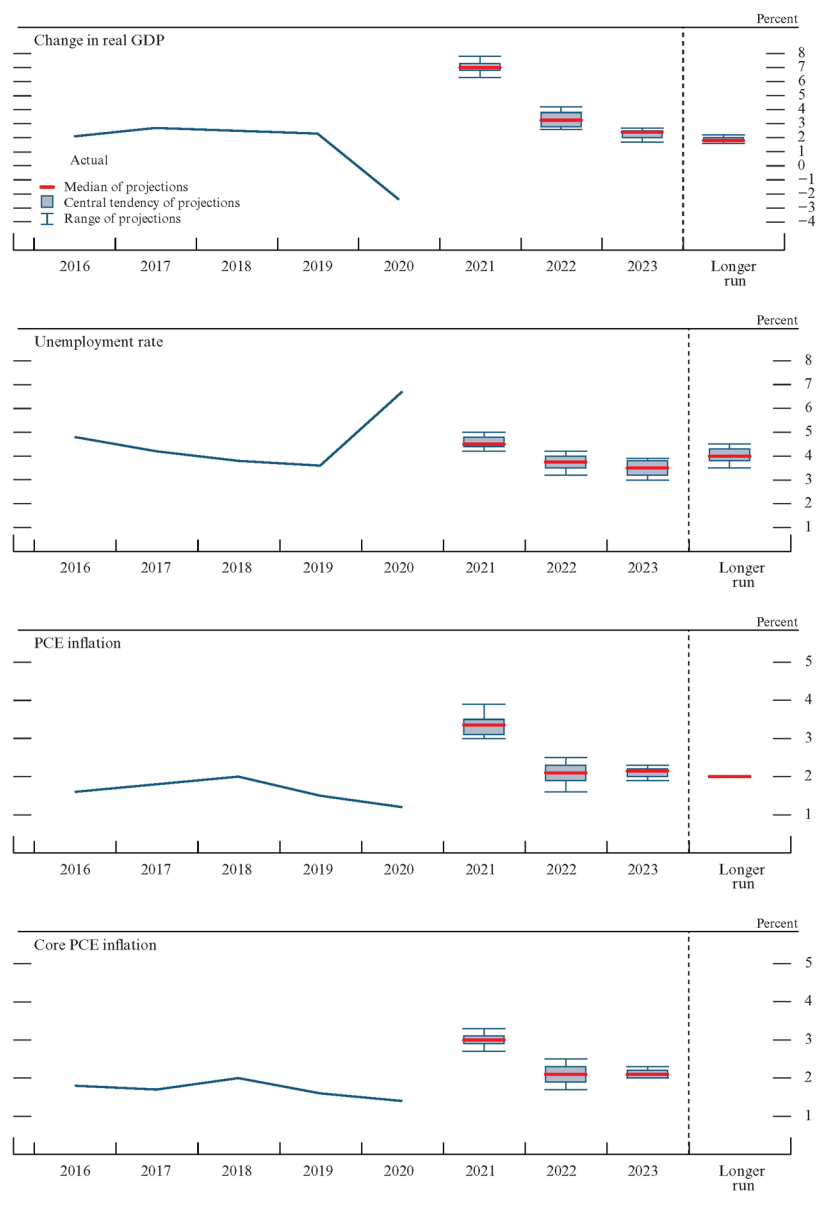
1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.

2. The central tendency excludes the three highest and three lowest projections for each variable in each year.

3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.

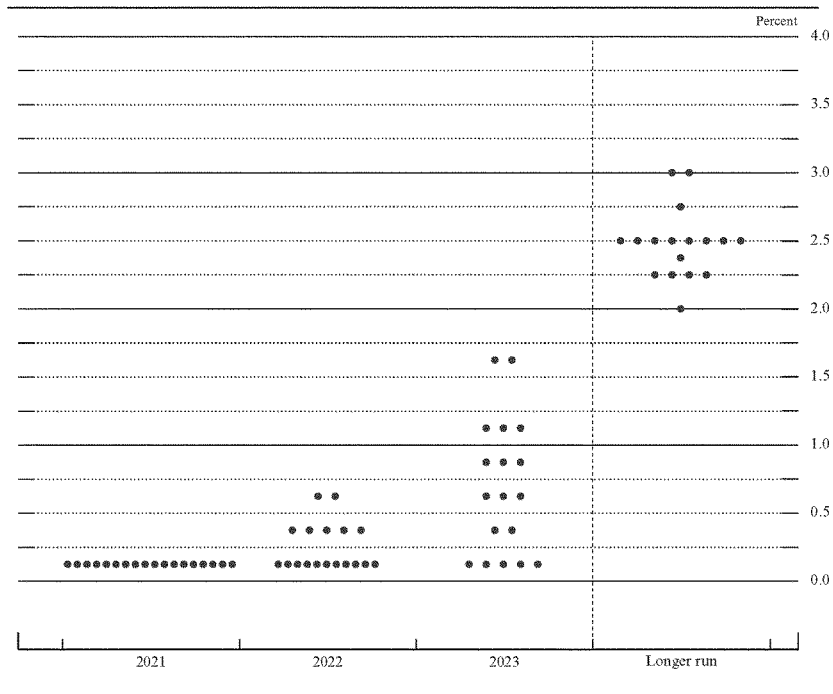
4. Longer-run projections for core PCE inflation are not collected.

Figure 1. Medians, central tendencies, and ranges of economic projections, 2021–23 and over the longer run



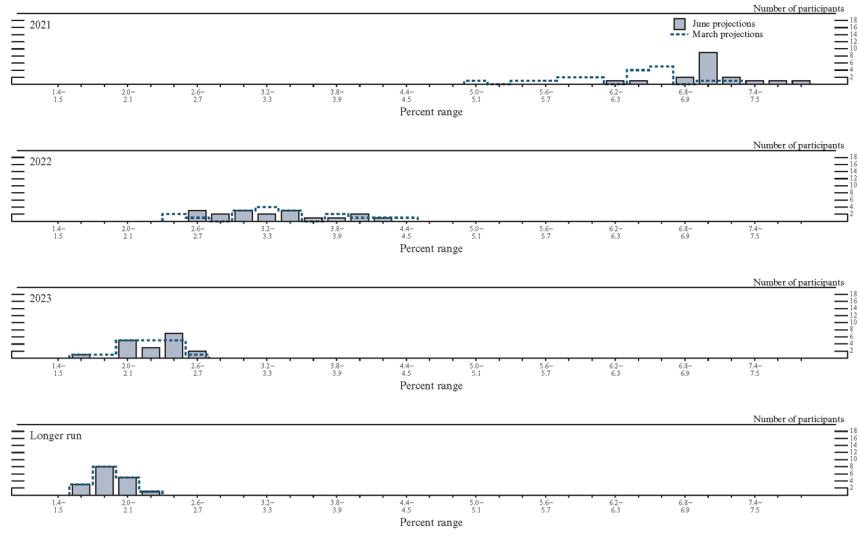
NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



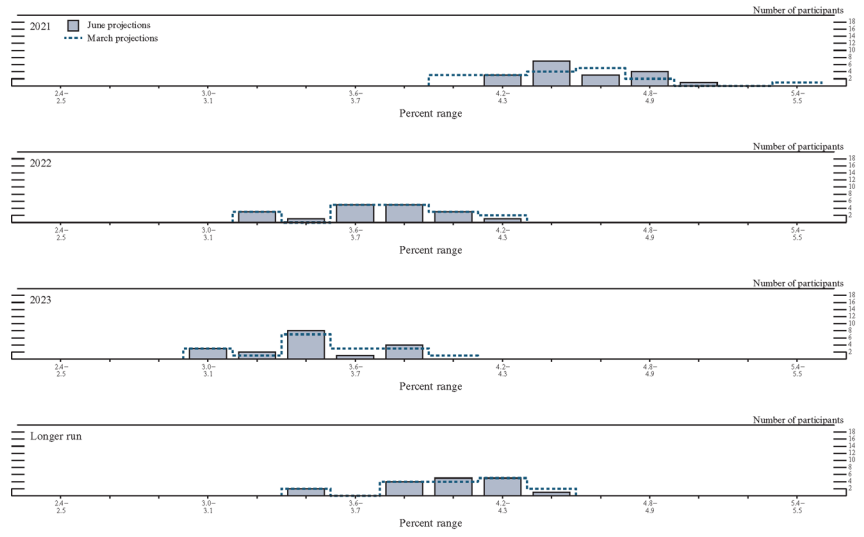
NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2021–23 and over the longer run



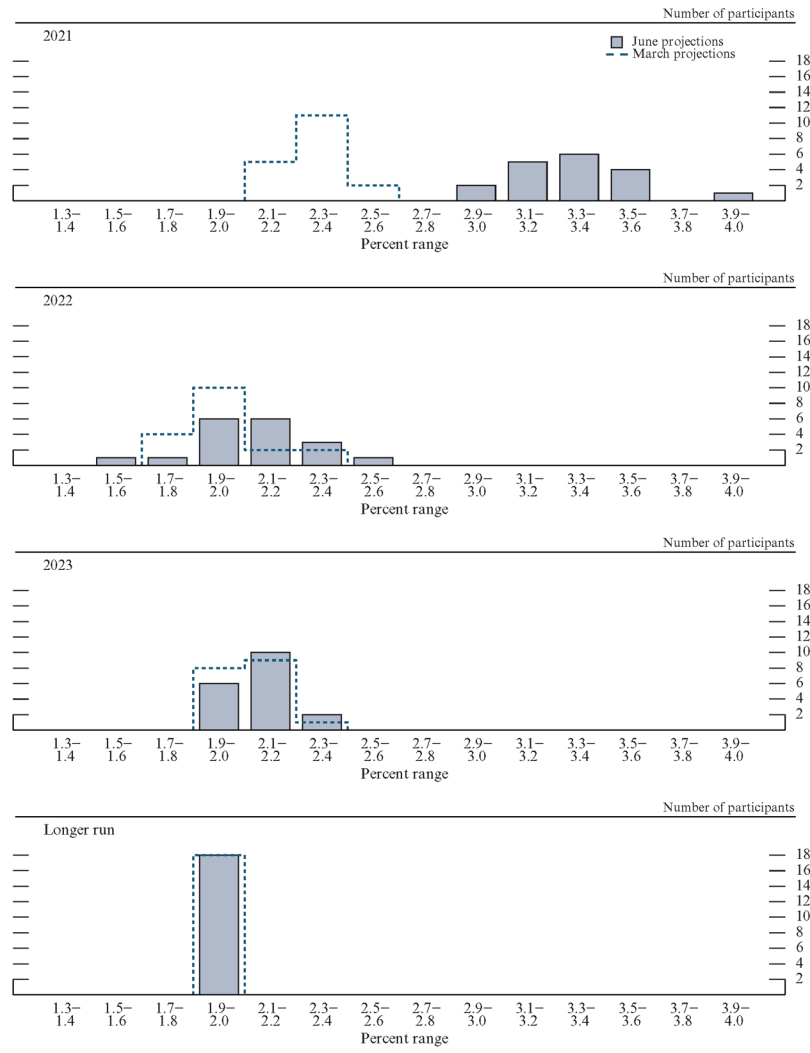
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2021–23 and over the longer run



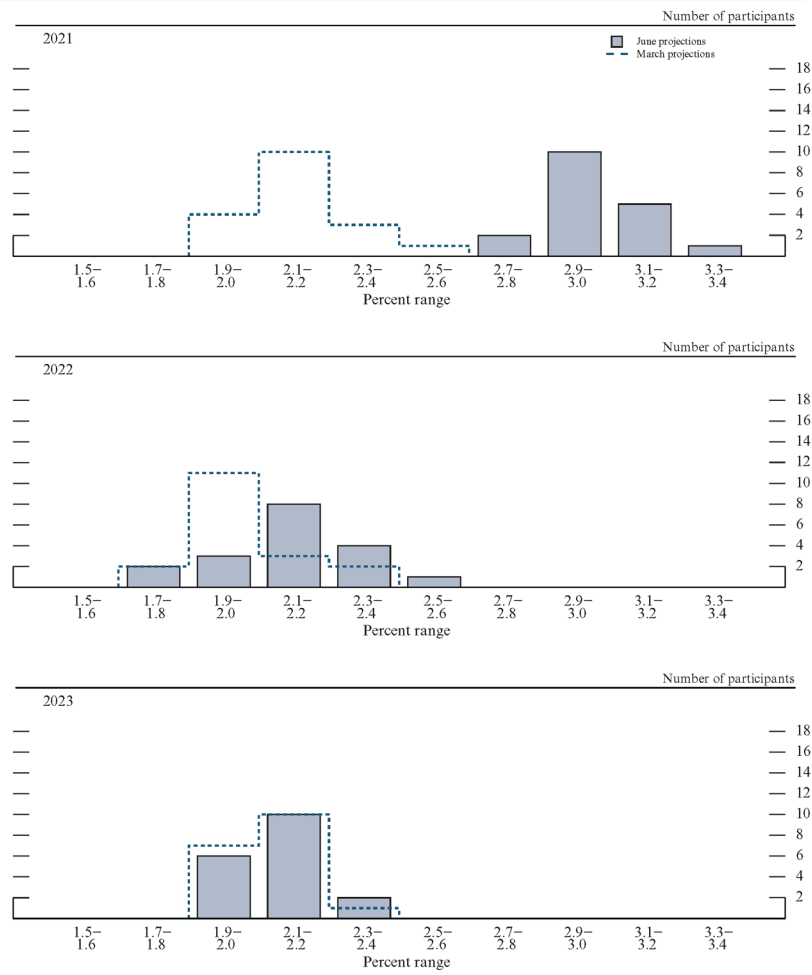
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2021–23 and over the longer run



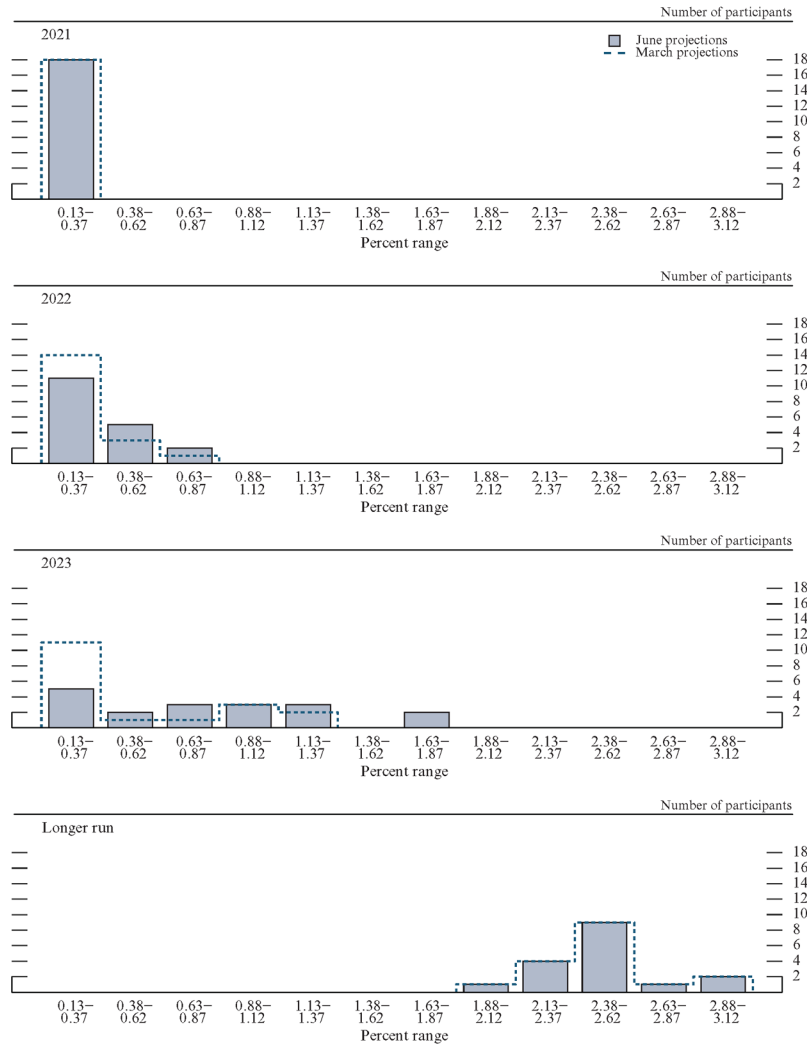
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2021–23



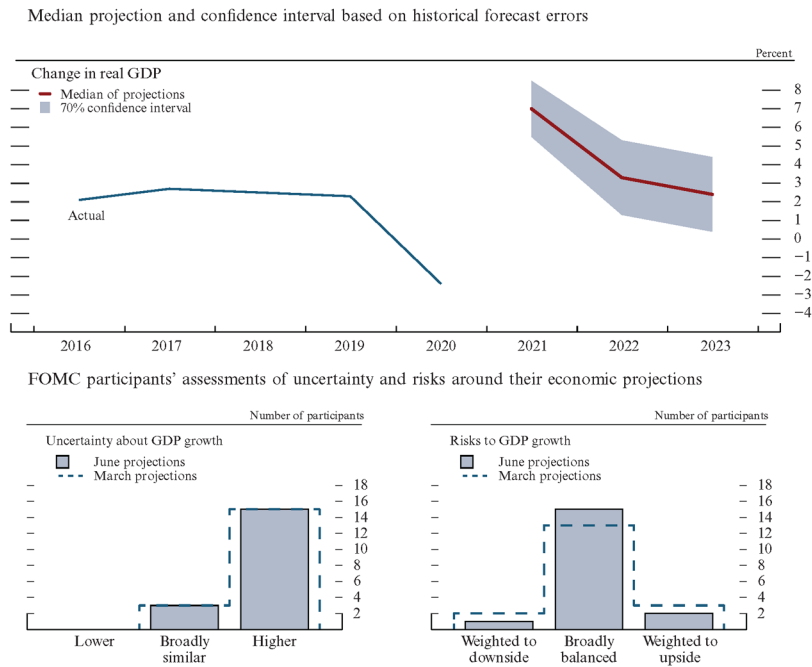
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.E. Distribution of participants' judgments of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate, 2021–23 and over the longer run



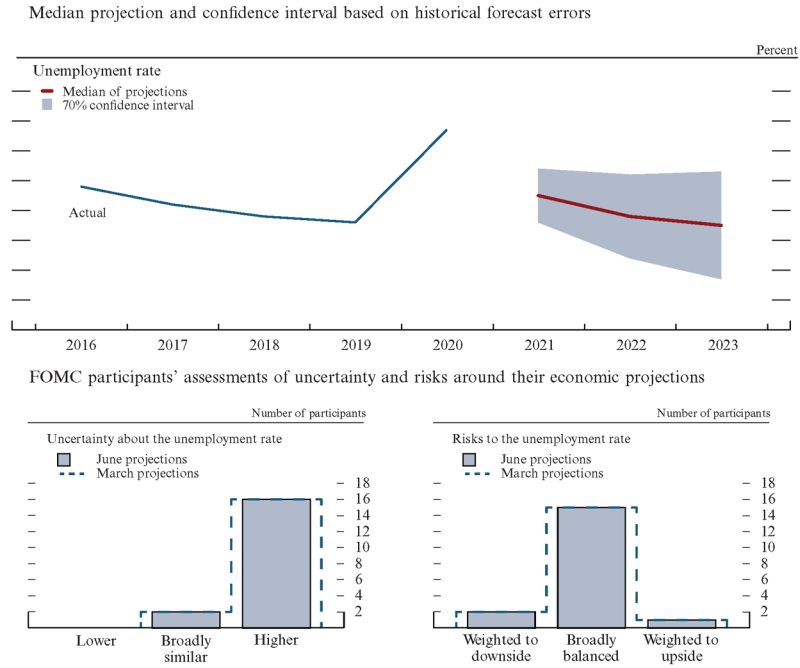
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 4.A. Uncertainty and risks in projections of GDP growth



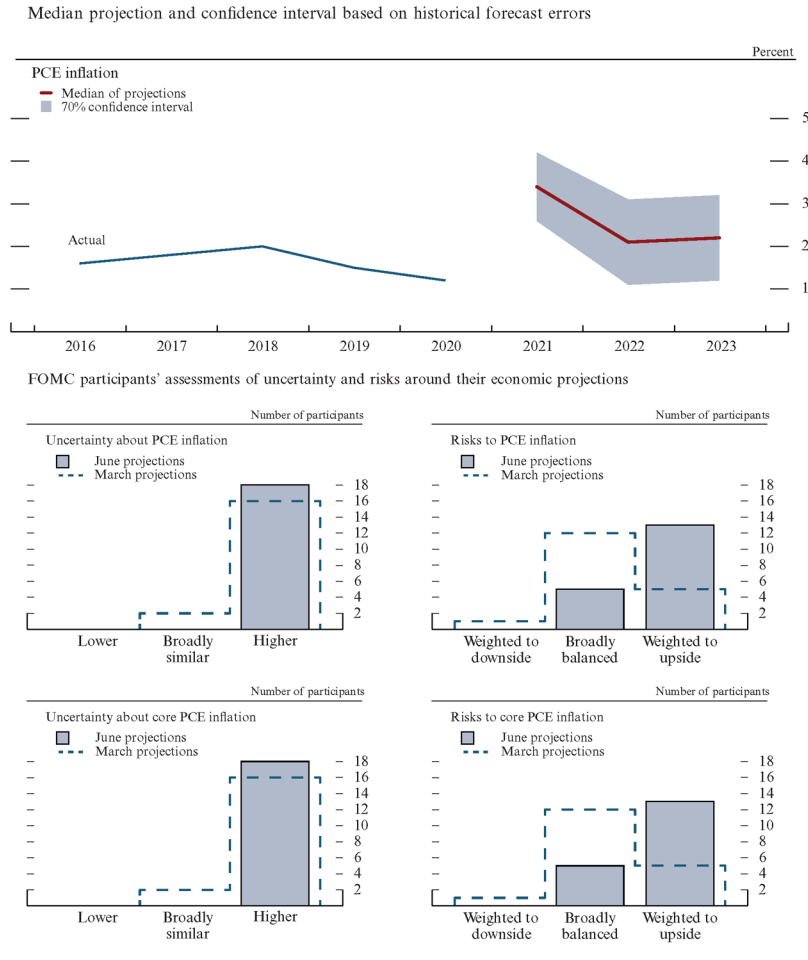
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in real gross domestic product (GDP) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.B. Uncertainty and risks in projections of the unemployment rate



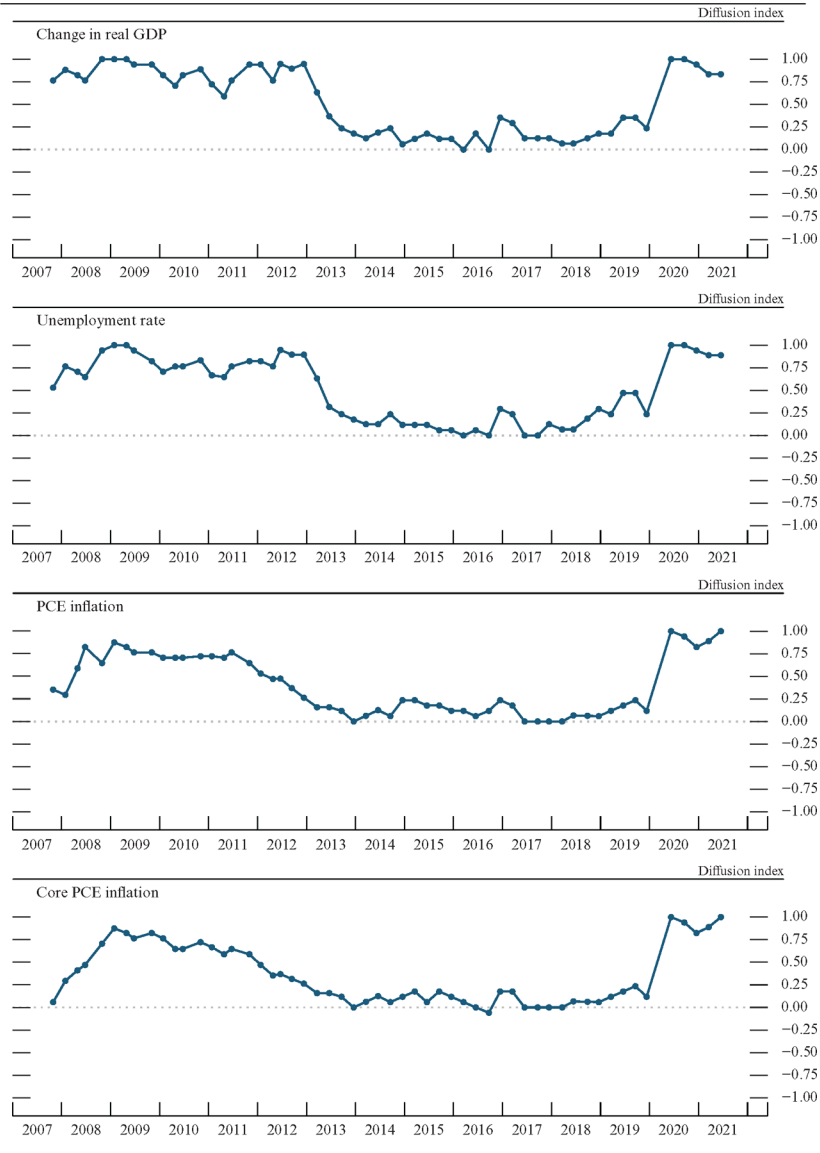
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.C. Uncertainty and risks in projections of PCE inflation



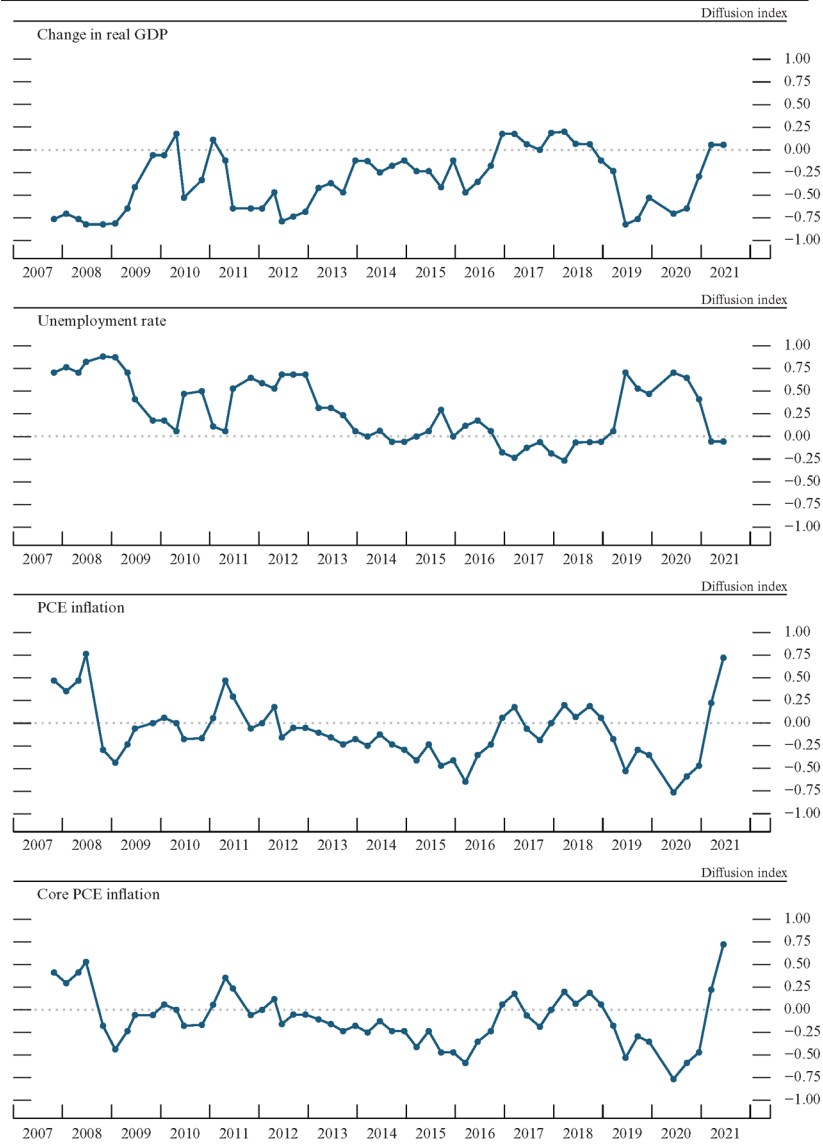
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in the price index for personal consumption expenditures (PCE) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.D. Diffusion indexes of participants' uncertainty assessments



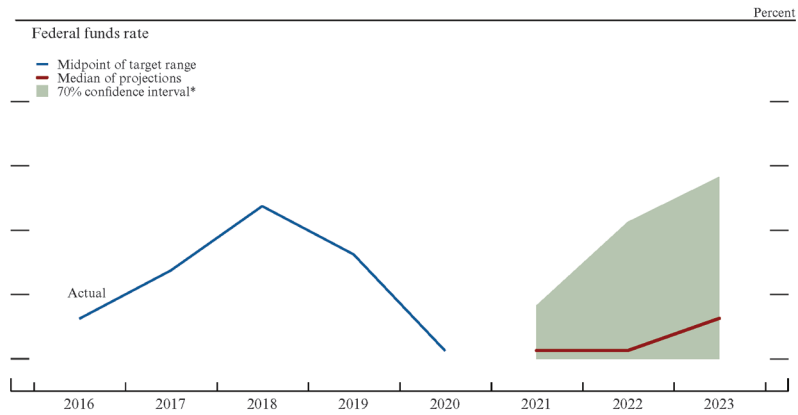
NOTE: For each SEP, participants provided responses to the question "Please indicate your judgment of the uncertainty attached to your projections relative to the levels of uncertainty over the past 20 years." Each point in the diffusion indexes represents the number of participants who responded "Higher" minus the number who responded "Lower," divided by the total number of participants. Figure excludes March 2020 when no projections were submitted.

Figure 4.E. Diffusion indexes of participants' risk weightings



NOTE: For each SEP, participants provided responses to the question "Please indicate your judgment of the risk weighting around your projections." Each point in the diffusion indexes represents the number of participants who responded "Weighted to the Upside" minus the number who responded "Weighted to the Downside," divided by the total number of participants. Figure excludes March 2020 when no projections were submitted.

Figure 5. Uncertainty and risks in projections of the federal funds rate



Note: The blue and red lines are based on actual values and median projected values, respectively, of the Committee's target for the federal funds rate at the end of the year indicated. The actual values are the midpoint of the target range; the median projected values are based on either the midpoint of the target range or the target level. The confidence interval around the median projected values is based on root mean squared errors of various private and government forecasts made over the previous 20 years. The confidence interval is not strictly consistent with the projections for the federal funds rate, primarily because these projections are not forecasts of the likeliest outcomes for the federal funds rate, but rather projections of participants' individual assessments of appropriate monetary policy. Still, historical forecast errors provide a broad sense of the uncertainty around the future path of the federal funds rate generated by the uncertainty about the macroeconomic variables as well as additional adjustments to monetary policy that may be appropriate to onset the effects of shocks to the economy.

The confidence interval is assumed to be symmetric except when it is truncated at zero - the bottom of the lowest target range for the federal funds rate that has been adopted in the past by the Committee. This truncation would not be intended to indicate the likelihood of the use of negative interest rates to provide additional monetary policy accommodation if doing so was judged appropriate. In such situations, the Committee could also employ other tools, including forward guidance and large-scale asset purchases, to provide additional accommodation. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections.

* The confidence interval is derived from forecasts of the average level of short-term interest rates in the fourth quarter of the year indicated; more information about these data is available in table 2. The shaded area encompasses less than a 70 percent confidence interval if the confidence interval has been truncated at zero.

Table 2. Average historical projection error ranges
Percentage points

Variable	2021	2022	2023
Change in real GDP ¹	±1.5	±2.0	±2.0
Unemployment rate ¹	±0.9	±1.4	±1.8
Total consumer prices ²	±0.8	±1.0	±1.0
Short-term interest rates ³	±0.7	±2.0	±2.2

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 2001 through 2020 that were released in the summer by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, consumer prices, and the federal funds rate will be in ranges implied by the average size of projection errors made in the past. For more information, see David Reischneider and Peter Tulip (2017), "Gauging the Uncertainty of the Economic Outlook Using Historical Forecasting Errors: The Federal Reserve's Approach," Finance and Economics Discussion Series 2017-020 (Washington: Board of Governors of the Federal Reserve System, February), <https://dx.doi.org/10.17016/FEDS.2017.020>.

1. Definitions of variables are in the general note to table 1.
2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projections are percent changes on a fourth quarter to fourth quarter basis.
3. For Federal Reserve staff forecasts, measure is the federal funds rate. For other forecasts, measure is the rate on 3-month Treasury bills. Projection errors are calculated using average levels, in percent, in the fourth quarter.

Forecast Uncertainty

The economic projections provided by the members of the Board of Governors and the presidents of the Federal Reserve Banks inform discussions of monetary policy among policymakers and can aid public understanding of the basis for policy actions. Considerable uncertainty attends these projections, however. The economic and statistical models and relationships used to help produce economic forecasts are necessarily imperfect descriptions of the real world, and the future path of the economy can be affected by myriad unforeseen developments and events. Thus, in setting the stance of monetary policy, participants consider not only what appears to be the most likely economic outcome as embodied in their projections, but also the range of alternative possibilities, the likelihood of their occurring, and the potential costs to the economy should they occur.

Table 2 summarizes the average historical accuracy of a range of forecasts, including those reported in past *Monetary Policy Reports* and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee (FOMC). The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers

reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.5 to 4.5 percent in the current year and 1.0 to 5.0 percent in the second and third years. The corresponding 70 percent confidence intervals for overall inflation would be 1.2 to 2.8 percent in the current year and 1.0 to 3.0 percent in the second and third years. Figures 4.A through 4.C illustrate these confidence bounds in "fan charts" that are symmetric and centered on the medians of FOMC participants' projections for GDP growth, the unemployment rate, and inflation. However, in some instances, the risks around the projections may not be symmetric. In particular, the unemployment rate cannot be negative; furthermore, the risks around a particular projection might be tilted to either the upside or the downside, in which case the corresponding fan chart would be asymmetrically positioned around the median projection.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each economic variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty seen in the past 20 years, as presented in table 2 and reflected in the widths of the confidence intervals shown in the top panels of figures 4.A through 4.C. Participants' current assessments of the uncertainty surrounding their projections are summarized in the bottom-left panels

(continued)

of those figures. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, while the symmetric historical fan charts shown in the top panels of figures 4.A through 4.C imply that the risks to participants' projections are balanced, participants may judge that there is a greater risk that a given variable will be above rather than below their projections. These judgments are summarized in the lower-right panels of figures 4.A through 4.C.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward. The final line in table 2 shows the error ranges for forecasts of short-term interest rates. They suggest that the historical confidence intervals associated with projections of the federal funds rate are quite wide. It should be noted, however, that these confidence intervals are not strictly consistent with the projections for the federal funds rate, as these projections are not forecasts of the most likely quarterly outcomes but rather are projections of participants' individual assessments of appropriate monetary policy and are on an end-of-

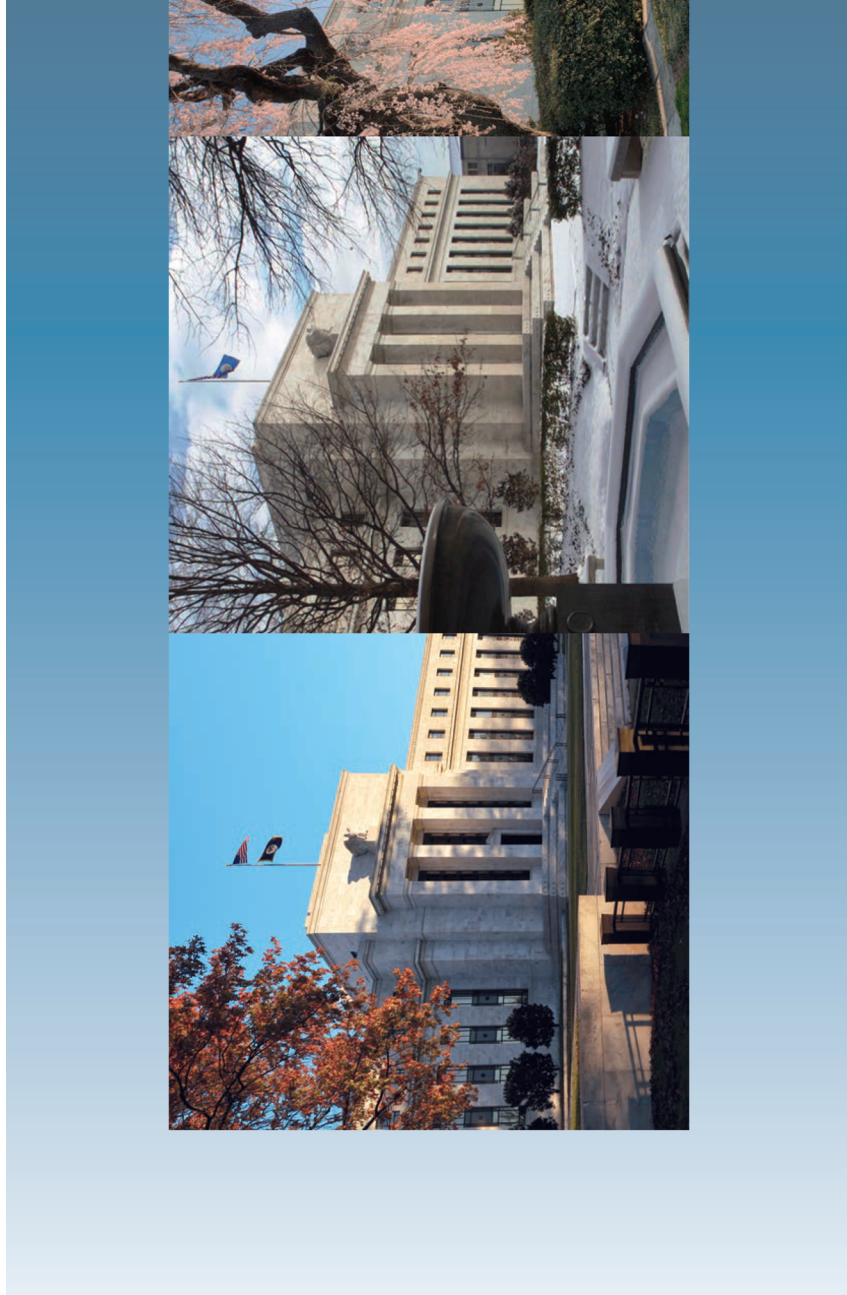
year basis. However, the forecast errors should provide a sense of the uncertainty around the future path of the federal funds rate generated by the uncertainty about the macroeconomic variables as well as additional adjustments to monetary policy that would be appropriate to offset the effects of shocks to the economy.

If at some point in the future the confidence interval around the federal funds rate were to extend below zero, it would be truncated at zero for purposes of the fan chart shown in figure 5; zero is the bottom of the lowest target range for the federal funds rate that has been adopted by the Committee in the past. This approach to the construction of the federal funds rate fan chart would be merely a convention; it would not have any implications for possible future policy decisions regarding the use of negative interest rates to provide additional monetary policy accommodation if doing so were appropriate. In such situations, the Committee could also employ other tools, including forward guidance and asset purchases, to provide additional accommodation.

While figures 4.A through 4.C provide information on the uncertainty around the economic projections, figure 1 provides information on the range of views across FOMC participants. A comparison of figure 1 with figures 4.A through 4.C shows that the dispersion of the projections across participants is much smaller than the average forecast errors over the past 20 years.

ABBREVIATIONS

AFE	advanced foreign economy
CBO	Congressional Budget Office
CIE	common inflation expectations
CMBS	commercial mortgage-backed securities
COVID-19	coronavirus disease 2019
CPI	consumer price index
CPS	Current Population Survey
CRE	commercial real estate
EFFR	effective federal funds rate
ELB	effective lower bound
EME	emerging market economy
EPOP ratio	employment-to-population ratio
FIMA	Foreign and International Monetary Authorities
FOMC	Federal Open Market Committee; also, the Committee
FPUC	Federal Pandemic Unemployment Compensation
GDP	gross domestic product
LFPR	labor force participation rate
MBS	mortgage-backed securities
MMF	money market fund
ON RRP	overnight reverse repurchase agreement
OPEC	Organization of the Petroleum Exporting Countries
PCE	personal consumption expenditures
PEUC	Pandemic Emergency Unemployment Compensation
PPP	Paycheck Protection Program
PUA	Pandemic Unemployment Assistance
repo	repurchase agreement
SMCCF	Secondary Market Corporate Credit Facility
S&P	Standard & Poor's
TGA	Treasury General Account
TIPS	Treasury Inflation-Protected Securities
UI	unemployment insurance
VIX	implied volatility for the S&P 500 index





BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

December 3, 2021

The Honorable Jesús "Chuy" García
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jerome H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Garcia:

- 1) Since the Federal Reserve has been tracking unemployment, the Black unemployment rate has been consistently twice that of both the white unemployment rate and the overall unemployment rate. But because Black unemployment is two times the overall rate, targeting 4 percent for the overall economy means targeting 8 percent for Black Americans. Given that the Federal Reserve has the goal of achieving full employment, what will it do to achieve full employment for the Black community? Can the Federal Reserve give assurance that it will pursue policies to achieve full employment for all people, especially for people of color?**

The Federal Reserve is committed to using its policy tools to attain maximum employment on a broad and inclusive basis. When setting policy, we take into account that very strong labor markets tend to disproportionately benefit economically disadvantaged groups (such as Black Americans) and, thus, help to reduce economic disparities. For example, as the economy approached maximum employment in the latter stages of the previous expansion, low- and middle-income communities began to experience significantly greater employment opportunities and higher wages. That experience informed key aspects of the Federal Open Market Committee's (FOMC) revised Statement of Longer Run Goals and Monetary Policy Strategy and, in particular, the assertion that a low aggregate unemployment rate would not by itself serve as the basis for removing policy accommodation.

We monitor a range of labor market indicators beyond just the aggregate unemployment rate to assess whether progress toward maximum employment is broad and inclusive. Monetary policy alone, however, cannot eliminate persistent gaps in employment and earnings for any one segment of the population. The Administration and Congress are better placed to address these persistent gaps through fiscal and other policies.

- 2) Opponents of UI benefits argued that unemployment insurance is exacerbating the current labor shortage, but as the Federal Reserve noted, there are many different factors causing the current friction in the labor market, such as child care issues, school closing, and public health issues surrounding COVID-19. Do you believe these other factors are having a larger impact on the labor market than UI benefits are?**

As you note, there are a number of factors that appear to be holding back labor supply and therefore contributing to employment shortages. These include: fear of contracting COVID-19 (especially among those who would otherwise be working on-site in high-contact industries and occupations); increased caregiving responsibilities (both among parents of school-age children and among individuals caring for elderly or disabled household members); a pandemic-related surge in retirements (beyond what would have normally occurred due to the aging of the population); and reallocation frictions (as some workers who lost jobs may need to change firms or industries to become reemployed). In addition, the income support from expanded unemployment insurance (UI) benefits that were instituted in response to the pandemic may have contributed to labor shortages—especially in conjunction with some of the aforementioned factors. Due to this interdependence, it has been extremely difficult to quantitatively separate in

real time the effects of expanded UI benefits from those of the other key factors holding back employment growth. With that said, early evidence from the latest research on the employment effects of the pandemic UI programs appears to suggest that the employment effects of these programs were not especially large.¹

¹ See, for example, Peter Ganong, Fiona Greig, Pascal Noel, Daniel M. Sullivan, and Joseph Va vira (2021), "Micro and Macro Disincentive Effects of Expanded Unemployment Benefits," https://cpb-us-w2.wpm.ucdn.com/voices.uchicago.edu/dist/1/801/files/2018/08/disincentive_effects_of_expanded_ui.pdf; Kyle Coombs, Arindrajit Dube, Calvin Jahnke, Raymond Kluender, Suresh Naiduk, and Michael Stepner (2021), "Early Withdrawal of Pandemic Unemployment Insurance: Effects on Earnings, Employment and Consumption," <https://files.michaelstepner.com/pandemicUIexpiration-paper.pdf>; and Nicola s Petrosky-Nadeau and Robert G. Valletta (2021), "UI Generosity and Job Acceptance: Effects of the 2020 CARES Act," <https://www.frbfsf.org/economic-research/publications/working-papers/2021/13/>.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, DC 20551

March 2, 2022

The Honorable Sylvia R. Garcia
House of Representatives
Washington, D.C. 20515

Dear Congresswoman:

Enclosed are my responses to the questions you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jennie H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Garcia:

Chairman Powell, I appreciate your taking the time to discuss the challenges and opportunities that we face as the economy continues to recover from the pandemic. In Harris County, we have lost over six thousand lives due to COVID-19, and greater Houston lost over 141 thousand jobs. Our area has struggled, and now more than ever, we need to come together and focus on how to tackle the economic challenges that have worsened in the last year, especially for women and people of color. Nationwide, 4.2 million women lost their jobs in the last year, and female labor force participation is at a 30-year low, with Black and Latina women impacted the most.¹

Your most recent Survey of Household Economics and Decision-making found that over 30 percent of Black, Hispanic, and low-income mothers nationwide had to work less or stop working altogether last year, due to childcare disruptions. This has led to women, especially women of color, experiencing chronic unemployment and underemployment.

- 1) Is the Federal Reserve reviewing its monetary policy objectives to ensure that the employment side of the dual mandate accounts for women regaining their place in the labor market? If chronic underemployment continues, will the Fed continue its accommodative monetary policy?**

As part of the Federal Reserve’s comprehensive and public review of our monetary policy framework, initiated in 2019, we held fifteen *Fed Listens* events around the country that engaged a wide range of organizations, including employee groups and union members, small business owners, residents of low- and moderate-income communities, workforce development organizations and community colleges, retirees, and others. These groups shared the views and life experiences of working Americans from across the country, and we learned a great deal about the challenges experienced by African American and Hispanic women, among other groups. Accordingly, in our 2020 Statement on Longer-Run Goals and Monetary Policy Strategy, Federal Open Market Committee (FOMC) members unanimously agreed that our “maximum employment” mandate was “a broad-based and inclusive goal.” Consistent with this emphasis, we have stressed the inclusiveness of the employment part of our mandate in our public communications and reported on disparities in labor market outcomes of African Americans, Hispanics, and other groups in, to cite one example among many, the February 2022 Monetary Policy Report.² To ensure that we keep abreast of conditions from a wide cross-section of society, we announced in June that we would continue our *Fed Listens* outreach to the public, and on September 24 we convened a *Fed Listens* event to hear a broad set of perspectives on the pandemic recovery. In addition, we recently reaffirmed the Statement on Longer-Run Goals and Monetary Policy Strategy at our January meeting.

¹ Ewing-Nelson, Claire and Tucker, Jasmine. “Women Gained 314,000 Jobs in May, But Still Need 13 Straight Months of Growth to Recover Pandemic Losses” (Washington: National Women’s Law Center, 2021), at https://nwlc.org/wp-content/uploads/2021/06/May-Jobs-Day-Final_2.pdf.

² See box, p. 12

Of course, monetary policy is just one tool that affects underemployment. Other tools, such as fiscal policy, also have an important impact on labor market conditions.

- 2) **Along with and contributing to rising inflation, there have been significant upswings in prices for some durable goods, such as automobiles. The price of used cars and trucks rose 32% in the first six months of 2021.³ Of course there are industry-specific factors contributing to pricing volatility, such as the semiconductor shortage and global trade relations, industry volatility plays a significant role in consumer behavior.**

To the best of your ability, please describe how the Fed intends to respond monetarily to temporary price swings, without disrupting its focus on employment. Will price volatility such as this have the potential to alter the Fed's overall monetary policy, causing it to become more focused on inflation-reducing measures?

Inflation remains well above our longer-run goal of two percent. In addition, we understand that high inflation imposes significant hardship, especially on those least able to meet the higher costs of essentials like food, housing, and transportation. Supply-and-demand imbalances related to the pandemic and the reopening of the economy have continued to contribute to elevated levels of inflation. In particular, bottlenecks and supply constraints are limiting how quickly production can respond to higher demand in the near term. These problems have been larger and longer lasting than anticipated, exacerbated by waves of the virus, and price increases have now spread to a broader range of goods and services. Wages have also risen briskly, and we are attentive to the risks that persistent real wage growth in excess of productivity could put upward pressure on inflation.

While inflation has been elevated, the labor market has made remarkable progress, and by many measures is very strong. Job gains have been solid in recent months, averaging 541,000 per month over the past three months. Over the past year, payroll employment has risen by 6.6 million jobs. The unemployment rate has declined sharply, and now stands at 4 percent. The improvements in labor market conditions have been widespread, including for workers at the lower end of the wage distribution, as well as for African Americans and Hispanics. Labor demand remains remarkably strong.

In conducting policy over the period ahead, we intend to achieve both of our statutory goals. We will use our tools both to prevent higher inflation from becoming entrenched while promoting a sustainable expansion and strong labor market. In pursuit of these aims, we have made several policy adjustments in recent months. The Committee began phasing out net asset purchases in November and accelerated the pace of the phaseout in December; net asset purchases will end in early March. With inflation well above 2 percent and a strong labor market, we expect it will be appropriate to raise the target range for the federal funds rate at our meeting later this month.

³ TrueCar. "TrueCar Forecasts Total New Vehicle Sales up 16% for June 2021." June 30, 2021, at <https://ir.truecar.com/2021-06-30-TrueCar-Forecasts-Total-New-Vehicle-Sales-up-16-for-June-2021>.

The achievement of our dual-mandate goals will benefit American families. Maximum employment expands opportunities for all American families. And price stability provides a stable background against which it is possible to achieve maximum employment on a sustained basis. So we believe that the best thing we can do to support continued labor market gains is to promote a long expansion—and that will require price stability. In addition, lower inflation would itself benefit all Americans.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, DC 20551

March 2, 2022

The Honorable Vicente Gonzalez
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jenni H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Gonzalez:

- 1) **One thing that is very concerning to me is the fact that wages have been stagnant for quite some time. The Fed's mandate puts the target inflation rate at 2%, and right now it appears that we are at 5%. Projections suggest this will remain above the target for some time. I have concerns about how this is going to affect the bottom line of everyday people.**

Besides adjusting the federal funds rate, what steps are being taken to achieve the dual mandate?

Inflation has increased sharply over the past year. Demand for labor is very strong while supply has remained subdued, resulting in a remarkably tight labor market, with strong nominal wage growth, especially for low-wage workers. Supply bottlenecks have continued to limit economic activity, while the Delta and Omicron waves led to notable, but apparently temporary, slowdowns in activity.

With inflation well above the Federal Open Market Committee's 2 percent longer-run goal and a strong labor market, the Committee expects it will soon be appropriate to raise the target range for the federal funds rate. In addition, last November, the Committee began to reduce the monthly pace of its net asset purchases. In December, in light of inflation developments and further improvements in the labor market, the Committee announced it would double the pace of reductions in its monthly net asset purchases. Net asset purchases are expected to end in early March. The Committee also issued a statement of principles for its planned approach for significantly reducing the size of the Federal Reserve's balance sheet. This will commence after the process of raising interest rates has begun, and will proceed in a predictable manner primarily through adjustments to reinvestments.

In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee is firmly committed to its price-stability and maximum-employment goals and will use its tools to prevent higher inflation from becoming entrenched while promoting a sustainable expansion and strong labor market.

- 2) **Commodity pricing is an indicator of inflation rates, to me this means not only do we have 5% inflation, but we also have inflated the price of goods. From the supermarket to the gas tank how is the Fed working to make sure we don't have a surge in prices and a flat wage base?**

Aside from wages, all employment is not created equal. If folks are having to hold down three jobs to make ends meet, we cannot expect them to accept the rising price of goods in the face of falling or stagnant wages. That situation shouldn't happen, and we need to make sure that employment numbers don't just ask yes or no questions here - are these good jobs? Are they full time jobs? Are they well-paying jobs?

The Federal Reserve's mandate calls for both maximum employment and stable prices, and we view that employment mandate in a broad-based and inclusive manner. We consider a wide range of indicators in assessing whether we have reached maximum employment. These include not only measures of employment and unemployment, but also job openings, labor force participation, measures of part-time work, and wage growth. And many of these measures can be examined for different economic and demographic categories, which can be important when economic events have very different effects on various sectors or groups. Taking all this information into account, the labor market is currently remarkably tight.

3) When the Fed is looking at your mandate for employment as it relates to inflation, how do you consider wages? If wages stagnate, or even drop in a period of inflation, isn't it double trouble for the working folks? You have less money than before, but the prices of everything are greater? I am worried we are heading into such an economy.

Our framework for monetary policy emphasizes that the maximum level of employment is a broad-based and inclusive goal, and information about wages is an important determinant in assessing labor market conditions and the shortfall of employment from its maximum level. Wages are also an important determinant of inflationary pressure.

Although wages have been rising at a rapid pace over the past year, inflation has been elevated as well, and price increases have outpaced wage gains for many workers. When you also consider job gains, aggregate household labor income is clearly up in real terms recently, as is real consumer spending. But inflation affects everyone differently, and aggregate statistics do not reflect that reality. For example, rising prices for necessities like food, gas, and rent can be a hardship for many households.

More broadly, higher inflation may be the single biggest threat to a lengthy, sustained expansion and to strong wage growth that consistently translates into higher living standards. The Federal Reserve can best support continued labor market gains as well as higher living standards for all workers by promoting a long expansion—and that will require price stability. We will use our policy tools as appropriate to prevent higher inflation from becoming entrenched while promoting a sustainable expansion and strong labor market.

4) China's state reserves agency auctioned aluminum, copper, and zinc in the beginning of June, with most of the metal reserves snapped up in two days. The reserves administration put a total of 100,000 tonnes of metal on the market and said it will release more metal in near future.

Chinese regulators are dumping commodities into the markets to curb rising prices, and particularly the prices of base metals are falling sharply. The commodities market has seen unusual volatility already in 2021 with lumber and corn being particularly of concern. We are talking historic pricing here. We can't have China controlling our costs of goods, and this is something I have been concerned about for years.

How is this affecting the Federal Reserve's thinking? Are you watching for factors such as this, and what actions can you take to protect American interests?

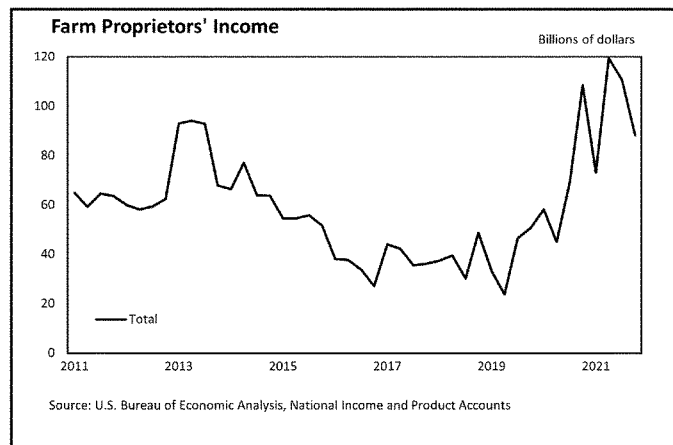
The Federal Open Market Committee defines its policy goal for price stability in terms of the price index for personal consumption expenditures (PCE price index). This index is a broad measure of the various prices faced by U.S. households. Commodity prices of course do matter for U.S. consumer prices, and the Federal Reserve closely tracks developments in commodities markets, among others.

The Chinese government's sales out of its commodity inventories did not appear to have a large effect on commodity prices. China is a significant part of the global market for commodities, but the most important influence on commodity prices is the overall strength of the global economy and, at times, wars and other geopolitical tensions.

Increased federal aid and rising crop prices helped reduce US farm debt in the first quarter of 2021. While this is not the case for all our ranchers and farmers, and many are still suffering under the current conditions, how is this inflation trend affecting our farmers, and won't that translate to increased costs at the supermarket?

What is the Fed doing in this space?

Farm income has risen sharply on net over the past year and is now well above the levels seen prior to the pandemic. In the early stages of the pandemic, government support programs directed at farmers made an important contribution to maintaining farm income (compare the dashed and solid lines in the chart below). More recently, however, higher prices received by farmers have helped to boost farm income. Over the twelve months ending in December 2021, the USDA's index for prices received by farmers was up 16 percent.



As noted above, the Federal Reserve defines its policy goal for price stability in terms of the PCE price index. At the consumer level, prices for food reflect the prices that farmers receive for their output together with the cost of processing and distributing food products to consumers. However, the Federal Reserve does not seek to target or directly affect specific prices or narrow groups of prices.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

December 3, 2021

The Honorable Jim Himes
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed is my response to the question you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jerome H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Question for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Himes:

- 1) **Chair Powell - As you know, a provision included in the Economic Growth, Regulatory Relief and Consumer Protection Act (S. 2155), signed into law in 2018, allows federal savings associations with total consolidated assets of \$20 billion or less as of Dec. 31, 2017, the option to become covered savings associations, giving them flexibility to operate and be regulated more like national banks without having to change their charter. It is my understanding that at a recent forum hosted by the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency, a comment was made that suggested that federal savings associations that elect to make the change permitted in S. 2155 would be regarded as national banks by the Federal Reserve, and if those associations had a holding company (either a savings and loan holding company or a mutual holding company), that holding company would be required to alter their charter to become a bank holding company. Can you please clarify if this is the Federal Reserve's official position, and, if so, whether the Federal Reserve will proceed with an official notice and rulemaking process to codify the position?**

A Federal savings association that elects to operate as a covered savings association (CSA), as permitted in S. 2155, is not required to alter its charter to become a bank holding company.

As you have described, S. 2155 permits a federal savings association with total assets of \$20 billion or less as of December 31, 2017, to elect to operate as a CSA. Making this election grants the institution the same "rights and privileges" and the same "duties, restrictions, penalties, liabilities, conditions, and limitations" as a national bank that has its main office situated in the same location as the home office of the CSA.¹ On April 1, 2021, Federal Reserve Board (Board) staff published two letters² explaining that staff interprets these provisions as requiring the Board to treat CSAs the same as it treats national banks, with the exception of purposes for which the statute specifies CSAs would continue to be treated as federal savings associations.³

The Federal Reserve, however, only treats a CSA as a national bank or a company that controls a CSA as a bank holding company (BHC). No application to the Federal Reserve is required in connection with an election to operate as a CSA, and a company that controls a CSA is not required to change its charter. Staff believes that this interpretation is most consistent with the statute's mandate to provide a streamlined, reversible process for CSAs to operate and be regulated as national banks. The interpretation also ensures that CSAs, holding companies of CSAs, national banks, and holding companies of national banks remain on an equal competitive footing.

We are developing further guidance to address frequent questions about the regulatory requirements applicable to companies that control CSAs. This guidance will clarify that such

¹ 12 U.S.C. 1464a(c).

² See <https://www.federalreserve.gov/supervisionreg/legalinterpretations/bhcchangeincontrol20210401-auto-club-trust.pdf> and <https://www.federalreserve.gov/supervisionreg/legalinterpretations/bhcchangeincontrol20210401-john-deere.pdf>.

³ 12 U.S.C. 1464a(d).

companies will be treated as BHCs but will not be required to alter their charter to become BHCs.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

December 3, 2021

The Honorable Trey Hollingsworth
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jerome H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Hollingsworth:

- 1) Chairman Powell: Prior to the pandemic, you and others at the Federal Reserve repeatedly stated that capital levels were “about right” and reiterated the importance of maintaining capital neutrality. However, since the pandemic, capital levels have increased among the largest U.S. financial institutions. Since capital levels were about right before the pandemic, how are you working to ensure that what the Federal Reserve implements, will not raise capital above the current requirements and result in increased costs for consumers, businesses, and our capital market activities?**

Robust capital and liquidity requirements for the banking system, with a particular focus on the largest and most complex banks, are fundamental to financial stability. The regulatory capital framework introduced since the financial crisis has required financial institutions to significantly strengthen their capital levels over the last decade. Consistent with their systemic importance, global systemically important banks (GSIBs) are subject to the most stringent standards, including additional capital requirements such as the GSIB surcharge and the enhanced supplementary leverage ratio. As a result, the banking system was well capitalized at the onset of the COVID-19 pandemic and financial institutions were well positioned to deal with the challenges of the COVID-19 event. We will continue to evaluate the resiliency of large banks and monitor financial and economic conditions to ensure our capital framework functions as intended.

- 2) There have been some reports that European regulators are not supportive of the Basel III package in total, and historically have deviated in part due to increased costs to end-users and consumers. What effects could result from European non-compliance with Basel III? What impact could it have on end-users and the cost of credit to consumers in the United States?**

As part of its activities, the Basel Committee on Banking Supervision (BCBS) establishes and promotes global standards for the regulation and supervision of banks as well as guidelines and sound practices. The BCBS relies on commitments of member jurisdictions to implement the standards domestically in part to promote a level playing field among internationally active banks.

To further support this objective, all BCBS member jurisdictions are subject to the Regulatory Consistency Assessment Programme (RCAP) established after the global financial crisis in 2012, which monitors and reviews members' implementation of the Basel III standards and assesses the consistency and completeness of the adopted standards, including the significance of any deviations from the regulatory framework aimed to improve the consistency of the domestic regulations with the Basel III standards. The nature and extent of deviations from the standards in a given jurisdiction could erode the level playing field among internationally active banks.

- 3) I noticed the July Monetary Policy report did not indicate any connection between the recent expiration of SLR relief and the growth of the ON RRP. Can you please explain why this was not included?**

Usage of the Overnight Reverse Repo (ON RRP) facility has increased in recent months primarily reflecting downward pressures on money market rates stemming from further increases in reserves in the banking system and the U.S. Department of the Treasury's sizable paydown in Treasury bills outstanding. The downward pressure in money market rates has increased the relative attractiveness of investing in the ON RRP facility. Money market mutual funds, in particular, have substantially reduced their holdings in low-yielding Treasury bills and Treasury repo while increasing their investments with the ON RRP facility during this period.

Balance sheet considerations related to the expiration of the temporary exclusions to the supplementary leverage ratio (SLR) may have contributed to the dynamics driving the growth in the ON RRP. To the extent that such balance sheet considerations led banks to further reduce deposit rates in an effort to limit or prevent deposit inflows, the SLR waiver expiration may have contributed to a shift of funds from bank deposits into money market mutual funds, which then used the ON RRP facility as an investment option. However, deposit rates were already low before the waiver expiration.

When the Federal Reserve Board (Board) announced on March 19, 2021, that the temporary changes to the SLR would expire as scheduled on March 31, 2021, the Board also stated that it will seek public comment on potential measures to adjust the SLR. The Board will take appropriate actions to assure that any changes to the SLR do not erode the overall strength of bank capital requirements.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

December 3, 2021

The Honorable Al Lawson
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jerome H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Lawson:

- 1) Like many places across the country, the state of Florida has been dealing with employment shortages in certain industries since the pandemic began. Along with 25 other states, Florida has recently announced an end to bonus federal unemployment assistance programs started under the American Rescue Plan as a measure to address the employment shortage. Recent economic reports, however, including one conducted by the Federal Reserve Bank of San Francisco in May, indicate that additional unemployment benefits during the pandemic are not responsible for current labor shortage issues.

To what does the Federal Reserve attribute these employment shortages, and what policies does the Fed believe will be necessary in order to return to full employment in the sectors that are currently struggling to find workers?

A number of factors appear to be holding back labor supply and contributing to employment shortages. These include: fear of contracting COVID-19 (especially among those who would otherwise be working on-site in high-contact industries and occupations); increased caregiving responsibilities (both among parents of school-age children and among individuals caring for elderly or disabled household members); a pandemic-related surge in retirements (beyond what would have normally occurred due to the aging of the population); and reallocation frictions (as some workers who lost jobs may need to change firms or industries to become reemployed). In addition, the income support from expanded unemployment insurance (UI) benefits that were instituted in response to the pandemic may have contributed to labor shortages—especially in conjunction with some of the aforementioned factors. Due to this interdependence, it has been extremely difficult to quantitatively separate in real time the effects of expanded UI benefits from those of the other key factors holding back employment growth. With that said, early evidence from the latest research on the employment effects of the pandemic UI programs appears to suggest that the employment effects of these programs were not especially large.¹ More research on this question is sure to be produced in coming weeks and months as these programs end at a national level, and we will be monitoring that research.

Looking ahead, the single most important factor for the economy to be able to return to full employment—and particularly in the sectors that were hardest-hit by the pandemic—will be for the COVID-19 situation to improve on a sustained basis. The pandemic remains the most important risk to the economic recovery, and most of the factors holding back labor supply at present continue to be pandemic-related. Therefore, making further progress to reduce the spread of the virus is likely to be especially helpful.

¹ See, for example, Peter Ganong, Fiona Greig, Pascal Noel, Daniel M. Sullivan, and Joseph Va vra (2021), "Micro and Macro Disincentive Effects of Expanded Unemployment Benefits," https://cpb-us-w2.wpm.ucdn.com/voices.uchicago.edu/dist/1/801/files/2018/08/disincentive_effects_of_expanded_ui.pdf; Kyle Coombs, Arindrajit Dube, Calvin Jahnke, Raymond Kluender, Suresh Naidu, and Michael Stepner (2021), "Early Withdrawal of Pandemic Unemployment Insurance: Effects on Earnings, Employment and Consumption," <https://files.michaelstepner.com/pandemicUIexpiration-paper.pdf>; and Nicolas Petrosky-Nadeau and Robert G. Valletta (2021), "UI Generosity and Job Acceptance: Effects of the 2020 CARES Act," <https://www.frbfsf.org/economic-research/publications/working-papers/2021/13/>.

Follow up: In what way can fiscal policy, and specifically federal investments in physical and human infrastructure, help alleviate some of these pressures that are currently serving as a barrier to full employment in certain industries?

As the labor market continues to recover, it will be important to keep in mind that we may not be returning to the pre-pandemic economy; the post-pandemic economy will likely be different in some ways, and many workers (including many of those currently unemployed or out of the labor force) may need to find new work in different industries, change careers, or acquire new skills—a process that can take some time. As a result, it is possible that reallocation policies, such as worker retraining programs and programs that help match job seekers with job openings, could be helpful.

Investments in physical infrastructure could help support economic growth, especially in the medium to longer run. However, any potential benefits should be weighed against the potential costs of greater federal debt or higher taxes. Of course, such judgment is for Congress and the Administration to make, and not for the Federal Reserve.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

December 3, 2021

The Honorable John Rose
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed is my response to the question you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jerome H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Question for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Rose:

- 1) Throughout the pandemic, our largest banks remained strong and stable due to high asset quality and robust capital and liquidity positions. I believe that over the years, the GSIB surcharge has worked as it was intended and if the GSIBs do not maintain sufficient capital cushions to absorb losses, it could undermine our economic recovery. To me, it is clear that we should not dismantle this protection and risk putting the taxpayer on the hook for another bail out.**

Do you have any plans to revisit the GSIB surcharge or the methodology to calculate the GSIB score?

We previously indicated that the Federal Reserve could update the global systemically important banks (GSIB) surcharge framework through a periodic review to ensure that it is appropriately calibrated, and that economic growth does not unduly affect GSIB scores. We are continually evaluating the resiliency of large banks and monitoring financial and economic conditions to determine whether further adjustments to the capital requirements are warranted. Any revisions to the GSIB surcharge framework will be done in accordance with applicable law and subject to public notice and comment.



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, DC 20551

March 1, 2022

The Honorable Nikema Williams
House of Representatives
Washington, D.C. 20515

Dear Congresswoman:

Enclosed are my responses to the questions you submitted following the July 14, 2021,¹ hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Jennie H. Powell".

Enclosure

¹ Questions for the record related to this hearing were received on August 11, 2021.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System from Representative Williams:

- 1) **As we recover from the pandemic, our goal shouldn't be getting back to normal - it should be building an inclusive economic recovery that gives all the people the opportunity to build a good life. To do that, we have to build a solid foundation for the future - from shoring up the care economy to addressing the racial wealth gap.**

Chair Powell, I'd like to get your take on how caregiving - and caregiving disparities - will impact our recovery. According to a Federal Reserve survey, 22 percent of all parents are working less, or not at all, because of disruptions in childcare and schooling from the pandemic. And if that wasn't enough of an issue, let's break down the impact by race and gender - for just moms, the figure is 25 percent, and for just Black moms, it's 36 percent.

Chair Powell, can you tell us about how the health of the care economy impacts overall job growth coming out of an economic crisis? What are the short and long run economic implications of a lack of access to care for both economic prosperity and equity?

As you note, caregiving has been an important factor in the labor market recovery from the COVID-19 pandemic, as caring for sick or quarantined household members has kept many individuals out of the labor force. Moreover, this factor has been particularly important for women, and even more so for Black and Hispanic women.¹

Stepping back from the pandemic and looking over a longer time horizon, labor force participation in the U. S. has been toward the lower end of the distribution of participation across advanced economies, and some research looking across economies has highlighted the role that affordable childcare can play in increasing women's labor force participation.

- 2) **There are so many issues that need addressing to ensure an inclusive economic recovery. We also need to ensure equity in homeownership. Despite the current low interest rate environment, there are still significant racial disparities in both homeownership and mortgage refinancing. Right now, over 70 percent of white adults own their home compared to just about half of Black adults. And while 20 percent of all homeowners refinanced their mortgage in the past year to take advantage of low interest rates, among Black mortgagees, that number was only 13 percent.**

Chair Powell, what barriers are standing in the way of equitable access to homeownership and the benefits of low interest rates? How does inequity in these areas impact broader efforts to close the racial wealth gap as we come out of the pandemic?

Racial disparities in income and wealth contribute to homeownership gaps. Both historically and particularly in highly competitive housing markets, the limited availability of affordable housing

¹ See the box "The Uneven Recovery in Labor Force Participation" in the July 2021 Monetary Policy Report, available at <https://www.federalreserve.gov/monetarypolicy/2021-07-mpr-summary.htm>.

across many parts of the country and rapidly rising house prices also make it more difficult for prospective homeowners to find housing that fits within their budgets. With median wealth of Black and Hispanic households significantly lower than for white households, this burden of high housing costs falls disproportionately on them.

Further, households have to surmount several hurdles to achieve homeownership, such as meeting a lender's creditworthiness standards, which may be harder to overcome for persons of color. Credit scores are lower on average among Black or Hispanic adults, which studies have shown can disproportionately limit the financing options available to them. In addition, greater proportions of Blacks and Hispanics are so-called "credit invisibles," meaning they lack credit records or have insufficient information on record to formulate a representative credit score.

Other underwriting factors also contribute to differences in homeownership across racial or ethnic groups, including income and employment. For example, according to our most recent Survey of Household Economics and Decisionmaking,² Black and Hispanic prime-age adults were significantly more likely to have been laid off in the last 12 months, which going forward suggests they may face more difficulty satisfying lenders' employment history requirements.

With the concerns raised by these data, the Federal Reserve works to ensure that banks do not engage in illegal credit practices. The Federal Reserve supervises and enforces fair lending laws that prohibit discrimination in residential real estate lending. State member banks' fair lending risk is evaluated at every consumer compliance examination based on the risk factors set forth in the interagency fair lending examination procedures. These procedures include risk factors related to potential discrimination in pricing, underwriting, redlining, and steering. If warranted by risk factors, we conduct in-depth analyses of a state member banks' underwriting or pricing policies and practices. If we have concerns about a pattern or practice of any type of lending discrimination, we require the bank to provide additional data and information.

The Federal Reserve Board is also working to address concerns about biases in the appraisal process that may present obstacles to homeownership. Through our role on the Appraisal Subcommittee of the Federal Financial Institutions Examination Council, we are working with other bank supervisory agencies on initiatives to increase our understanding of appraisal bias and identify any additional steps that the agencies can take to prevent discrimination against borrowers of color.

To the extent that these or other obstacles differentially limit homeownership opportunities across racial or ethnic groups they may also likely exacerbate wealth inequality over time, as homeownership has historically been a key means by which households acquire wealth.



² <https://www.federalreserve.gov/consumerscommunities/shed.htm>.