# MONETARY POLICY AND THE STATE OF THE ECONOMY

## HYBRID HEARING

BEFORE THE

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HOUSE COMMITTEE ON FINANCIAL SERVICES

MAXINE WATERS, California, *Chairwoman*

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# MONETARY POLICY AND THE STATE OF THE ECONOMY

**Wednesday, March 2, 2022**

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

The committee met, pursuant to notice, at 10:02 a.m., in room 2128, Rayburn House Office Building, Hon. Maxine Waters [chairwoman of the committee] presiding.

Members present: Representatives Waters, Maloney, Velazquez, Sherman, Scott, Green, Perlmutter, Himes, Foster, Beatty, Vargas, Gottheimer, Lawson, San Nicolas, Axne, Casten, Torres, Lynch, Adams, Tlaib, Dean, Garcia of Illinois, Garcia of Texas, Williams of Georgia, Auchincloss; McHenry, Lucas, Posey, Luetkemeyer, Huizenga, Wagner, Barr, Williams of Texas, Hill, Emmer, Zeldin, Loudermilk, Mooney, Davidson, Budd, Kustoff, Hollingsworth, Gonzalez of Ohio, Rose, Steil, Timmons, 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 to all Members, we will conclude today's hearing at 1:00 p.m.. Members who were unable to ask questions at our July hearing with Chair Pro Tempore 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.

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.

I want to start by reiterating that I join with President Biden and our allies in condemning Russia's shameful, premeditated, and unprovoked invasion of Ukraine. I stand in solidarity with the people of Ukraine.

Chair Pro Tempore Powell, since the last time you testified in July 2021, the United States economy has continued to boom, and our recovery from the COVID-19 pandemic is strong. Since the beginning of the Biden Administration in January 2021, our economy added over 7 million jobs, a record in the first year of a new presidency. In addition, wages and salaries for workers grew by 4.5 percent in 2021, the highest level in close to 40 years.

While these are encouraging figures, we have more work ahead. Families across the nation are facing higher prices because of inflation created not only by pandemic-related supply chain problems, but also giant corporations taking advantage of economic conditions to pass on higher prices to consumers.

Importantly, housing is a key measure and driver of inflation. For too long, we have not addressed the shortfall in our housing supply, and this lack of supply is driving up prices. In 2021, the national median rent for an apartment jumped by almost 18 percent, and home prices rose by 17 percent. These are the true drivers of inflation according to experts, despite repeated efforts on the part of Republicans to falsely blame pandemic relief and emergency stimulus as the primary cause.

To address housing supply and other inflation drivers, the House passed the Build Back Better Act, and the America COMPETES Act, which make transformational investments, including $150 billion in equitable and affordable housing, as well as improvements to our supply chains.

Regarding digital assets, the Federal Reserve recently released a paper seeking public feedback on a possible U.S. central bank digital currency, or CBDC, which would provide an alternative to volatile cryptocurrencies and benefit financial inclusion and promote national security.

On the other side of that digital coin is a concern that pariah states like Russia may use foreign CBDCs to relieve the pressure of our carefully-coordinated multilateral sanctions. Leadership from the Fed on these issues is more important than ever.

Lastly, I would note that for the first time, a Chair Pro Tempore of the Federal Reserve Board is testifying at this hearing. Senate Republicans have chosen to unilaterally block your confirmation, Chair Pro Tempore Powell, and the historic confirmation of diverse and highly-qualified nominees to the Board of Governors, leaving key leadership positions at the Federal Reserve vacant when it is tackling an array of economic issues, including those arising from Russia's invasion of Ukraine.

This will undermine our recovery from the pandemic and place our economy and financial stability at risk. At a time of enormous economic uncertainty, rising prices, and geopolitical turmoil, the Fed's legitimacy is on the line. Now is not the moment for obstruction, delay, and gamesmanship. So, Chair Pro Tempore Powell, I look forward to your testimony this morning.

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

Mr. McHENRY. Chairman Powell, we appreciate you being here.

And I say to the Chair of the committee that this is the House. The Senate does nominations. If we wish to have an opinion, and direct the Senate, we should go run for the Senate.

We have the Fed Chair here at a time of unprecedented economic conditions and a war that is happening. I think we should stay focused on that.

Chair Powell, thank you for your leadership. Thank you for your steady hand in your approach over this quite tumultuous first term of yours, and congratulations on your nomination and the expected confirmation of your second term.

As we all know, the Financial Services Committee Republicans have offered and requested that the Biden Administration not approve the $17 billion in International Monetary Fund special drawing rights for Russia's reserves last year. My hope is that my Democrat colleagues will withdraw their support for $60 billion in additional reserves for Moscow in this year's omnibus that is being negotiated right now.

We stand in a bipartisan way with the people of Ukraine, and we are grateful for their bravery, and we want to do everything in our power to assist and support them.

Again, thank you, Chair Powell, for your leadership.

America is facing the worst inflation we have seen in 4 decades because of Democrats' reckless spending here on Capitol Hill. Instead of a course correction, House Democrats keep hoping the Senate will take up the $2 trillion in new spending through Build Back Better, or whatever they are going to call it. This would only make rising prices worse for families across the country.

A Wharton budget model estimates that average American families spent $3,500 more last year to keep up with rising prices. Nowhere is this more evident than at the supermarket, where folks are seeing a 22 percent increase in grocery bills, according to a recent KPMG study. For a family of four, this could mean choosing between groceries they need, and saving for their child's education, their retirement, or even a home.

The American people should not have to mortgage their future because of Democrats' love of more government spending to give them the illusion of prosperity in the moment. And despite what we heard from President Biden last night, simply telling people they are better off does not, in fact, make it true.

However, I am pleased that the President sided with Republicans instead of Senator Elizabeth Warren, when he renominated you to Co-Chair the Federal Reserve. But as you know, Chair Powell, you have an enormous task ahead of you.

As one of your predecessors famously said, the Fed's job is to take away the punch bowl just as the party starts to warm up. But the Democrats have drunk deeply, and they want to move on to the harder stuff. That is a risk for our economy. We can't let that happen.

I was pleased to see the Fed reject the notion of personal accounts by the central bank. As we have seen recently in Canada, and their unprecedented use of emergency powers to freeze hundreds of bank accounts, we need to ask not just how financial authorities can be used, but also how they could potentially be abused. It is disturbing that some Democrats refuse to see this danger and may actually view it as an opportunity to rationalize more government involvement in Americans' everyday lives.

And that is why I sent a letter to regulators today asking for clarity on what this disturbing move that we have seen in Canada could be—if anything to that accord could be done here in the United States and what we should do to prevent it. And I look forward to hearing their feedback.

Again, Chair Powell, thank you for being here. These are unprecedented times that you are serving. Thank you for your steady hand and your leadership and your willingness to answer questions using language that most of us can understand.

And with that, I yield back.

Chairwoman WATERS. Thank you, Ranking Member McHenry.

I now recognize the gentleman from Connecticut, Mr. Himes, for 1 minute.

Mr. HIMES. Good morning, Chairman Powell.

Mr. Chairman, probably the most effective tool we have deployed against Putin's outrageous attack on Ukraine is the sanctions on the Russian central bank and the freezing of Russian foreign reserves. Our ability to do so stems mostly from the dollar's preeminent position as the world's reserve currency.

It is time—in fact, it is past time for all of us to lead on creating a regulatory environment in which we, rather than the world's despots, terrorists, and money launderers, benefit from the emergence of cryptocurrency, including a central bank digital currency.

Mr. Chairman, one of the headlines on my news feed this morning reads, "Russians turn to crypto amid increasing sanctions," as the chairwoman indicated. The subcommittee that I chair, and the full committee have done and will do hard work on this topic, but it is time for all of us to act.

Mr. Chairman, I can't shake the image of 17th Century bankers sitting around London, unable to imagine that their gold pieces and copper plates could be replaced by these worthless pieces of paper. Let us not be those guys. Let us lead and not follow.

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

Mr. BARR. Chairman Powell, thank you for being with us today.

Inflation has hit a 4-decade high, with the Consumer Price Index (CPI) surging to 7.5 percent. Core inflation exceeds 5 percent. The Producer Price Index (PPI) is now pushing 10 percent. And recently-published inflation forecasts predict that the CPI will rise above 8 percent in the coming months.

According to a study from the Wharton School, the average family spent $3,500 more for the same goods and services in 2021 versus 2020. Tax and spend policies are largely to blame.

Steven Rattner, former Counsel to the Treasury Secretary under President Obama, put it eloquently in a New York Times op-ed. He said the $2 trillion American Rescue Plan was, "the original sin that contributed materially to today's inflation levels."

A potent cocktail of excessive government spending creating excess demand, combined with a hostile tax and regulatory environment for private enterprise, which has constrained supply, have together produced a toxic supply-demand mismatch, pushing prices up.

Compounding these fiscal policy mistakes, the Fed pursued for too long an unconventional and overly-accommodative monetary policy, which has resulted in an inflation crisis that is hitting our constituents where it hurts. It is the clear that the Fed is not satisfying its price stability mandate.

I look forward to hearing from you on the path forward to address the monetary policy side of this equation.

I yield back.

Chairwoman WATERS. I want to welcome our distinguished witness today, the Honorable Jerome Powell, the Chair Pro Tempore of the Board of Governors of the Federal Reserve System.

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

Chair Pro Tempore Powell, you are now recognized for an oral presentation of your testimony.

**STATEMENT OF THE HONORABLE JEROME H. POWELL, CHAIR PRO TEMPORE, 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.

Before I begin, let me briefly address Russia's attack on Ukraine. The conflict is causing tremendous hardship for the Ukrainian people. The implications for the U.S. economy are highly uncertain, and we will be monitoring the situation closely.

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 so that the American people and their Representatives in Congress understand our policy actions and can hold us accountable. I will review the current economic situation before turning to monetary policy.

Economic activity expanded at a robust 5.5 percent pace last year, reflecting progress on vaccinations and the reopening of the economy, fiscal and monetary policy support, and the healthy financial positions of households and businesses. The rapid spread of the omicron variant led to some slowing in economic activity early this year, but with cases having declined sharply since mid-January, the slowdown seems to have been brief.

The labor market is extremely tight. Payroll employment rose by 6.7 million in 2021, and job gains were again robust in January. The unemployment rate declined substantially over the past year, and stood at 4 percent in January, reaching the median of FOMC participants' estimates of its longer run normal level. 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 is very strong, and while labor force participation has ticked up, labor supply remains subdued. As a result, employers are having difficulties filling job openings. An unprecedented number of workers are quitting to take new jobs, and wages are rising at their fastest pace in many years.

Inflation increased sharply last year and is now running well above our longer-run objective of 2 percent. Demand is strong, and bottlenecks and supply constraints are limiting how quickly production can respond. These supply disruptions have been larger and longer-lasting than anticipated, exacerbated by waves of the virus, and price increases are now spreading to a broader range of goods and services. 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. We know that the best thing we can do to support a strong labor market is to promote a long expansion, and that is only possible in an environment of price stability.

The Committee will continue to monitor incoming economic data and will adjust the stance of monetary policy as appropriate to manage risks that could impede the attainment of its goals. The Committee's assessments will take into account a wide range of information, including labor market conditions, inflation pressures and inflation expectations, and financial and international developments. We continue to expect inflation to decline over the course of the year, as supply constraints ease and demand moderates because of the waning effects of fiscal support and the removal of monetary policy accommodation. But we are attentive to the risks of potential further upward pressure on inflation expectations and inflation itself from a number of factors. We will use our policy tools as appropriate to prevent higher inflation from becoming entrenched while promoting a sustainable expansion and a strong labor market.

Our monetary policy has been adapting to the evolving economic environment, and it will continue to do so. We have phased out our net asset purchases. 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.

The process of removing policy accommodation in current circumstances will involve both increases in the target range of the Federal funds rate and reduction in the size of the Fed's balance sheet. As the Federal Open Market Committee (FOMC) noted in January, the Federal funds rate is our primary means of adjusting the stance of monetary policy. Reducing our balance sheet will commence after the process of raising interest rates has begun and will proceed in a predictable manner, primarily through adjustments to reinvestments.

The near-term effects on the U.S. economy of the invasion of Ukraine, the ongoing war, the sanctions, and of events yet to come, remain highly uncertain. Making appropriate monetary policy in this environment requires a recognition that the economy evolves in unexpected ways, and we will need to be nimble in responding to incoming data and the evolving outlook.

Maintaining the trust and confidence of the public is essential to our work. Last month, we finalized a comprehensive set of new ethics rules to substantially strengthen the investment restrictions on senior Federal Reserve officials. These new rules will guard against even the appearance of any conflict of interest. They are tough and best-in-class in government here and around the world.

We understand that our actions affect communities, families, and businesses across the country. Everything we do is in service to our public mission. We at the Federal Reserve will do everything we can to achieve our maximum employment and price stability goals.

Thank you. I look forward to your questions.

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

Chairwoman WATERS. Thank you very much.

I now recognize myself for 5 minutes for questions.

Chair Pro Tempore Powell, as you know, the Fed is required to conduct monetary policy in a manner that fulfills its dual mandate to promote maximum employment and stable prices. But as you have explained, most of the inflation we are experiencing right now can be traced back to supply chain issues related to the pandemic, and the Fed cannot directly affect supply-side conditions.

These supply chain constraints seem likely to only significantly increase as Russia invades Ukraine and the full effect of our sanctions take hold. If the Fed's tools are mostly useful in stimulating or constraining demand, how can we expect monetary policy to rein in inflation that is largely driven by supply-side factors?

Mr. POWELL. Our policies really cannot, as you point out, affect supply-side conditions. Our policies affect demand.

What we are facing now is an elevated level of demand in the face of supply-side constraints, and it is the collision of those two things that is creating inflation. There is an important job for us to move away from these very highly stimulative monetary policy settings to a more normal level of rates, and perhaps tighter at a time when inflation is highly elevated, and that is what the Committee plans to do.

Chairwoman WATERS. It seems clear that the Fed has limited tools to address inflation and that Congress has an important role to play. The Monetary Policy Report notes major shortages in housing supply as a factor in higher prices. If Congress were to make investments to alleviate these shortages, do you think this would be helpful in addressing inflation?

Mr. POWELL. Major investments in housing supply? I think housing prices are high for a number of reasons, actually: difficulty in getting lots; difficulty in getting materials; difficulty in finding workers; and very high demand. It has been extraordinarily high. Those are many of the features, and also low interest rates have made credit widely available.

Mortgage rates are going up. That will probably begin to cool off demand. I wouldn't want to comment on congressional legislation, but I do think there is, no doubt, a role for Congress.

Chairwoman WATERS. I suppose I could conclude, without having you comment directly on fiscal policy, that you agree there are ways to manage inflation outside of monetary policy? It is not only monetary policy where others have a role to play?

Mr. POWELL. I do think that is right, but more in a sort of medium- or longer-term sense. The Fed does monetary policy, and inflation is largely a monetary phenomenon. And it is our tools that can be used to address inflation.

Over time, of course, anything that expands the productive capacity of the United States over time would, in principle, make greater potential output and a less constraining economy.

Chairwoman WATERS. Fed forecasters expect that inflation will subside as supply chain disruption issues are resolved. However, housing and rent prices, as you have said, account for roughly one-third of the Consumer Price Index, and most economists do not expect the problem to be resolved as quickly as supply chain bottlenecks due to both the time it takes to develop housing and the lack of investment in housing that is affordable to low- and moderate-income families.

Currently, there is a shortage of nearly 7 million rental homes that are affordable and available to America's lowest-income renters and a shortage of more than 5 million homes for potential home buyers. In my district, there is a shortage of more than 34,000 rental homes that are affordable and available to the lowest-income families, while the State of California has a shortage of more than 962,000 affordable rental homes.

If Congress does not make the investments to increase supply and access to the affordable homes in this country, how concerned are you that the Fed will not be able to contain inflation?

Mr. POWELL. You are right that housing inflation is a significant part of the CPI. We also look more prominently at personal consumption expenditure (PCE), which is a different measure, and it is something less than that.

And unlike these temporary supply-side constraints that we see, housing inflation really is much more of an indicator of the tightness of the economy rather than supply-side problems. So, it is something we watch carefully, along with wages, frankly, and it is a major contributor to inflation. As I mentioned, higher interest rates do—housing is a very interest-sensitive sector, and higher interest rates, really interest rates that move back toward a more normal level should act to cool off the housing market over time.

Chairwoman WATERS. Thank you.

The gentleman from North Carolina, Mr. McHenry, who is the ranking member of the committee, is now recognized for 5 minutes.

Mr. MCHENRY. Thank you, Madam Chairwoman.

Chairman Powell, thank you for your leadership in tumultuous times, and this is certainly interesting times internationally, challenging times internationally.

Everyone else on the Federal Open Market Committee (FOMC), it seems, has opined about the March meeting. Everyone, whether it is a tweet or an interview or anything else. What are your thoughts going into the March meeting?

Mr. POWELL. The March meeting. Okay. Here is how I am thinking about the March meeting, and I guess I would start, of course, with the U.S. economy, which is very strong. The labor market is extremely tight, and inflation is running well above target.

The way we think about our work is we develop working plans for making adjustments to monetary policy over the course of the coming months, and then we are flexible as plans meet the real world. We are never on autopilot, obviously, and at a time like this, what we aim to do is to lay out our principles, and then, with whatever clarity we do have, proceed to implement them, those policies, carefully and nimbly.

Coming into this meeting, let us say before the Ukraine invasion, the Committee was set to raise our policy rate, the first of what was to be a series of raises expected for this year. Every meeting was live. Decisions would be based on incoming data and the evolving outlook.

I also expected we would make great progress on our plan to begin to shrink the balance sheet. So, the question now really is how the invasion of Ukraine, the ongoing war, and the response from nations around the world, including sanctions, may have changed that expectation. And it is too soon to say for sure, but for now, I would say that we will proceed carefully along the lines of that plan.

The thing is, the economic effects of these events are highly uncertain. So far, we have seen energy prices move up further, and those increases will move through the economy and push up headline inflation, and also they are going to weigh on spending. We are seeing effects on other commodities and perhaps from declining risk sentiment and weaker growth abroad.

The thing is we can't know how large or persistent those effects will be. That simply depends on events to come. This is where that leaves me. I do think it will be appropriate to raise our target range for the Federal funds rate at the March meeting in a couple of weeks, and I am inclined to propose and support a 25-basis point rate hike.

We are also going to write down our new summary of economic projection individual forecasts, which will show each participant's views of the path forward in the economy and with rates. I also expect that at this meeting, we will make good progress toward an agreement on a plan to shrink the balance sheet. We will not finalize that plan at this meeting. We will do that when we think the time is right at a coming meeting.

The bottom line is that we will proceed, but we will proceed carefully as we learn more about the implications of the Ukraine war for the economy. We use our tools to support financial stability and macroeconomic stability. We are going to avoid adding uncertainty to what is already an extraordinarily challenging and uncertain moment.

That is how I would think about it.

Mr. MCHENRY. That is very specific. You mentioned 25 basis points. From all of the analysis about what the Fed will do over the course of the next year, is 25 basis points the floor, or the ceiling? Is it the speed limit? Is that the max you think that the Fed could take on? How do you think of that?

Mr. POWELL. Here is how I think about that. We have an expectation, those of us on the Committee have an expectation that inflation will peak and begin to come down this year. And to the extent inflation comes in higher or is more persistently high than that, then we would be prepared to move more aggressively by raising the Federal funds rate by more than 25 basis points at a meeting or meetings.

Mr. MCHENRY. You mentioned the balance sheet, a plan for the balance sheet, and that is to come. But what I am hearing clearly from you is that the Fed is very interested in financial stability, given what is happening, and you are willing to make quick decisions on a question of liquidity, on a question of market stability, those important works that you have focused on as Fed Chair.

And it is actually substantial news for the House to be the first, rather than the Senate, to break news. So, thank you for being so forthright about your views on this.

And with that, Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you.

The gentleman from California, Mr. Vargas, is recognized for 5 minutes.

Mr. VARGAS. Thank you very much, Chairwoman Waters, and Ranking Member McHenry, for holding this hearing.

And Chairman Powell, thank you very much for being here with us once again.

As we look at the unprovoked criminal Russian invasion of Ukraine, one of the most notable national security responses has been the President's recent announcement to cut off much of the Russian financial sector from SWIFT financial services. Our EU partners have also joined us and excluded seven Russian banks from SWIFT.

Chairman Powell, what practical effects would this have on Russia, its economy, its financial sector, and its people?

Mr. POWELL. Thank you.

I should point out that the Fed does not impose sanctions on other countries that we—in this process of developing sanctions, we are not a principal. That is really a job for the Administration, particularly the Treasury Department. We provide technical background support and things like that, but I think questions about sanctions and their effects generally would be more for the Administration and the Treasury Secretary.

I will just add, though, that the effects of the sanctions so far appear to have been significant.

Mr. VARGAS. Yes. We saw what happened to the ruble. We saw what happened to the market. The market is still closed. Is cryptocurrency a way around it for them? Could you talk a little bit about that?

I know it is a little bit out of your bailiwick. But as you said, these are interesting moments in time. We haven't had to face this since really World War II. And even all of the comments that you made about inflation and watching the market, so much of it is tied to obviously what the Russians are doing with respect to their unwarranted and criminal acts there in Ukraine.

Mr. POWELL. I don't have any private information on the extent to which that is happening, but that is something you read about and hear about. And I just think it underscores the need really for congressional action on digital finance, including cryptocurrencies.

We have this burgeoning industry, which has many, many parts to it. And there isn't in place the kind of regulatory framework that needs to be there. It was probably no different with railroads or telephones or the Internet. Ultimately, what is needed is a framework and, in particular, ways to prevent these unbacked cryptocurrencies from serving as a vehicle for terrorist finance and just general criminal behavior, tax avoidance and the like.

I guess that is what I would say there. I don't really know the extent to which it is happening, although you do hear that and read it in the paper.

Mr. VARGAS. It seems like an out for them. Since we did go down this road, could you comment a little bit about a central bank digital currency? It seems like that would be something that would be helpful in situations like this.

Mr. POWELL. Yes. We issued a paper. After much thought and many drafts, we issued a paper, was it late last year? I guess it was late last year, seeking public comment on the costs and benefits of a potential central bank digital currency issued by the Federal Reserve here in the United States, digital dollars. And we await—I think we gave an extended comment period, and we very much look forward to reading those comments.

This will be something in which we invest a fair amount of time and expertise and hiring people and things like that to try to get it right, but also to understand whether the benefits actually outweigh the costs, which I think is an unanswered question, both here and around the world. Nonetheless, it is our obligation to move vigorously to understand the answers to that question so that we can deploy a central bank digital currency if it is appropriate.

So would it, in principle? It depends on why people are using unbacked digital currencies. If they are using them to evade visibility and evade the law, then for us just to have a law-abiding CBDC won't change that. They will still be able to use those currencies for that matter.

The existing digital currencies that, again, are not backed are really vehicles for speculation. They are not used in payments. They are not a store of value. They are a speculation, like gold. That is what they are used for. Whereas, potentially, a U.S. CBDC would have a wider view.

I do want to stress that we have not decided to do it, but we do understand our obligation is to really get to the bottom of it and to understand both the technical and the policy issues that need to be answered.

Mr. VARGAS. Thank you, and I know my time is about up. I would just say, from your lips to God's ears. I hope that inflation does peak this year and does come down because people are hurting.

And thank you very much again for your steady stewardship. We appreciate it.

Mr. POWELL. Thank you.

Chairwoman WATERS. Thank you very much.

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

Mrs. WAGNER. Thank you, Madam Chairwoman.

Welcome, Chair Powell. It is good to see you in the chair. We appreciate your time and service.

Chair Powell, since the last FOMC meeting in January, the global economy has become markedly more complex. Russia's unprovoked and unwarranted invasion of Ukraine has led to a very steep increase in the price of energy. As of this morning, when I checked, a barrel of crude oil was priced at $112 per barrel, and this steep increase in the price of energy risks pushing U.S. inflation potentially even higher.

You have touched on this a little bit, but how does the war in Ukraine affect your thinking as you prepare for the next FOMC meeting?

Mr. POWELL. I think the first thing again to say is that the ultimate economic effects of the war and all of the sanctions and events yet to come are just very highly uncertain, and we need to understand that. And as I mentioned, I think it is appropriate for us to move ahead. Inflation is too high. The Committee is committed to using our tools to bring it back down to levels of price stability, which is to say 2 percent inflation.

But I would also say that given the current situation, we need to move carefully, and we will. And we will be nimble. We will be looking at the situation as it evolves. And again, we will use our tools to add to financial stability, not to create uncertainty.

Mrs. WAGNER. So, at this point in time, you don't think that it significantly alters your expectations for the rate increases that you have discussed this year?

Mr. POWELL. I don't think that is knowable yet. What we do, what we like to do is to run alternative scenarios, and we have done some of that, as you would expect. And it is easy to find cases where it would affect it. But we don't know that yet. We honestly don't, and we will see.

Mrs. WAGNER. Thank you. Chair Powell, could you explain the role of the Federal Reserve in implementing U.S. sanctions on Russia, how you are working with the Office of Foreign Assets Control (OFAC), how this actually is implemented?

Mr. POWELL. Right. Sanctions are really designed by the Administration. They are a part of what the elected government does. We provide technical support.

We implement those sanctions, or we make sure that the banks that we supervise and regulate, obey them. That is one thing that we do.

We also consult. We have knowledge about financial markets and financial institutions. So, we are providing technical support, but we are not the decision-makers on those things. And honestly, these are decisions that are made at the level of the elected government, not at the level of the Fed.

Mrs. WAGNER. I know things are happening quickly and are real-time here, but what actions has the Fed taken to date since the invasion of Ukraine?

Mr. POWELL. I would say, first of all, since late last year, we have been on very high alert for cyber attacks. We haven't really seen any notable incidents about that yet. We are making sure that the banks we regulate and supervise are also on high alert. We communicate with the Reserve Banks, where there is a lot of expertise in these areas, and with other parts of the government. So, that is one thing that we have done.

As I mentioned, we are in very close contact with the Treasury Department, as you would expect, between every central bank and every finance ministry around the world. But again, we are not the ones who design the sanctions.

Mrs. WAGNER. Okay. Cybersecurity is, certainly for this committee, and especially at the Fed, a top priority. I'm glad that you are watching it closely.

Chair Powell, does our U.S. financial system have the necessary capital and liquidity to handle any economic fallout from this war? What kind of data will we be seeing?

Mr. POWELL. The evidence to me strongly suggests that the answer to that is yes. We just went through a rather enormous shock with the pandemic and the near closure of the global economy, and U.S. banks' capital levels are at multi-decade highs, as are liquidity levels. It is hard for me to look at that and say that a lack of capital is a threat at this point.

There are certainly issues. Again, cyber for private financial institutions is a huge issue and one that they spend a great deal of time on, as do we.

Mrs. WAGNER. In 2015, the Obama Administration blocked the development of the Keystone XL pipeline, a decision reversed by the Trump Administration. Then, President Biden canceled the permits, again depriving the U.S. of over 800,000 barrels of oil a day. Wouldn't expanding the supply of oil by 800,000 barrels a day reduce energy inflation and lower prices at the gas pump?

Mr. POWELL. We are not responsible for energy policy. That is a matter for Congress and the Administration. Of course, the laws of supply and demand do work.

Mrs. WAGNER. The laws of supply and demand do work.

I yield back.

Chairwoman WATERS. The gentleman from Guam, Mr. San Nicolas, is now recognized for 5 minutes.

Mr. SAN NICOLAS. Thank you so much, Madam Chairwoman.

Good morning, Chair Powell.

And I would like to first recognize one of my senators all the way from Guam, Senator James Moylan. Thank you so much for making time to join us here today, Senator.

[applause]

Mr. Chairman, over the course of the uptick of inflation in the last year, you testified before the committee on multiple occasions that the Fed believed that the inflation the country was experiencing was transitory. And since that time, especially today, there is a seeming change in that tenor. Could you elaborate more on that?

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

I think very widely among macroeconomists and other central banks around the world, we looked at it as akin to an energy shock and a supply-side shock. And the textbook on monetary policy would have you look through that because a supply shock comes and goes, and by the time monetary policy is having its effect, which happens with long and variable lags, we think the supply shock is already gone.

We looked at it that way. I think we expected to get relief, particularly going into last fall, I would say. We expected when schools reopened, vaccinations were raised, and kids were back in school, we expected the supply of labor to come in, that kind of thing. And it didn't happen.

But it didn't happen because the supply-side constraints didn't ease. And it is not like, as a practical matter, what was wrong was not the theory, it was just in reality, the supply-side constraints have been much, much more durable and persistent than we had expected.

We knew that we could be wrong, and I always thought we could pivot pretty quickly and catch up, and we started to pivot in the middle of last year and then pivoted hard at the end of the year.

But in the meantime, the economy was really healing incredibly quickly over the second half of last year. Record job growth and record declines in unemployment, and record tightening in the labor market. We know that what our job is now, which is to move away from these highly-accommodative settings to more appropriate settings given the very hot nature of the labor market and the level of inflation.

Mr. SAN NICOLAS. There is chatter, Mr. Chairman, public chatter that the intensity of inflation that we are dealing with today is a reflection of the Fed not taking policy action soon enough, and not taking enough policy action. And there is public chatter that that causes the Fed's credibility to come into question as to whether or not it is acting responsibly and appropriately with the datasets that are coming in.

And I bring this up, Mr. Chairman, because we have a duty to the American people to be able to raise these questions, as pointed as they are, and to give individuals such as yourself an opportunity to really speak to the credibility question that is out there in the community. So, if you could elaborate further on that?

Mr. POWELL. Sure. It is for others to judge many of the things you mentioned, and we understand that. But starting in December, at our December meeting, we began talking about significantly more rate increases. The market took us very much at our word.

And as this year has gone on, market participants do appear to be reacting what I would call appropriately to our assessment, our ongoing assessment and reassessment of what is appropriate. And I will just assure you and everyone that we are committed to achieving price stability. We will use our tools to achieve price stability.

Really, that is an essential bedrock element of everything else we want to achieve in the economy, including a strong labor market.

Mr. SAN NICOLAS. When we faced the financial crisis in 2008, a lot of lessons were learned about the need for the Fed to be more responsive to the liquidity traps that could take us by surprise. Given the circumstances we are dealing with today, and the frustrations that the American people are facing, can you share with us any lessons that the Fed has learned with respect to its responsiveness to the inflation that we have been dealing with over the past 12 to 18 months, and the intense inflation that we are dealing with today?

Mr. POWELL. The inflation that we are experiencing is nothing like anything we have experienced in decades. It is higher, of course, much higher than anything we have seen since I was much younger. But not only that, it is different. It is coming from the goods sector. The goods sector has been a source of disinflation for a quarter of a century because so many goods, so many manufactured goods have been manufactured—

Mr. SAN NICOLAS. But just specifically, Mr. Chairman—reclaiming my time—what specific lessons has the Fed learned from the outcome that we are dealing with today?

Mr. POWELL. We are still living through it. So, the main focus we have is not on doing a retrospective. It is on conducting policy appropriately to return us to price stability while also sustaining the expansion.

Chairwoman WATERS. The gentleman's time has expired. The gentleman from Georgia, Mr. Loudermilk, is now recognized for 5 minutes.

Mr. LOUDERMILK. Thank you, Madam Chairwoman.

And Chairman Powell, thank you for being here, and congratulations on your nomination to continue your job for a second term. I think it is well-deserved.

Before I get to my questions, I want to hold up something here. This is a Ukrainian dollar. It is a hryvnia. I kept some of these when I was in Ukraine several years ago doing some ministry work, and I think it is interesting to think that what happens in the next few days may determine whether this is another defunct piece of currency and the nation returns to a ruble, or will this maintain some of its value?

But as you look at it, you can see it is a fraction, physically a fraction of the size of the U.S. dollar. It takes about 30 of these hryvnias to match a U.S. dollar, but when you look at values, our dollar has decreased in value, as you have mentioned, due to inflation.

Now a year ago when you testified before this committee, I asked what your outlook was for the economy, and you said you expected economic growth to be strong for the rest of 2021. But at that time, I warned that the $2 trillion stimulus bill that was making its way through Congress at that time was unnecessary and far too big, given that the economy was already recovering. And lo and behold, these predictions came true.

In your opening statement, you mentioned that you didn't expect inflation to continue at the rate it is right now. But I also recall that throughout 2021, we heard that inflation was slight. It was going to be temporary. But I also understand that prediction probably didn't include the actions and the roles that Congress had, as you had said.

According to a report from the Federal Reserve Bank of San Francisco, because the American Rescue Plan was so extremely large and was passed when the economy was already recovering, this was a significant contributing factor to inflation. Do you agree with that report, that our reckless spending is a contributing factor to our inflation?

Mr. POWELL. Really, I wouldn't like to comment on any particular law, but I will say this. All of the things that we did after the pandemic were—we turned our dials as hard as we could. So did you, with the CARES Act. And the economy did benefit from that. We have the strongest economy in the world now.

But part of that, no doubt part of what we did and what Congress did, without naming any particular laws, is also part of the reason why inflation is high now.

Mr. LOUDERMILK. Right. There are multiple contributing factors to that, and the reckless spending, which devalues our dollar, is one of those. And what we heard last night was that there is not going to be a change in the direction this Congress is going or the White House. It sounds like we are just going to repeat the same mistakes we made in 2021.

I know that you have the tools for adjusting the interest rate. You mentioned increasing 25 basis points, and you mentioned that it may be necessary to go higher. I understand that. Do you still think that inflation will be temporary, and I believe that you said it would be short-lived going forward because of resolving our supply chain issues?

But since there are other contributing factors to that, are you anticipating that Congress or the Administration will undo some of the failed policies, such as the spending policies and the suppressing of America's energy supply, which has been a significant contributing factor?

Let me rephrase that. If Congress and the White House do not change the policies of 2021 and continue down that same path, do you still believe that inflation will stabilize, that price stabilization will come this year?

Mr. POWELL. First, we have had this expectation, as you all know, for more than a year, and it hasn't actually come true. So, we are humble about the fact that we can't really call with any confidence the turn. But it does seem that this year will be withdrawing policy accommodation. Actually, a lot of the fiscal policy spending has happened now, and so the impetus to growth will be declining and, in fact, negative from fiscal policy as it stands now.

And just the natural improvement of supply chains and labor supply and things like that, those are the things we are looking to for relief on inflation, that we are hoping for, but it's very difficult to say when they will happen. And our job is to achieve price stability one way or the other.

Mr. LOUDERMILK. Okay. I see I am running out of time. I have several other questions, but I will submit those for the record, and I yield back, Madam Chairwoman.

Chairwoman WATERS. Thank you.

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

Mr. GARCIA OF ILLINOIS. Thank you, Chairwoman Waters, and Ranking Member McHenry, for this hearing, and thank you to Chair Pro Tempore Powell for joining us.

It has been a challenging year. Rising prices at the gas pump and supermarket cause real distress to working-class families like my neighbors in Chicagoland, and the improvement in employment and wages is real, but not nearly enough.

My constituents saw a decade of stagnation after the last recession. Working-class Latinos and immigrants like my neighbors are always hard hit. We simply can't afford that again.

Chair Powell, you have said that inflation has been driven by bottlenecks in the supply chain, and last night, President Biden highlighted their role in corporate concentration and price increases. I will note that CEOs from Kimberly-Clark to Tyson Foods had bragged to investors about their power to raise prices without facing competition. And last night, President Biden said, "Lower your costs, not your wages." And my constituents were glad to hear that.

Mr. Chairman, can you explain how raising interest rates will lower prices for diapers or chicken? Last time, it was because my neighbors lost their jobs and couldn't buy diapers or chicken. Is that the idea?

Mr. POWELL. The idea is that right now, the Federal funds rate is still set close to zero, and that is a very stimulative level. I think it is 8 basis points today. That is not an appropriate level, we think, going forward. We think it is appropriate that we engage in a series of rate increases over the course of this year and also let our balance sheet shrink.

And what will happen then over time is that demand will moderate as interest rates get into the economy over time, and these annual price increases in everything where prices are going up will moderate as well. That is how it has always worked with interest rates.

We don't do competition policy. So, I can't really comment on that part of it, but I will say that is how we think about inflation and that is how we use our tools to get inflation under control.

Mr. GARCIA OF ILLINOIS. Changing gears, we discussed corporate concentration, and last July, the President issued an Executive Order on competition that encouraged the Fed and other regulators to increase their scrutiny of bank mergers. It has been a long time since regulators blocked a bank merger, even an acquisition by a global systemically important bank (GSIB) in 2020.

Chairman Powell, do you think it is appropriate to issue a moratorium on pending mergers while the Fed updates its framework for their review?

Mr. POWELL. I think we have a statute that Congress has passed that gives us the rules for evaluating potential acquisitions and mergers by banks. I think we have a widely-developed framework for that work, and we are continuing to implement that.

Any changes that would come would either come through legislation or through new personnel at the Fed, neither of which we have right now.

Mr. GARCIA OF ILLINOIS. As we learned from Wells Fargo, frontline bank workers are an important resource for regulators. They see firsthand how banks implement or ignore internal controls, and they can identify problems as they develop. Incorporating frontline workers' voices in our banking regulatory system would improve the information we have and diversify the voices that get heard.

Chairman Powell, would the Fed commit to adding bank workers to your various advisory councils? Why or why not?

Mr. POWELL. That's a very interesting question. We do have quite a diverse group of people on our various advisory councils, including people who are representatives of workers.

I don't know that we have outside councils who advise us on bank supervision, per se. But we do always seek out in all of our— in our Reserve Bank boards and also the advisory councils that we do have representation from labor and also from people who live and work and represent the interests of low- and moderate-income communities.

Mr. GARCIA OF ILLINOIS. Thank you. I would appreciate it if you would consider that.

And Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you.

The gentleman from Tennessee, Mr. Kustoff, is now recognized for 5 minutes.

Mr. KUSTOFF. Thank you, Madam Chairwoman.

And thank you, Chair Powell, for attending this morning.

A lot of times, we look for historical references when we try to reference a current event. A number of people, a number of pundits, when they look at inflation today, reference it back historically to the late 1970s and the early 1980s. From your perspective, is that the proper historical reference to what we are experiencing today as it relates to inflation?

Mr. POWELL. That is the proper historical reference for what we are trying not to replicate. Obviously, all of us have looked carefully at the history of post-World War II inflation and business cycles and all that kind of thing. One of the things that is different now is that central banks, including the Fed, very squarely take responsibility for inflation. That was actually not the case in the 1970s.

There was a school of thought that really there were certain things that an independent agency just couldn't do because it was too hard, and that Congress should do it. So now, I think central banks around the world have an inflation target. They have transparency so that they can be held to account for it. We are not waiting. We are using our tools now to—and that is really different than it was in the 1970s.

Also, inflation expectations have been anchored for a long time. They really weren't then. They were allowed to become unanchored without much of a response. That would not happen in today's world, and it will not happen.

Mr. KUSTOFF. A few weeks ago when the CPI number came out, I was on my way to a breakfast meeting in Jackson, Tennessee, which I represent, and one of my constituents and I, when we were talking about the new CPI number, he said, "I don't care what the number is because I know that I am paying 50 percent more in gas than I did 12 and 18 months ago. I know I am paying 20 to 25 percent more in grocery prices than I did a year ago. I know what the price of a new car and a used car is."

If you were me, if you were a Member of Congress, what would you tell your constituents about the rising costs, the expensive cost to just live today?

Mr. POWELL. Inflation is too high. We understand that, and we are working on it. It is going to take some time, but we are going to get it back under control.

By the way, we are seeing this everywhere in the world. We are seeing it more in the United States because our economy is stronger, but we are seeing it everywhere in the world.

Mr. KUSTOFF. Let me, if I can, follow up on a few questions that some of my colleagues asked about.

Ranking Member McHenry asked you about the next meeting and your plans for the next Fed meeting, and I think you eloquently laid it out. But you also talked about the situation that has developed in Russia and Ukraine. My inference from your answer is that if Russia had not invaded Ukraine, the Fed would be more aggressive as it relates to the balance sheet and to rate hikes. Is that a proper inference?

Mr. POWELL. No, I think that remains to be seen. As I said, we are moving ahead at this meeting, it would be my expectation, in 2 weeks with a rate increase. And we are going to make progress on agreeing on a plan at this meeting to shrink the balance sheet, and I am confident we will.

The question of when we implement that plan is not answered yet. I don't think that is clear at this point. That certainly is something that we can't answer now.

Mr. KUSTOFF. Mr. Garcia referenced the President's State of the Union remarks last night. The President, when he talked about addressing inflation, said that we need to control costs. Did you hear him say that?

Mr. POWELL. I did not. I was too busy getting ready for this hearing. I did not watch it.

Mr. KUSTOFF. I won't tell the President.

Mr. POWELL. I probably just did.

Mr. KUSTOFF. When the President said he wants to control costs, or that businesses should control costs to address inflation, would you have any idea what he is talking about?

Mr. POWELL. I really can't comment.

Mr. KUSTOFF. Fair enough. In a follow-up to questions from Congresswoman Wagner, she asked you about cyber. I know pre-pandemic, pre-invasion, one thing that you said kept you up at night was a cyber attack. If Russia were to retaliate against the United States in some form of a cyber attack, what degree of confidence do you have in our nation's banks to thwart a cyber attack from Russia?

Mr. POWELL. What I can tell you is that everything that we can do to protect ourselves against cyber, we are doing it. The private large financial institutions are doing it, and they have been for some time.

It is very hard to say what is possible to happen, but we are certainly on high alert, and we will continue to be.

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

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. Thank you very much, Chairlady Waters, for your leadership and for calling this hearing.

Mr. Powell, first, I want to say that at a time when we are still recovering economically from the COVID pandemic, and we are facing challenges at home and now in Ukraine, I think and I feel deeply that the Fed should not be subjected to political stunts in the Senate with boycotts by the Republicans, and the Senate should consider the pending Fed Board nominations as soon as possible.

The Fed has an important job to do, and President Biden has put forward qualified nominees, and we need to get this done. That is just my main point.

With that said, as you and I have discussed in the past, the economic recovery has not been even and we still have a ways to go to ensure our economy works for everyone.

Just as one example, the Black unemployment rate remains at nearly 7 percent, which is more than double the White unemployment rate, and later today, the House Select Subcommittee on Coronavirus Crisis is having a hearing where we will be looking at the depth of the pandemic's impacts on child care providers and workers and the results that has on our families and our economies.

I want to ask you about the monetary policy report the Fed released on Friday. The Fed notes that the labor force participation rate remains well below estimates of its longer-run trend as a result of retirement and people out of the labor force and engaged in care giving activities.

From both a macro perspective and a micro perspective, what does this drop in labor force participation mean for the U.S. economy and what does it mean for those workers who leave the workforce to care for their children or family members?

Mr. POWELL. Having a lower labor force participation rate now—it is a little more than a percentage point lower than it was—reflects a lot of retirements, and what it means is that our labor force is smaller. That has consequences, including contributing to the labor shortage that we are seeing across industries and all across the country. If we had a few million more people working, then we wouldn't be feeling that quite so much. It also means the potential output of the country is lower.

Many of the people who are not in the labor force are retirees who have made a choice. But some of them are people who still want to come back, but perhaps can't, because of childcare activities or fear of COVID or other factors.

In any case, the decline in the labor force participation that we have seen has been much larger than that of other comparable nations, and it was not something we expected, and it is certainly something that is now contributing to wage inflation and actual inflation and to the labor shortage that we are currently seeing.

Mrs. MALONEY. Thank you.

It has been announced that as a result of the Ukraine war and other disagreements, Russia and China are now moving to trade completely in their currency, are no longer using the dollar, and Pakistan has flown in to meet with Russia. There is some talk that they may be part of it.

What effect would that have on the U.S. economy if China and Russia no longer use the dollar in certain block trades around the world and with each other? What effect, if any, would it have on our economy?

Mr. POWELL. We do benefit from being the main reserve currency for the world, and that really is because we have open capital accounts and the rule of law, and we have inflation over a long period of time under control so that the dollar preserves its value.

And so, our markets are the most liquid and it is the place where people want to be. Over time, the question is, if some want to move away from the dollar, what will be the effect on us?

I don't think it is something you would feel right away. Over time, they would have to create an economic ecosystem whereby another currency becomes a better currency for them to use.

What we can do is we can make the dollar the most attractive currency by continuing to have the rule of law and open capital accounts and make it an attractive place for people to invest and to use in their businesses.

There wouldn't be any short-term effect of that. Over time, though, I suppose it would diminish our status as the reserve currency. It is also possible to have more than one large reserve currency, and there have been times when that was the case, so it is not really clear.

Mrs. MALONEY. Thank you. My time has expired. I yield back, Madam Chairwoman. Thank you.

Chairwoman WATERS. Thank you. The gentleman from Oklahoma, Mr. Lucas, is now recognized for 5 minutes.

Mr. LUCAS. Thank you, Madam Chairwoman.

And to continue several points that a number of my colleagues have raised, as Putin's aggression in Ukraine has continued to escalate, the U.S. and its allies have responded in a unified voice to condemn Russia and apply economic pressure.

Chairman Powell, could you discuss the difficulty of predicting what the implications will be of locking Russia out of SWIFT?

Mr. POWELL. Again, on sanctions, we are not the right folks to ask. We don't design them. We don't implement them. That would be, literally, a question for the Administration.

Mr. LUCAS. Let me word it this way: How sweeping do you foresee the ripple effects through the U.S. financial system? Is there an effect on us as those actions take place?

Mr. POWELL. With big actions like this, there may well be unintended and unexpected effects, and it's hard to say what those might be.

In the economic sphere, not directly to your question, but we are seeing concerns over palladium and neon and corn and wheat—shortages of those, potentially.

But it will be difficult to say exactly what the effects could be over time. The United States—our financial institutions and our economy do not have large interactions with the Russian economy. It is a relatively small thing and it has gotten smaller and smaller in recent years.

So, there wouldn't be direct effects from these kinds of things on the U.S. economy. It is hard to say what the second-order effects might be.

Mr. LUCAS. Thank you. You have answered my question.

As Congresswoman Wagner touched on, the price of oil has continued to climb during the past year to its highest level in more than 7 years, and we now see international banks, appropriately, shunning Russian oil even without energy sanctions. Could you describe the range of different scenarios the Fed projections are playing in regard to this, and along with that, how do you see this potentially impacting the already-rampant inflation issues?

Mr. POWELL. Obviously, the price of oil depends on events that haven't occurred yet. It really depends on where this goes, going forward.

We have seen prices move up, including just in the last couple of days, and they moved up quite substantially since—if you go back 3 months before this incident kind of began.

Prices are up quite a bit. The effects are going to be passed through into gas prices, into lower economic activity, and into headline inflation, and the larger the increase, the larger the effect.

But the question then will become, is that going to lead to repeated inflation increases at that time, and that is not necessarily the case, and, of course, we would use our tools to make sure that it is not the case.

Mr. LUCAS. And, of course, representing the constituency I do, which is both oil and gas production, and agriculture, we take very careful note of how those actions will affect world crude oil prices. And, of course, Ukraine being a very historic major grain producer, my wheat people also are prepared to step up and match that.

But it all underscores, I suppose, the increase in energy production in the United States, and supporting policies that will not penalize or drive capital away from domestic oil and gas production.

That is more of an editorial on my part, Mr. Chairman. But I note that we stand ready in this country to replace resources that may not be available or affordable for the rest of the world, and we just need a little incentive and encouragement from this side of the room to utilize those things.

My last question in the time I have remaining is, the economy is currently operating in what I think we had all described as, at the very least, massive economic uncertainty. And when you deal with this 40-year inflation, and supply chain issues, and the COVID-related issues—and hopefully, we are in the final stage—can you elaborate on how critical it is for the health of the economic system to be reliable and to maintain liquid markets so we can navigate through whatever lies ahead of us?

Mr. POWELL. Yes. I would say our markets have been functioning well. There is a great deal of liquidity out there. Between our swap lines, and our repo facility with other foreign central banks, and our standing repo facility in the Treasury market, we have institutionalized liquidity provision, and I think just the knowledge that is there will help support good market function which, despite all this volatility, we still have.

Mr. LUCAS. Thank you, Mr. Chairman. I will yield back, Madam Chairwoman.

Chairwoman WATERS. Thank you. The gentlewoman from New York, Ms. Velazquez, who is also the Chair of the House Committee on Small Business, is now recognized for 5 minutes.

Ms. VELAZQUEZ. Thank you, Chairwoman Waters.

Chairman Powell, thank you for being here today.

Given what you said about the upcoming meeting in March, and the illegal invasion of Ukraine, how is the Fed coordinating with other central banks around the world and accounting for their actions when considering adjustments to interest rate policy here at home?

Mr. POWELL. We are in ongoing contact, it is fair to say, with our major central bank colleagues, and we actually have a meeting of all of them on Monday morning. It is a virtual meeting at 7 a.m. on Monday.

It is something that we do regularly. That said, we conduct monetary policy to achieve domestic objectives, specifically, here in the United States, maximum employment and price stability, and that is what we use our tools for.

But of course, foreign events are very much top of mind right now, and it is enormously helpful to understand the perspectives, particularly, of the Europeans who are so much closer physically to what is going on.

So, that is an important channel for us.

Ms. VELAZQUEZ. Thank you.

And, Chair Powell, last week the Fed published its 2022 Small Business Credit Survey. Among other things, the report found that small business applicants that used online lenders for their financing needs reported more challenges with their lenders than did applicants at other sources.

The top challenges faced by borrowers from online lenders were high interest rates and unfavorable repayment terms. Can you explain the report's findings and what it could mean for small businesses that utilize online lenders to satisfy their financing needs?

Mr. POWELL. If I recall that survey, it did raise some interesting questions, and our people looked at it and actually saw differences in data gathering.

It is not clear that the data in the two surveys was comparable. But I do think it raises interesting questions, and we will be happy to get back to your office on that.

Ms. VELAZQUEZ. And it might raise some interesting questions where we, through legislation, could provide some relief and regulations so that small businesses are not shortchanged when it comes to the most important element for any small business: access to capital, affordable capital.

Chair Powell, during public remarks last month, Acting Comptroller of the Currency Hsu stated that in the not-too-distant future, the OCC, the Fed, and the FDIC will issue a joint notice of proposed rulemaking (NPR) to update the Community Reinvestment Act (CRA).

Does the Fed also believe a joint NPR is possible, and when do you expect it to be released?

Mr. POWELL. Yes, we do. We think that will be ideal, and we are working very closely with the OCC and the FDIC to come up with a consensus notice of proposed rulemaking reflecting all of the comments that we got on our advance notice of proposed rulemaking (ANPR).

I think the timing is soon. I wouldn't want to put a specific date, but I know that we are going back and forth and it feels like we are getting very close.

Ms. VELAZQUEZ. Right. Thank you.

And, Chair Powell, a note published by a Credit Suisse strategy over the weekend warns that a decision to exclude certain Russian banks from the SWIFT system, which I support, could result in missed payments and giant overdrafts with significant consequences for money markets, thereby forcing the Fed and other central banks to intervene to enhance liquidity to offset missed payments.

Do you see this scenario as likely?

Mr. POWELL. No, I don't see that as likely. Of course, we always appreciate looking at different risk scenarios. But, again, given the relatively modest exposure that our banks have directly to Russia, and given the existing tools that we have to provide liquidity, I don't see that as a likely outcome.

Ms. VELAZQUEZ. Okay. Thank you. I yield back.

Chairwoman WATERS. Thank you.

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

Mr. SESSIONS. Madam Chairwoman, thank you very much.

Chairman Powell, thank you for not only taking the time to join us today, but for your insights into monetary policy.

The monetary policy report of February 25th, seemingly still hot off the press, brings about, I think, a good review of the Fed's analysis of where we are, and I know there is that temptation by Members of Congress to hold you accountable for things which are not within your purview.

But on page 3 of your February 25, 2022, monetary report, you talk about special topics like low labor supply. Next, it goes to several other issues, and then, supply bottlenecks.

As a Member of Congress from Texas, both of these are highlighted to me on a daily basis as I receive feedback. This is inflationary also.

We have taken a bit of time with you to probe with you your ideas that, I think, you have handled professionally on behalf of yourself and the Fed—the issues related to energy.

But the bottom line is, we can't get people back at work. We find that turns into a low labor supply and then we have bottlenecks. These are all hand in hand, glove in glove, together, in my opinion.

I took a few minutes just now to look at the labor unions and teachers' unions. But let us move to the Federal Government. Where is the Federal Government in terms of their employees coming back to work now, according to the Office of Personnel Management (OPM)?

Mr. POWELL. I don't know. We are an independent agency. I will tell you where we are, which is we are in the middle of that process, probably closer to the beginning than the middle.

Mr. SESSIONS. I know you are but, you see, if they don't come to work, then others don't come to work. So, I think your point and my point is well made.

I believe that what we need is your robustness, not just your acumen, in these issues and your robustness within the Administration to actually let them know that for this report—for monetary policy to be correct, that you believe inflation is a short-term meaningful hindrance on our economy.

They, meaning the White House, are going to have to make policy. They are going to have to understand what caused this. And I think that this Administration, and I think the Democratic Party, and I think this Congress, have made friends with inflation to encourage it, and that if your prognostication is going to come forth that we end this inflation, we are going to have to have serious changes.

Because right now in Texas, which has been relatively open, I don't see relief on the horizon, and I think that this Administration and this Congress have a lot to do with it.

Without chastising you, I meant to help you. I would like for your voice in this Administration and within the halls of Congress, perhaps doors that are shut, for them to understand that they have actually made friends with and are continuing inflation, whether it be with teachers unions or whether it be with OPM, and we have to get serious about getting people back to work, because as you tap down the amount of money that is put in the economy, as that moves, we're going to have to correspondingly have people come to work who pay taxes that move the economy. Gross domestic product (GDP) is a term we used earlier today. It is shifting this big, massive task.

I have almost a whole 30 seconds left. But I would like you to say to you that I would like for your voice of reason, of prosperity, a future, to come true as you would like.

Did I ask you a question? Okay. I am going to support you. I am for you. How can we help you?

Mr. POWELL. Honestly, we have the tools and we will use them to get inflation under control.

But to the extent we get help from the supply side, it will make that job so much easier. It is about labor force supply. It is really about supply constraints and shortages and that kind of thing.

It is also about exogenous events, like a war, which will drive up the price of oil and gas, and that will get into prices, certainly, and we will make sure that it doesn't provoke a cycle of inflation.

Mr. SESSIONS. This is what happens when you have to rely on other people for your food, cheese, and energy. Thank you very much, Mr. Chairman.

Chairwoman WATERS. Thank you, Mr. Sessions. You can help Mr. Powell by asking your friends on the Senate side to confirm his appointment.

[laughter]

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

Mr. SCOTT. Chairman Powell, how are you?

Mr. POWELL. Fine, thank you. How are you, Mr. Scott?

Mr. SCOTT. I want to sound the alarm here this morning, and I want you to listen to me, and I want the nation to, because I am the Chair of the House Agriculture Committee, and I am very worried about this turmoil over in Ukraine, and Russia's violent, illegal, and criminal actions that they are taking and the impact that this has on global trade and, most importantly, our own food security.

We could very well be on the verge of a hunger crisis all over this world. I want to share with you, and with the nation, some research so that we can understand what this Ukraine-Russia situation is causing.

Today, Russia alone is producing more than two-thirds of the 20 million metric tons of fertilizer used to grow corn and wheat around the world—one country producing 66 percent of the fertilizer that is needed.

And when you combine Ukraine and Russia, these are also the two largest exporters of wheat, corn, and barley, producing a quarter of the world's wheat in these two countries, making this impact a crisis of soaring magnitude when you have this much, and these two countries are warring with each other.

I want to sound the alarm on this. Chairman Powell, the disruptions and rising prices from these commodities will destabilize global food markets and threaten our food stability and social stability.

My question to you, Chairman Powell, is to what extent could these developments create a financial stability risk here at home and abroad, and what must we do? We can go without a lot of things in this world, but the one thing we cannot go without is food.

And when you have this much power on our food security for the world in the hands of these two countries warring each other at this time, what can you do about it?

Mr. POWELL. I think your point is very well taken and I think it is shipping, it is corn, it is wheat. As you pointed out, it is fertilizer, and we see that getting into food prices and into the food supply just in these early days after the sanctions that have been put in place in a war less than 2-weeks-old now.

The Fed doesn't really have the tools to address this. This is really a matter for Congress and the Administration, I think. But you are right to call attention to it, and I do think that it is understood that help will be needed here.

Mr. SCOTT. I just want to say that we cannot allow the world to get into this desperate situation. So, I am giving this as sort of a Paul Revere moment here. I am not saying the British are coming, but I am saying the Russians are already at the door, and they could cause worldwide hunger, and I hope that free nations around the world can come together and realize that this is not just Ukraine's fight. It is our fight and we have to win this fight, and hopefully, we can get more of our nations to come together and end this situation in Ukraine and Russia before it causes, truly, a worldwide war.

Chairwoman WATERS. Thank you very much.

The gentleman from Florida, Mr. Posey, is now recognized for 5 minutes.

Mr. POSEY. Thank you, Chairwoman Waters.

Chair Powell, when your former Deputy, Mr. Quarles, came before the committee last May, I pointed out to him that just a week before, the April inflation rate had been recorded at 4.2 percent, much higher since 2009. The rate in March of 2021 had been only 2.6 percent.

I asked him if we were paying the price for monetizing a huge Federal debt, what the late Dr. Friedman and former Chairman Bernanke both called, "helicopter money." Mr. Quarles told me that he didn't believe the Federal Reserve was monetizing the debt.

Mr. Chairman, looking back a year, does the Fed continue to deny that it has been monetizing the debt, and do you believe that you should have acted before now to rein in the inflation, rather than let it now exceed 7.5 percent, the highest rate since 1952?

Mr. POWELL. I think by monetizing the debt, what that means is for the central bank to purchase the debt with the intention of holding it, and that is not the intention here.

We are about to start shrinking the balance sheet and we will return the balance sheet to a size relative to our economy that it was before.

Also, that is not at all our intention. We purchase longer-term securities in order to drive down longer-term interest rates to support economic activity. I would also say that is not really what we think of as the source of inflation, admitting that inflation, proclaiming that inflation is far too high and that we are committed to using our tools to get it back down.

It is really about very, very high demand, particularly in the goods sector, related to a spending shift that happened in the pandemic and supply constraints that we didn't foresee—international supply chains, labor constraints, low labor force participation, right across the economy.

It is a very different kind of inflation story than we have had in the past, but it is one that we have to deal with, and we will deal with it.

Mr. POSEY. Chair Powell, when you appeared before this committee in March of last year, and I asked you to clarify the purpose of the Federal Reserve collecting data and employing stress tests related to climate change, you assured us that the Federal Reserve would be collecting the information to help financial institutions learn about climate risk and wouldn't be using the information for regulatory purposes.

In recent weeks, considerable controversy has emerged in the confirmation process to fill four vacant seats on the Federal Reserve Board. One of the nominees has a record of advocating for aggressive Federal Reserve regulation related to climate change, including actions that would regulate capital allocation away from fossil fuels.

I won't ask you to comment on the confirmation process. But can you continue to assure us that the climate data—the stress test proposed by the Federal Reserve won't be used for regulatory purposes and driving investment away from traditional energy sources here?

Mr. POWELL. We call them climate stress scenarios, and we haven't—we are actually just building the capability to do this, and the idea is not to use them in the way that we use the traditional stress tests to set capital levels, in effect. The idea is more to allow financial institutions and also regulators to better understand the extent to which and the ways in which climate financial risks have any implications for the banks.

That is the purpose of it. I will add, though, that we don't think it is our job to tell banks which legal companies they can and can't lend to, and I don't see that as an appropriate role for us.

Mr. POSEY. I am really glad to hear that. So, that is an absolute, unequivocal—a guaranteed answer that the data will not be used for regulatory purposes in any way whatsoever?

Mr. POWELL. I can just say that, first of all, we are not even doing the tests yet—those scenarios yet. But, certainly, that is not going to be their construct. They are going to be—the construct will be what I said, which is to help us understand better, not to set capital or otherwise put on further regulatory requirements.

Mr. POSEY. Thank you so very much. I deeply, deeply appreciate that, and I yield back. Thank you.

Chairwoman WATERS. Thank you very much.

The gentleman from Colorado, Mr. Perlmutter, who is also the Chair of our Subcommittee on Consumer Protection and Financial Institutions, is now recognized for 5 minutes.

Mr. PERLMUTTER. Good morning, Mr. Powell. How are you?

Mr. POWELL. Fine. How are you?

Mr. PERLMUTTER. I am good. And I just want to thank you. You have been getting picked on, on inflation. But I would like to start with chart one of your book. I always ask about your charts because I love them.

And chart one shows a tremendous growth in employment, and chart two shows a tremendous drop in unemployment—the converse of it—and it has dropped from about 14 percent to 4 percent.

Do you think that the Fed's monetary policy helped in reducing the unemployment rate?

Mr. POWELL. Yes, for sure.

Mr. PERLMUTTER. Two years ago, we were going into a pandemic. You and I had a conversation about the potential for a worldwide recession of a magnitude we had never seen. Did we hit that? Did we get that recession?

Mr. POWELL. No, we didn't.

Mr. PERLMUTTER. And you may recall, I am a bankruptcy lawyer, so I look at things kind of with a pessimist's eye. I expected many, many bankruptcies. Did we have those? Did we have the bankruptcies that we thought we might get?

Mr. POWELL. We sure didn't.

Mr. PERLMUTTER. Do you have any idea how much the gross domestic product has grown in the last year?

Mr. POWELL. I want to say five point something percent.

Mr. PERLMUTTER. It is actually more than that, and one of your charts has that—I think it is on page 23, chart 14. From 2020 to now, it went from less than $17.5 trillion up to $20 trillion. So, it is substantial, about 15 percent.

Now, I don't think it is that much, but it is substantial. Did we expect that when we went into COVID?

Mr. POWELL. You mean since the trough?

Mr. PERLMUTTER. Yes.

Mr. POWELL. I was just giving you the last year. As you know, we were looking at some really bad scenarios and hoping they wouldn't happen in the first half of 2020.

Mr. PERLMUTTER. The Fed took some pretty dramatic actions, as did central banks around the world, did it not?

Mr. POWELL. Yes.

Mr. PERLMUTTER. And the Congress, led by the Democrats, took some pretty substantial and dramatic steps, including the CARES Act, the American Rescue Plan, the infrastructure bill, to build a better America and to help us get out of what looked like it could be a tremendous recession.

I could ask you, did it not, but I am not going to lead you in that one. But what I do want to talk about is the fact that despite the one flaw that Republicans can find, which is inflation, we have lower unemployment, and a bigger economy. Do you know how many other countries have higher inflation around the world than America? Sixty-four, according to trade economics inflation of country by country. This is a worldwide phenomena, is it not?

Mr. POWELL. Yes, it is.

Mr. PERLMUTTER. I want you to take a look at a couple more of your charts, because I think these are probably the most important, and they are the median wage growth found in chart C on page 12, and the change in the price index for personal consumption found on page 13, diagram 8.

According to your chart on page 12, the bottom order of wage earners have had their wages increase by almost 9 percent. Do you see that?

Mr. POWELL. Yes.

Mr. PERLMUTTER. And the bottom, the next quarter, by 6½, 7 percent. Do you see that?

Mr. POWELL. Yes, I do.

Mr. PERLMUTTER. And then, you look over to the next page and we are running, I think you said, at about 5, 5½ percent inflation. So, wage earners in the bottom half are making more money than they are, potentially—if I do the math, they are making anywhere from 8, 9 percent against a 5 percent increase in costs. Now, it is not apples to apples. Wages are going up, are they not?

Mr. POWELL. Wages at the bottom, in the bottom quartile, have gone up in real terms. I do not think that is true for the second, third, and fourth quartiles, but it is true for the bottom quartile that their wages—nominal wages—have gone up more than inflation.

Mr. PERLMUTTER. Okay. Last question, when you and I spoke at the beginning of this year—my time has expired, so I will ask it to you later on.

And I thank you for your service, sir. I thank you for keeping us out of a recession. I think we built a better America by staying out of a recession. I yield back.

Chairwoman WATERS. Thank you so much.

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

Mr. DAVIDSON. Thank you, Madam Chairwoman.

And thank you, Chairman Powell, for coming here, and I also appreciate your book and the work and, frankly, just yet, again, I want to highlight the really heroic work that the Federal Reserve did to create stable markets, particularly in March and April of 2020.

Since then, of course, there have been a lot of economic distortions, one of which is the ongoing inability of the Federal Reserve to stabilize its own balance sheet, which is now over $9 trillion.

I appreciate Mr. Perlmutter highlighting some of the good news and, frankly, I am positive that he has previously operated a lemonade stand because he can always make something good out of the lemons.

But the concern is that in the long term, this has come at the expense of sound money. Just over a year ago, I talked to you about sound money, and does the U.S. dollar represent sound money, because many of us anticipated that inflation was not transitory and that the quantity theory of money might have some impact on inflation.

So, in light of the fact that we have seen substantial change in the rate of inflation now versus what was showing up then but was anticipated, do you still think that the U.S. dollar is sound money? And either way, what are the threats to the U.S. dollar as sound money?

Mr. POWELL. The U.S. dollar is sound money. Yes. The threats to the U.S. dollar as the reserve currency, really, in the near term are—to displace the U.S. dollar as the reserve currency, if that is your question, you need to be a very attractive place to hold large amounts of reserves.

Mr. DAVIDSON. It is really different than that because we are probably still going to be the reserve currency since the world grades on a curve, and frankly, the planet has never had this much debt since World War II.

All of the countries around the world did similar things. We weren't even—the discipline of the Bretton Woods era was gold. I don't know that there is magic just in gold but there is magic and discipline.

If you look at sound money being defined by a stable store of value, an efficient means of an exchange, and a trusted record of account, you have at least taken some things on store of value.

And as you have seen people decide to filter transactions, and develop technology and regulatory frameworks that are intended to be able to filter transactions, it is not as trusted or efficient as a means of exchange or a record of account. And so, those kinds of things. Not so much, do we do okay on the curve, but is it truly sound?

Mr. POWELL. I am not sure I followed the last part. But I do think that—look, inflation is indisputably too high. We are using our tools to bring inflation back down to levels of price stability and we will accomplish that task.

Longer-term, the U.S. dollar is easily the best currency and it is because of what I just said. It is also because of the rule of law and the fact that we are the incumbent, and as long as we observe the rule of law and keep the dollar relatively—keep inflation low and predictable, that will remain the reserve currency.

Mr. DAVIDSON. Okay. Thank you, Mr. Chairman.

And, look, historically, there have been multiple reserve currencies and, generally, when something loses its status as a reserve currency, it is not just because of other things that unfold but it is because the value is debased. And we can come up with fancy words like modern monetary theory or quantitative easing or similar to quantitative easing but not really the same.

When the Federal Reserve's balance sheet is growing, in a way, it represents the Fed as the lender of last resort. We are not constrained by the taxes we collect.

We are not even constrained by the amount of money the world will lend us. We are constrained only by the will of Congress to not spend more, and what are you going to do, not cover the prolific spending by Congress?

Moving on, just talking about the Fed's role, of course, stable prices is really only one component. The other is full employment.

And I wonder if you think in light of Mr. Perlmutter's reference to chart 2, if chart 4, which is the labor force participation rate, trends the right way, and as you link to the next thing as a regulator, there is a lot of pressure for you to do ESG.

What can the Fed do and what does Congress need to do to strike those balances?

Mr. POWELL. Relative to ESG?

Mr. DAVIDSON. And full employment.

Mr. POWELL. Well, full employment, I think, most members of the FOMC now think we are at labor market conditions that are consistent with maximum employment.

Mr. DAVIDSON. With 60 percent labor force participation? Sixty-two?

Mr. POWELL. The maximum employment can never be higher than the level that is consistent with price stability.

Chairwoman WATERS. The gentleman's time has expired.

Mr. POWELL. I think we are at that level, at least.

Mr. DAVIDSON. Thank you.

Chairwoman WATERS. The gentleman from Illinois, Mr. Foster, who is also the Chair of our Task Force on Artificial Intelligence, is now recognized for 5 minutes.

Mr. FOSTER. Thank you, Madam Chairwoman.

And I would like to add to Representative Perlmutter's list of your triumphs, the record level of small business formation. And I think that when you try to preserve the very strong economic recovery, I realize you have a dual mandate, but keep an eye on that one, too. It is one of the most important successes we don't talk about enough.

Do you remember the misery index?

Mr. POWELL. I do.

Mr. FOSTER. Yes. And when unemployment drops from 14 percent to 4 percent, so dropped by about 10 percent, and then the inflation goes from about 2 percent to 7 percent, so up by 5 percent, does that mean the misery index is increased or decreased?

Mr. POWELL. It would be decreased.

Mr. FOSTER. Thank you for that.

You actually mentioned repeatedly that the inflation problem was, largely, one of goods and not so much one of demand, and also of labor shortage. Can you make any rough estimate of what fraction of the inflation we are seeing was due to sort of those three effects?

Mr. POWELL. I should be clear. Inflation is also too high in the service sector. I wouldn't want to oversell that. But the really big change has been in goods, which had negative inflation or close to zero inflation for 25 years.

I don't have off the top of my head the ability to just tell you what the contribution of that is, but it is big, and it is a significant part of it. A lot of it also is energy, which is—

Mr. FOSTER. Obviously, it's a worldwide problem.

Mr. POWELL. Yes.

Mr. FOSTER. If you could get back to me with something a little more quantitative from your staff on that, I would just be—

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

Mr. FOSTER. —interested in knowing your estimate.

Now, in terms of the labor shortage, back in the days when we had a different Senate, they passed comprehensive immigration reform that was then, of course, blocked by Republicans, and many studies at the time indicated it would be a huge positive for our economy to pass comprehensive immigration reform, and that was at a time which didn't have an extraordinarily-tight labor market.

Is there anything you can think of that would invalidate those studies which showed that comprehensive immigration reform in both the low-skill and the high-skill sectors would be a huge plus if it was passed?

Mr. POWELL. If I can answer that this way, if you look back at the trend, let's say, 5 years ago, in that range of immigration—legal immigration—people coming in, and look where we are now, we are now several million people, many of whom would be in the workforce, short of that. So, lower immigration is definitely part of the story of the labor shortage. But that is what I would say.

Mr. FOSTER. Is there anything quantitative you can say about the timescale for unwinding the balance sheet? Do you think of this in terms of a fixed timescale that we want to go back to normal in the next 2 years or 3 years? Or do you say we are going to take it down by 1 percent a month? Or do you anticipate some sort of feedback loop where we look at the taper tantrums or the equivalent and sort of adjust it as you go?

Mr. POWELL. The way we did it last time is we set a cap on the amount that will run off, and anything above that gets reinvested for both mortgage-backed securities (MBS) and for Treasuries. We haven't had that discussion at the Committee. We will have it in 2 weeks.

But I guess it turns out that the level of the cap doesn't really matter that much for how long it takes. Something in the range of 3 years to get back to where you are trying to get to and the way we define is the end.

We look at the size of the economy and the size of the banking system and we ask, what is the level of reserves that we will need at that point? And we set a course for that place, and then as we start to get close to it, we might slow down a little bit, as though it were an airplane, and that is the way it will work.

But I think something in the range of 3 years to get back to what the balance sheet needs to be, which is basically reflective of the public's demand for our liabilities plus a buffer and what we call ample reserves.

Mr. FOSTER. Yes. Do you have an estimate for how many hours of your life have been spent attempting to explain the difference between quantitative easing and monetizing the debt to Members of Congress?

[laughter]

Mr. POWELL. No, sir.

Mr. FOSTER. Okay.

Now, one of the most valuable functions of that is to provide the emergency assistance to the financial systems of the free world and you mentioned that you stood ready. Are there specific things you are worried about in Eastern Europe, where the economies are more tightly tied to Russia, where you may really have to step in and get involved? Any specific worries?

Mr. POWELL. What we are watching is the global markets and the dollar funding market and we are seeing markets that are functioning, and, of course, we have tools and we have things in place to deal with stresses should they emerge.

That is really what we are doing, and, as I mentioned, markets are functioning, so we haven't had to deploy any of those tools.

Mr. FOSTER. Thank you.

And my time is up. I yield back.

Chairwoman WATERS. Thank you. The gentleman from Missouri, Mr. Luetkemeyer, is now recognized for 5 minutes.

Mr. LUETKEMEYER. Thank you, Madam Chairwoman, and welcome, Chairman Powell. It's good to see you again.

We are in the middle right here of a really disastrous situation with Ukraine, and part of the approach to corralling the Russian advance there is on the financial side. And it would appear to me that we probably didn't do this as quickly as we should have. It didn't look to me like we had a plan.

If we really wanted to get involved financially, we should have been sitting here saying whenever—when they move the first battalion or regiment or whatever you want—amount of troops you want to talk about on the border we should sort of said something, well, okay, if you move another one there, we are going to start doing things to you. And we didn't do that until they started to invade, and then now, all of a sudden, we are playing catch up.

That begs the question, we know that China is watching all of these actions very, very carefully. They are looking at what Russia does, how we react, what we do, how the rest of the world reacts, what they do.

To me, we need to be sitting here as a country, as the Fed, as Members of Congress, saying, we need to be ready for the Chinese when they invade Taiwan, because I see no reason why they will not do that shortly.

If we don't prepare for that, shame on us. My question to you is, are you beginning to think about what kind of actions you would take or support or suggest to the Administration, should China take over Taiwan or attempt to do that?

Because this is going to be a completely different scenario because of the size of China, the size of the military, the size of Taiwan, versus getting into Eastern Europe. So, it is kind of a large question, but would you like to jump into it?

Mr. POWELL. Those questions are really questions that are dealt with at the National Security Council and the Defense Department and the intelligence agencies and the Treasury Department.

We are interested students of all that, and we have our technical expertise that we can contribute. But honestly, we are not—

Mr. LUETKEMEYER. Mr. Chairman, I listened to you very carefully a while ago, and you made the comment that you are looking at making policy for anticipated situations in the coming months with regards to a number of things—what happens with the economy, what happens with inflation.

So if you are not doing that—I understand you may not want to tell me today because that will be helping the Chinese who are probably watching this right now. I understand that.

But just a sort of a wink and a nod to say, yes, we are looking at that would, certainly, be not—it will give us a level of comfort to know that we are not going to be behind the eight ball again.

Mr. POWELL. As I also mentioned, we do model alternative scenarios of various kinds and in fact, with every Tealbook, which is our document that we use at the FOMC, we run half a dozen of them in great detail. Our people study those and it helps them think about alternatives. So, I will just leave it at that, if I could.

Mr. LUETKEMEYER. Okay. Thank you. I will let you off the hook on that one.

With regards to inflation, we have talked about it significantly here today, and I think sometimes that you are given way too much credit for it, and given way too much criticism for it. I think that there are a lot of things that are outside your control that happen that, basically, affect inflation, and you have to react to it.

You don't make monetary policy on the Administration side. You don't make legislative policy for the legislative side. And, yet, you have to react to all of those things.

I am the ranking member on the House Small Business Committee, and I had an economist come in to talk to our committee the other day, and I asked him to break down the different causes of inflation.

And I said, let me identify, at least, what I think are four significant costs. One is money supply—the amount of money that is pumped in either through Fed actions or through our actions as Congress—regulations, supply chain/workforce situations, and energy.

And he broke it down like this, and he had some charts and he started going off, and I said, just give me the percent. And he said, roughly 40 percent through the money supply—the money that goes in as a result of Fed actions or congressional actions, 1 percent is regulations, 20 percent supply chain, and 20 percent energy.

If you look at that—I know Mr. Foster a while ago was looking for some answers so, hopefully, I have helped him with his question—if you look at that, basically, you don't have a lot of control over regulations.

You don't have a lot of control over supply chain and no control over energy policy, and money supply if Congress gets involved and passes these massive bills and throws a lot of money in there, you don't have control of that one either.

So, the amount of control over this is just probably in the neighborhood of 20 to 40 percent at best. My concern is that when you say that you are trying to help things with inflation, it really balances—it goes back to the Administration and to us as Congress.

The Administration, the first thing it did was to stop the pipeline, stop oil drilling, and prices went up, and that right there is 20 percent. So, it is important, I think, that we understand that. I would like for you to comment on that, if you would, just for a second.

Mr. POWELL. Sure. Yes, that's an interesting breakdown. We can continue this discussion. We would have a little different assessment.

I would just say that we welcome—this is a lot about supply-side issues, and we welcome any help we can get on that, and we are looking for help from an improved supply side.

Mr. LUETKEMEYER. Okay.

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

The gentleman from Florida, Mr. Lawson, is now recognized for 5 minutes.

Mr. LAWSON. Thank you, Madam Chairwoman.

And Chairman Powell, welcome to the committee.

Before I ask my question, I have a statement. They said one of the benefits of inflation is that you can live in a more expensive neighborhood without moving, and I thought that was a very interesting statement I was seeing—

Mr. POWELL. That is a good one.

Mr. LAWSON. —and I thought I would bring it to your attention.

According to the recent analysis of branch closures by the National Community Reinvestment Coalition, between 2017 and 2021, banks have closed as many as 7,000 branches across this country, one-third of which were in low- and moderate-income communities and neighborhoods of color.

To what extent is the Fed considering these banks as it is contemplating reform to implementing and stressing the Community Reinvestment Act (CRA) and the importance of those banks' branches for a nearby community?

Mr. POWELL. I do think that is a focus of the CRA and also of the focus that we want to strengthen in our proposal that is out for comment. Actually, it is now—we have had the comments and we are getting ready to put out a notice of proposed rulemaking.

But we do understand the importance of presence in the community and service to the community, and those things do go into our CRA assessments.

Mr. LAWSON. Okay.

Mr. Powell, according to the latest forecast from Goldman Sachs and the Federal Reserve, which raised interest rates more than expected this year due to high inflation and the labor market approaching full employment, can you speak more on this? Should we expect the Fed to raise interest rates at all in the meeting this year, and what should we expect the Fed's main rates to be by the end of this year?

Mr. POWELL. Yes. The inflation is running well above our target. The labor market is extremely tight. The economy is growing strongly and our policy rate—we do expect to move our policy rate up in a series of rate increases this year, away from the very low setting that we put into place during the acute phase of the pandemic and to a more appropriate level, given the fast recovery and the strong recovery that the economy has had, and given the fact that inflation is running so far above our target.

We do expect that will be appropriate. We have communicated that transparently and clearly, and markets have accepted it, and it is our plan to return to price stability while also supporting continued expansion.

Mr. LAWSON. Okay. I wanted to make sure that I understood the statement that was made earlier. With wages going up, as they say, and the bottom half are making more in earnings, do you think that we are in a better situation to deal with inflation now than we have been with inflation in the past?

Mr. POWELL. I think that this inflation is substantially higher than anything we have seen since I was in college 50 years ago. This is strong and high inflation, and it is very important that we get on top of it and that is exactly what we are going to do.

I would say this: The labor market is extremely strong. From that standpoint, I do think we are in a good place from the standpoint of trying to get inflation under control. Workers are still going to be getting good jobs and pay increases for some time.

So, the economy is strong, and that means the economy can take the rate increases that we are going to be making. Ultimately, we need to get demand and supply back in alignment so that we can get inflation back to a more appropriate level.

Mr. LAWSON. Okay. Thank you, sir. And with that, I yield back, Madam Chairwoman.

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

Mr. HUIZENGA. Thank you, Madam Chairwoman, and Chair Powell, I appreciate this opportunity. I am actually going to pick up on what my colleague from Florida was just talking about, and add that to what my colleague from Missouri, next to me here, was talking about. And you may have said that the 40/20/20/20 ratio that came from Douglas Holtz-Eakin, breaking that down to about 40 percent of inflation being tied to monetary policy and spending, 20 percent to regulations, 20 percent to energy policy, and 20 percent to supply chain—you might disagree with that, is what you had said. But do you believe that spending has contributed to the situation that we are in now?

Mr. POWELL. I may have misunderstood what your colleague said.

Mr. HUIZENGA. Madam Chairwoman, I ask that you suspend—I think Mr. Lawson still has his microphone on, and we are getting a little crosstalk, so if we can maybe add a few seconds back here?

Chairwoman WATERS. Okay. Is the gentleman muted now?

Mr. HUIZENGA. Clearly, he is not.

Chairwoman WATERS. I think you can resume.

Mr. HUIZENGA. Okay. I would ask that you have a light gavel at the end of my time here. I think we were having a little crosstalk, if we could go back on that.

Chairwoman WATERS. Yes.

Mr. POWELL. I may have misunderstood. I thought that the 40 percent was money supply, but you made it sound more like monetary policy. Look, we can discuss those numbers, but that makes more sense to me.

Mr. HUIZENGA. But the point being, has spending contributed to inflation?

Mr. POWELL. Yes. I think a number of factors have, including monetary policy.

Mr. HUIZENGA. I would agree with that, and frankly, many of us have sort of warned or talked about this situation. We have record debt right now, previously without conflict. Now, war and rumors of war that we hope are not going to happen may even increase that debt. And I am afraid that our spending habits are putting you and all policy decision-makers in an even tighter box.

Look, we all know that inflation is real. It is hitting, whether it is gas at $3.79 versus $2.74 a year ago, groceries, you name it, housing. And when you were here in July, I talked about the housing situation—my family is in construction—and what that means.

And we can't just wave a magic wand and say, "Oh, we are going to lower prices." That just simply isn't realistic.

But what I heard last night is that the President is acknowledging that people are living paycheck to paycheck, and he understands that, yet the message I keep hearing from the President and my friends on the other side of the aisle is that we need to spend even more. And I am concerned that is going to put us again into an even tighter box than we currently are, so if you care to touch on that before I move on?

Mr. POWELL. I should stay away from fiscal policy, if you don't mind.

Mr. HUIZENGA. And look, I am not asking whether you support a particular bill or not. Theoretically, for your classroom—America is your classroom as they are watching this right now—spending is a contributing factor to inflation. Correct?

Mr. POWELL. It is, but it is not really our job and not ours to comment on. We do have—

Mr. HUIZENGA. I understand that.

Mr. POWELL. —a role here and we need to do it.

Mr. HUIZENGA. I fully understand that. Just the facts. Okay.

I am going to move on to another issue, which is a rules-based approach to monetary policy. In the 114th Congress, in 2015, I introduced the FORM Act, which would lay out a rules-based monetary policy. And I know in your testimony today you indicated that a rate increase is expected, and you confirmed that with the ranking member.

What I am curious, about, though, is that since 2017, the Fed's monetary policy report included a section on monetary policy rules, and you have been very clear, and now Secretary Yellen has been clear that a lot of rules are modeled and looked at. The only exception to this was 2020, the first year of the pandemic, and maybe more surprisingly, the report that was just released this month, for example, in 2017, the monetary policy section of the report stated that, "Monetary policymakers consider a wide range of information on current economic conditions."

It is not included in this report. Can you shed some light on why it was omitted this year?

Mr. POWELL. I honestly didn't know that was the case, or if someone talked to me about this before the thing was printed and sent up here, I don't remember. That is also a real possibility, given the number of things I have on my mind right now. But as you say, we didn't have it in July of 2020. We will have it in the next one. There was no big thought, as far as I know, going into that. It is just sometimes we include it and sometimes we don't.

I will say that thinking about policies through rules is something that I learned about in monetary policy, doing that. When you are actually implementing policy, no committee has ever really viewed its policy rules as a way of setting policy. They use them to inform your thinking.

Mr. HUIZENGA. Yes, and I guess my idea with the format was to then inform the market, and that includes us as citizens as well. And I would like this committee to re-examine that.

I appreciate the indulgence, Madam Chairwoman, as we had that crosstalk at the beginning, and I yield back.

Chairwoman WATERS. Thank you.

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

Mr. CASTEN. Thank you, Madam Chairwoman. And thank you, Chair Pro Tempore Powell.

I am always struck that there is a real risk of hubris for those of us in our line of work, at least up here. If we get to write laws, sometimes we conclude that means we can write the laws of physics as well, which is dangerous. And I am troubled by some of the questioning of my colleagues and some of the debates around confirmation of your colleagues around climate change.

The Intergovernmental Panel on Climate Change (IPCC) report which came out last week said that climate change effects are outpacing our ability to adapt. We are seeing communities that sort of simultaneously have droughts, floods, and fires, and money is moving in surprising ways. We have seen personal stories just in the last months of one coastal community where the roads are being washed out, that haven't yet paid off the bonds that were used to pay for the road, and they don't know how to reconnect those communities. And in another community on the coast, the mayor is sitting there realizing that in one neighborhood, he can afford to build a sea wall, and in another neighborhood, it is cheaper to relocate people and then deal with the political fallout of that decision.

We have massive political risks that are coming, and we know they are coming because the laws of physics do not care how we vote. And I am concerned by your response to Mr. Posey—I think you said we have not even done the scenarios yet on climate change. I understand these are complicated, but if those scenarios haven't been done, I want to start—if we do not deal with the financial fallout, the political fallout is going to be far worse.

And I just want to start with a very specific question. NOAA and NASA came out with a report, I think last week, or 2 weeks ago, saying that Florida is looking at 12 inches of sea level rise in the next 10 to 20 years, and 18 inches by 2050, which means that there are whole communities in Florida where there is going to be complete property loss before a 30-year mortgage is repaid; that was issued today.

Are Fannie Mae and Freddie Mac changing their lending standards in response to those risks in those communities in Florida and elsewhere that are now within 30 years of being unable to repay those notes?

Mr. POWELL. I don't know.

Mr. CASTEN. I ask the question there, because in the U.S. Commodity Futures Trading Commission (CFTC) report, "Managing Climate Risk in the Financial Sector," which came out in 2020, they noted that the higher an area's risk for coastal flooding, the more likely that commercial banks will be offloading their risks onto Fannie and Freddie. So, if the sophisticated players in the system are seeing this risk, and we, at a Federal level, are backstopping, how are we isolating our Federal balance sheet from that risk exposure?

Mr. POWELL. I think that is a very likely outcome, actually. As private lenders move away from that, will the government force people to move away from the coast, or will they wind up—the government, that is, us—wind up picking up the tab? It's more likely to be the latter, it seems to me.

Mr. CASTEN. Moving away from offloading the risk onto the taxpayer, back when I was in the energy industry, one of the tells that we had that we knew there was a downturn coming in energy markets was when the big banks started creating a special opportunity Fund 5. We all knew that was code for taking your Dodd-Frank Act compliance, that capital, and moving it into an equity pool and selling it off to the least-sophisticated people in the equity space. Anybody who has spent time in the banking industry has seen that game.

To what degree does the Fed or the Treasury have the ability to monitor where the sophisticated folks who are seeing this coming are shifting the risk off to the less-sophisticated folks in the private sector?

Mr. POWELL. There is a lot of thinking going on about this. I would have to think about that. But there is a lot of thinking about what will happen over longer periods of time in coastal areas and things like that. I can look into that for you.

Mr. CASTEN. And it is not just coastal, right? It is California fire risk. Do you rebuild that house where the fire is, and who is holding the paper if it burns the second time, before it is paid off? Drought risk in communities, running away the capital movements. And to be clear, we are going to create so much wealth in the transition to a clean economy, but I think we can find more winners than losers if we are smart about this. But there is this huge capital play and the nervousness I get is, as I said, partly that we are shifting risk onto the public sector, and partly that if we don't have a really good understanding of what the capital structure looks like in these communities, we are not seeing it.

As you know, Senator Schatz and I have introduced this bill to push and encourage you and your colleagues to do these climate, whatever we are talking about, scenario analyses. But we know the sophisticated people are going to offload the risk, and as the IPCC report said, the effects are outpacing our ability to adapt and we need to get ahead of this much quicker.

Mr. POWELL. I want you to know we are working on the scenarios. It is an active effort on our part.

Mr. CASTEN. Let us know how we can help you, make sure you have the resources to move a lot quicker.

Thank you, and I yield back.

Chairwoman WATERS. Thank you.

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

Mr. BARR. Thank you. Mr. Chairman, it's good to see you again, and thank you for your testimony today. I appreciate your testimony that overspending has contributed to the inflation crisis we are facing right now, but I also appreciate your humility with respect to the Fed failing to meet its price stability mandate and the fact that you admit that inflation is primarily a monetary policy phenomenon. I want to focus on monetary policy in my questioning.

I know you understand that this has human costs. I want to share a couple of anecdotes from my district. A painter, Gerald Holland, from Nicholasville, Kentucky, says a gallon of paint costs $10 more today than a year ago. The Suffoletta family from Georgetown, Kentucky has been in the retail home furnishing business since the late 1940s. In a conversation last week, they informed me that in the last year, the cost of goods from their manufacturers have increased 30 to 40 percent, and they are still receiving price increase letters every week, and like most small businesses, their costs of labor and overhead have gone up over 25 percent. So now, they are having to determine how to operate without passing those costs on to the end consumer, and still have some profits left at the end of the year.

I could share dozens, as many of my colleagues could share dozens of these kinds of stories, including from constituents on fixed incomes who cannot afford the dramatic reduction in their purchasing power.

Before November 2021, Chair Powell, when you declared it was time to retire the word, "transitory," in relation to inflation, my colleagues and I repeatedly, in hearings last year, after the $2 trillion spending bill, cautioned you that inflation wasn't transitory, that we were hearing from our constituents, individuals and small businesses, that inflation was hitting them hard and was sticky. But the FOMC kept up with the unconventional monetary policy. And even after you retired the word, "transitory," as late as February 2022, the Fed was continuing its QE liquidity injections, even though inflation was at 7.5 percent, a 40-year high, and the Fed had rejected and immediately halted the QE at both its December and January policy meetings.

This week, economist Mohamed El-Erian published an op-ed, in which he states that the Fed's insistence that inflation was transitory is, "an error that will likely be remembered as one of its biggest ever." And pardon me for contributing to your humility on that.

But my question is, has the FOMC learned from its mistake? Has it learned that unconventional monetary policy at a time when it is not needed is harmful for the economy? Has it learned that QE during a time of recovery is a recipe for inflation, and has it learned that we cannot print our way to prosperity?

Mr. POWELL. I think the main thing that we have learned is that the supply-side constraints that we saw were not as transitory as we had hoped, and thought, and as I mentioned, every other mainstream economist and central bank around the world made the same mistake. That doesn't excuse it, but we thought that these things would be resolved long ago.

Mr. BARR. Does the FOMC—do you and your colleagues concede now, in hindsight, that the overly-accommodative monetary stance for too long was a mistake, a monetary policy mistake?

Mr. POWELL. I will just answer for myself. That is for other people to assess. I would say that we had an expectation, and as I said earlier, I always thought there was a chance we would be wrong, and that if we were wrong, we would be able to pivot. And we did pivot, and we pivoted pretty quickly, but by then the economy really was moving very, very fast.

Mr. BARR. On the pivot, how quickly do you expect a higher Fed funds rate, removing the accommodation to bring down inflation, and how does that affect the pace at which you would tighten?

Mr. POWELL. As I mentioned, I expect the Fed funds rate to go up in 2 weeks, and I expect a series of rate increases this year. But as I mentioned earlier, given the current situation, we are going to move carefully.

Mr. BARR. My concern is that to break this inflation fever now, you do not have a lot of good options. It is going to take some aggressive tightening in order to break historically-high inflation levels.

Not to belabor the point, but one final thing on the climate stress testing. Last year, in response to my questions about the Fed's decision to join the Network for Greening the Financial System, you affirmed that the Fed's job was not to combat climate change. But in your confirmation hearing, you said that, "We are looking at climate stress tests. This will be a key tool going forward." To clarify, which is it? Is it that you will not use this, as Mr. Posey asked you, to support capital surcharges for banks serving fossil energy companies?

Mr. POWELL. That is not the design nor intent of the stress scenarios that we are working on right now. It is really to assist us and financial institutions, who are doing these things themselves very actively, the larger ones, to understand the risk.

Mr. BARR. My time has expired, but as we look at a global energy crisis with the Ukraine and—

Chairwoman WATERS. The gentleman's time has expired.

Mr. BARR. —it is critically important that we do not redirect capital—

Chairwoman WATERS. The gentleman from Massachusetts, Mr. Lynch—

Mr. BARR. I yield back.

Chairwoman WATERS. —who is also the Chair of our Task Force on Financial Technology, is now recognized for 5 minutes.

Mr. LYNCH. Thank you, Madam Chairwoman. And thank you, Chair Powell, for your service and your great work.

I do want to ask you a question about the SWIFT network, and I realize that the sanctions piece of this is owned by Treasury. But I am curious if in any of your risk analyses, you have looked at the possibility that if we did completely ban Russian banks from use of the SWIFT network, and it became a target of the Russian cyber forces, have we basically gamed out how that might happen, and do we feel comfortable that structurally and architecturally, the SWIFT network would be able to resist a state-sponsored assault on that messaging service?

Mr. POWELL. I'm sorry, Mr. Lynch, I am really not the right person to answer that question. That is really a question that our Treasury Department or our Administration, more broadly, and the intelligence groups would be able to address.

Mr. LYNCH. I am a little surprised at that, because earlier in your questions, you talked about cybersecurity and how that was in your lane, in part. But I will let that go.

You did mention the recent Fed report on CBDC, and in that report it more or less pushed responsibility back to Congress to resolve some of the major issues around the creation of a Fed CBDC. And I know that we have a working group at MIT and the Boston Fed that are doing great work on this. It started under Chairman Gensler, but I believe Neha Narula is running that effort.

In all honesty, I am not sure that Congress is equipped by itself to make those key decisions around architecture and the shape and form of any CBDC for the United States. I think we are relying on the Fed and the Treasury to help us. And so, I was hoping for a little bit more instruction with the Fed paper, and is there any way we could collaborate rather than pushing the responsibility on Congress, with all of the other issues we have to deal with, and also with the disparity in background in dealing with CBDC and those crypto issues?

Mr. POWELL. Yes. Let me address that. What the great people in Boston are doing is really technical experimentation around how you would build a CBDC if you were going to do one, looking at different structures and options and technologies. That is separate from the policy questions of whether we should do this.

How we are thinking of this is there is technical experimentation, there are all of the technology questions that have to be solved, but there are also the policy questions—should we do this and why, and how, and what should be the structure, and that kind of thing. So, we will be working on this project in coming years, and we hope building trust in Congress and in the public that we are doing it as a fair, honest, independent group who really is just looking out for the best interests of the country and of our citizens. And we will be making recommendations on the appropriate structure, if we do come to make a recommendation.

The point is, though, that our existing statute doesn't really contemplate a central bank digital currency so, ideally, we would get legislation, that would be authorizing legislation, and we would take part in it. It is not that we would be asking Congress to start this from scratch and figure out all the answers. We would be working with you to build trust in our process and ultimately come to you with a proposal, and then Congress would do its work and authorize.

Mr. LYNCH. Thank you, but Mr. Chairman, the concern is that the architecture and the security of the system will guide policy. So, I believe we need to work together. But thank you.

Madam Chairwoman, I yield back.

Mr. POWELL. No, I agree.

Chairwoman WATERS. Thank you.

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

Mr. WILLIAMS OF TEXAS. Thank you, Madam Chairwoman, and thank you, Chairman Powell, for being here. It is always good to have you come before the committee.

There hasn't been a Federal Reserve Chairman since Paul Volcker, in the 1980s, who has dealt with inflation at these levels that we talk about today, and historically, the Fed has been unable to reduce prices without sending our economy into a recession. And to further complicate the situation, the central bank has previously never had to deal with winding down such aggressive asset purchases to go along with increasing interest rates.

You are going to have to take action on both of these pressing issues, with the backdrop of what we see in Ukraine, between Russia and Ukraine, and the general global instability that we have. Needless to say, you have a very tough job ahead of you.

Mr. Chairman, how do you plan on getting inflation under control without completely hampering growth, or worse, causing the economy to go into a recession?

Mr. POWELL. That is exactly our objective. We are going to use our tools, we are going to raise interest rates, and we are going to shrink our balance sheet over the course of this year. As I mentioned, during this critical phase of global events we are going to do that with care, and we will always move with care but particularly now. And that is how it works. We remove accommodation and the very high levels of demand that are, to some extent, a result of our accommodative policy. Those rates will go up. Take housing, for example. The housing market should cool off. It is very, very hot right now. And that should happen broadly in the economy over time.

We talk about getting to a neutral rate, which would be somewhere between 2 and 2.5 percent. It may well be that we need to go higher than that. We just don't know. And we don't know what events will intervene in the meantime. We haven't faced this challenge in a long time, but we all know the history and we all know what we need to do.

I also do think, and I think it is more likely than not that we can achieve what we call a soft landing, and they are far more common in our history than is generally understood, and that would be what you described, which is to get inflation back under control without a recession.

Mr. WILLIAMS OF TEXAS. Some of us in this room remember the 1980s.

Mr. POWELL. Sorry?

Mr. WILLIAMS OF TEXAS. Some of us in this room remember the 1980s and what it was like.

We know that there is a lag period between the Federal Reserve's actions and the inflammatory implications being felt in the economy. The San Francisco Fed, which we have mentioned today, admits that this latency period could last anywhere from 3 months to 3 years, and for families and business owners, like myself, the 3 years would be an extremely long time to deal with prices at these elevated levels.

Mr. Chairman, when the Fed eventually decides to raise interest rates, what tools will you have at your disposal to ensure your actions are felt with as little a delay as possible so we can once again have price stability, like we have talked about?

Mr. POWELL. In this world that we live in now, when we make a decision about interest rates, or frankly, even talk about a decision to raise interest rates, markets pick it up like that. Financial positions have already tightened. We haven't actually lifted off from zero, but as of a week ago, the market was pricing in, it was literally already reflected in financial conditions, to some extent, six or seven rate increases. It is less than that now, and we haven't made a decision to do that yet.

Our decisions get into financial conditions very quickly. It does take time, of course, for that to affect economic activity, and that is where you get 3 months to longer than that. I think by the end of a year, much of the effect is generally thought to be in.

But that time period has already started, because monetary policy really works through expectations, and we are now expecting rate increases, and they have already happened, in effect, and we have to ratify them, of course.

Mr. WILLIAMS OF TEXAS. We are seeing them. Finally, in the past year you have referenced productivity gains as being key to increase the living standards for American workers over time. Unfortunately, we have seen the Biden Administration implement many new, time-consuming regulations that are forcing businesses, again like mine and others, away from productive activities. The American Action Forum conducted a study which estimated that new regulations from President Biden's first year in office will culminate in over 131 million new paperwork hours.

Quickly, Mr. Chairman, can you discuss the correlation between a company's regulatory burden and the effect on productivity?

Mr. POWELL. I am a little bit familiar with the research, and it has actually been difficult to make those connections in research. But we know, as a practical matter, we all want just the right amount of regulation, not too much, and to the extent that you are spending resources unnecessarily, that will hold you back.

Mr. WILLIAMS OF TEXAS. Thank you very much, and I will yield my time back, Madam Chairwoman.

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

Mr. TORRES. Thank you, Madam Chairwoman. During his State of the Union, President Biden reported that the U.S. has seen the fastest job growth in history, the U.S. has had the fastest economic growth in more than 4 decades, and the U.S., among advanced economies, has had the fastest economic recovery from COVID. And so, the inflation that we have seen is the consequence of a strong economy colliding with a supply chain disrupted by COVID-19.

Given the Russian invasion of Ukraine and the inflationary pressures that could likely follow, is there a risk that raising interest rates could backfire, that it could cause a recession without actually reining in inflation? How significant is the risk of stagflation?

Mr. POWELL. There are several questions in there. Our goal, of course, is to raise interest rates in a way that restrains inflation and gets it back to levels that we would call consistent with price stability, and to do that while still sustaining an expansion and a strong labor market. That is our goal, and that is how we will use our tools. There are no guarantees in life, but that is our intention and what we propose to do.

Mr. TORRES. The U.S., as you know, has severely sanctioned Russia, and Russia is expected to engage in cyber retaliation. There are financial institutions, commercial banks that invest up to $1 billion every year on cybersecurity. How much does the Fed invest in its own cybersecurity every year?

Mr. POWELL. I don't have a dollar amount for you, but it is quite substantial. We have very good cyber people at the Reserve Banks and at the Board here in Washington. And as I mentioned a little earlier, we have been at a very highly-elevated level of oversight on cyber issues for several months now, as this event has increased. And we haven't seen any troubling incidents yet, but we remain on high alert.

Mr. TORRES. The ability of the U.S. to hold rogue states like Russia accountable depends heavily on the SWIFT international payment system. In your view, how easily could China and Russia create an alternate messaging service that could seriously compete with SWIFT and seriously undermine the effectiveness of SWIFT sanctions?

Mr. POWELL. That is an interesting question to speculate about. I think in the near term, that is not something you can create overnight. I know that China does have their system. It is really a question for the longer term, and not for the immediate term. It is not something you could do quickly like that, but let me think about that.

Mr. TORRES. Fair enough. I have a question about stablecoins. The leading stablecoin issuers have chosen to peg their stablecoins to the U.S. dollar, which to me represents a vote of confidence that reinforces rather than challenges the status of the dollar as the world's reserve currency. The U.S. has no central bank digital currency (CBDC) of its own, and is unlikely to have one in the years to come. Do you believe, as I do, that dollar stablecoins can play a role in out-competing China when it comes to digital currencies?

Mr. POWELL. I will say it this way. I think there may well be a role for well-regulated stablecoins. I think there is the possibility over time, and this is not what we see right now, that they could be efficient and popular among consumers and things like that.

I think in terms of helping us compete with China, I don't know but possibly, yes.

Mr. TORRES. I am assuming it is better to have stablecoins pegged to the dollar than to have stablecoins pegged to China's currency, or the currency of another country?

Mr. POWELL. I would agree with you that, in a way, that is consistent with the role of the dollar, and most of the stablecoins are, of course, dollar-based.

Mr. TORRES. I have a question about the Community Reinvestment Act (CRA). Even though the CRA exists to prevent racial discrimination in matters of lending, also referred to as redlining, regulators fail to consider race when enforcing the CRA. Do you think race should be considered?

Mr. POWELL. We went out with an advance notice of proposed rulemaking a couple of years ago. We took in a whole lot of comments, and took those into account, and I think we are now sitting down with the OCC and the FDIC to come up with a notice of proposed rulemaking, and that is one of the issues that we have been thinking about very carefully. And I don't have any announcement for you, but that is something that is going to come out of those conversations.

Mr. TORRES. But you are open to considering it?

Mr. POWELL. It is something we have been considering. We asked for comment on it.

Mr. TORRES. That is the extent of my questioning. Thank you, Madam Chairwoman.

Chairwoman WATERS. Thank you. The gentleman from Arkansas, Mr. Hill, is now recognized for 5 minutes.

Mr. HILL. Thank you, Madam Chairwoman. I appreciate the hearing. And Mr. Chairman, thank you so much for coming back for your Humphrey Hawkins testimony, and we all wish you the best of luck as you complete the confirmation process in the Senate.

I enjoyed hearing Mr. Kustoff from Tennessee talk about William McChesney Martin, or actually he was talking about the 1970s. I guess my friend from Kentucky, Mr. Barr, brought up William McChesney Martin. And it made me think about the 1970s, and you and I both started our business careers in that decade, where inflation was really considered the number one economic concern in the United States and around the world. Arthur Burns was your predecessor then, and I recently read a talk he gave called, "The Anguish of Central Banking." Have you heard of that before?

Mr. POWELL. Yes, it rings a bell.

Mr. HILL. Well, I commend it to you. It was delivered in 1979, so he was no longer the Chairman, and he was reflecting on his tenure at the Fed and also on fiscal policy of the 1960s and 1970s. So, I commend it to you and the Federal Open Market Committee, and to my colleagues here on the committee. And with your permission, Madam Chairwoman, I would like to insert it in the record.

Chairwoman WATERS. Without objection, it is so ordered.

Mr. HILL. It is a stark reminder that when we abandon fiscal discipline and our core financial principles, and instead embrace what I consider economically-illiterate concepts like modern monetary theory, we get into economic anguish. And in this talk, Chairman Burns reflects on his own mistakes at the helm of the Fed, as well as the abandonment of conservative government finance, when Burns warned, "fear of immediate unemployment rather than fear of current or eventual inflation comes to dominate economic policymaking." That was his warning to us, and I think it merits at this time—you said you don't want to go back to the 1970s. In fact, you argued that is what we are trying to absolutely avoid. So, I do encourage people to read this report, because inflation is a thief.

You answered a question from Mr. Huizenga that you were not aware that in the 2022 monetary policy report, the rules section in the monetary policy was not included. Is that right?

Mr. POWELL. I was aware of it a couple of days ago. What I said was, I don't remember any prior discussion, but that doesn't mean it didn't happen. It just means I didn't remember it.

Mr. HILL. Right. In the FOMC meetings, do they still have a presentation, part of the staff presentation, sort of a trend analysis on using those rules that have traditionally been in the policy? Does that still go on in FOMC meetings?

Mr. POWELL. Yes. Yes, it does.

Mr. HILL. Yes. I think that is an indication that it is probably best that it be included in the report.

I was looking at some forecasting about the so-called Taylor Rule, dating to the 1990s, which you have testified on many times. Are you aware of what the Taylor Rule would indicate now in its formula, vis-a-vis the inflation that we have today?

Mr. POWELL. Generally, yes.

Mr. HILL. Do you know the range that—

Mr. POWELL. High.

Mr. HILL. Yes. The answer I saw was 9.55 percent, which doesn't mean it is right or wrong, but it is one of those indicators about how far off we are maybe in our funds rate targeting. I am glad to hear that you will consider that being put back in the report.

I also wanted to raise the subject of the Fed mandate. You have taken some questions on that today, too. We have had legislation in the past to reconsider the 1977 approach Congress took in the middle of that inflation to have both price stability and full employment, and we have debated that in this committee before. And in my view, considering the fiscal policy stimulus and the monetary policy that we have had in the last couple of years, we really have to focus on price stability. And in Congress, we are here to really prevent that kind of inflation, and I recognize and I am happy to say that it is both a fiscal responsibility and a monetary policy.

I am proposing that we go back to price stability. And we won't be alone. As I understand it, New Zealand, Canada, Australia, and the United Kingdom have that as their sole mandate: price stability. Is that your understanding too, of those central banks?

Mr. POWELL. Yes. I think the European Central Bank (ECB)—that would be a matter for Congress, obviously. I would say, if I were to show you monetary policy response to five central banks, or six central banks, I would say three of them would be like us, a dual mandate, and three of them would be just inflation. You wouldn't actually see any difference in their reaction function because they do have to look at resource utilization, which is employment, in order to determine policy. So, you wind up with very similar answers.

Mr. HILL. I thank you for your testimony, and again, wish you well in your final confirmation process. And Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you. The gentlewoman from North Carolina, Ms. Adams, is now recognized for 5 minutes.

Ms. ADAMS. Thank you, Madam Chairwoman, and Chair Powell, it is good to see you again, sir.

Mr. POWELL. It's good to see you.

Ms. ADAMS. Thank you so much for being here, and of course, I would have preferred to be congratulating you on your reappointment to the Federal Reserve, but hopefully, we can get that done. I did publish an op-ed this morning with Chairwoman Waters, Congressional Black Caucus Chairwoman Beatty, and some African-American colleagues on the Financial Services Committee, calling on Senator Toomey to return to the table and give you and the other four nominees the vote that you deserve.

Let me ask you—a simple yes or no will do here—do you believe that the Federal Reserve would be better able to serve the American people if it had a fully-staffed Board of Governors?

Mr. POWELL. I want to thank you for your kind words and support, but I wouldn't want to comment directly or indirectly on the Senate. I am a nominee, and I await the Senate's judgment, and I would prefer not to get into that process, other than as a nominee.

Ms. ADAMS. Okay. Thank you, sir.

Let me switch gears and talk for a moment about Russia. As we have discussed extensively today, Russia's invasion of Ukraine has consequences far beyond the geopolitical. We have discussed the potential systemic risks the invasion poses to global markets and the mechanisms to keep Russia isolated from the international economy for the duration of this illegal aggression.

But I am concerned about the potential systemic risks here at home. The European Central Bank has identified systemically important financial institutions with ties to Russian banks, and those institutions could potentially require assistance to live up to their obligations. Are there any U.S. institutions that you are monitoring that have outside default risks as it pertains to the freezes on Russia's assets?

Mr. POWELL. Basically, no. Our financial system and our financial institutions have relatively little exposure to Russia, and even the largest exposures that any of them have are not very big. It would need to be a second-order thing, whereby a foreign financial institution has exposures to Russia but also has exposures to our banks. And we don't see that as a primary risk, but it is something we are watching.

Ms. ADAMS. Okay. With my remaining time, let me ask you, your November report indicated that the forthcoming rise in interest rates will have ripple effects throughout the entire economy. Can you speak to the interconnection between the Fed's rate hikes and the freeze on Russian assets as it pertains to the prices of certain commodities?

Mr. POWELL. The price of commodities is generally set on the world market by supply and demand. And we do intend to raise interest rates this year, as we have said, but as long as we are in this very sensitive phase of events in Eastern Europe, we are going to be careful in doing so. We are going to avoid adding uncertainty, as I mentioned a little earlier. And we do believe that over time, as we raise the interest rates and as we get relief from supply-side improvements, as well for inflation, that we will get inflation back down. We expect to see that happening, and to the extent that we don't see it happen, we are prepared to move more aggressively.

Ms. ADAMS. Great. Thank you very much. Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you. The gentleman from Ohio, Mr. Gonzalez, is now recognized for 5 minutes.

Mr. GONZALEZ OF OHIO. Thank you, Madam Chairwoman, and thank you, Chairman Pro Tempore Powell, for being so forthright. I think your answers to Mr. McHenry's questions at the outset were incredibly helpful. I think it was probably the most direct that you have been with respect to how you are viewing interest rate policy heading into the March meeting. I certainly appreciate that, and I suspect others do as well. Thank you for that transparency.

I want to start with Ukraine and Russia, and I know this is just evolving. My view, despite some, what I thought was a little bit of flowery rhetoric last night from the President, is that this is the beginning of a long-term conflict. This is not something that will be over in a matter of days, but months, and perhaps years, as the

Russians encircle Ukraine and our lack of response, in many respects.

I know you are a student of history, and you are a student of monetary policy history. When you look at a world where this is a longer-term conflict, how do you view a longer-term military engagement in Europe impacting rate policy and balance sheet policy, and if you haven't begun that study yet, is that something that the Fed will endeavor in the coming weeks and months?

Mr. POWELL. It is a really good question, and I would have to agree with you that this event does seem to be one that is a game-changer and will be with us for a very long time.

As I mentioned, we don't understand yet. There are events yet to come that we haven't seen and we don't know what the real effect on the U.S. economy will be. We don't know whether those effects will be lasting or not. But it is something that we are going to be thinking about a lot. It is exactly the things that we will be thinking about. It is really too early to say, but it is not too early to try to imagine and assess.

Mr. GONZALEZ OF OHIO. Thank you. And I know my thoughts and prayers are with the Ukrainian people, as are many of my colleagues—all of my colleagues, I think we are unanimous in that, that we hope for a successful outcome, although admittedly, the days ahead appear to be quite choppy, and it is hard to see a positive outcome in the near term.

I want to shift to another thing the President said last night about companies needing to lower their costs, not their wages, and that is how we are going to fight inflation. That sounds wonderful. How do you magically sort of lower your costs as a company? It is sort of implied that it is corporate greed that is leading to inflation. I have read your comments. I think they are spot on with respect to the supply-demand dynamics. But are you aware of a way for companies to just sort of unilaterally lower their costs?

Mr. POWELL. First, I would not comment on the President's comments at any time, and I won't do that now.

I think, and my experience in the business world very much was that businesses are constantly managing their costs. That is a lot of what businesses do, so it is an ongoing thing. But I didn't watch the speech and I don't know the context, and I would never comment on anything the President says.

Mr. GONZALEZ OF OHIO. Thank you. Shifting to my last question, there has been talk of whether cryptocurrencies represent a good vehicle for sanctions avoidance. I think you have rightly said that is maybe for the purview of Treasury. But generally speaking, a system that transactions occur on a public ledger that are auditable and reviewable by the entire world—anybody in the world can go and check and monitor these things—and in a world where those same systems have transaction speed limits, essentially, do you think in that world, a public ledger is a good way to launder money or avoid sanctions?

Mr. POWELL. I am not an expert on sanctions, so I'm reluctant to comment on that in the context of sanctions, just because it is not our field. I would say there's a balance you have to strike between privacy, which is very important, yet also the ability of law enforcement and national security to track payments. And I think to the extent that cryptocurrencies are a means by which you can evade both law enforcement and national security concerns, then that is not something we should tolerate.

Mr. GONZALEZ OF OHIO. Thank you. Thank you for, again, your transparency, and I yield back.

Chairwoman WATERS. Thank you. The gentlewoman from Pennsylvania, Ms. Dean, is now recognize for 5 minutes.

Ms. DEAN. Thank you, Chairwoman Waters, and thank you, Chair Powell, for being before us again today with such forthright testimony in such challenging times.

I wanted to just start with the question of inflation and something that you said to one of our colleagues in response to a question. You said that inflation is too high, we are seeing it everywhere in the world, and ours is worse because our economy is stronger. Can you flesh out that duality a little bit, maybe contrast it with others globally who are struggling with inflation but do not have a strong underlying economy?

Mr. POWELL. I think maybe the closest economies and political systems would be the countries of Western Europe and Canada. Advanced economy countries like that are all having the highest inflation they have had in a very long time. Places like Germany, which is famously inflation-averse, has high inflation.

Ours is a little higher. Our economy is now well above the level of output that we were at before the pandemic. If you just look at the output the economy had before the pandemic to where it is now, we are way above that, and other countries are kind of just getting back to that level. We have just had a stronger recovery, and that is because of monetary policy and fiscal policy and also just vaccines and a whole range of factors. So, of the advanced economies, ours is generally higher.

And we're going through this same process that the Bank of England and other central banks are going through, which is raising rates and trying to get inflation back under control. We are very committed to doing that. It is a common problem. Again, ours is worse, because our inflation is higher, largely because our economy is that much stronger.

Ms. DEAN. I know you have a series of meetings and possible rate hikes, you talked about in 2 weeks, likely the 25 basis points increase. For my constituents, my consumers, what impact will we begin to see, will they begin to see with the small, incremental rate hikes?

Mr. POWELL. It is a little bit like the rate hikes that took place in the first part of this century. The rate hikes that took place after the global financial crisis were much slower. They were every other meeting. But the cycle before that, there were rate hikes at consecutive meetings. What you feel is these are fairly small rate increases, a quarter of a percentage point every 7 weeks. And, by the way, we haven't made any decisions after this meeting, but the thought is that rates move up, our policy rate moves up, and with it, rates on mortgages, rates on car loans, rates on the loans that people take out to buy appliances, things like that. So companies, their borrowing costs go up.

And you get to a point where you have raised it a few times, and it is still a gradual process, even though it is as much as twice as fast as the last cycle. But people start to spend a little bit less, and economy demand returns to a lower level. By this time, we hope that the economy is going back to normal in terms of supply chains and the breakdown between goods and services spending, things like that. We hope we are getting help on the inflation front from a bunch of things.

In any case, we do have the responsibility to generate price stability, and we will use our tools to do that, over time.

Ms. DEAN. I thank you for that. One particular area of concern for me is the role that increasing market consolidation has played in contributing to inflation. An example that we have seen is the huge price spikes in the meat industry, which has become incredibly concentrated, and consolidated. To what extent would you attribute supply chain fragility and recent price increases to market concentration?

Mr. POWELL. We are not the competition authorities, and so I would defer to the competition authorities on all of those questions.

In terms of inflation, though, inflation is mainly a macroeconomic phenomenon, which doesn't link in the aggregate very well to concentration. Some of the most concentrated industries, in fact, were those that drove low inflation. I am thinking there of warehousing and retail and things like that. Those industries consolidated and they drove lower prices. So, it is not so obvious.

There clearly are industries where that may be the case, where they become consolidated and they are able to raise prices. It is not clear if they would be able to generate an inflationary cycle, but they can certainly raise prices, in the first instance. It is not a settled question in the economics, but again, we defer to the competition authorities.

Chairwoman WATERS. The gentlewoman's time has expired.

Ms. DEAN. Thank you, Madam Chairwoman.

Chairwoman WATERS. Thank you. The gentleman from West Virginia, Mr. Mooney, is now recognized for 5 minutes.

Mr. MOONEY. Thank you, Madam Chairwoman. Inflation remains a serious concern for my constituents in West Virginia. Inflation erodes the real value of every paycheck. When the cost of filling a tank of gas or buying groceries increases, all Americans lose money.

Today, I would like to focus on a slightly different aspect of inflation, which is inflation's corrosive effect on Americans' savings. The combination of low interest rates and high inflation has clobbered returns on common savings tools, like savings accounts, money market funds, and certificate of deposit. January's 12-month Consumer Price Index of 7.5 percent pushes the yield on these savings tools into deeply-negative territory. In other words, with inflation as high as it is, Americans who have saved responsibly for years are losing their money over time.

Chairman Powell, my first question is, how concerned are you about the effects that inflation and negative savings yields are having on the long-term health of our economic recovery?

Mr. POWELL. I would agree that inflation falls heavily on people who are living on, for example, bank deposits and CDs. This is typically retired people and the elderly, and of course they do bear the brunt of this. That is one of the reasons we need to get inflation back down to appropriate levels, and that is what we are working on.

Mr. MOONEY. Thank you. Savings is an important way to achieve financial goals, like purchasing a new home, or paying for college, or retirement. Savings is a way to take control of your financial destiny. Savings is a part of how we can achieve the American Dream.

I would like to raise another potential issue about the declining value of savings and its implications going forward. I am concerned that our current economic environment will discourage savings altogether. Chairman Powell, are you concerned about the effects that inflation and negative savings yields could have on Americans' incentives to save money going forward?

Mr. POWELL. Interesting. If it were to persist for a long time, I would be concerned. Of course, right now the level of savings on people's balance sheets is at historic highs because they saved during the pandemic. They were not able to spend money on travel. Right now, we are looking at a couple trillion dollars of savings above where they would have been without the pandemic.

But over time, yes, savings is important, and I would agree that high inflation can be a disincentive.

Mr. MOONEY. Thank you. I think it is important that we monitor the savings rate closely with this in mind. If Americans save less, it could have economy-wide implications, both now and especially in the future. So, we should be careful to ensure that monetary policy encourages savings going forward.

That is all I have. Thank you, Madam Chairwoman. I yield back.

Chairwoman WATERS. Thank you very much. The gentlewoman from Texas, Ms. Garcia, who is also the Vice Chair of our Subcommittee on Diversity and Inclusion, is now recognized for 5 minutes.

Ms. GARCIA OF TEXAS. Thank you, Madam Chairwoman, and thank you, Chairman Pro Tempore Powell, for being with us today. I think I am going to be last, so I'm going to try to be soft.

In a recent press conference, you had mentioned that forecasters expect inflation to subside as supply chain disruption issues are resolved. I understand this has been addressed, and my colleagues and I are working on addressing the supply chain crisis through multiple legislative solutions.

At home, in Houston, one of the nation's shipping and energy capitals, we are focused on expanding and developing the nation's ports and waterways to continue building our role in facilitating global energy and trade. You also said in your remarks today that we understand that high inflation poses significant hardships, especially on those least able to meet the higher costs of essentials like food, housing, and transportation.

I want to focus on housing. In Houston, housing costs have skyrocketed, with the median price rising 18 percent last year, and the average, 16 percent. Nationwide, housing indirect prices account for roughly one-third of the CPI, and most economists do not expect this problem to be resolved as quickly as supply chain bottlenecks.

In your earlier exchange with my colleague, Congressman Williams, you mentioned a soft lending, wherein the Fed will address inflation first, and survey the housing prices trending downward.

My question is this: Is the Fed looking at alternative plans? In the event that housing prices do not trend with inflation, how might that impact inflation reviving if low housing supply continues the upward pressure?

Mr. POWELL. We do. As you mentioned, housing costs and housing services costs, and if you are a renter, they are a very big chunk of what goes into the inflation indices. And to the extent housing prices—we are not saying they will go down, but we are saying that the increases will be much smaller. We don't need housing prices to actually decline. What we can't have is, we don't want to have them increasing at very high levels as they have been doing.

Largely as a function of supply and demand—I don't know about Houston, but in many places in the country, it is difficult to find lots, difficult to find labor, and difficult to get materials, because materials are very expensive.

Ms. GARCIA OF TEXAS. We are experiencing that.

Mr. POWELL. Yes, and demand is very strong, interest rates are low, and what you get is a lot of buyers and not enough new houses.

What will happen as we raise interest rates—and this is already happening, it is already priced in—is that mortgage rates will go up and you will see that prices will begin to go up more slowly, demand will decline, and hopefully, we will get back to a place where demand and supply are well-aligned.

Ms. GARCIA OF TEXAS. Will we ever get back to the pre-pandemic levels?

Mr. POWELL. Of price?

Ms. GARCIA OF TEXAS. Yes, sir.

Mr. POWELL. No. I would only expect that we could limit further price increases. We are not trying to drive prices back down. What we are trying to do is limit future prices.

Ms. GARCIA OF TEXAS. Okay. How concerned are you that there seems to be a lack of investment in affordable housing, and how that could cause inflation to become a long-term problem, even if the Fed is able to get inflation under control in other segments of the economy, specifically, public housing?

Mr. POWELL. Public housing is, of course, not our—our policy tools don't generally meet the need for affordable housing. It is really more of a fiscal policy and a housing policy question.

But I know that economic research shows that high housing costs for workers are making it difficult for people to live close to where they need to be going for work, and it is limiting the ability of people to be in the workforce, and ultimately limiting our economy. I will say that.

Ms. GARCIA OF TEXAS. Last question, you mentioned in your remarks that it impacts essentials like food, housing, and transportation. What does increased inflation do to the poverty rate? I know unemployment is down. Does that basically mean poverty is coming down, or does it continue to rise with inflation?

Mr. POWELL. Those things would have offsetting effects. To the extent inflation is going up faster than people's wages—and that is actually not the case for people at the lowest end of the spectrum, because that is where the highest wage increases have been, in the aggregate—but to the extent that was happening, it would potentially increase poverty, but to the extent people are going back to work, that would decrease it.

Ms. GARCIA OF TEXAS. Thank you. Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you very much. 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.

This hearing is adjourned.

[Whereupon, at 1:03 p.m., the hearing was adjourned.]

# A P P E N D I X

March 2, 2022

For release at
8:30 a.m. EST
March 2, 2022

Statement by

Jerome H. Powell

Chair Pro Tempore

Board of Governors of the Federal Reserve System

before the

Committee on Financial Services

U.S. House of Representatives

March 2, 2022

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

Before I begin, let me briefly address Russia's attack on Ukraine. The conflict is causing tremendous hardship for the Ukrainian people. The implications for the U.S. economy are highly uncertain, and we will be monitoring the situation closely.

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 so that the American people and their representatives in Congress understand our policy actions and can hold us accountable. I will review the current economic situation before turning to monetary policy.

**Current Economic Situation and Outlook**

Economic activity expanded at a robust 5½ percent pace last year, reflecting progress on vaccinations and the reopening of the economy, fiscal and monetary policy support, and the healthy financial positions of households and businesses. The rapid spread of the Omicron variant led to some slowing in economic activity early this year, but with cases having declined sharply since mid-January, the slowdown seems to have been brief.

The labor market is extremely tight. Payroll employment rose by 6.7 million in 2021, and job gains were robust in January. The unemployment rate declined substantially over the past year and stood at 4.0 percent in January, reaching the median of Federal Open Market Committee (FOMC) participants' estimates of its longer-run normal level. 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 is very strong, and while labor force participation has ticked up, labor supply remains subdued. As a result, employers are having difficulties filling job openings, an unprecedented number of workers are quitting to take new jobs, and wages are rising at their fastest pace in many years.

Inflation increased sharply last year and is now running well above our longer-run objective of 2 percent. Demand is strong, and bottlenecks and supply constraints are limiting how quickly production can respond. These supply disruptions have been larger and longer lasting than anticipated, exacerbated by waves of the virus, and price increases are now spreading to a broader range of goods and services.

**Monetary Policy**

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. We know that the best thing we can do to support a strong labor market is to promote a long expansion, and that is only possible in an environment of price stability.

The Committee will continue to monitor incoming economic data and will adjust the stance of monetary policy as appropriate to manage risks that could impede the attainment of its goals. The Committee's assessments will take into account a wide range of information, including labor market conditions, inflation pressures and inflation expectations, and financial and international developments. We continue to expect inflation to decline over the course of the year as supply constraints ease and demand moderates because of the waning effects of fiscal support and the removal of monetary policy accommodation. But we are attentive to the risks of potential further upward pressure on inflation expectations and inflation itself from a number of factors. We will use our policy tools as appropriate to prevent higher inflation from becoming entrenched while promoting a sustainable expansion and a strong labor market.

Our monetary policy has been adapting to the evolving economic environment, and it will continue to do so. We have phased out our net asset purchases. 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.

The process of removing policy accommodation in current circumstances will involve both increases in the target range of the federal funds rate and reduction in the size of the Federal Reserve's balance sheet. As the FOMC noted in January, the federal funds rate is our primary means of adjusting the stance of monetary policy. Reducing our balance sheet will commence after the process of raising interest rates has begun, and will proceed in a predictable manner primarily through adjustments to reinvestments.

The near-term effects on the U.S. economy of the invasion of Ukraine, the ongoing war, the sanctions, and of events to come, remain highly uncertain. Making appropriate monetary policy in this environment requires a recognition that the economy evolves in unexpected ways. We will need to be nimble in responding to incoming data and the evolving outlook.

Maintaining the trust and confidence of the public is essential to our work. Last month, the Federal Reserve finalized a comprehensive set of new ethics rules to substantially strengthen the investment restrictions for senior Federal Reserve officials. These new rules will guard against even the appearance of any conflict of interest. They are tough and best in class in government, here and around the world.

We understand that our actions affect communities, families, and businesses across the country. Everything we do is in service to our public mission. We at the Federal Reserve will do everything we can to achieve our maximum-employment and price-stability goals.

Thank you. I am happy to take your questions.

For use at 11:00 a.m. EST
February 25, 2022

# Monetary Policy Report

February 25, 2022

Board of Governors of the Federal Reserve System

# Letter of Transmittal

Board of Governors of the
Federal Reserve System

Washington, D.C., February 25, 2022

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,

Jerome H. Powell, Chairman

## Statement on Longer-Run Goals and Monetary Policy Strategy

*Adopted effective January 24, 2012; as reaffirmed effective January 25, 2022*

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 EST on February 23, 2022** (the one exception is the GDP data published on February 24, 2022). Unless otherwise stated, the time series in the figures extend through, for daily data, February 22, 2022; for monthly data, January 2022; and, for quarterly data, 2021:Q4. 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.

# Summary

U.S. economic activity posted further impressive gains in the second half of last year, but inflation rose to its highest level since the early 1980s. The labor market tightened substantially further amid high demand for workers and constrained supply, with the unemployment rate reaching the median of Federal Open Market Committee (FOMC) participants' estimates of its longer-run normal level and nominal wages rising at their fastest pace in decades. With demand strong, and amid ongoing supply chain bottlenecks and constrained labor supply, inflation increased appreciably last year, running well above the FOMC's longer-run objective of 2 percent and broadening out to a wider range of items. As 2022 began, the rapid spread of the Omicron variant appeared to be causing a slowdown in some sectors of the economy, but with Omicron cases having declined sharply since mid-January, the slowdown is expected to be brief.

Over the second half of last year, the FOMC held its policy rate near zero to support the continued economic recovery. 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 the FOMC's longer-run objective and a strong labor market, the Committee expects it will soon be appropriate to raise the target range for the federal funds rate.

## *Recent Economic and Financial Developments*

**Economic activity and the labor market.** In the second half of 2021, gross domestic product (GDP) growth slowed somewhat from its brisk first-half pace but nevertheless rose at a solid annualized rate of 4.6 percent. Average monthly job gains remained robust at 575,000 in the second half. The unemployment rate has plummeted almost 2 percentage points since June and, at 4 percent in January, has reached the median of FOMC participants' estimates of its longer-run normal level. Moreover, unemployment declines have been widespread across demographic groups. That said, labor force participation only crept up last year and remains constrained. The tight labor supply, in conjunction with a continued surge in labor demand, has resulted in strong nominal wage growth, especially for low-wage workers. Supply bottlenecks also continued to significantly limit activity throughout the second half, while the Delta and Omicron waves led to notable, but apparently temporary, slowdowns in activity.

**Inflation.** The personal consumption expenditures (PCE) price index rose 5.8 percent over the 12 months ending in December, and the index that excludes food and energy items (so-called core inflation) was up 4.9 percent—the highest readings for both measures in roughly 40 years. Upward pressure on inflation from prices of goods experiencing both supply chain bottlenecks and strong demand, such as motor vehicles and furniture, has persisted, and elevated inflation has broadened out to a wider range of items. Services inflation has also stepped up further, reflecting strong wage growth in some service sectors and a significant increase in housing rents. While measures of near-term inflation expectations moved substantially higher over the course of last year, measures of longer-term inflation expectations have moved up only modestly; they remain in the range observed over the decade before the pandemic and thus appear broadly consistent with the FOMC's longer-run inflation objective of 2 percent.

**Financial conditions.** Yields on nominal Treasury securities across maturities increased notably since mid-2021, with much of the increase having occurred in the past couple of months, as the expected timing for the beginning of the removal of monetary policy accommodation has moved forward significantly. Equity prices decreased slightly, on net, and corporate bond yields rose but remain low, with stable corporate credit quality. Financing conditions for consumer credit continue to be largely accommodative except for borrowers with low credit scores. Mortgage rates for households remain low despite recent increases. Bank lending standards have eased across most loan categories, and bank credit has expanded. All told, financing conditions have been accommodative for businesses and households.

**Financial stability.** While some financial vulnerabilities remain elevated, the large banks at the core of the financial system continue to be resilient. Measures of valuation pressures on risky assets remain high compared with historical values. Nonfinancial-sector leverage has broadly declined, and credit growth in the household sector has been driven almost exclusively by residential mortgages and auto loans to prime-rated borrowers. Vulnerabilities from financial-sector leverage are within their historical range, with relatively lower leverage at banks partially offset by higher leverage at life insurers and hedge funds. Funding markets remain stable. Domestic banks continue to maintain significant levels of high-quality liquid assets, while assets under management at prime and tax-exempt money market funds have declined further since mid-2021. The Federal Reserve continues to evaluate the potential systemic risks posed by hedge funds and digital assets and is closely monitoring the transition away from LIBOR. (See the box "Developments Related to Financial Stability" in Part 1.)

**International developments.** Foreign GDP has continued to recover briskly, on balance, despite successive waves of the pandemic, which have been mirrored in slowdowns and rebounds in economic activity. This recovery has been supported by vaccination rates that have steadily increased in both advanced foreign economies and emerging market economies (EMEs). Inflation rose notably in many economies in the second half of last year, importantly boosted by higher energy and other commodity prices as well as supply chain constraints. Several emerging market foreign central banks and a few advanced-economy foreign central banks have raised policy rates, though foreign monetary and fiscal policies have generally continued to be accommodative.

Foreign financial conditions have tightened modestly but are generally contained. In advanced foreign economies, sovereign yields have increased since the first half of last year on firming expectations for higher policy rates. The change in financial conditions in EMEs has been relatively muted in the face of the shift in monetary policy in some advanced economies. The trade-weighted value of the dollar appreciated modestly, on net, over the past six months. Recent geopolitical tensions related to the Russia–Ukraine situation are a source of uncertainty in global financial and commodity markets.

## Monetary Policy

**Interest rate policy.** The FOMC has continued to keep the target range for the federal funds rate at 0 to ¼ percent since the previous *Monetary Policy Report*. With inflation well above the 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.

**Balance sheet policy.** From June 2020 until November 2021, the Federal Reserve expanded its holdings of Treasury securities by $80 billion per month and its holdings of agency mortgage-backed securities by $40 billion per month. In December 2020, the Committee indicated that it would continue to increase its holdings of securities at least at this pace until the economy had made substantial further progress toward its maximum-employment and price-stability goals. Last November, the Committee judged that this criterion had been achieved and 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. At its January meeting, the FOMC decided to continue to reduce its net asset purchases at this accelerated pace, which will bring them to an end in early March, and issued a statement of principles for its planned approach for significantly reducing the size of the Federal Reserve's balance sheet.[1] A number of participants at the meeting commented that conditions would likely warrant beginning to reduce the size of the balance sheet sometime later this year.[2]

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 is prepared to use its tools to prevent higher inflation from becoming entrenched while promoting a sustainable expansion and strong labor market.

## Special Topics

**Low labor supply.** Labor supply has been slow to rebound even as labor demand has been remarkably strong. The labor force participation rate remains well below estimates of its longer-run trend, principally reflecting a wave of retirements among older individuals and increases in the number of people out of the labor force and engaged in caregiving responsibilities. The ongoing pandemic has also affected labor supply through fear of the virus or the need to quarantine. Moreover, savings buffers accumulated during the pandemic may have enabled some people to remain out of the labor force. (See the box "The Limited Recovery of Labor Supply" in Part 1.)

**Wage and employment growth across jobs and workers.** Wage and employment gains were widespread across jobs and industries last year, with the lowest-wage jobs experiencing the largest gains in both median wages and employment. Wage growth in the leisure and hospitality industry accelerated sharply, which, together with a lagging employment rebound and high job openings, suggests a lack of available workers in the industry. Median wages also increased across racial and ethnic groups, leaving differences in wage levels across groups little changed relative to 2019. (See the box "Differences in Wage and Employment Growth across Jobs and Workers" in Part 1.)

**Broadening of inflation.** Higher PCE price inflation broadened out over the course of 2021, with the share of products experiencing notable price increases moving appreciably higher. The broadening was evident in both goods and services, though most of last year's very high inflation readings were concentrated in goods, a reflection of the strong demand and supply bottlenecks that have particularly affected these items. (See the box "How Widespread Has the Rise in Inflation Been?" in Part 1.)

**Supply bottlenecks.** Supply chain bottlenecks have plagued the economy for much of the past year. Against a backdrop of robust demand for goods, global distribution networks have been strained, and domestic manufacturers have had trouble finding the materials and labor needed to fill orders for their products. U.S. ports have been congested amid record volumes of shipping, and delivery times for materials have remained elevated. Supply shortages of semiconductors have been particularly acute and have weighed heavily

1. See the January 26, 2022, press release regarding the Principles for Reducing the Size of the Federal Reserve's Balance Sheet, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20220126c.htm.

2. The minutes for the January 2022 FOMC meeting note these comments and are available on the Federal Reserve's website at https://www.federalreserve.gov/monetarypolicy/fomcminutes20220126.htm.

on motor vehicle production and sales. While there are some signs of improvement, general supply chain bottlenecks are not expected to resolve for some time. (See the box "Supply Chain Bottlenecks in U.S. Manufacturing and Trade" in Part 1.)

**Developments in the Federal Reserve's balance sheet.** The size of the Federal Reserve's balance sheet continued to grow, albeit at a slower rate given the reduced monthly pace of net asset purchases since November. However, reserve balances—the largest liability on the Federal Reserve's balance sheet—were little changed, on net, reflecting growth in nonreserve liabilities such as currency and overnight reverse repurchase agreements (ON RRP). The elevated level of reserves continued to put broad downward pressure on short-term interest rates, while the decline in Treasury bill supply over 2021 has contributed to a shortage of short-term investments. Amid these developments, the ON RRP facility continued to serve its intended purpose of helping to provide a floor under short-term interest rates and support effective implementation of monetary policy. (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 has continued to recover rapidly

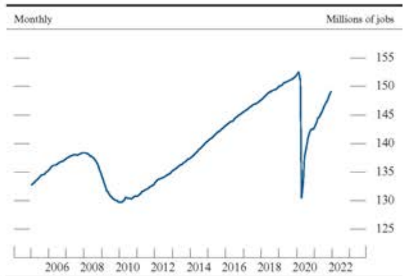
Payroll employment increased by 3.5 million jobs in the second half of 2021, bringing the gains for the year to a robust 6.7 million. And despite the headwind caused by the Omicron wave, employment growth in January remained robust at 467,000 (figure 1). Payroll gains over the past year have been widespread across industries, with a particularly large increase in the leisure and hospitality sector as people continued their return to many activities that had been curtailed by the pandemic.

Meanwhile, the unemployment rate continued to move down rapidly, declining from 6.7 percent at the end of 2020 to 4.0 percent this January (figure 2). Notably, the nearly 2 percentage point decline in the unemployment rate since June of last year was the fastest half-year decline since the 1950s, apart from the unprecedented rebound when the economy first reopened in 2020. Moreover, this decline was broad based across racial and ethnic groups and was particularly large for Hispanics and African Americans (figure 3). While these recent declines brought the gaps between Hispanic and African American unemployment rates and those of whites and Asians to near historic lows, the gaps nevertheless remain and largely reflect long-standing structural issues.

### Labor demand is very strong, but labor supply remains constrained . . .

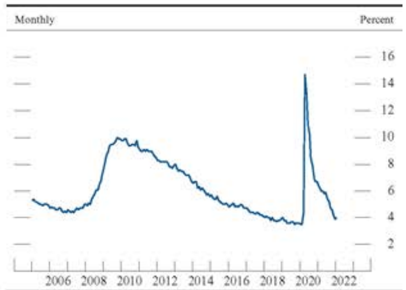
Last year's job gains were driven by an appreciable and steady rise in labor demand as the economy reopened and activity bounced back. By the end of the year, the number of unfilled job openings was about 60 percent above pre-pandemic levels and at an all-time high. However, labor supply struggled to

1. Nonfarm payroll employment



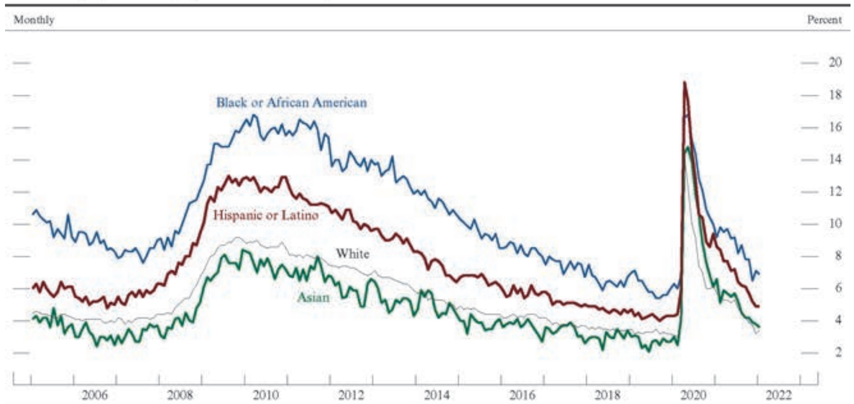

SOURCE: Bureau of Labor Statistics via Haver Analytics.

2. Civilian unemployment rate



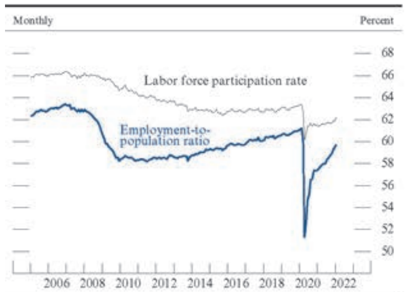

SOURCE: Bureau of Labor Statistics via Haver Analytics.

3. Unemployment rate, by race and ethnicity




NOTE: 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.

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.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

keep up. In particular, the labor force participation rate—which measures the share of people either working or actively seeking work—moved up only a little over the past year and remains below its February 2020 level (figure 4).[3] Several pandemic-related factors appear to be holding back labor

3. The 0.3 percentage point jump in the labor force participation rate (LFPR) in January 2022 is the result of revisions to the Current Population Survey (CPS) population controls, which introduced a discontinuity in the LFPR between December and January. (The Bureau of Labor Statistics (BLS) does not revise its published estimates for December 2021 and earlier months.) Population controls—population estimates for disaggregated demographic groups that are used to weight the CPS sample to make it representative of the U.S. population—are updated annually based on information provided by the Census Bureau. The BLS has indicated that the LFPR revision was mostly due to an increase in the size of the population in age groups that participate in the labor force at high rates (those aged 35 to 64) and a large decrease in the size of the population aged 65 and older, which participates at a low rate.

supply, including a pandemic-induced surge in retirements, increased caregiving responsibilities, and fears of contracting COVID-19. (See the box "The Limited Recovery of Labor Supply.") As a result, the recovery in employment—though rapid—has been incomplete, with payrolls nearly 3 million below their pre-pandemic level as of January.

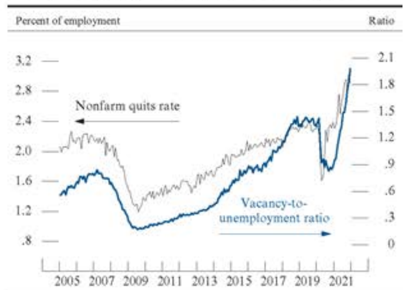
### . . . resulting in an extremely tight labor market . . .

A wide range of indicators have been pointing to a very tight labor market, reflecting robust demand for workers and constrained supply. There were two job openings per unemployed person at year-end, the highest level on record (figure 5). Both households' and small businesses' perceptions of labor market tightness were near or above the highest levels observed in the history of these series. The share of workers quitting jobs each month, an indicator of the availability of attractive job prospects, climbed from 2.4 percent to 2.9 percent last year, reaching an all-time high. Moreover, employers continued to report widespread hiring difficulties.

### . . . and a broad-based acceleration in wages

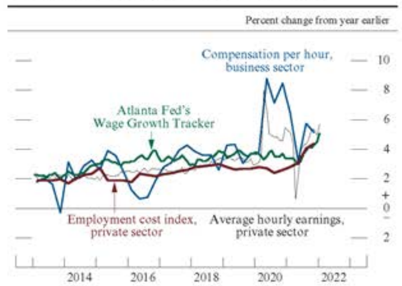
Measures of hourly labor compensation growth have risen sharply over the past year in nominal terms, reflecting the influences of strong labor demand and pandemic-related reductions in labor supply. Total hourly compensation as measured by the employment cost index, which includes both wages and benefits, rose at an annual rate of 5.2 percent in the second half of 2021, lifting the 12-month change to 4.4 percent, well above pre-pandemic rates (figure 6). Wage growth as computed by the Federal Reserve Bank of Atlanta, which tracks the median 12-month wage growth of individuals responding to the Current Population Survey, has also been rising smartly, as have average hourly earnings and compensation per hour in the business

5. Ratio of job openings to job seekers and quits rate




Note: The data are monthly and extend through December 2021. The vacancy-to-unemployment ratio data are the ratio of job openings to unemployed excluding temporary layoffs.
Source: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey.

6. 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; 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.

## The Limited Recovery of Labor Supply

Although labor demand has bounced back strongly over the past year, labor supply has been much slower to rebound, resulting in an extremely tight labor market. In particular, the labor force participation rate (LFPR)—the share of working-age adults either employed or actively seeking work—fell early in the pandemic and changed little last year despite plentiful job openings and rapidly rising wages (figure A).[1]

The behavior of the LFPR reflects a combination of factors that have limited the recovery of labor supply following the pandemic. The most important of these factors are listed in turn.

**Retirements:** The retired share of the population is now substantially higher than before the pandemic, accounting for more than two-thirds of the net decline in the LFPR. About half (0.6 percentage point) of this increase was to be expected even in the absence of the pandemic, as additional members of the large baby-boom generation have reached retirement age in the past two years.[2] The other half of the increase comes from excess retirements, above and beyond what would have been expected in the absence of the pandemic, due to individuals "pulling forward" their planned future retirements by a couple of years.[3] The effect of this factor is likely to dwindle as the date when these individuals had previously planned to retire is reached, provided that younger cohorts continue to retire at expected rates.

(continued)

A. Change in labor force participation

Monthly

| Metric | Dec. 2020 | June 2021 | Dec. 2021 |
|---|---|---|---|
| Change since Feb. 2020 | −1.9 | −1.7 | −1.5 |
| *Contribution of* | | | |
| Retirement | −.8 | −1.1 | −1.1 |
| Expected retirement | −.3 | −.4 | −.6 |
| Excess retirements | −.5 | −.7 | −.6 |
| Caregiving | −.8 | −.5 | −.4 |
| Parents of school-age children* | −.3 | −.1 | −.1 |
| Parents of only young children** | −.1 | .0 | .0 |
| Nonparents | −.4 | −.4 | −.4 |
| Disability, illness, and schooling | .2 | .1 | .5 |
| Other reasons, including COVID-19 fears | −.6 | −.2 | −.4 |

NOTE: The data are monthly and extend through December 2021. The data comprise individuals aged 16 and over. Contributions are derived from Current Population Survey (CPS) non-labor-force participants' answers to the question "What best describes your current situation at this time?" We break out categories for the answers "in retirement"; "taking care of home or family," which we categorize as caregiving; "ill or disabled" and "in school," which we combine; and "other." Contribution lines are seasonally adjusted by Federal Reserve Board staff. Details may not sum to totals due to rounding.

*Adults with at least one child between ages 6 and 17.

**Adults with at least one child only between ages 0 and 5.

SOURCE: Bureau of Labor Statistics; Federal Reserve Board staff calculations using CPS microdata.

1. The table shows changes only through December 2021 to maintain comparability with pre-pandemic data. With the release of January 2022 data, the BLS revised the population base for labor force statistics, which complicates comparisons with pre-pandemic data.

2. For estimates of the effects of population aging on the LFPR during the 2020–22 period that predate the pandemic, see Joshua Montes (2018), "CBO's Projection of Labor Force Participation Rates," Working Paper Series 2018-04 (Washington: Congressional Budget Office, March), https://www.cbo.gov/publication/53616.

3. Federal Reserve Board staff calculations from the Current Population Survey indicate that many of the excess retirements are concentrated among individuals aged 71 to 73 at the beginning of the pandemic, who had likely planned to retire in the next few years.

**Caregiving:** Many individuals who have left the labor force have taken on caregiving responsibilities during the pandemic, accounting for an additional 0.4 percentage point of the LFPR shortfall as of December 2021.[4] Caregiving responsibilities among parents of school-aged children exerted a large drag on labor supply in 2020, when schools were largely closed. This drag on labor supply eased over the course of 2021 as schools reopened, although the ongoing pandemic may leave parents unsure whether in-person schooling could be disrupted again. Other caregiving responsibilities (for example, elder care) remain a drag on labor supply, accounting for nearly all of the negative contribution of this category to the LFPR.

**Additional factors:** Labor supply has also been held back by other short-term factors related to the pandemic, including fear of contracting the virus and—especially during the Omicron wave—high numbers of quarantining workers.[5] As of early January 2022, nearly 3 percent of out-of-work adults reported fear of contracting or spreading the virus as their main reason for being out of work; the rate is even higher among individuals with no college education, who are more likely to work in contact-intensive sectors when employed.[6] This factor may exacerbate other labor supply factors, as retirees or caregivers may be especially fearful of contracting or spreading the virus. Additionally, many households built up larger-than-normal savings during the pandemic, which may have enabled workers to retire, spend time on caregiving, or remain out of the labor force until virus conditions subside. Finally, reduced immigration likely has held back total labor supply, even though the effect on the LFPR is likely to be much smaller.[7]

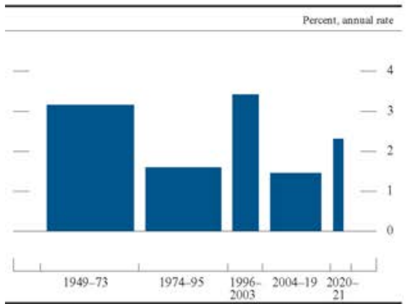
4. The contribution of caregiving responsibilities is measured by the increase in nonparticipants in the Current Population Survey who report "taking care of home or family" as their current situation. Note that this question refers to the respondent's current situation rather than the causal reason why they left the labor force; nonetheless, it is reasonable to infer that caregiving responsibilities are an important factor contributing to the net decline in LFPR.

5. Many workers have had to quarantine during the Omicron wave, resulting in the number of workers absent from work due to illness being more than 600,000 higher in December 2021 than is typical for this time of year and about 2.5 million higher in January 2022. However, because these workers are counted as employed in the Current Population Survey, these absences do not affect the LFPR. In addition, some vaccine-hesitant workers who are subject to vaccine mandates may have left the labor force and may be reluctant to return.

6. See the data from week 41 of the Household Pulse Survey, which can be found on the Census Bureau's website at https://www.census.gov/data/tables/2021/demo/hhp/hhp41.html#tables.

7. Slower immigration during the pandemic period has reduced population growth—and labor force growth—since 2019, lowering the foreign-born working-age population in the United States by about 2 million people, according to one estimate. See Giovanni Peri and Reem Zaiour (2022), "Labor Shortages and the Immigration Shortfall," *Econofact*, January 11, https://econofact.org/labor-shortages-and-the-immigration-shortfall. Although foreign-born individuals tend to have higher LFPRs than the overall population, the difference is not large enough for the reduced immigration to have a substantial effect on the (overall) LFPR.

7. Change in business-sector output per hour




Note: Changes are measured from Q4 of the year immediately preceding the period through Q4 of the final year of the period.
Source: Bureau of Labor Statistics via Haver Analytics.

sector.[4] Indeed, nominal wages are increasing at the fastest pace in at least 20 years. This wage growth has been widespread across most sectors and particularly large in the leisure and hospitality sector and for lower-wage workers. (See the box "Differences in Wage and Employment Growth across Jobs and Workers.") Even so, in the aggregate, these wage gains did not keep pace with the rise in prices last year.

### Labor productivity also appears to have accelerated

The extent to which sizable wage gains raise firms' costs and act as a source of inflation pressure depends importantly on the pace of productivity growth. In that regard, the behavior of labor productivity since the start of the pandemic has been encouraging. Over the 2020–21 period, productivity growth in the business sector averaged 2.3 percent per year—about 1 percentage point faster than its average pace since the mid-2000s (figure 7). Some of this acceleration in productivity might be the result of transitory factors. For example, worker effort, which surged in response to employment shortages and hiring difficulties, appears to be elevated, possibly above sustainable levels.[5] But other pandemic-related developments could have a more persistent effect on productivity growth. For example, the pandemic has resulted in a high

4. The average hourly earnings and compensation per hour measures are no longer likely to be as significantly affected by changes in the composition of the workforce as they were early in the pandemic, when job losses were much larger for lower-wage workers, which raised average wages and measured wage growth. This process then reversed as many lower-wage workers, particularly in services, were rehired, thus lowering average wages and measured wage growth. The employment cost index and Federal Reserve Bank of Atlanta wage growth measure are largely free of such composition effects.

5. The November 2021 Beige Book—in which the Federal Reserve reports on discussions with our business and other contacts throughout the country—reported that many employers were planning to increase hiring because of concerns that their current workforce was being overworked.

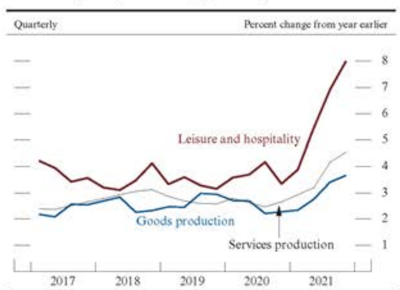
## Differences in Wage and Employment Growth across Jobs and Workers

Wages have increased strongly during the past year, especially for workers in lower-paying jobs and industries. For example, figure A shows that compensation growth for leisure and hospitality jobs as measured by the employment cost index was stronger than for goods-producing and service-producing industries overall in the second half of 2021. The leisure and hospitality industry was substantially affected by social distancing earlier in the pandemic, leading to outsized employment losses relative to other industries and a much weaker recovery. However, job openings for this industry are very high, which, in combination with strong wage growth, indicates that the comparatively weak employment rebound in leisure and hospitality now largely reflects a lack of available workers.

The industry-specific effects of the pandemic are also apparent in the patterns of employment and wages for lower-paying jobs relative to higher-paying jobs. As shown in figure B, job losses initially aligned closely with workers' level of earnings, with the lowest-wage jobs (which are disproportionately found in service-producing industries) experiencing the greatest employment declines. As the economy has reopened, lower-wage employment has rebounded more. Consistent with the rebound in labor demand for these jobs coupled with hiring difficulties, figure C shows that wage growth has been especially strong for lower-wage jobs.

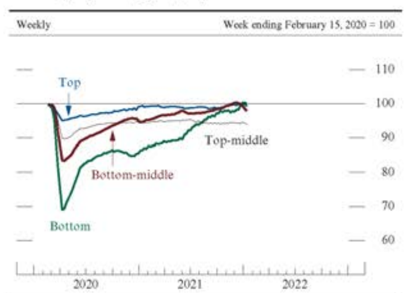
*(continued on next page)*

A. Hourly compensation, by industry




Note: The data are the employment cost index for total compensation.
Source: Bureau of Labor Statistics via Haver Analytics.

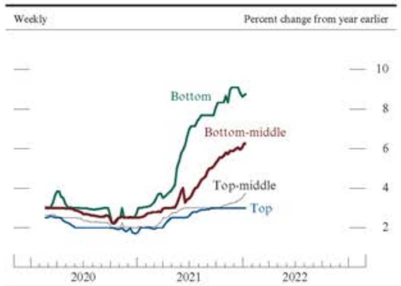
B. Employment, by wage quartile




Note: Series are adjusted to make total employment consistent with Current Employment Statistics private employment. Wage quartile cutoffs are adjusted for wage growth over time. The data extend through January 15, 2022.
Source: Federal Reserve Board staff calculations using ADP, Inc., Payroll Processing microdata.

## Differences in Wage and Employment Growth *(continued)*

C. Median wage growth, by quartile

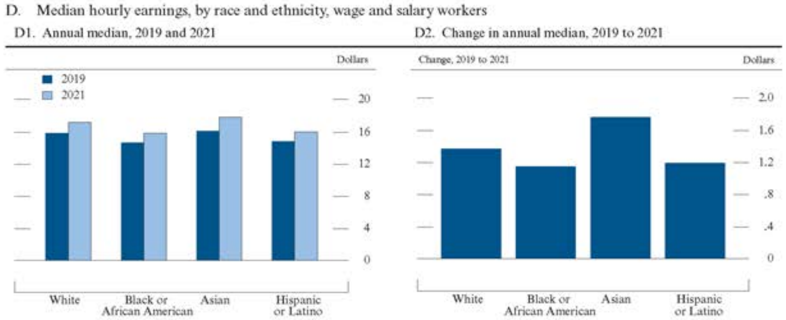



NOTE: Quartiles are defined by hourly wage distribution from base period of year-over-year calculations. Wages are measured as hourly earnings, excluding tips, overtime, and other forms of compensation. The data extend through January 15, 2022.
SOURCE: Federal Reserve Board staff calculations using ADP, Inc., Payroll Processing microdata.

Finally, figure D illustrates how wages have evolved across racial and ethnic groups over the course of the pandemic. In 2019, median hourly wages were around $1 higher for Asian and white workers relative to Black and Hispanic workers. From 2019 to 2021, median wages increased between $1.10 and $1.90 for all groups, leaving the disparities in wage levels across these groups little changed relative to 2019.[1]

1. The wage estimates in figure D are only for workers paid hourly and exclude the incorporated self-employed. Because hourly wages for demographic groups are published at only an annual frequency by the Bureau of Labor Statistics, it is not possible to infer from these data whether some demographic groups experienced faster wage gains more recently (for example, whether wage growth has been faster for demographic groups with lower median wages in the second half of 2021, mirroring the more rapid wage growth for lower-paying jobs, as illustrated in figure C).

D. Median hourly earnings, by race and ethnicity, wage and salary workers



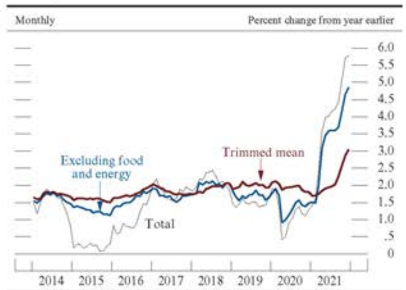

NOTE: The data exclude incorporated self-employed.
SOURCE: Bureau of Labor Statistics.

rate of new business formation, the widespread adoption of remote work technology, and a wave of labor-saving investments. Nevertheless, it is too early to tell what the ultimate effect of the pandemic will be on productivity growth in coming years.

### Inflation increased significantly last year . . .

Consumer prices posted further sizable increases in the second half of 2021. Monthly increases in personal consumption expenditures (PCE) prices averaged about the same in the second half as in the first half, bringing the 12-month change in December to 5.8 percent—far above the Federal Open Market Committee's (FOMC) longer-run objective of 2 percent (figure 8). The core PCE price index, which excludes the more volatile food and energy prices categories, rose 4.9 percent last year as supply chain bottlenecks, hiring difficulties, and other capacity constraints amid strong demand exerted pervasive upward pressure on prices. Notably, these were the largest price increases since the early 1980s. In January, a further sizable rise in the consumer price index (CPI) indicated that price pressures had not yet begun to abate.

8. Change in the price index for personal consumption expenditures



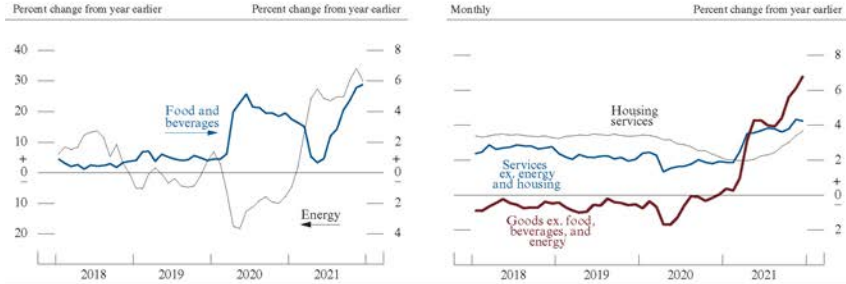

NOTE: The data extend through December 2021.
SOURCE: For trimmed mean, Federal Reserve Bank of Dallas; for all else, Bureau of Economic Analysis; all via Haver Analytics.

### . . . and became more broad based in the second half . . .

Whereas the sizable price increases seen last spring were concentrated in a few key items, inflationary pressures broadened over the second half of 2021. As an illustration, the Federal Reserve Bank of Dallas trimmed mean index, which removes the PCE categories with the largest price increases and decreases each month, rose only modestly in the first half of last year but picked up in the second half and increased 3.1 percent for the year as a whole—its highest reading since 1991.

The broadening of price inflation is further evident when examining the price indexes for major PCE categories (figure 9). In the first half of 2021, rising inflation was driven by

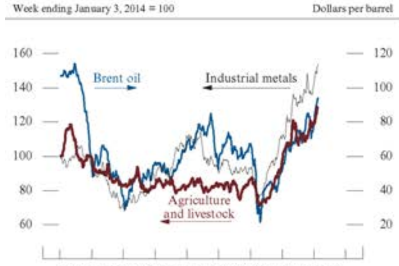
9. Personal consumption expenditures price indexes




NOTE: The data are monthly and extend through December 2021.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

NOTE: The data extend through December 2021.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

10. Spot prices for commodities




NOTE: The data are weekly averages of daily data and extend through February 18, 2022.
SOURCE: For oil, ICE Brent Futures via Bloomberg; for industrial metals, S&P GSCI Industrial Metals Index Spot via Haver Analytics; for agriculture and livestock, S&P GSCI Agriculture & Livestock Spot Index via Haver Analytics.

sharp increases in prices for certain goods such as motor vehicles, which experienced strong demand coupled with severe supply chain bottlenecks; a recovery in demand for nonhousing services, where many prices rebounded after having softened earlier in the pandemic; and rapid increases in energy prices. In the second half, prices of those items continued to move higher, and prices began to rise more rapidly for food and beverages (as increases in the costs of food commodities, labor, and transportation were passed on to consumers) as well as for housing services (as rents began to reflect the large increase in housing demand). (See the box "How Widespread Has the Rise in Inflation Been?")

### . . . with further upward pressure on inflation from rising commodity and import prices

Oil prices continued climbing over the second half of last year and into this year, reaching their highest level in over seven years (figure 10). Demand for oil rose as the global economy recovered further, and oil supply was constrained by U.S. oil production disruptions due to Hurricane Ida and by only modest production increases by OPEC (Organization of the Petroleum Exporting Countries) and its partners. Geopolitical tensions with Russia have also contributed to higher energy prices, including oil and natural gas.

## How Widespread Has the Rise in Inflation Been?

Consumer price inflation increased markedly in 2021, with the price index for personal consumption expenditures (PCE) rising 5.8 percent over the 12 months through December, following a subdued increase of 1.3 percent in 2020. In the first half of last year, the increase in inflation was driven by a fairly small number of categories. In contrast, over the second half of the year, relatively high price increases became more widespread, suggesting that broader-based inflationary pressures had taken hold. This discussion reviews how inflation evolved across a comprehensive set of product categories last year to help shed light on the forces generating higher inflation.

Although price increases driven by bottlenecks and production constraints have been more concentrated in a relatively small set of product categories that have been particularly affected by these supply–demand imbalances, labor shortages, rising wages, and other broad-based cost pressures likely contributed to a pickup in inflation across a wide range of goods and services.

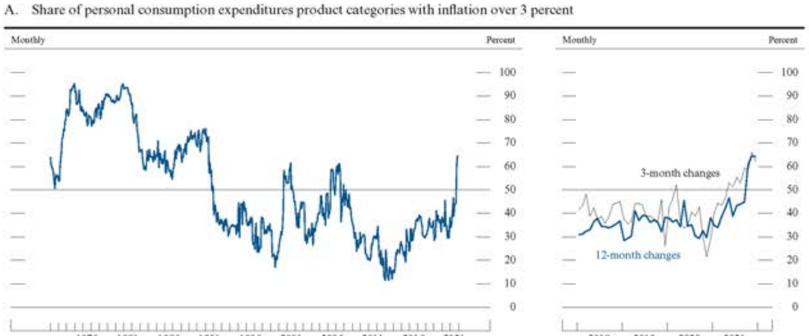
Figure A divides PCE into 146 product categories and presents the share of those categories for which prices were increasing by over 3 percent.[1] This share was stable at around 35 percent between 2016 and 2019—close to the average share observed since the mid-1990s—and continued to be stable in 2020. However, the share of products with more than 3 percent inflation increased last year to above 60 percent. And, as is evident from the black line, the share of categories with price increases of more than 3 percent (annual rate) over a three-month window increased gradually over the course of the year. As shown by the left panel, the share of product categories with inflation above 3 percent temporarily reached a similar level on two other occasions since the 1990s (in 2001 and 2007), but this share is still notably lower than that in the high-inflation regime of the 1970s.

As seen in figure B, which reports the shares of product categories with 12-month price changes above 3 percent separately for goods and services, the increase in the breadth of large price increases was especially unusual for goods. Yet the share of higher inflation in services has also been moving up in the past few months, likely in part because of mounting inflation pressures from the labor market.

*(continued on next page)*

1. The figure presents the consumption-weighted share of product categories with 12-month price changes—and, for the recent period, annualized three-month price changes—over 3 percent. The calculation based on three-month changes provides a timely account of broadening in total PCE price inflation but is somewhat more volatile. A price increase of 3 percent is one standard deviation above the mean of annualized price increases for the different PCE product categories from 2016 to 2019.

A. Share of personal consumption expenditures product categories with inflation over 3 percent

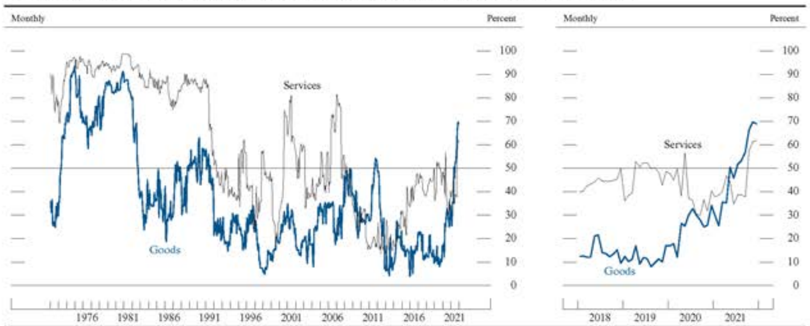



Note: Each series is created from 146 product categories. Each product category is weighted by its expenditure share in personal consumption expenditures. Series are derived from 12-month price changes, except where otherwise indicated. The data extend through December 2021. The flat line in each panel marks where 50 percent of product categories experience inflation over 3 percent.

Source: Bureau of Economic Analysis; Federal Reserve Board staff calculations.

## How Widespread Has the Rise in Inflation Been? *(continued)*

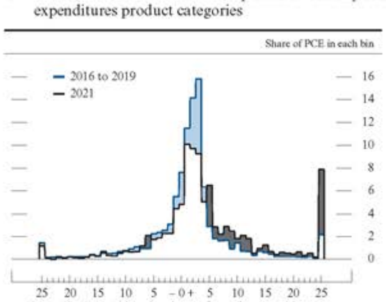
B. Share of personal consumption expenditures goods and services categories with inflation over 3 percent




NOTE: The series for goods is created from 81 product categories, and the series for services is created from 65 product categories. Each product category is weighted by its expenditure share in personal consumption expenditures (PCE) goods or PCE services. Series are derived from 12-month price changes. The data extend through December 2021. The flat line in each panel marks where 50 percent of product categories experience inflation over 3 percent.
SOURCE: Bureau of Economic Analysis; Federal Reserve Board staff calculations.

While robust price increases became more prevalent across product categories in the past year, the size of price increases still varied significantly across product categories. To better understand the drivers of the high aggregate inflation last year, figure C presents the full distribution of price changes for different products and further emphasizes the different roles being played by prices of goods versus services in explaining changes in this distribution compared with the 2016–19 period.

C. Distribution of inflation across personal consumption expenditures product categories




NOTE: The height of each line indicates the share of personal consumption expenditures (PCE) spent on product categories whose annualized monthly price changed by the percentage indicated on the horizontal axis. Values on the horizontal axis are binned in unit increments and are truncated at positive and negative 25 percent. Blue shading indicates that the PCE spending share was greater in 2016 to 2019 than in 2021 for the associated values of price change on the horizontal axis. Gray shading indicates that the PCE spending share was greater in 2021 than in 2016 to 2019 for the associated values of price change on the horizontal axis. The histogram includes 146 product categories over the periods indicated.
SOURCE: Bureau of Economic Analysis; Federal Reserve Board staff calculations.

In figure C, the blue line depicts the distribution of annualized monthly price changes observed from 2016 to 2019, while the black line depicts the distribution in 2021.[2] In both periods, this distribution is very wide, reflecting the sizable heterogeneity in price behavior across items. The higher and broader inflation during 2021 is reflected in the chart as a rightward shift in the distribution of price changes relative to the 2016–19 period.[3]

*(continued)*

2. For each of the 146 disaggregated product categories mapped back to 1972, the chart presents one-month annualized inflation rates for each of the months indicated in the legend. From 2016 to 2019 there are 7,008 observations (48 months times 146 categories) sorted into 51 bins (negative 25 or lower, negative 24, . . . , negative 1, 0, 1, . . . , 24, and 25 or higher), while in 2021 there are 1,752 observations (12 months times 146 categories). The product categories are weighted according to their share in overall PCE. The comparison shown in figure C does not importantly depend on the length of the pre-pandemic comparison period; for example, the distribution of price changes over 2000 to 2019 looks similar to the distribution over 2016 to 2019.

3. As the price change distribution shifts rightward and inflation becomes more broadly experienced across product categories, a greater percent of spending occurs on products with inflation exceeding 3 percent, as depicted in figure A. However, by combining all increases of at least 3 percent, figure A does not portray the marked increase in the number of very large price increases, particularly for goods affected by supply chain disruptions.

Four aspects of the change in the distribution are worth noting:

(1) fewer items with price decreases, which are depicted in the blue shaded areas below zero on the horizontal axis

(2) a notable decline in the occurrence of price increases of between 1 and 4 percent, shown by the blue shaded area in the middle of the distribution

(3) more items with inflation between 5 and 12 percent as well as slightly more with inflation between 13 and 24 percent, shown in the gray shaded area in those ranges on the horizontal axis

(4) a striking 6 percentage point increase at the very top of the distribution, indicated by the large (gray shaded) spike in the share of items with price increases of at least 25 percent

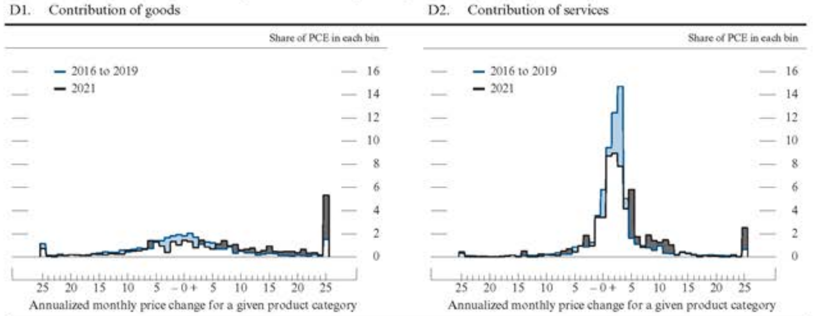
These features of the distribution of price changes can be better understood by considering the contributions of goods and services to the changes. First, the left panel of figure D shows the contribution of goods to the total price change distribution between 2016 and 2019 (the blue line) and 2021 (the black line). Goods account for about 4 percentage points of the 6 percentage point increase in the spike at the top of the price change distribution in figure C as well as nearly all of the rightward shift in the price change distribution in excess of 12 percent inflation. Moreover, the increased occurrence of high inflation for goods is a stark departure from small positive or slightly negative price changes between 2016 and 2019 (seen in the blue shading). These observations are consistent with the very large price increases in goods categories such as motor vehicles and other categories disrupted by supply constraints against the backdrop of strong demand as consumption shifted away from services during the pandemic.

Second, the right panel of figure D shows the contribution of services to the total price change distribution. Services account for the vast majority of the shift from the middle of the distribution of price changes (the blue shaded area) to inflation between 5 and 12 percent (the gray shaded area), while they account for less than one-third of the increase in the spike at the top of the distribution.

In summary, the share of products experiencing notable price increases moved appreciably higher in 2021, with the broadening due to both goods and services prices. That said, most of last year's very high inflation readings were concentrated in goods—a reflection of strong demand in the face of supply bottlenecks that have particularly affected these items. Finally, although currently more widespread than in recent history, large price increases were considerably less widespread than was seen during the high-inflation regime of the 1970s. In the period ahead, the large price changes in goods may ease once supply chain disruptions finally resolve, but, if labor shortages continue and wages rise faster than productivity in a broad-based way, inflation pressures may persist and continue to broaden out.

D. Distribution of inflation across personal consumption expenditures product categories

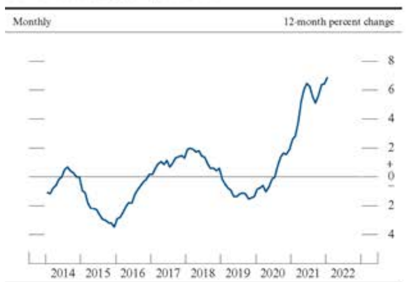
D1. Contribution of goods | D2. Contribution of services




NOTE: The height of each line indicates the share of personal consumption expenditures (PCE) spent on product categories whose annualized monthly price changed by the percentage indicated on the horizontal axis. Values on the horizontal axis are binned in unit increments and are truncated at positive and negative 25 percent. Blue shading indicates that the PCE spending share was greater in 2016 to 2019 than in 2021 for the associated values of price change on the horizontal axis. Gray shading indicates that the PCE spending share was greater in 2021 than in 2016 to 2019 for the associated values of price change on the horizontal axis. The histograms include 81 product categories for goods (left panel) and 65 product categories for services (right panel) over the periods indicated.

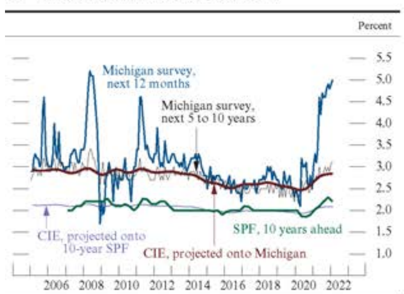
SOURCE: Bureau of Economic Analysis; Federal Reserve Board staff calculations.

11. Nonfuel import price index




SOURCE: Bureau of Labor Statistics via Haver Analytics.

12. Measures of inflation expectations




NOTE: The Survey of Professional Forecasters (SPF) data are quarterly, begin in 2007:Q1, and extend through 2022:Q1. The Index of Common Inflation Expectations (CIE) data are quarterly and extend through 2022:Q1. The Michigan survey data are monthly and extend through February 2022; the February data are preliminary.

SOURCE: University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia, SPF; Federal Reserve Board, CIE; Federal Reserve Board staff calculations.

Nonfuel commodity prices have risen with the global economic recovery since the first half of last year, reflecting considerable increases in the prices of both industrial metals and agricultural commodities. Although still below their peak last year, lumber prices have increased sharply again in recent months because of elevated demand from residential construction and supply disruptions.

Import prices and the cost of transporting imported goods—a cost not included in measured import prices—are rising, and bottlenecks in supply chains have exacerbated the rise (see the box "Supply Chain Bottlenecks in U.S. Manufacturing and Trade"). Import price inflation has also remained elevated largely because of continued increases in commodity prices, bringing the 12-month change through January 2022 to 6.9 percent (figure 11).

### Measures of near-term inflation expectations rose notably, but longer-term expectations moved up less

Inflation expectations likely influence actual inflation by affecting wage- and price-setting decisions. In the University of Michigan Surveys of Consumers, households' expectations for inflation over the next 12 months continued to climb, reaching levels that are among the highest observed since the early 1980s (figure 12). In contrast, expectations for average inflation over the next 5 to 10 years from the same survey flattened out in the second half of 2021 after having moved up modestly in the first half, and they now stand near levels observed about a decade ago. Meanwhile, 10-year PCE inflation expectations in the Survey of Professional Forecasters edged up, on net, since mid-2021 and stood at 2.2 percent in the first quarter of this year. That increase was driven by higher expectations for the next five years, with expectations for inflation remaining at 2 percent over years 6 through 10.

## Supply Chain Bottlenecks in U.S. Manufacturing and Trade

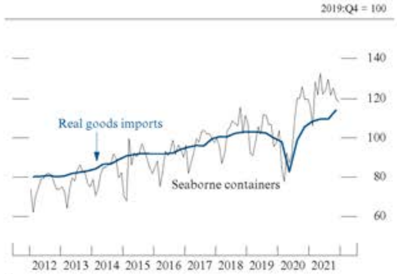
Over the past year, global transportation and distribution networks have been overwhelmed, and manufacturers have struggled to find the materials and labor needed to meet demand for their products. Demand for goods has been notably boosted, as ongoing concerns about COVID-19 have led consumers and businesses to shift spending away from services, such as travel, in favor of goods, such as those related to increased time at home. While some distribution and production bottlenecks showed signs of improvement toward the end of last year, other bottlenecks are expected to remain for some time.

The surge in demand for imports has strained shipping networks worldwide, and U.S. ports have been particularly congested. About one-third of all U.S. goods imports (by value) arrive via seaborne containers, and, consistent with the strength in imports of consumer and capital goods in 2021, the number of containers processed at domestic ports last year was significantly higher than in any previous year (figure A). The combined ports of Los Angeles and Long Beach have faced substantial congestion, with the number of ships waiting for a berth recently reaching an all-time high.[1] Elevated levels of port congestion in the United States and abroad have caused on-time arrivals of global shipping vessels to plunge and have resulted in dramatic increases in charter rates for container ships (figure B). Moreover, once goods arrive in port, major bottlenecks in U.S. trucking and rail transportation have further delayed their movement. Trucking cargo rates have risen sharply since mid-2020, and some measures are now more than 15 percent above the levels prevailing in 2019.

*(continued on the next page)*

1. Though primarily driven by strong demand for goods, the congestion has been worsened by COVID-19 outbreaks in emerging Asia, where port delays have tied up vessels and containers, sending ripple effects through the global network.

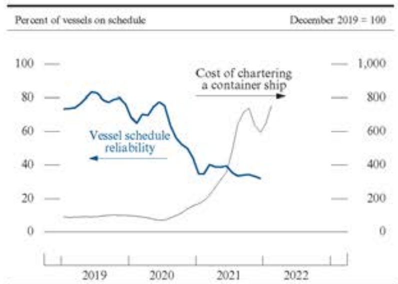
A. U.S. imports




NOTE: The seaborne containers data are monthly, are not seasonally adjusted, and extend through December 2021. The real goods imports data are quarterly and are seasonally adjusted.

SOURCE: Bureau of Economic Analysis; Maryland Port Administration; Virginia Port Authority; 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.

B. Developments in shipping




NOTE: "On schedule" is defined as a vessel arriving within 1 day of its listed schedule. The shipping data are monthly averages of daily data and extend through February 22, 2022. Vessel reliability data are monthly and extend through December 2021.

SOURCE: NewConTex, © VHSS e.V., Hamburg and Bremen Shipbrokers' Association; Sea-Intelligence (2021), *Global Liner Performance*, issue 125 (January).

## Supply Chain Bottlenecks *(continued)*

Distribution problems have also weighed heavily on domestic production. In 2021, a record number of manufacturers reported that an insufficient supply of materials was one reason they were unable to produce at full capacity (figure C). Together with increasingly strong demand for goods, these limitations on production led to backlogs of orders and to supplier delivery times well above historical norms (figure D). With supply unable to satisfy demand, prices for a wide range of goods increased last year, sometimes sharply. Indeed, the producer price index for overall manufacturing was more than 15 percent higher in the fourth quarter of 2021 than its year-earlier level (figure E).

Domestic production has been further hampered by manufacturers' inability to hire and retain skilled

*(continued)*

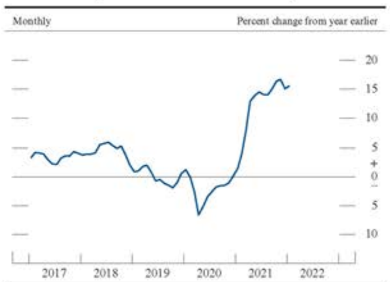
C. Reasons for operating below capacity


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. Survey respondents are given the choice of many reasons for operating below capacity and may select more than one reason.
SOURCE: Census Bureau, Survey of Plant Capacity Utilization.

D. Suppliers' delivery times and order backlogs


NOTE: Values greater than 50 indicate that more respondents reported longer delivery times or order backlogs relative to a month earlier than reported shorter delivery times or order backlogs.
SOURCE: Institute for Supply Management, ISM Manufacturing *Report on Business*.

E. Producer price index for manufacturing



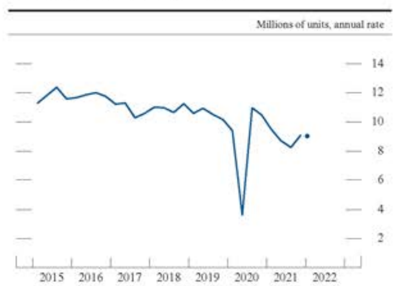

SOURCE: Bureau of Labor Statistics via Haver Analytics.

labor. Despite adding about 350,000 workers in 2021, by the end of the year manufacturing employment was still about 250,000 below where it was just before the pandemic. Although manufacturers have long noted difficulties in finding workers, labor market conditions were particularly tight in 2021. At the end of the year, factory workers were quitting their jobs at near-record rates, and manufacturing plants had listed approximately 850,000 job openings—about twice as many openings as in the 2017–19 period.

The motor vehicle sector has faced a particularly acute and well-publicized shortage of semiconductor chips, reflecting a combination of factors. On the demand side, consumers' appetite for cars and trucks has remained remarkably strong, and the chip content per vehicle has increased.[2] Meanwhile, the supply of semiconductors was disrupted by COVID-induced shutdowns in foreign countries—such as Malaysia and Vietnam—that are major players in the semiconductor supply chain. Even when enough of certain types of chips have been available, an undersupply of complementary chips has, at times, created problems for manufacturers. These chip shortages have led to widespread shutdowns and production slowdowns at U.S. motor vehicle assembly plants. Without an ample supply of new vehicles, many dealerships sold off remaining inventories and raised prices. The lean inventories and high prices weighed heavily on vehicle sales for much of 2021. Recently, however, semiconductor shortages have begun to ease somewhat, as indicated by an increase in U.S. vehicle production (figure F). Nevertheless, these shortages have persisted, and statements by some auto industry executives suggest that they expect production bottlenecks to continue well into this year.

Outside the auto sector, supply chain bottlenecks show some signs of improvement. Capacity expansion at some ports in late 2021 and waning seasonal demand likely contributed to recent declines in the cost of shipping. Additionally, inland rail hubs have decongested somewhat, facilitating the flow of containers inland. Also, late last year, domestic manufacturers saw slower increases in the price of inputs, improving delivery times, and fewer items in short supply than they had earlier. A few commodities have experienced a notable increase in availability. One example is steel, for which delivery times and prices have fallen sharply after having been elevated for much of last year.

F. Light motor vehicle production

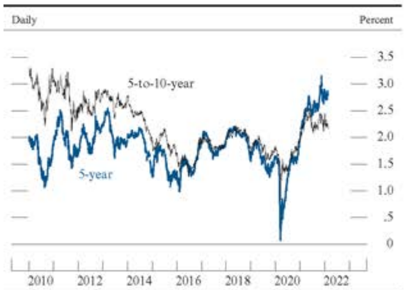



NOTE: The data are quarterly averages and are adjusted using Federal Reserve Board seasonal factors. The dot represents the monthly value for January 2022.

SOURCE: Ward's Automotive Group, AutoInfoBank and Intelligence Data Query; Chrysler Group LLC, North American Production Data; General Motors Corporation, GM Motor Vehicle Assembly Production Data.

2. Although the chip content per vehicle has been rising for a while, demand for some vehicles particularly rich in semiconductors—notably, electric vehicles and luxury models—has risen especially sharply during the pandemic.

13. 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.

Market-based measures of inflation compensation, which are based on financial instruments linked to inflation, are sending a similar message. A measure of CPI inflation compensation over the next five years implied by Treasury Inflation-Protected Securities (TIPS) continued to rise, on net, through the second half of 2021, reaching its highest level over the past decade.[6] In contrast, the TIPS-based measure of CPI inflation compensation 5 to 10 years ahead rose over the first half of 2021 but has settled around 2¼ to 2½ percent since then (figure 13). While elevated relative to pre-pandemic levels, this measure is well within the range of values observed in the first half of the previous decade and, because CPI inflation tends to run around ¼ percentage point above PCE price inflation, it suggests inflation compensation close to 2 percent on a PCE basis.

The common inflation expectations (CIE) index constructed by Federal Reserve Board staff combines a wide variety of inflation expectations measures—including the measures cited earlier—into a single indicator that is rescaled to match the level and volatility of existing inflation expectation indicators.[7]

6. Inflation compensation implied by the yields on Treasury securities, known as the 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 CPI inflation. Inferring inflation expectations from such market-based measures of inflation compensation is not straightforward, because these measures are affected by changes in premiums that provide compensation for bearing inflation and liquidity risks. These measures likely also capture shifts in the demand and supply of TIPS relative to those of nominal Treasury securities.

7. The CIE is estimated using a dynamic factor model. The level of the model's estimated factor does not have an economic interpretation and therefore must be rescaled to match an existing indicator of inflation expectations to yield a level interpretation. 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.

The measures used in the CIE differ along several key dimensions—the type of economic agent, data source (survey- or market-based measure), time horizon, and inflation measure. Both CIE indexes shown in figure 12 look most similar to the measures of longer-term expectations: They trended up in the first half of last year, reversing the downward drift observed in the years before the pandemic, but then flattened out at a level similar to those observed roughly a decade ago.

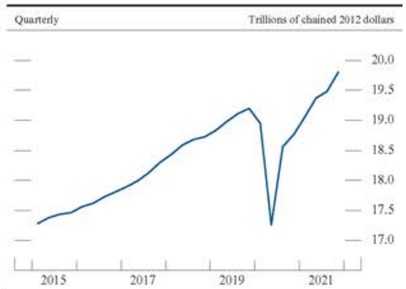
### Gross domestic product growth stepped down modestly in the second half of last year . . .

The level of real gross domestic product (GDP) recovered further in the second half of 2021, but growth was somewhat slower, on average, than in the first half (figure 14). GDP growth is reported to have slowed notably to 2.3 percent at an annual rate in the third quarter but rebounded to a brisk 7 percent in the fourth quarter. Despite the solid average growth in the second half, several factors—including last summer's Delta wave and waning fiscal stimulus—likely weighed on demand growth. Moreover, supply chain bottlenecks, hiring difficulties, and other capacity constraints continued to significantly restrain economic activity. While there have been some recent signs of these constraints easing, the time frame for further improvement is highly uncertain. All told, at the end of 2021 GDP stood 3 percent above its level in the fourth quarter of 2019, before the pandemic began, but 1.5 percent below its level if growth had continued at its average pace over the five years before the pandemic.

### . . . while the rapid spread of the Omicron variant appears to have slowed the pace of economic activity early this year

Fueled by the highly transmissible Omicron variant, new cases of COVID-19 began rising sharply in mid-December, peaked in mid-January with daily cases about three times as high as last winter's surge, and have

14. Real gross domestic product

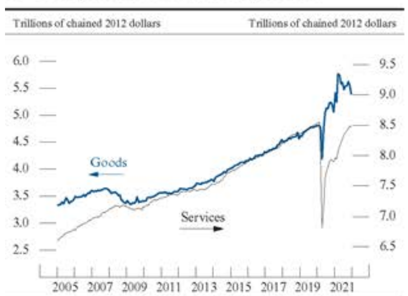



SOURCE: Bureau of Economic Analysis via Haver Analytics.

fallen quickly since then. Although Omicron appears to cause less severe symptoms than previous variants, several indicators suggest it has damped the pace of economic activity early this year. High-frequency indicators reveal that flight cancellations, school closures, and temporary closings of small businesses jumped as the new year began, while demand for COVID-sensitive services like air travel, lodging, and restaurant meals flagged. Nevertheless, with cases rapidly declining and spending indicators having rebounded, Omicron seems likely to cause the continued reopening of the economy to slow only briefly.

### Real consumer spending growth eased . . .

15. Real personal consumption expenditures




Note: The data are monthly and extend through December 2021.
Source: Bureau of Economic Analysis via Haver Analytics.

Consumer spending on goods edged lower, on balance, over the second half of 2021 as the boost from fiscal stimulus waned and low inventories held back purchases of some goods, particularly motor vehicles. Even so, goods spending remains quite elevated relative to its pre-pandemic trend (figure 15). The further reopening of the economy boosted spending on services in the second half, albeit at a less rapid pace than last spring, as the Delta wave weighed on demand for in-person services in the summer and the Omicron wave began to do so late in the year. Despite the continued recovery in services spending, this spending remains well below its pre-pandemic trend. In all, the data over the second half of 2021 indicate only a moderate amount of rebalancing of consumer demand toward services and away from goods.

### . . . as higher prices damped otherwise healthy income and wealth positions . . .

Real consumer spending has been supported by further gains in household income and wealth, but that support was curbed by the marked rise in prices over the past year, especially for households that have not benefited from higher asset prices. Household disposable income in nominal terms has proven resilient due to the improving labor market, even as fiscal stimulus has waned, but after factoring in the higher prices, real disposable incomes edged lower over the year. Nevertheless, also supporting consumption, in the aggregate, are the substantial savings households have accumulated from curtailed services spending and historic levels of household-focused fiscal stimulus distributed earlier in the pandemic, as evidenced by a personal saving rate that, while no longer elevated, has not fallen below its pre-pandemic trend (figure 16). Furthermore, as a result of the large gains in home and equity prices since mid-2020, the wealth position of households that own these assets remains very solid (figure 17).

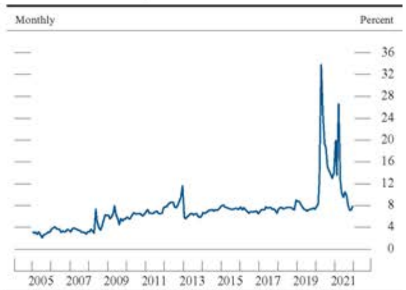
### . . . and contributed to declining consumer sentiment

Amid the continued acceleration in prices in the second half of last year and despite solid household balance sheets, a closely watched index of consumer sentiment plunged (figure 18). Since the middle of 2021, the University of Michigan index fell below the levels seen at the onset of the pandemic, as survey respondents' concerns over inflation weighed heavily on their outlooks. The Conference Board index, an alternative measure of consumer sentiment, also deteriorated but, in contrast to the Michigan index, remains well above its earlier pandemic lows.

### Meanwhile, consumer credit conditions continued to normalize

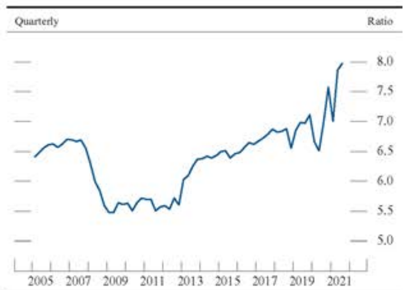
Financing has been generally available to support these gains in consumer spending. Standards for consumer loans, which banks reported eased in 2021 relative to 2020, are now generally in line with the standards that persisted before the pandemic; as a result, financing conditions are now largely accommodative for borrowers with high credit scores, though lending standards and terms remain somewhat tighter than pre-pandemic levels for borrowers with low credit scores. After initial declines at the onset of the pandemic, the growth rate of consumer

16. Personal saving rate



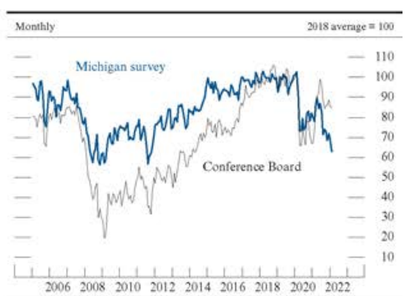

NOTE: The data extend through December 2021.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

17. Wealth-to-income ratio



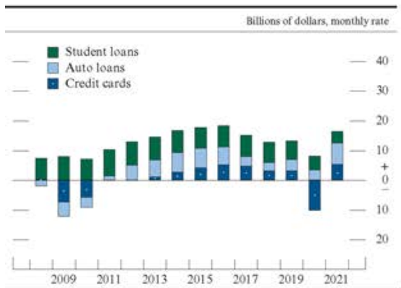

NOTE: The series is the ratio of household net worth to disposable personal income. The data extend through 2021:Q3.
SOURCE: For net worth, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; for income, Bureau of Economic Analysis via Haver Analytics.

18. Indexes of consumer sentiment



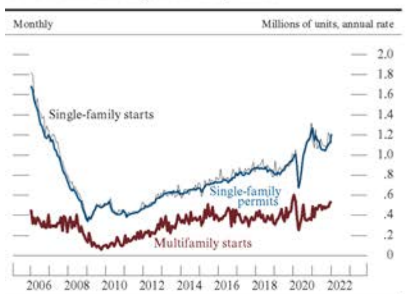

NOTE: The data extend through February 2022. The February data for the Michigan survey are preliminary.
SOURCE: University of Michigan Surveys of Consumers; Conference Board.

19. Consumer credit flows



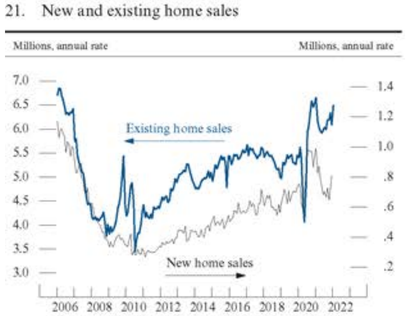

NOTE: The data are seasonally adjusted by the Federal Reserve Board.
SOURCE: Federal Reserve Board, Statistical Release G.19, "Consumer Credit."

20. Private housing starts and permits




SOURCE: Census Bureau via Haver Analytics.

21. New and existing home sales




NOTE: The data are monthly. New home sales include only single-family sales and extend through December 2021. 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.

credit recovered strongly in 2021, driven by the continued expansion of auto loans and an appreciable rebound in credit card balances (figure 19). Delinquency rates for nonprime auto and credit card borrowers remained well below pre-pandemic levels, likely stemming from forbearance programs and fiscal support.

### Housing construction fell as supply constraints held back activity . . .

Residential investment is well above pre-pandemic levels but fell back somewhat last year, as construction was limited by persistent bottlenecks that led to materials shortages. In recent months, the sector has shown signs of a rebound, as single-family permits have risen steadily (figure 20). Nevertheless, the timing of the resolution of these supply constraints remains highly uncertain. Prices of lumber and other materials have moved up appreciably, and shortages of other construction inputs—such as labor and lots ready for development—remain acute.

### . . . amid surging demand for housing . . .

Demand for housing surged earlier during the pandemic and has remained strong, with home sales well above levels seen in the years before the pandemic despite very tight inventory of homes available for sale (figure 21). This surge in demand is likely due to a combination of factors, including increased work-from-home arrangements; shifts away from other types of consumer spending, such as travel and leisure; and mortgage rates that remain low despite notable recent increases (figure 22). Meanwhile, mortgage credit remained broadly available for a wide range of potential borrowers. Although mortgage credit for borrowers with low credit scores remained tighter than before the pandemic, it eased over the second half of last year.

### . . . which has contributed to record house price growth

As a result of supply constraints and surging demand, house price growth reached record levels, and, even after adjusting for overall inflation, home prices have surpassed their peak of the mid-2000s (figure 23). According to data from Zillow, national house prices rose almost 20 percent last year. Moreover, strong house price growth has been widespread across the United States, as nearly 80 percent of metropolitan areas experienced annual house price increases of at least 10 percent. Homebuying sentiment, as measured by the Michigan survey, remains depressed, reflecting the low inventory of homes and high prices.

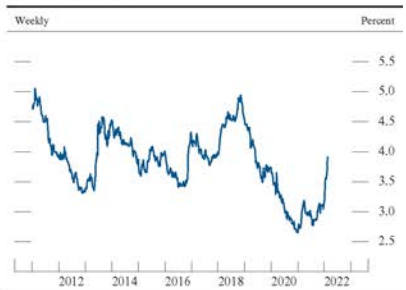
### Business investment slowed in response to supply constraints . . .

Investment in equipment and intangibles grew at an annual rate of just 4 percent in the second half of last year, a marked step-down from the nearly 14 percent pace in the first half. As with other sectors of the economy, investment demand has remained strong, while supply constraints have limited spending, as evidenced by shipments of capital goods increasingly lagging orders and equipment prices rising sharply. Supply bottlenecks in the motor vehicle sector have been particularly acute, and business spending on vehicles declined appreciably in the second half of 2021. Investment in nonresidential structures declined further last year despite a sharp rebound in oil drilling and remains well below pre-pandemic levels (figure 24). This sector typically lags in recoveries, and shortages of building materials may be further restraining activity.

### . . . while financing conditions remain accommodative

Corporate financing conditions through capital markets remained broadly accommodative for nonfinancial firms and continued to be supported by corporate bond yields that remain very low by historical standards. Amid these low yields and ample investor demand, gross issuance of corporate bonds continued at a robust pace, albeit down from the exceptional pace seen in 2020. In contrast, bank lending to businesses was, on net, subdued last year.

22. Mortgage rates

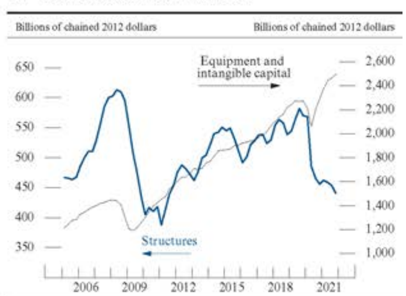



Note: The data are contract rates on 30-year, fixed-rate conventional home mortgage commitments and extend through February 17, 2022.
Source: Freddie Mac Primary Mortgage Market Survey.

23. Real prices of existing single-family houses


Note: Series are deflated by the personal consumption expenditures price index.
Source: Bureau of Economic Analysis via Haver Analytics; CoreLogic Home Price Index; Zillow, Inc., Real Estate Data; 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.)

24. Real business fixed investment

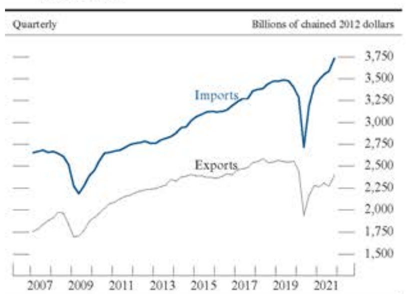



Note: Business fixed investment is known as "private nonresidential fixed investment" in the national income and product accounts. The data are quarterly.
Source: Bureau of Economic Analysis via Haver Analytics.

While commercial real estate loans grew at a modest pace similar to the years just before the pandemic, commercial and industrial loan balances contracted as a result of loan forgiveness associated with the Paycheck Protection Program (PPP), elevated paydowns, and generally weak borrower demand.

Meanwhile, financing conditions for small businesses have improved notably over the past year and have generally been stable in recent months. Lending standards have eased, and loan origination volumes are in line with pre-pandemic levels, though loan demand remains weak for the smallest firms. Moreover, default and delinquency rates are now within their pre-pandemic range. Nevertheless, the pandemic continues to negatively affect the operations of small businesses, especially in the most affected industries (accommodation and food services, arts, entertainment, and recreation).

25. Real imports and exports of goods and services




SOURCE: Bureau of Economic Analysis via Haver Analytics.

26. U.S. trade and current account balances


NOTE: GDP is gross domestic product. Current account balance data extend through 2021:Q3.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

## The strong U.S. demand has partly been met through a rapid rise in imports

Driven by the strength in U.S. economic activity, particularly the strong demand for goods and a desire to restock inventories, U.S. imports have continued to increase at a notable pace. High levels of imported goods have kept international logistics channels operating under high pressure, which has continued to impair the timely delivery of goods to U.S. customers. By contrast, U.S. exports increased modestly over the second half of 2021 and remain below pre-pandemic levels (figure 25). Given the relative strength in imports compared with exports, both the nominal trade deficit and the current account deficit have increased as a share of GDP relative to 2019 (figure 26).

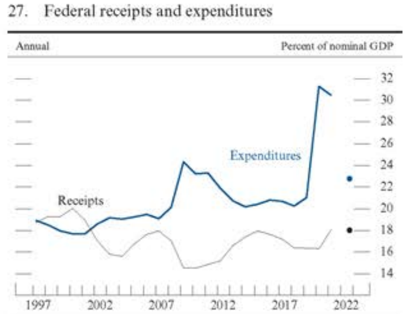
## Federal fiscal actions provided a diminishing degree of support to economic activity . . .

In response to the pandemic, the federal government enacted a historic set of fiscal policies to ameliorate hardship caused by the viral outbreak and support the economic recovery. Policies such as stimulus checks, supplemental unemployment insurance, and child tax credit payments have aided households; grants-in-aid have supported state and local governments; and business support programs such as the PPP have helped sustain firms. Although these temporary policies continue to support the *level* of GDP, they have begun to unwind and are now likely imposing a drag on GDP *growth* as the effects on spending wane over time. In addition to pandemic-support policies, the Infrastructure Investment and Jobs Act will gradually boost spending on infrastructure over the next 10 years and is only partially offset by new revenues and other spending reductions.

### . . . while significantly raising the budget deficit and federal debt

Overall, the Congressional Budget Office estimates that fiscal policies enacted since the start of the pandemic—including the infrastructure bill—will increase federal deficits by roughly $5.4 trillion by the end of fiscal year 2030, with the largest deficit effects in fiscal 2020 and 2021.[8] These policies, combined with the effects of 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 and remain elevated at 12½ percent in fiscal 2021. But with fiscal support fading, the deficit is expected to fall sharply this year to a level closer to that observed in the years just before the pandemic (figure 27).

27. Federal receipts and expenditures

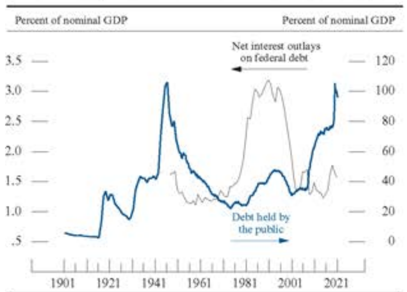



Note: The receipts and expenditures data are on a unified-budget basis and are for fiscal years (October through September); gross domestic product (GDP) data are on a 4-quarter basis ending in Q3. The dots represent fiscal year 2022 projections for receipts and expenditures from the Congressional Budget Office's July 2021 report, *An Update to the Budget and Economic Outlook: 2021 to 2031*.

Source: Department of the Treasury, Financial Management Service; Office of Management and Budget and Bureau of Economic Analysis via Haver Analytics.

8. For more information, see Congressional Budget Office (2020), "The Budgetary Effects of Laws Enacted in Response to the 2020 Coronavirus Pandemic, March and April 2020," June, https://www.cbo.gov/system/files/2020-06/56403-CBO-covid-legislation.pdf; Congressional Budget Office (2021), "The Budgetary Effects of Major Laws Enacted in Response to the 2020–21 Coronavirus Pandemic, December 2020 and March 2021," September, https://www.cbo.gov/system/files/2021-09/57343-Pandemic.pdf; and Congressional Budget Office (2021), "Senate Amendment 2137 to H.R. 3684, the Infrastructure Investment and Jobs Act, as Proposed on August 1, 2021," August 9, https://www.cbo.gov/system/files/2021-08/hr3684_infrastructure.pdf.

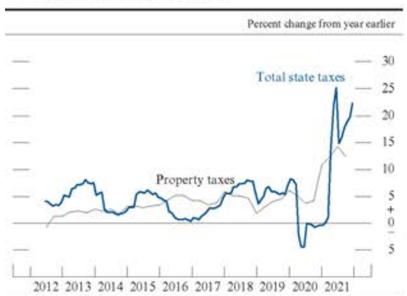
28. Federal government debt and net interest outlays




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 and extend through 2021:Q3. GDP is gross domestic product.

SOURCE: For GDP, Bureau of Economic Analysis via Haver Analytics; for federal debt, Congressional Budget Office and Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

29. 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 December 2021, and are aggregated over all states except Wyoming, for which data are not available. Revenues from Washington, DC, are also excluded. Data are missing for July through December for Connecticut, October through December for New Mexico, and December for Nevada and Oregon, as these states have longer reporting lags than others. Property tax data are year-over-year percent changes of 4-quarter moving averages, begin in 2012:Q2, extend through 2021:Q3, and are primarily collected by local governments.

SOURCE: Monthly State Government Tax Revenue Data via Urban Institute; Census Bureau, Quarterly Summary of State and Local Government Tax Revenue.

As a result of the unprecedented fiscal support over the past two years, federal debt held by the public jumped to around 100 percent of nominal GDP in 2020—the highest debt-to-GDP ratio since 1947—and remained at a similar level in 2021. Nevertheless, net interest outlays—primarily reflecting debt service payments—have remained relatively flat over the past two years due to historically low interest rates on government borrowing (figure 28).

### State and local government finances have been bolstered by federal aid and strong growth in tax revenue . . .

Federal policymakers have provided a historic level of fiscal support to state and local governments, with aid totaling nearly $1 trillion—more than covering pandemic-related budget shortfalls in the aggregate. Moreover, following the pandemic-induced slump, total state tax collections rose smartly in 2021, pushed up by the economic expansion (figure 29). At the local level, property taxes have continued to rise apace, and the typically long lags between changes in the market value of real estate and changes in taxable assessments suggest that property tax revenues will continue to rise going forward, given the rise in house prices. Meanwhile, conditions in municipal bond markets remained accommodative: Yields stayed near historical lows, and issuance continued at a solid pace, on par with pre-pandemic issuance.

### . . . but hiring and construction outlays continued to lag

Despite the return to in-person schooling this year and the strong fiscal position of state and local governments, employment levels have regained only about one-half of their sizable pandemic losses, with the shortfall concentrated in public education (figure 30). One reason appears to be that public-sector wages have not kept pace with the rapid gains in the private sector, which is likely inhibiting the ability of these governments to staff back up to pre-pandemic levels.

Meanwhile, real construction outlays by state and local governments appear to have declined significantly in 2021, and real infrastructure spending by these governments is currently about 10 percent below pre-pandemic levels.

## *Financial Developments*

### The path of the federal funds rate expected to prevail over the next few years steepened notably

The market-based expected path of the federal funds rate steepened notably amid news about the labor market recovery, rising inflation pressures, and the accompanying prospect of tighter monetary policy. Market-based measures suggest that investors anticipate the federal funds rate will soon begin to rise and move above 1 percent in the middle of this year, about two and a half years earlier than expected in July (figure 31).[9] Similarly, according to the results of the Survey of Primary Dealers and the Survey of Market Participants, both conducted by the Federal Reserve Bank of New York in January, the median respondent views the target range as most likely to increase later in the current quarter, about one and a half years earlier than in the June surveys.[10]

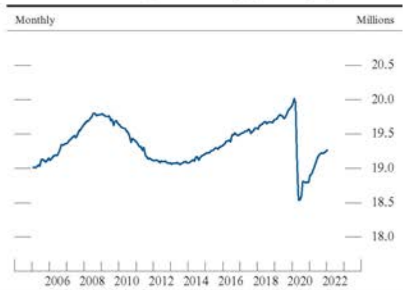
### Treasury yields increased substantially across maturities . . .

Yields on nominal Treasury securities across maturities have risen notably since early July, with much of the increase having occurred in the past couple of months as the anticipation for an imminent start to the removal of monetary accommodation has firmed (figure 32). Uncertainty about longer-term

9. These measures are based on a straight read of market quotes and are not adjusted for term premiums.

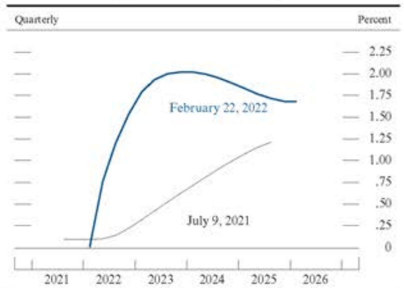
10. The results of the Survey of Primary Dealers and the Survey of Market Participants are available on the Federal Reserve Bank of New York's website at https://www.newyorkfed.org/markets/primarydealer_survey_questions.html and https://www.newyorkfed.org/markets/survey_market_participants, respectively.

30. State and local government payroll employment



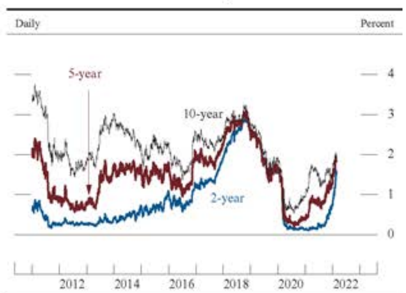

NOTE: The data are seasonally adjusted.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

31. Market-implied federal funds rate path



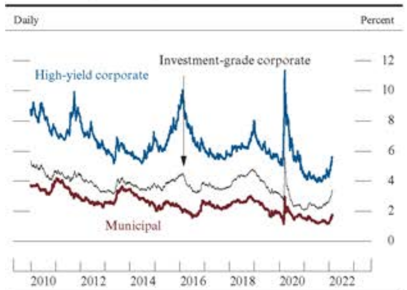

NOTE: The federal funds rate path is implied by quotes on overnight index swaps—a derivative contract tied to the effective federal funds rate. The implied path as of July 9, 2021, is compared with that as of February 22, 2022. The path is estimated with a spline approach, assuming a term premium of 0 basis points. The July 9, 2021, path extends through 2025:Q3 and the February 22, 2022, path through 2026:Q1.
SOURCE: Bloomberg; Federal Reserve Board staff estimates.

32. Yields on nominal Treasury securities



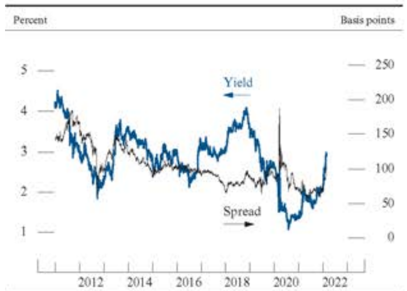

SOURCE: Department of the Treasury via Haver Analytics.

33. Corporate bond yields, by securities rating, and municipal bond yield




NOTE: Investment-grade corporate reflects the effective yield of the ICE Bank of America Merrill Lynch (BofAML) triple-B U.S. Corporate Index (C0A4). High-yield corporate reflects the effective yield of the ICE BofAML High Yield Index (H0A0). Municipal reflects the yield to worst of the ICE BofAML U.S. Municipal Securities Index (U0A0).
SOURCE: ICE Data Indices, LLC, used with permission.

34. Yield and spread on agency mortgage-backed securities




NOTE: The data are daily. Yield shown is for the uniform mortgage-backed securities 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value, for dates after May 31, 2019; for earlier dates, the yield shown is for the Fannie Mae 30-year current coupon. 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 2022.

interest rates—as measured by the implied volatility embedded in the prices of near-term swap options on 10-year swap interest rates—also increased markedly, reportedly reflecting an increase in uncertainty about inflation and the policy outlook.

### . . . while spreads of other long-term debt to Treasury securities widened moderately

Across credit categories, corporate bond yields have risen substantially, and their spreads over yields on comparable-maturity Treasury securities have widened moderately since early July (figure 33). Still, both yields and spreads remain near the bottom of their historical distributions, and corporate credit quality is generally healthy and stable. News about the spread of new coronavirus variants appeared to have only limited and temporary effects on corporate bond spreads.

Since early July, yields on 30-year agency mortgage-backed securities—an important pricing factor for home mortgage rates—increased, and spreads over comparable-maturity Treasury securities widened moderately but stayed near the low end of their historical range (figure 34). Municipal bond yields moved higher, and spreads over comparable-maturity Treasury securities widened to levels close to their historical medians.

### Broad equity price indexes declined slightly on net

Broad indexes of equity prices decreased a little, on net, since early July. Recent declines amid expectations of an earlier beginning to the removal of policy accommodation have offset previous gains, which were supported by strong corporate earnings that had seemed resilient to pandemic developments (figure 35). Stocks of small-capitalization firms underperformed notably, as the likelihood for a tighter stance of monetary policy has increased. Bank stock prices rose, on net, buoyed by an improved economic outlook and expectations of higher levels of interest rates and net interest margins in the future. Measures of volatility for the S&P 500 index, both an option-implied metric (the VIX) and a comparable forward-looking measure based on realized volatility, increased somewhat amid evolving monetary policy expectations and concerns over the Omicron variant and stand above their respective historical medians (figure 36). (For a discussion of financial stability issues, see the box "Developments Related to Financial Stability.")

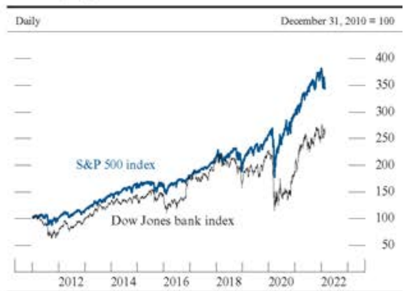
### Markets for Treasury securities, mortgage-backed securities, and corporate and municipal bonds functioned well . . .

Markets for Treasury securities and mortgage-backed securities functioned smoothly since July even as some measures of liquidity conditions for Treasury securities deteriorated moderately, which reflected increased yield volatility due, in part, to uncertainty about the path of monetary policy. Measures of market functioning in corporate and municipal bond markets indicated liquid and stable trading conditions. Bid-ask spreads for corporate bonds across credit ratings currently stand below pre-pandemic levels and near the bottom of their historical distributions.

### . . . while short-term funding market conditions remained stable

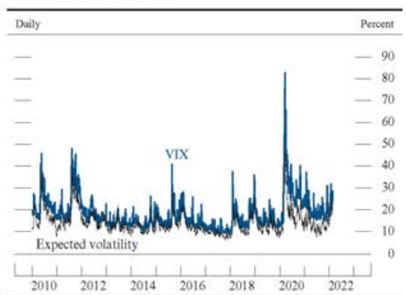
Short-term funding markets continued to function smoothly. The effective federal funds rate and other overnight unsecured rates declined slightly relative to the interest rate on reserve balances since early July. Secured overnight rates remained stable, with the Secured Overnight Financing Rate steady at the offering rate on the overnight reverse repurchase agreement (ON RRP) facility on most days since early July. Ample liquidity and a limited supply of Treasury bills kept short-term interest rates low and led to increased usage of the ON RRP facility. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets" in Part 2.)

35. Equity prices




SOURCE: S&P Dow Jones Indices LLC via Bloomberg. (For Dow Jones Indices licensing information, see the note on the Contents page.)

36. 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. The expected volatility series shows a forecast of 1-month realized volatility, using a heterogeneous autoregressive model based on 5-minute S&P 500 returns.

SOURCE: Cboe Volatility Index® (VIX®) via Bloomberg; Refinitiv Datascope and Federal Reserve Board staff estimates.

## Developments Related to Financial Stability

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. Although some asset valuations are elevated, measures of household and business leverage have declined, and the banking system has shown considerable resilience since the onset of the pandemic. Structural vulnerabilities in other parts of the financial system are still being addressed, including those related to various types of investment funds and vulnerabilities in Treasury market functioning.

Prices of risky assets remain elevated, supported in part by a low interest rate environment and low term premiums on Treasury securities. One common measure of equity valuations, the ratio of equity prices to forecast earnings, remains high compared with historical values. Spreads on corporate bonds and leveraged loans continue to be low. Price indexes for a range of commercial real estate sectors are at or near historical highs, and vacancy rates have declined. Residential home prices have continued to rise, with nearly 80 percent of metropolitan statistical areas seeing double-digit annual growth rates during 2021.

Nonfinancial-sector leverage has broadly declined. The rapid growth of nominal gross domestic product (GDP) has brought the ratio of nominal credit to nominal GDP, which measures the aggregate debt owed by the private nonfinancial sector relative to the size of the economy, down to near its pre-pandemic levels (figure A). Household debt relative to nominal GDP remains firmly below its long-run trend, and household credit growth has been driven almost exclusively by prime-rated borrowers. Homeowner equity is high, and mortgage delinquency and foreclosure rates are below their pre-pandemic levels despite the end of pandemic-related relief and forbearance programs. Because of high corporate cash holdings, aggregate net nonfinancial business leverage sits at its lowest level since 2014. Fueled by strong earnings and low borrowing costs, most businesses saw a sharp increase in their ability to service their debt burdens, with the interest coverage ratio (the ratio of earnings to interest expenses) for the median firm solidly above pre-pandemic levels and near historical highs. However, for firms in industries hit hardest by the pandemic, including airlines, hotels, and restaurants, leverage remains elevated and interest coverage ratios are lower.

A. Private nonfinancial-sector credit-to-GDP ratio and trend


NOTE: The dots represent 2022:Q1 nowcasts. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research. GDP is gross domestic product.

SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; National Income and Product Accounts, Bureau of Economic Analysis; Federal Reserve Board staff calculations.

Vulnerabilities from financial-sector leverage are well within their historical range. Risk-based capital ratios at domestic bank holding companies reached a 20-year high during the first quarter of 2021. These capital ratios declined modestly over the rest of the year as banks increased their share repurchases and dividend payouts amid an improved economic outlook and the Federal Reserve's lifting of restrictions on capital distributions. Throughout 2021, robust economic growth and strong capital markets contributed to high bank profitability, which fosters resilience through greater loss absorption capacity and an ability to retain earnings to raise capital if needed. In contrast, leverage at certain nonbank financial institutions, including life insurers and hedge funds, has remained near historical highs. Data limitations and the complexity of hedge fund strategies can obscure the true nature of leverage in that sector. However, one common measure of hedge fund leverage, the ratio of gross notional exposures to equity capital, is near its peak since data became available in 2012.

(continued)

Funding markets remain relatively stable. Domestic banks continue to maintain significant levels of high-quality liquid assets. Assets under management at prime and tax-exempt money market funds (MMFs), which experienced significant outflows during the March 2020 turmoil, continued to decline, on net, since mid-2021, while those at government MMFs remained near historical highs. In December 2021, the Securities and Exchange Commission (SEC) proposed reforms to MMFs intended to mitigate the financial stability risks they pose, including the adoption of swing pricing for certain fund types, increased liquidity requirements, and other measures meant to make them more resilient to redemptions. The market for digital assets, including stablecoins, has grown rapidly. The market value of stablecoins exceeded $150 billion as of January 2022. As detailed in a November 2021 report released by the President's Working Group on Financial Markets, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency, some stablecoins are partially backed by assets that may lose value or become illiquid, making them susceptible to runs.[1] Prefunded resources at central counterparties (CCPs) are high, particularly relative to current market volatility, reducing the likelihood of margin shortfalls and liquidity strains if volatility increases. Nevertheless, increased retail trading has exposed new challenges for the risk-management frameworks of the CCPs that clear equities and equity options. Financial institutions with significant holdings of long-term fixed-rate debt instruments (for example, Treasury securities, agency mortgage-backed securities (MBS), corporate bonds, and mortgage loans), such as banks and mutual funds, may recognize revaluation losses if long-term interest rates increase further, though some of those losses could be offset by higher interest income.

### Treasury Market Resilience

In November 2021, the Interagency Working Group composed of staff from the Department of the Treasury, Federal Reserve Board, Federal Reserve Bank of New York, SEC, and Commodity Futures Trading Commission released a report detailing ongoing vulnerabilities in the U.S. Treasury market and principles to promote a well-functioning Treasury market.[2] The report also outlined multiple ongoing workstreams designed to further enhance the group's understanding of Treasury market vulnerabilities and to consider policy options that may further strengthen the market.

### LIBOR Transition

The shift away from the widely used U.S. dollar (USD) LIBOR reference rates stepped up notably in recent months, in line with regulatory guidance to end most new use of USD LIBOR by December 31, 2021, and well ahead of the cessation of those rates on June 30, 2023. The transition away from USD LIBOR has largely been completed in floating-rate debt markets, where nearly 90 percent of new issuance now references the Secured Overnight Financing Rate (SOFR). In securitization markets, the government-sponsored enterprises had stopped accepting LIBOR adjustable-rate mortgages (ARMs) in 2020, are now accepting only SOFR ARMs, and have tied all of their associated MBS issuance to SOFR. Interest rate swap markets saw increases in volumes for SOFR-based trades in the second half of 2021, and this pace accelerated rapidly in January such that SOFR-based swaps trading now accounts for the majority of risk traded in this market, indicating widespread awareness and adoption of risk-free reference rates. Eurodollar futures have lagged the swap market, although volumes for SOFR-based futures contracts are increasing there also. The transition in business lending has been slower, although recent data suggest that the use of USD LIBOR as a reference rate for business loans has fallen sharply since the start of the year and that the pace of SOFR adoption is accelerating.

1. See President's Working Group on Financial Markets, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency (2021), *Report on Stablecoins* (Washington: PWGFM, FDIC, and OCC, November), https://home.treasury.gov/system/files/136/StableCoinReport_Nov1_508.pdf.

2. See U.S. Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York, U.S. Securities and Exchange Commission, and U.S. Commodity Futures Trading Commission (2021), *Recent Disruptions and Potential Reforms in the U.S. Treasury Market: A Staff Progress Report* (Washington: Department of the Treasury, Board of Governors, FRBNY, SEC, and CFTC, November), https://home.treasury.gov/system/files/136/IAWG-Treasury-Report.pdf.

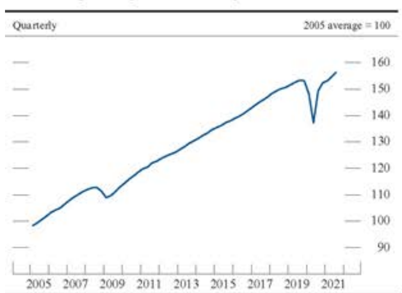
37. Growth in total loans and leases


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."

38. 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.

39. 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. The data extend through 2021:Q3.
SOURCE: Federal Reserve Bank of Dallas, Database of Global Economic Indicators, "Real Gross Domestic Product," accessed via https://www.dallasfed.org/institute/dgei/gdp.aspx.

### Bank credit expanded and bank profitability remained strong

Total loans and leases outstanding at commercial banks expanded significantly in the second half of last year, driven by continued solid growth in commercial real estate, residential real estate, and consumer loans, which outweighed declines in commercial and industrial loans (figure 37). In both October and January, the Senior Loan Officer Opinion Survey on Bank Lending Practices, conducted by the Federal Reserve, reported easier standards for most loan categories over the second half of 2021.[11] In the January survey, respondents generally anticipated a further easing of lending standards and stronger loan demand over the current year. Bank profitability remained strong, declining slightly over the second half of last year but remaining at pre-pandemic levels, helped by the continued release of loan loss reserves, given solid credit quality indicators (figure 38). Delinquency rates on bank loans remained low relative to historical averages throughout the second half of 2021.

## *International Developments*

### The recovery abroad continued in the second half of the year . . .

Economic activity abroad continued to recover briskly in the second half of last year (figure 39), as a noticeable pickup in vaccinations and greater adaptability allowed many foreign economies to further reopen. Unemployment rates in advanced foreign economies (AFEs) have now generally returned to levels near those that prevailed before the pandemic. That said, the emergence of the Delta variant of the virus last summer slowed the recovery of some economies, especially in Asia, and resulted in factory and port closures, which, in turn, exacerbated supply bottlenecks.

11. The survey is available on the Federal Reserve Board's website at https://www.federalreserve.gov/data/sloos/sloos.htm.

More recently, the Omicron outbreak has been a headwind and a risk, especially for countries with lower vaccination rates; and order backlogs in industries such as automobile manufacturing remain high. Still, production bottlenecks in Asia have started to unwind.

### . . . and foreign inflation increased significantly in most economies

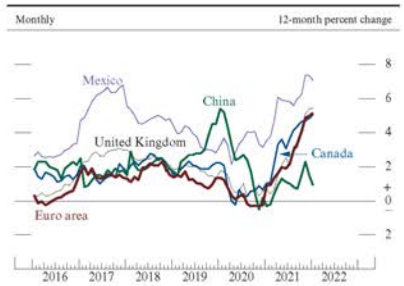
As in the United States, foreign inflation has picked up noticeably since late 2020 (figure 40). This higher inflation has been mostly driven by soaring prices for energy and food, which, combined, account for well over half of the level of inflation abroad (figure 41). Higher prices for core goods have also contributed to the rise of inflation, but core inflation abroad has risen less than in the United States, in part because demand for durable goods in foreign economies appears to have increased relatively less sharply.

### Many foreign central banks are tightening monetary policy or have signaled a future shift in stance

In light of elevated inflation, many policymakers are moving to reduce the significant monetary stimulus undertaken since the start of the pandemic. Several emerging market central banks, including those of Brazil, Korea, and Mexico, have already raised their policy rates because of concerns over the persistence of inflationary pressures.

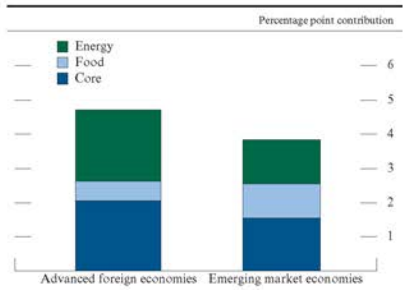
In AFEs, a few central banks, including those of New Zealand, Norway, and the United Kingdom, have started raising their policy rates, and the Bank of Canada has signaled its intention to raise its policy rate soon (figure 42). Others have taken steps to normalize their balance sheet policies: The Bank of Canada, the Bank of England, and the Reserve Bank of Australia have ceased net asset purchases, and the European Central Bank plans to reduce its asset purchases this year. In contrast, the Bank of Japan has communicated that it is not in a rush to tighten policy, noting that measures of

40. Consumer price inflation in selected foreign economies




SOURCE: For the United Kingdom, Office for National Statistics; for the euro area, Statistical Office of the European Communities; for Canada, Statistics Canada; for Mexico, Instituto Nacional de Estadística, Geografía e Informática; for China, China National Bureau of Statistics; all via Haver Analytics.

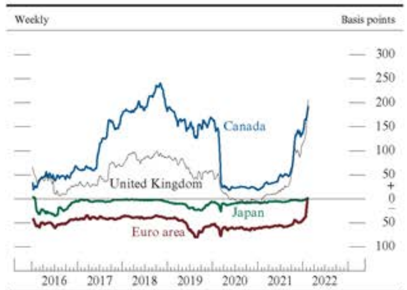
41. Consumer price inflation in foreign economies




NOTE: The advanced foreign economy aggregate is the average of Canada, the euro area, and the United Kingdom, weighted by U.S. goods imports. The emerging market economy aggregate is the average of Argentina, Brazil, Chile, China, Colombia, Hong Kong, India, Israel, Mexico, Russia, Saudi Arabia, Singapore, South Korea, and the 5 original member countries of the Association of Southeast Asian Nations, weighted by U.S. goods imports. The inflation measure is the Harmonised Index of Consumer Prices for the euro area and the consumer price index for other economies. The key identifies bars in order from top to bottom. The data are the Q4-over-Q4 percent change for 2021.

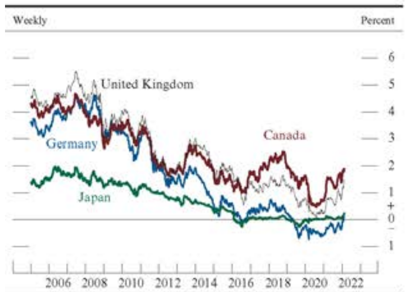
SOURCE: Haver Analytics.

42. 12-month policy expectations for selected advanced foreign economies




NOTE: The data are weekly averages of daily 12-month market-implied central bank policy rates. The 12-month policy rates are implied by quotes on overnight index swaps tied to the policy rates. The data extend through February 18, 2022.
SOURCE: Bloomberg; Federal Reserve Board staff estimations.

43. Nominal 10-year government bond yields in selected advanced foreign economies




NOTE: The data are weekly averages of daily benchmark yields and extend through February 18, 2022.
SOURCE: Bloomberg.

underlying inflation in Japan remain below its 2 percent target.

## Foreign financial conditions tightened some but remain accommodative . . .

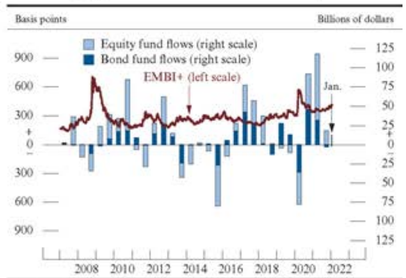
Expectations for faster removal of monetary policy accommodation, amid higher inflation and easing concerns about the pandemic, led to notable increases in sovereign yields in several AFEs (figure 43). Despite expectations for tighter monetary policy, the strength in corporate earnings and reduced concerns about the pandemic have supported AFE equities, which are little changed, on net, since mid-2021.

The change in financial conditions in emerging market economies (EMEs) has been relatively muted despite the shift in advanced-economy monetary policy expectations and increased geopolitical tensions. Net inflows to EME-dedicated funds stepped down and hovered around zero, in contrast with notable outflows during the 2013–14 period, and EME sovereign spreads widened only somewhat (figure 44). In China, solvency problems in the real estate sector and regulatory uncertainty appeared to weigh on stock prices of large Chinese firms listed in Hong Kong, with the Hang Seng Index decreasing notably. Brazilian equity prices also decreased amid political uncertainty, while some other EME stock indexes registered moderate gains. More recently, geopolitical tensions surrounding Russia and Ukraine have led to the underperformance of Eastern European equity indexes.

### . . . and the dollar appreciated moderately on net

The broad dollar index—a measure of the trade-weighted value of the dollar against foreign currencies—has risen modestly since mid-2021 (figure 45). The dollar appreciated against Latin American currencies amid increased political uncertainty in some countries, while it was mixed against Asian EME currencies. The dollar appreciated against many AFE currencies, in part reflecting the more notable increase in the U.S. near-term yields compared with the AFE counterparts.

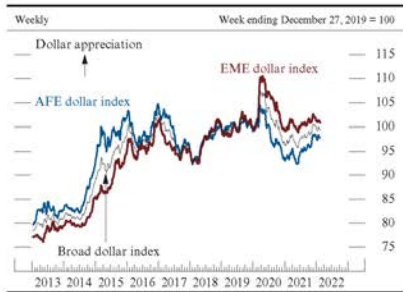
44. Emerging market mutual fund flows and spreads




NOTE: The bond and equity fund flows data are semiannual sums of weekly data from December 28, 2006, to December 29, 2021, and a monthly sum of weekly data from December 30, 2021, to January 26, 2022. Weekly data span Thursday through Wednesday, and the semiannual and monthly values are sums over weekly data for weeks ending in that half year 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, extend through January 28, 2022, and exclude Venezuela.

SOURCE: For bond and equity fund flows, EPFR Global; for EMBI+, J.P. Morgan Emerging Markets Bond Index Plus via Bloomberg.

45. 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 February 18, 2022. 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 has maintained the federal funds rate near zero . . .

The Federal Open Market Committee (FOMC) has been providing forward guidance for the target range for the federal funds rate, indicating that the range would be maintained at 0 to ¼ percent until specific employment and inflation criteria had been met. Consistent with that guidance, the FOMC has maintained the target range for the federal funds rate at 0 to ¼ percent (figure 46). In December, the Committee concluded that the inflation criteria in the forward guidance had been met and the target range would be maintained until labor market conditions had reached levels consistent with the Committee's assessments of maximum employment. In January, the Committee stated that, with inflation well above 2 percent and a strong labor market, it expected it would soon be appropriate to raise the target range for the federal funds rate.

### . . . and the Committee has gradually reduced the monthly pace of its net asset purchases of Treasury securities and agency mortgage-backed securities, which will end in early March

From June 2020 until November 2021, the Federal Reserve had been expanding its holdings of Treasury securities by $80 billion per month and its holdings of agency mortgage-backed securities (MBS) by $40 billion per month. At its November meeting, in light of the substantial further progress the economy had made toward maximum employment and price stability, the Committee decided to reduce the monthly pace of its net asset purchases by $10 billion per month for Treasury securities and by $5 billion per month for agency MBS. At its December meeting, in light of inflation developments and the further improvement in the labor market, the Committee began to reduce the monthly pace of net purchases more rapidly, by

46. 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.

$20 billion per month for Treasury securities and by $10 billion per month for agency MBS. At its January meeting, the Committee decided to continue to reduce the monthly pace of net purchases and conclude net purchases in early March.

### The FOMC will continue to monitor the implications of incoming information for the economic outlook

The Committee will continue to monitor incoming economic data and would be prepared to adjust the stance of monetary policy as appropriate to manage risks that could impede the attainment of its goals. The Committee's assessments will 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. With appropriate policy, inflation is expected to decline over the course of the year as supply constraints ease and demand moderates due to waning effects of fiscal support and the removal of monetary policy accommodation. The FOMC will use its policy tools as appropriate to prevent higher inflation from becoming entrenched while promoting a sustainable expansion and strong labor market.

### The Federal Reserve issued a statement regarding principles for reducing the size of its balance sheet

Following the conclusion of its January meeting, the FOMC issued a set of principles regarding its planned approach for significantly reducing the size of the Federal Reserve's balance sheet.[12] With these principles, the Committee reiterated its view that changes in the target range for the federal funds rate are its primary means of adjusting the stance of monetary policy and conveyed its expectation that reducing the size of the Federal Reserve's balance sheet would occur after the process of increasing the target range for the federal funds rate had begun. The Committee also noted that it would determine the timing and pace of reductions in the size of its balance sheet so as to promote its maximum-employment and price-stability goals and that reductions would occur over time in a predictable manner, primarily by adjusting the amounts reinvested of principal payments received from securities held in the System Open Market Account (SOMA). Furthermore, the FOMC communicated that, over time, it intended to maintain securities holdings in amounts needed to implement monetary policy efficiently and effectively in its ample reserves regime. The Committee also noted that, in the longer run, it intended to hold primarily Treasury securities in the SOMA, thereby minimizing the effect of Federal Reserve holdings on the allocation of credit across sectors of the economy. Finally, the Committee emphasized that it was prepared to adjust any details of its approach in light of economic and financial developments.

### The size of the Federal Reserve's balance sheet continued to grow, although at a diminished pace since November

The Federal Reserve's balance sheet has grown to $8.9 trillion from $8.1 trillion in July, reflecting continued net asset purchases of U.S. Treasury securities and agency mortgage-backed securities to support smooth market functioning and foster accommodative financial conditions, thereby supporting the flow of credit to households and businesses (figure 47). All of the Federal Reserve's emergency credit and liquidity facilities have

12. See the January 26, 2022, press release regarding the Principles for Reducing the Size of the Federal Reserve's Balance Sheet, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20220126c.htm.

been closed for new lending for some time, and the residual outstanding balances at those facilities have continued to decline.[13]

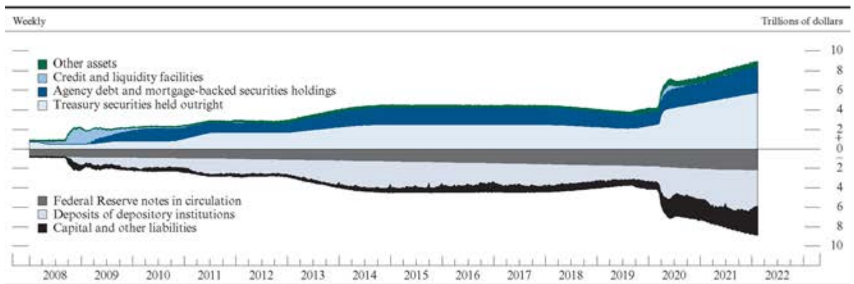
Reserve balances have changed little, on net, since July and stand near $4 trillion. Usage of the overnight reverse repurchase agreement facility increased significantly. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets.")

13. A list of credit and liquidity facilities established by the Federal Reserve in response to COVID-19 is available on the Federal Reserve's website at https://www.federalreserve.gov/funding-credit-liquidity-and-loan-facilities.htm.

### The Federal Reserve established two standing repurchase agreement facilities

In July of last year, the Federal Reserve established a domestic standing repurchase agreement (repo) facility and a standing repo facility for foreign and international monetary authorities. These facilities are intended to serve as backstops in money markets to support the effective implementation of monetary policy and smooth market functioning. The rates for these facilities have been maintained at levels somewhat higher than rates in overnight funding markets, consistent with their intended roles as backstops.

47. Federal Reserve assets and liabilities




NOTE: "Other assets" includes repurchase agreements, FIMA (Foreign and International Monetary Authorities) repurchase agreements, and unamortized premiums and discounts on securities held outright. "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. "Agency debt and mortgage-backed securities holdings" includes agency residential mortgage-backed securities and agency commercial mortgage-backed securities. "Capital and other liabilities" includes reverse repurchase agreements, the U.S. Treasury General Account, and the U.S. Treasury Supplementary Financing Account. The key identifies shaded areas in order from top to bottom. The data extend through February 16, 2022.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

# Developments in the Federal Reserve's Balance Sheet and Money Markets

The size of the Federal Reserve's balance sheet increased from $4.2 trillion before the pandemic to its current level of roughly $8.9 trillion, largely reflecting an increase in System Open Market Account holdings from asset purchases (figure A). As net asset purchases have continued, albeit at a slower pace in recent months, the Federal Reserve's liabilities have also increased (figure B).[1] This discussion reviews recent developments in the size and composition of the Federal Reserve's balance sheet and conditions in money markets.

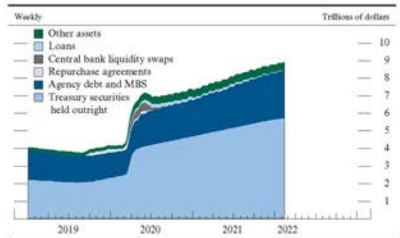
The Federal Reserve's net asset purchases continued at a pace of $120 billion per month from July through October. At its November meeting—in light of the substantial further progress the economy had made toward the Federal Open Market Committee's goals since December 2020—the Committee decided to begin reducing the monthly pace of its net asset purchases by $10 billion per month for Treasury securities and $5 billion per month for agency mortgage-backed securities. At its December meeting—in light of inflation developments and further improvement in the labor market—the Committee decided to double the pace of reductions in its net asset purchases, implying that increases in securities holdings would cease by mid-March. The Federal Reserve's net asset purchases since July 2021 have led to an $813 billion increase in its total assets (figure C).

Federal Reserve liabilities increased in line with changes in its assets. The level of reserve balances was little changed, on net, while other liabilities—most notably the overnight reverse repurchase agreements (ON RRP)—increased substantially. Another Federal

(continued)

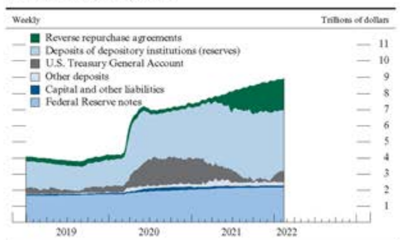
1. For general explanations of several liabilities on the Federal Reserve's bala2nce sheet, see the box "The Role of Liabilities in Determining the Size of the Federal Reserve's Balance Sheet" in Board of Governors of the Federal Reserve System (2019), *Monetary Policy Report* (Washington: Board of Governors, February), pp. 41–43, https://www.federalreserve.gov/monetarypolicy/files/20190222_mprfullreport.pdf.

A. Federal Reserve assets




NOTE: MBS is mortgage-backed securities. The key identifies shaded areas in order from top to bottom. The data extend through February 16, 2022.
SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

B. Federal Reserve liabilities




NOTE: "Capital and other liabilities" includes Treasury contributions. The key identifies shaded areas in order from top to bottom. The data extend through February 16, 2022.
SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

C. Balance sheet comparison

Billions of dollars

| | February 16, 2022 | July 7, 2021 | Change |
|---|---|---|---|
| **Assets** | | | |
| Total securities | | | |
| Treasury securities | 5,739 | 5,202 | 537 |
| Agency debt and MBS | 2,707 | 2,322 | 385 |
| Net unamortized premiums | 350 | 351 | −1 |
| Repurchase agreements | 0 | 0 | 0 |
| Loans and lending facilities | | | |
| PPPLF | 28 | 88 | −60 |
| Other loans and lending facilities | 40 | 72 | −32 |
| Central bank liquidity swaps | 0 | 1 | −1 |
| Other assets | 48 | 61 | −13 |
| **Total assets** | **8,911** | **8,098** | **813** |
| **Liabilities and capital** | | | |
| Federal Reserve notes | 2,185 | 2,139 | 45 |
| Reserves held by depository institutions | 3,797 | 3,856 | −59 |
| Reverse repurchase agreements | | | |
| Foreign official and international accounts | 257 | 264 | −7 |
| Others | 1,644 | 786 | 858 |
| U.S. Treasury General Account | 709 | 725 | −16 |
| Other deposits | 251 | 237 | 14 |
| Other liabilities and capital | 67 | 91 | −24 |
| **Total liabilities and capital** | **8,911** | **8,098** | **813** |

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."

Reserve liability—balances maintained in the Treasury General Account (TGA)—varied significantly over recent months in connection with developments related to the debt limit. The U.S. Treasury lowered its outstanding balance in the TGA from $725 billion in the beginning of July 2021 to a low of $42 billion on December 16, 2021. Following the debt limit resolution on December 16, 2021, which raised the debt limit of the U.S. government, both net Treasury bill issuance and the TGA balance increased to more normal levels.[2]

Money markets continued to function smoothly amid these developments, with ample liquidity putting broad downward pressure on short-term interest rates. In addition, the limited supply of Treasury bills during the debt limit episode pushed bill yields lower. In this environment of ample liquidity, limited Treasury bill supply, and low repurchase agreement rates, the ON RRP facility continued to serve its intended purpose of helping to provide a floor under short-term interest rates and support effective implementation of monetary policy.[3] Usage of the facility has nearly doubled, on average, since early July, primarily driven by greater participation from government money market funds.[4] The ON RRP take-up reached a record high of $1.9 trillion on year-end before retracing to around $1.6 trillion in early January.

2. For details, see U.S. Congress, Senate (2021), "A Joint Resolution Relating to Increasing the Debt Limit," S.J. Res., 117 Cong. *Congressional Record* (daily edition), vol. 167, December 14, pp. S 9134–53, https://www.congress.gov/bill/117th-congress/senate-joint-resolution/33.

3. The ON RRP facility helps keep the effective federal funds rate from falling below the target range set by the Federal Open Market Committee, as institutions with access to the ON RRP should be unwilling to lend funds below the ON RRP's preannounced 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 reserve balances rate in supporting effective monetary policy implementation.

4. 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 raised the per-counterparty cap on ON RRP participation to $160 billion per day from $80 billion at its September 2021 meeting.

# Part 3
## Summary of Economic Projections

*The following material was released after the conclusion of the December 14–15, 2021, meeting of the Federal Open Market Committee.*

In conjunction with the Federal Open Market Committee (FOMC) meeting held on December 14–15, 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 2024 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, December 2021

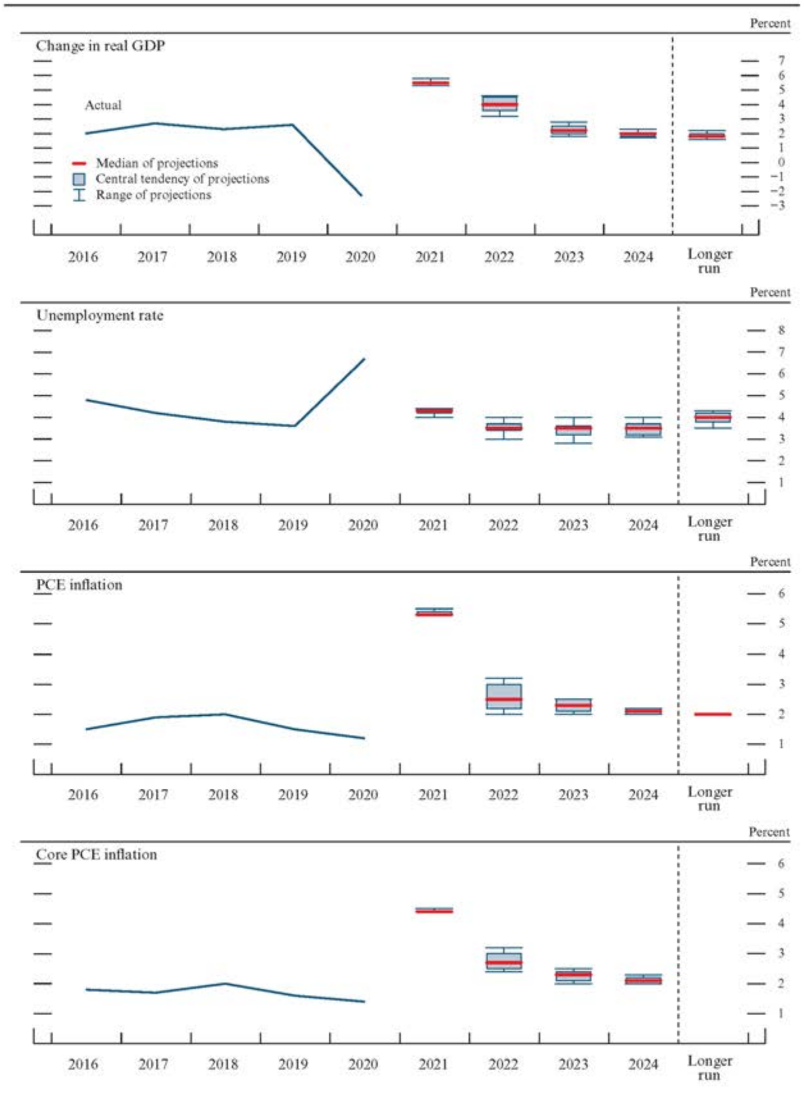
Percent

| Variable | Median[1] | | | | | Central tendency[2] | | | | | Range[3] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2021 | 2022 | 2023 | 2024 | Longer run | 2021 | 2022 | 2023 | 2024 | Longer run | 2021 | 2022 | 2023 | 2024 | Longer run |
| Change in real GDP .... | 5.5 | 4.0 | 2.2 | 2.0 | 1.8 | 5.5 | 3.6–4.5 | 2.0–2.5 | 1.8–2.0 | 1.8–2.0 | 5.3–5.8 | 3.2–4.6 | 1.8–2.8 | 1.7–2.3 | 1.6–2.2 |
| September projection | 5.9 | 3.8 | 2.5 | 2.0 | 1.8 | 5.8–6.0 | 3.4–4.5 | 2.2–2.5 | 2.0–2.2 | 1.8–2.0 | 5.5–6.3 | 3.1–4.9 | 1.8–3.0 | 1.8–2.5 | 1.6–2.2 |
| Unemployment rate..... | 4.3 | 3.5 | 3.5 | 3.5 | 4.0 | 4.2–4.3 | 3.4–3.7 | 3.2–3.6 | 3.2–3.7 | 3.8–4.2 | 4.0–4.4 | 3.0–4.0 | 2.8–4.0 | 3.1–4.0 | 3.5–4.3 |
| September projection | 4.8 | 3.8 | 3.5 | 3.5 | 4.0 | 4.6–4.8 | 3.6–4.0 | 3.3–3.7 | 3.3–3.6 | 3.8–4.3 | 4.5–5.1 | 3.0–4.0 | 2.8–4.0 | 3.0–4.0 | 3.5–4.5 |
| PCE inflation.......... | 5.3 | 2.6 | 2.3 | 2.1 | 2.0 | 5.3–5.4 | 2.2–3.0 | 2.1–2.5 | 2.0–2.2 | 2.0 | 5.3–5.5 | 2.0–3.2 | 2.0–2.5 | 2.0–2.2 | 2.0 |
| September projection | 4.2 | 2.2 | 2.2 | 2.1 | 2.0 | 4.0–4.3 | 2.0–2.5 | 2.0–2.3 | 2.0–2.2 | 2.0 | 3.4–4.4 | 1.7–3.0 | 1.9–2.4 | 2.0–2.3 | 2.0 |
| Core PCE inflation[4]..... | 4.4 | 2.7 | 2.3 | 2.1 | | 4.4 | 2.5–3.0 | 2.1–2.4 | 2.0–2.2 | | 4.4–4.5 | 2.4–3.2 | 2.0–2.5 | 2.0–2.3 | |
| September projection | 3.7 | 2.3 | 2.2 | 2.1 | | 3.6–3.8 | 2.0–2.5 | 2.0–2.3 | 2.0–2.2 | | 3.5–4.2 | 1.9–2.8 | 2.0–2.3 | 2.0–2.4 | |
| Memo: Projected appropriate policy path | | | | | | | | | | | | | | | |
| Federal funds rate...... | 0.1 | 0.9 | 1.6 | 2.1 | 2.5 | 0.1 | 0.6–0.9 | 1.4–1.9 | 1.9–2.9 | 2.3–2.5 | 0.1 | 0.4–1.1 | 1.1–2.1 | 1.9–3.1 | 2.0–3.0 |
| September projection | 0.1 | 0.3 | 1.0 | 1.8 | 2.5 | 0.1 | 0.1–0.4 | 0.4–1.1 | 0.9–2.1 | 2.3–2.5 | 0.1 | 0.1–0.6 | 0.1–1.6 | 0.6–2.6 | 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 September projections were made in conjunction with the meeting of the Federal Open Market Committee on September 21–22, 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 September 21–22, 2021, meeting, and one participant did not submit such projections in conjunction with the December 14–15, 2021, meeting.

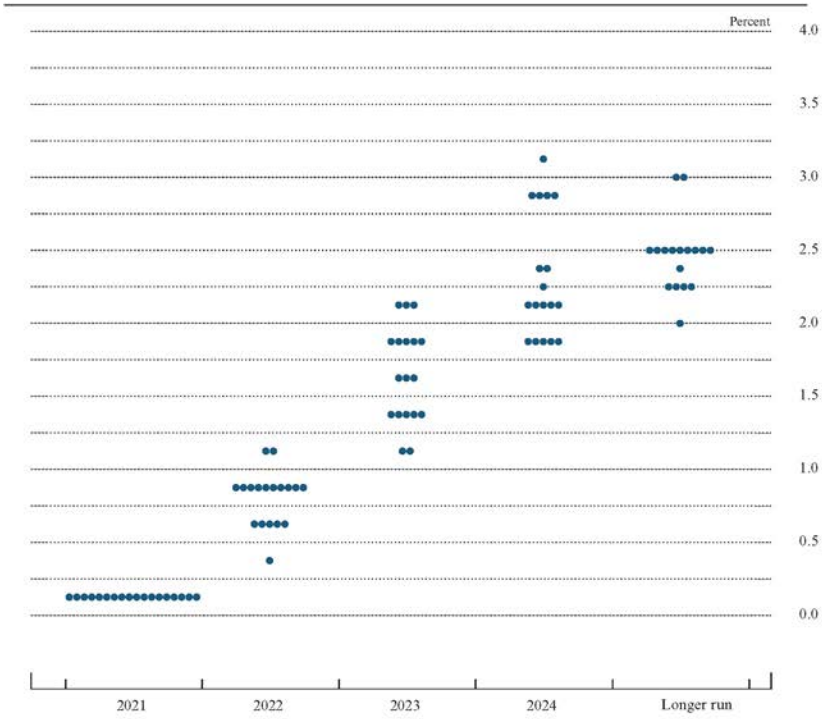
1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable 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, 2021–24 and over the longer run



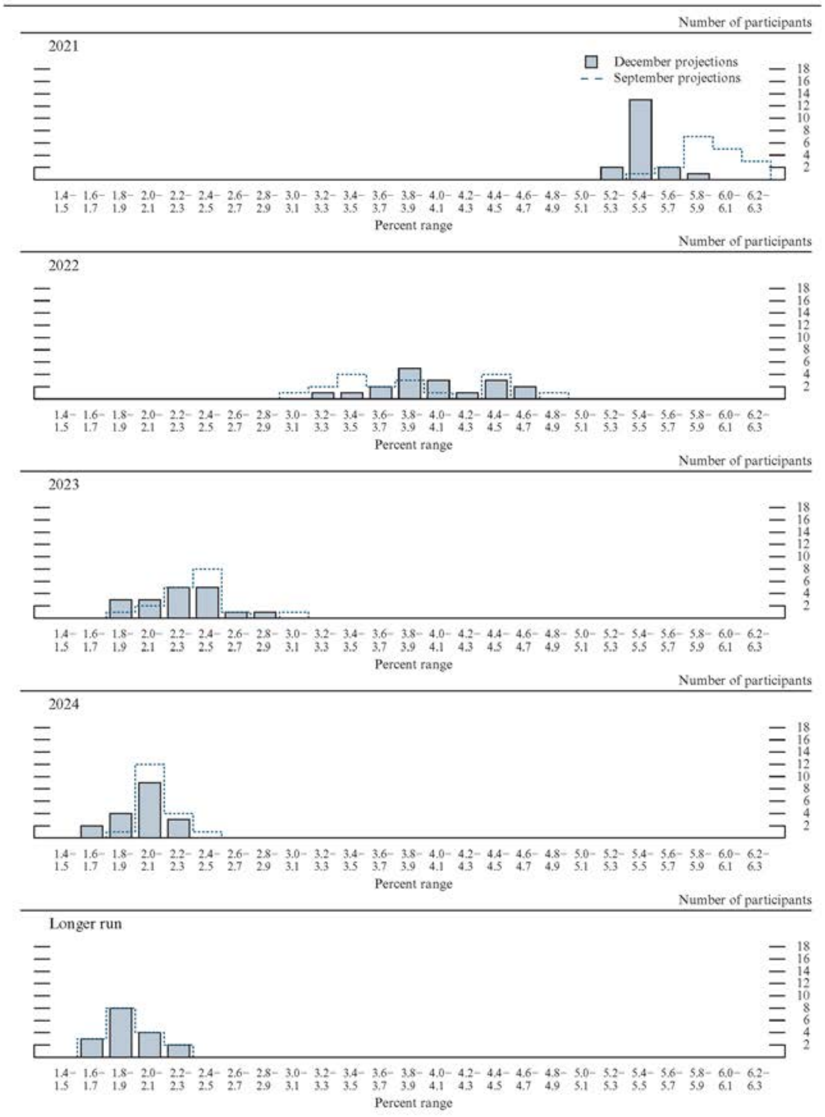

NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



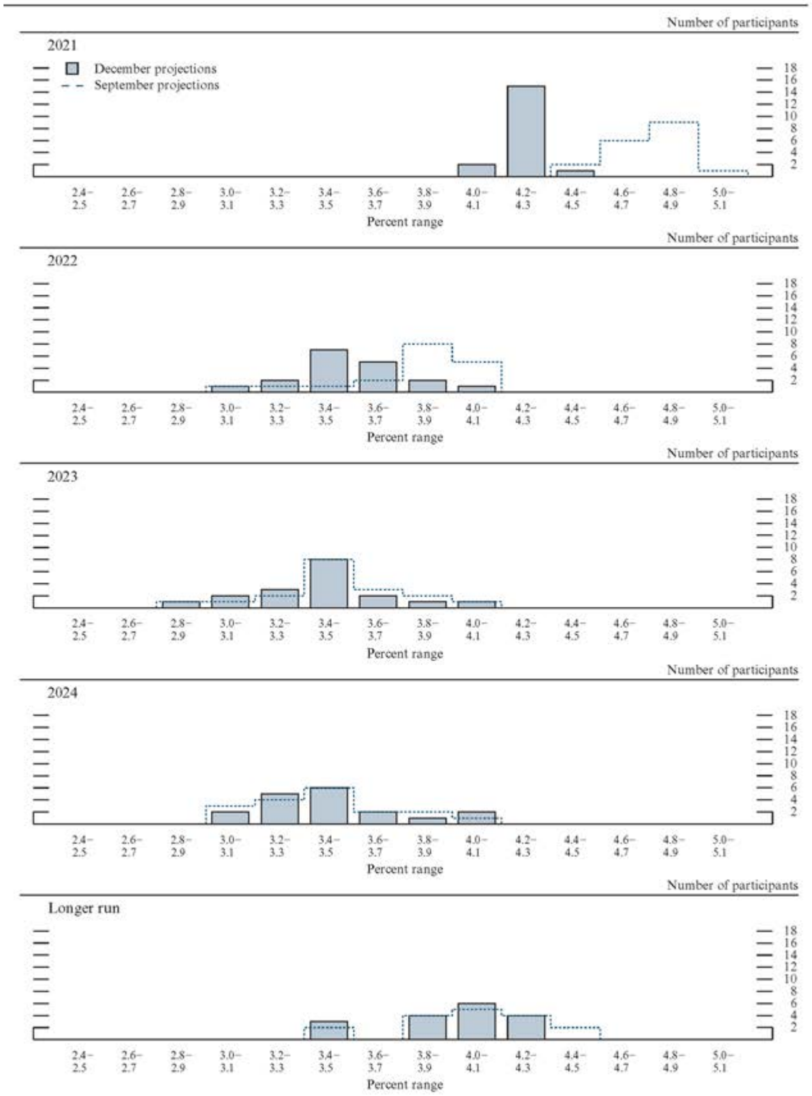

NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar 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, 2021–24 and over the longer run



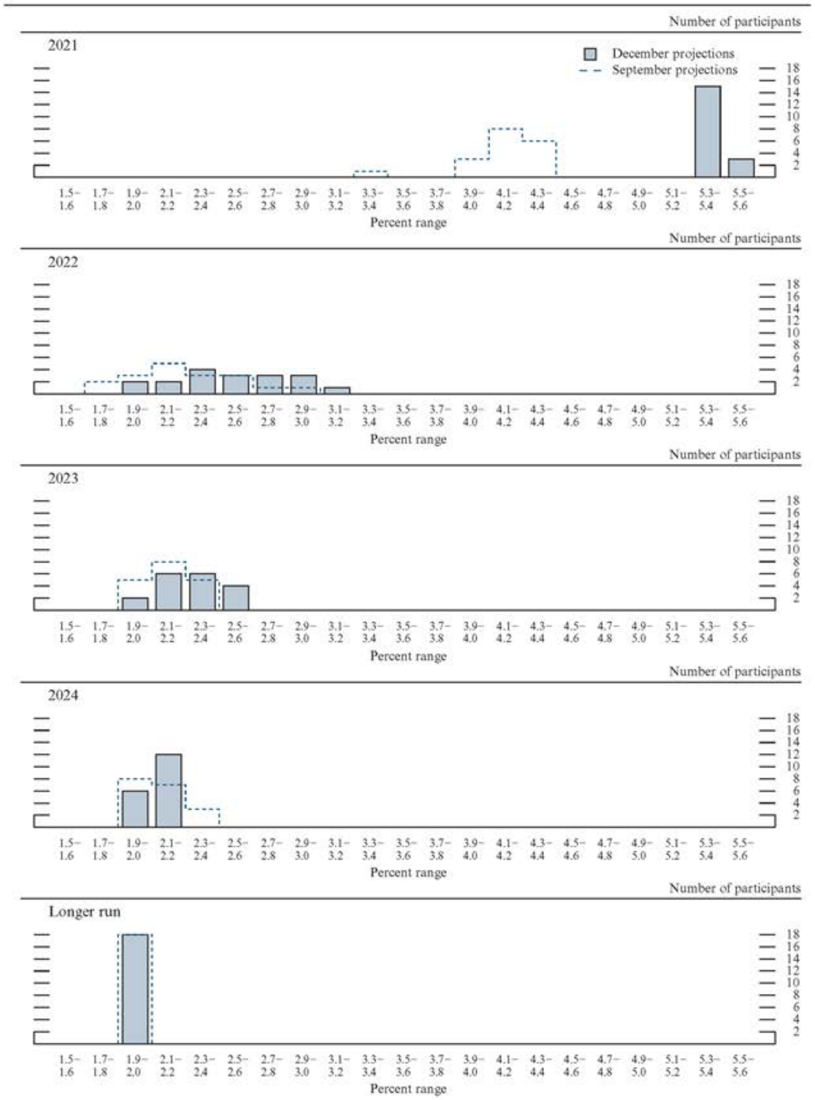

Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2021–24 and over the longer run



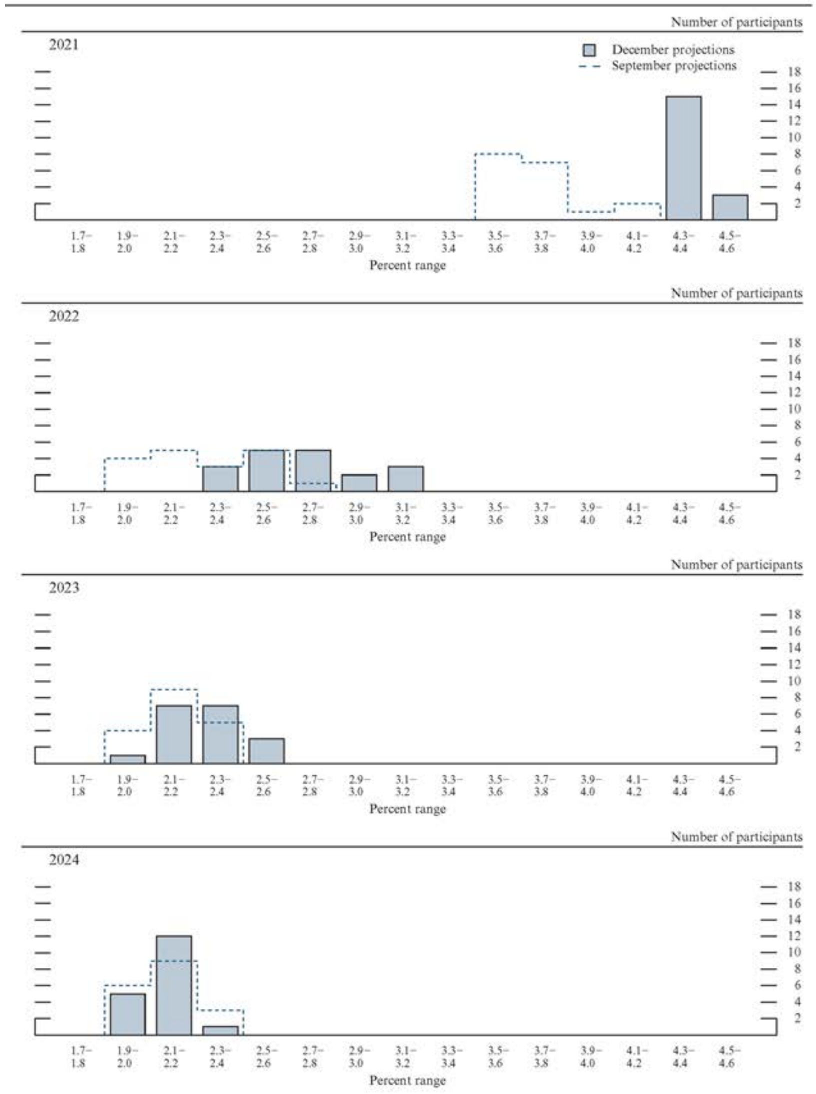

NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2021–24 and over the longer run



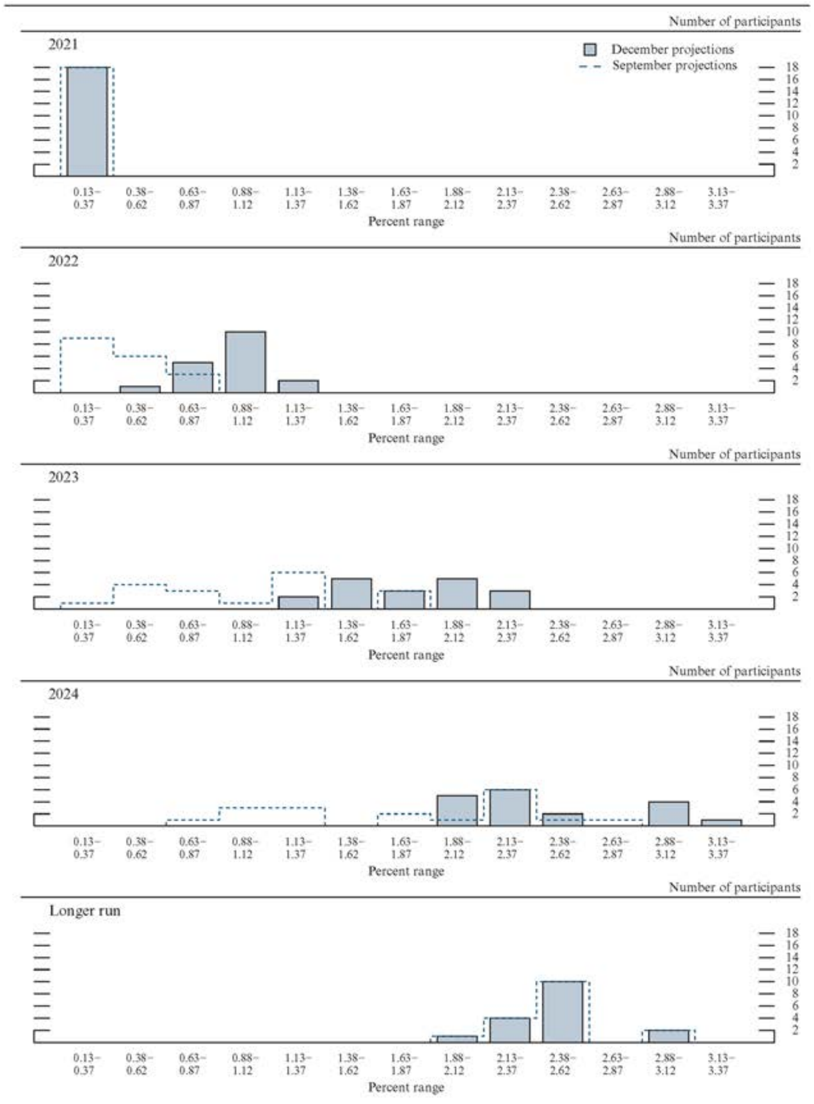

NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2021–24



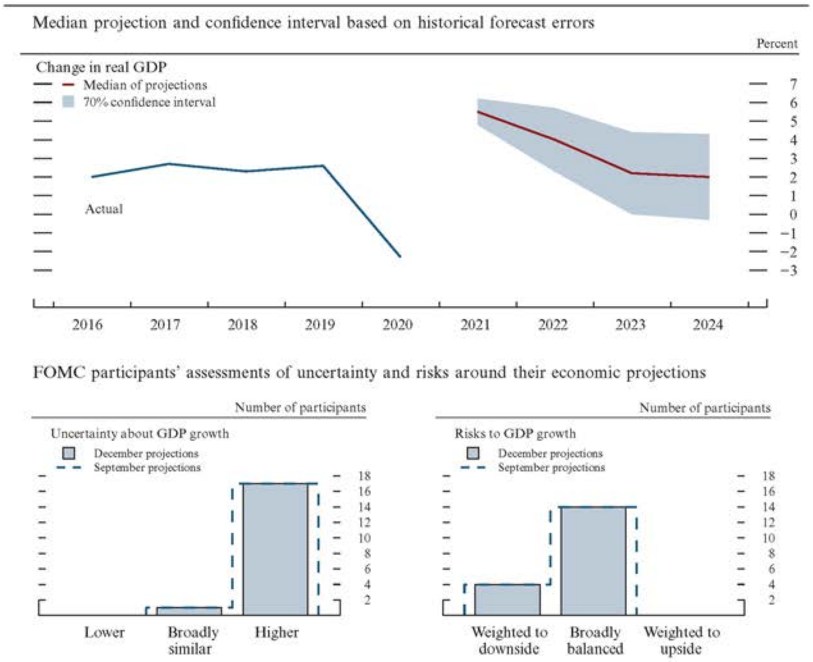

NOTE: Definitions of variables and other explanations are in the notes to table 1.

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, 2021–24 and over the longer run



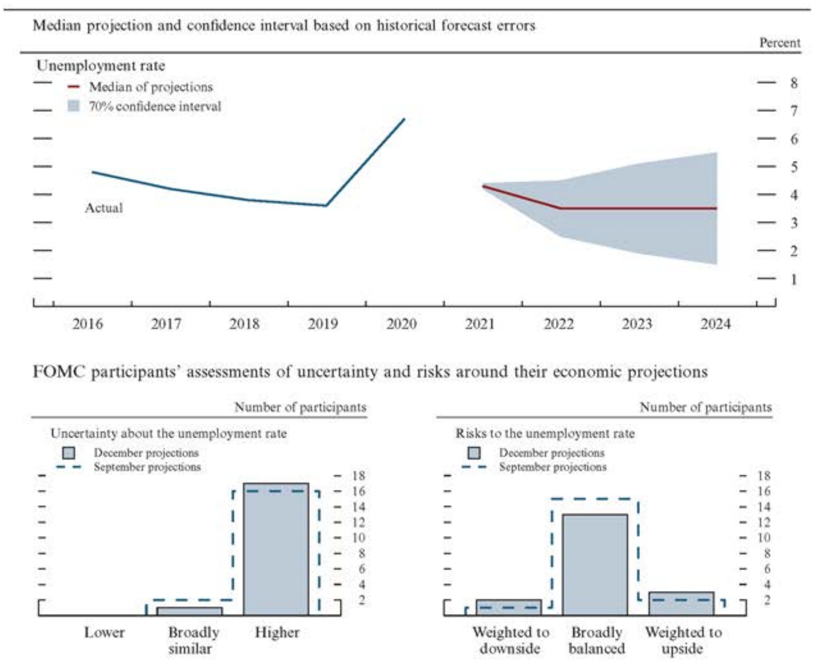

NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 4.A. Uncertainty and risks in projections of GDP growth



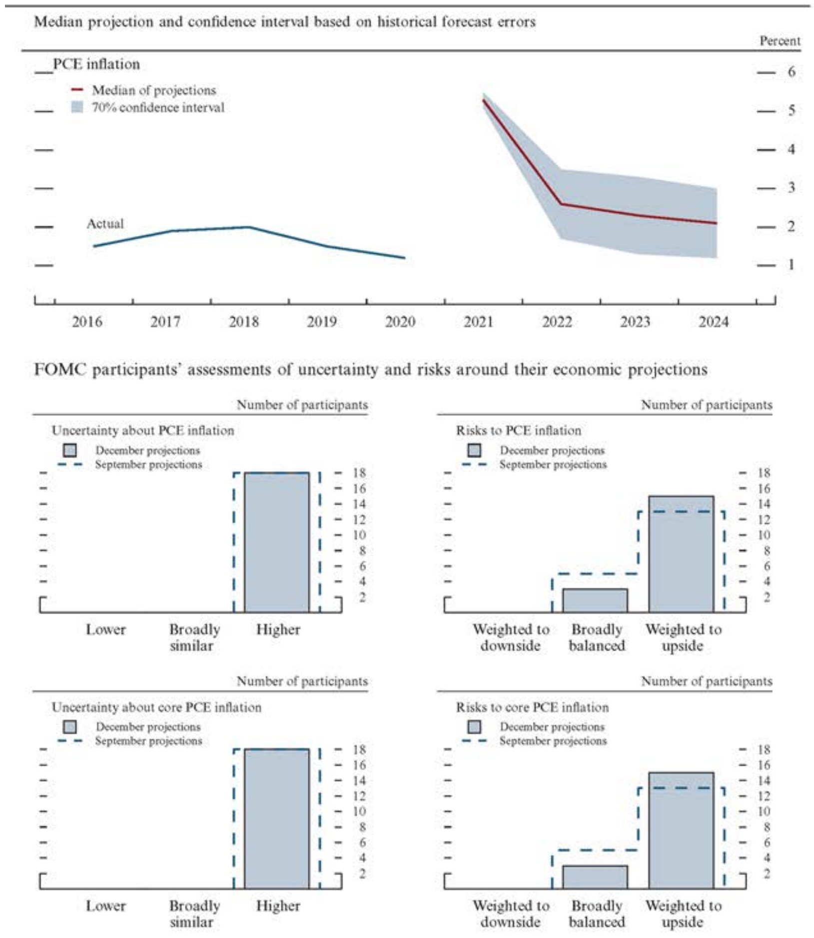

NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in real gross domestic product (GDP) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected 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



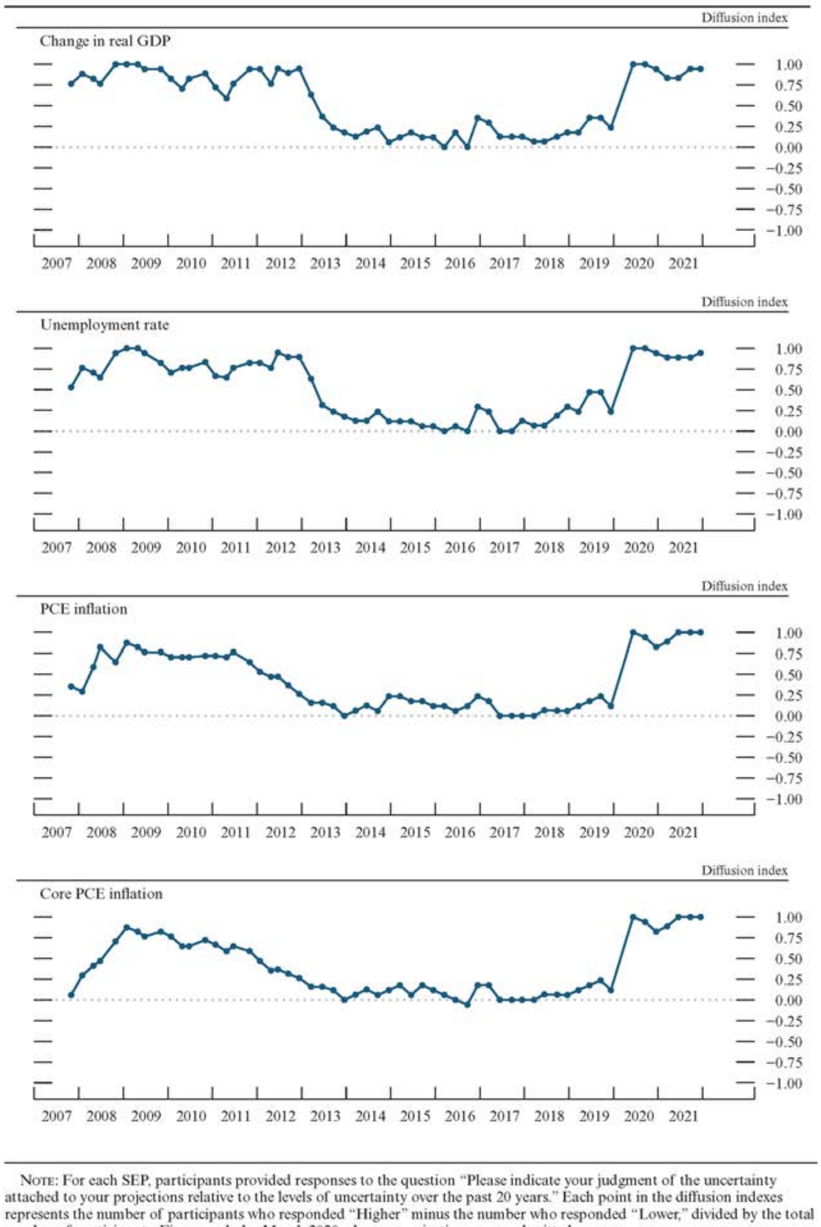

Note: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root 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



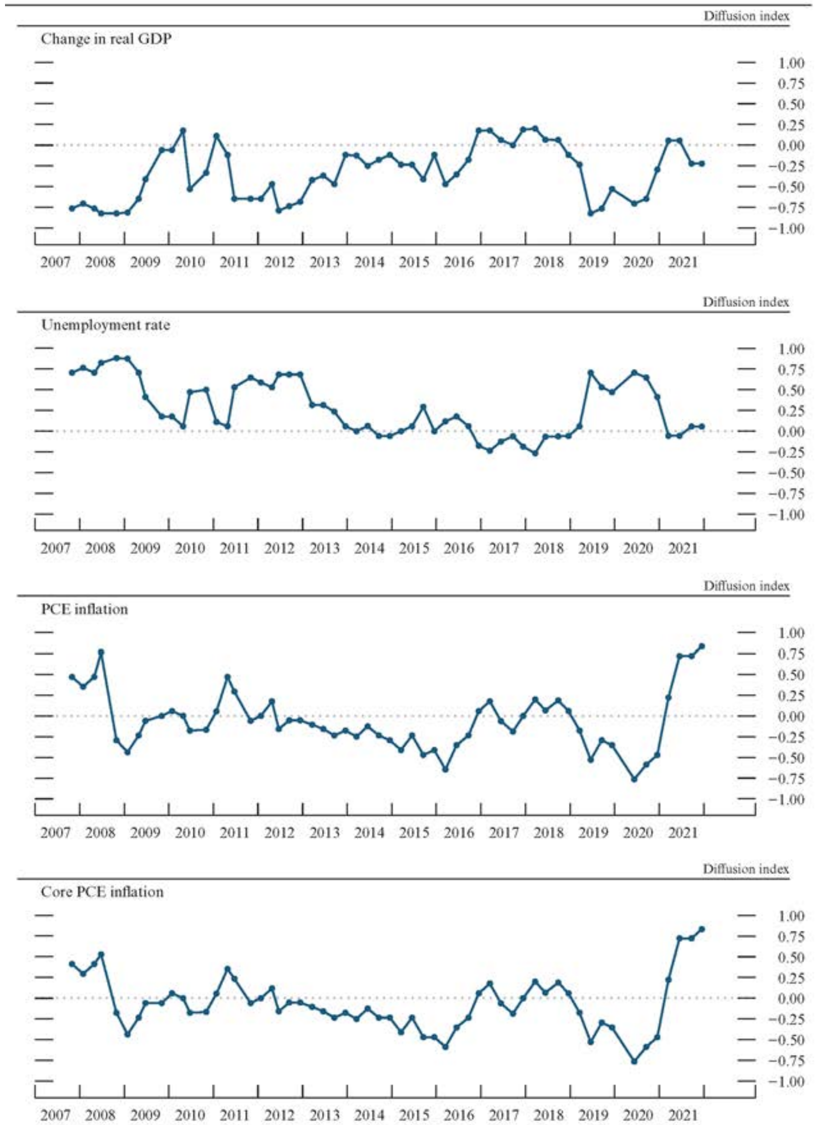

NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in the price index for personal consumption expenditures (PCE) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval 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



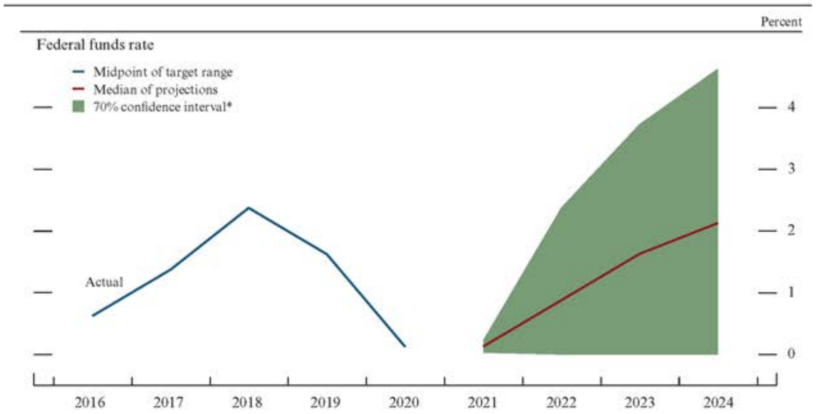

NOTE: For each SEP, participants provided responses to the question "Please indicate your judgment of the uncertainty attached to your projections relative to the levels of uncertainty over the past 20 years." Each point in the diffusion indexes represents the number of participants who responded "Higher" 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 offset 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 | 2024 |
|---|---|---|---|---|
| Change in real GDP[1] . . . . . . | ±0.7 | ±1.7 | ±2.2 | ±2.3 |
| Unemployment rate[1] . . . . . . | ±0.1 | ±1.0 | ±1.6 | ±2.0 |
| Total consumer prices[2] . . . . | ±0.2 | ±0.9 | ±1.0 | ±0.9 |
| Short-term interest rates[3] . . | ±0.1 | ±1.5 | ±2.1 | ±2.5 |

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 winter 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 Reifschneider 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 2.3 to 3.7 percent in the current year, 1.3 to 4.7 percent in the second year, 0.8 to 5.2 percent in the third year, and 0.7 to 5.3 percent in the fourth year. The corresponding 70 percent confidence intervals for overall inflation would be 1.8 to 2.2 percent in the current year, 1.1 to 2.9 percent in the second year, 1.0 to 3.0 percent in the third year, and 1.1 to 2.9 percent in the fourth year. 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'

*(continued)*

current assessments of the uncertainty surrounding their projections are summarized in the bottom-left panels 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.

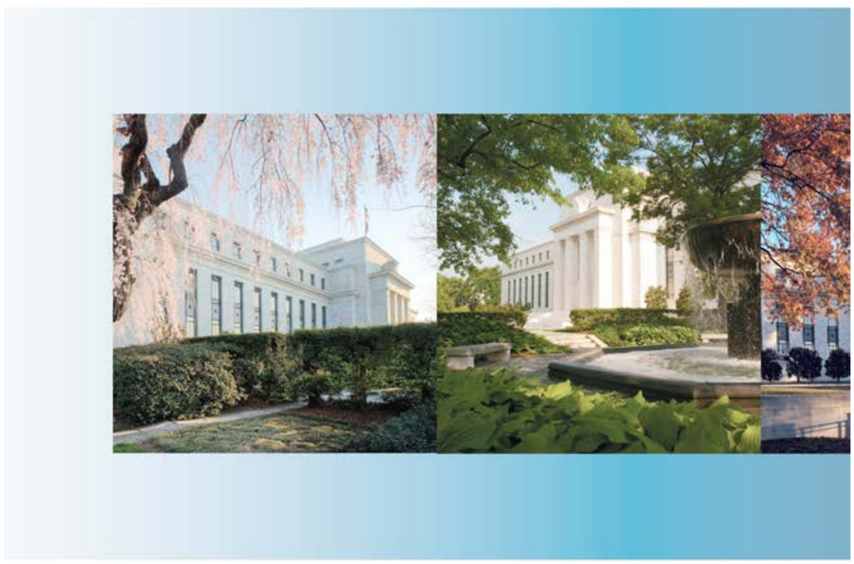
As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity 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 |
| ARM | adjustable-rate mortgage |
| BLS | Bureau of Labor Statistics |
| CCP | central counterparty |
| CIE | common inflation expectations |
| COVID-19 | coronavirus disease 2019 |
| CPI | consumer price index |
| CPS | Current Population Survey |
| EME | emerging market economy |
| FOMC | Federal Open Market Committee; also, the Committee |
| 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 |
| PPP | Paycheck Protection Program |
| repo | repurchase agreement |
| SEC | Securities and Exchange Commission |
| SOFR | Secured Overnight Financing Rate |
| SOMA | System Open Market Account |
| S&P | Standard & Poor's |
| TGA | Treasury General Account |
| TIPS | Treasury Inflation-Protected Securities |
| USD | U.S. dollar |
| 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

June 22, 2022

The Honorable Blaine Luetkemeyer
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the March 2, 2022,[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,

Jerome H. Powell

Enclosure

[1] Questions for the record related to this hearing were received on April 4, 2022.

**<u>Questions for The Honorable Jerome H. Powell, Chair Pro Tempore, Board of Governors of the Federal Reserve System, from Representative Luetkemeyer:</u>**

1. **Chairman Powell: What mechanism, if any, does the Fed have to issue a blanket moratorium on bank mergers or otherwise halt the processing of bank merger applications independent of new congressional action?**

   **Suppose the Federal Reserve chose to stop processing merger applications absent further congressional action. Wouldn't the provisions of the Bank Holding Company Act require that the applications be deemed approved following the statutory 91-day completion period?**

The Federal Reserve does not have the authority to impose a blanket moratorium on bank mergers or otherwise stop processing bank merger applications. The Federal Reserve is subject to statutory timelines in acting on bank merger proposals and cannot unilaterally suspend these timelines. As noted in your question, an application filed under section 3 of the Bank Holding Company Act (BHC Act) would be deemed approved if the Federal Reserve failed to act on the application within the 91-day period that begins on the date of submission of the "complete record," as defined in section 225.16(f)(2) of Regulation Y. Similar requirements apply to merger proposals filed under section 4 of the BHC Act and section 10 of the Home Owners' Loan Act.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 22, 2022

The Honorable Nydia M. Velázquez
House of Representatives
Washington, D.C. 20515

Dear Congresswoman:

Enclosed are my responses to the questions you submitted following the March 2, 2022,[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,

Jerome H. Powell

Enclosure

[1] Questions for the record related to this hearing were received on April 4, 2022.

**Questions for The Honorable Jerome H. Powell, Chair Pro Tempore, Board of Governors of the Federal Reserve System, from Representative Velázquez:**

1. **Chair Powell, as illustrated by the recent release of the President's Working Group report on stablecoins, federal regulators are ramping up consideration of proposals on how best to regulate the cryptocurrency industry. State regulators have had regulatory and supervisory authority over the industry since its inception and have enhanced their efforts at better state coordination to enhance supervision. How do you think federal regulators can better coordinate with states to enhance oversight of cryptocurrency and ensure more efficient supervision?**

The Federal Reserve is working to understand better the risks associated with crypto-asset-related activities and to develop an appropriate, coordinated response. As part of that effort, the Federal Reserve is working closely with both federal and state financial regulators.

The Federal Reserve recognizes that state regulators have an important role to play in regulating and supervising crypto-asset-related activities. Federal Reserve staff routinely meet and coordinate with our state counterparts as well as staff from the Conference of State Bank Supervisors (CSBS), on matters related to crypto-asset activities. Moreover, the Board of Governors (Board) routinely meet with state regulatory bodies and senior leaders at the CSBS as well as to discuss efforts to coordinate on a variety of issues, including crypto-assets. In addition, Federal Reserve Board staff has been meeting with staff from the CSBS to keep them apprised of related work.

2. **Chair Powell, the reach of the recent Solar Winds cyber event illustrates that threats like this do not care about agency or state or federal jurisdiction. What is the Fed doing to combat cybersecurity and how you are coordinating with your state and federal counterparts to combat cyber threats?**

I view the cybersecurity of the financial system as a high priority and see significant benefits to coordinating closely on these matters with our state and federal counterparts, as well as with private organizations working to strengthen the security of the financial sector. As discussed in greater detail in the Board's Cybersecurity and Financial System Resilience Report to Congress,[2] we focus on cybersecurity risks and the operational resilience of financial institutions and the broader financial system through supervision, regulation, and intra-governmental coordination.

Federal Reserve examiners regularly conduct examinations and monitoring of cyber risk management, governance, and controls at supervised institutions. Supervision activities in this area promote the resilience of the financial system to protect against cyber incidents and other hazards, safeguard critical infrastructure, and address emerging technology risks. The Federal Reserve coordinates with other state and federal regulators, as appropriate, when conducting its supervisory activities.

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[2] *See* https://www.federalreserve.gov/publications/files/cybersecurity-report-202109.pdf.

The Board issues and publishes rules and guidance for supervised institutions regarding IT, cybersecurity, operational resilience, and other related topics.[3] The Board and other regulatory agencies also publish interagency guidance on various aspects of information security risk within the financial services sector. In November of 2021, the Board, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency jointly issued a final rule on computer-security incident notification requirements for banking organizations and their bank service providers.[4] The requirements in the final rule are intended to promote early awareness of emerging threats to banking organizations and the broader financial system.

The Board closely coordinates with other domestic and international agencies, governance bodies, and financial regulators to share information and best practices as well as publish guidance for regulated entities. The Board is a member of the President's Working Group on Financial Markets (PWG), whose mission is to enhance the integrity, efficiency, orderliness, and competitiveness of the nation's financial markets and their ability to maintain investor confidence. A significant part of this mission is related to cyber and other operational risks. The Board has actively contributed to the group, including recent cyber initiatives such as studying vulnerabilities across the financial services sector and participating in principal- and senior staff-level cyber exercises. The Board is also a member of the Financial and Banking Information Infrastructure Committee (FBIIC), which is chartered under the PWG. The FBIIC coordinates and shares information among its state and federal members with respect to security issues that may impact the financial services sector and has established protocols to respond to incidents affecting institutions supervised by FBIIC members. In addition, as a member of the Federal Financial Institutions Examination Council (FFIEC), which is an interagency body that promotes uniformity and consistency in the examination of financial institutions across its members, the Board actively coordinates with FFIEC members on cybersecurity risk management issues.

The Board also participates in various industry-led initiatives to enhance cybersecurity risk management. For example, the Board is a member of the Financial Services Information Sharing and Analysis Center (FS-ISAC), the global financial industry's resource for cyber and physical threat intelligence analysis and sharing. The Board encourages its supervised institutions to incorporate threat monitoring programs and participate in information sharing organizations such as the FS-ISAC.

Through the FBIIC, the Board also coordinates with the Financial Services Sector Coordinating Council, a nonprofit body composed of over 70 members from across the financial services industry whose mission is to strengthen the resiliency of the financial services sector. This partnership focuses on improving the financial services sector's ability to rapidly respond to and recover from significant cybersecurity incidents, thereby reducing the potential for such incidents to threaten the stability of the financial system and the broader economy.

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[3] *See* "Information Technology Guidance," Board of Governors of the Federal Reserve System, https://www.federalreserve.gov/supervisionreg/topics/information-technology-guidance.htm.

[4] *See* "Computer-Security Incident Notification Requirements for Banking Organizations and Their Bank Service Providers," 86 Fed. Reg. 66424 (Nov. 23, 2021), https://www.federalregister.gov/documents/2021/11/23/2021-25510/computer-security-incident-notification-requirements-for-banking-organizations-and-their-bank.

**3. Chair Powell, recently the Fed published its 2022 Small Business Credit Survey. Among other things, the report found that small business applicants that used online lenders for their financing needs reported more challenges with their lenders than did applicants at other sources. The top challenges faced by borrowers from online lenders were high interest rates and unfavorable repayment terms. Can you explain the report's findings and what it could mean for small businesses that utilize online lenders to satisfy their financing needs?**

The Board has been monitoring developments in the small business online lending industry since its emergence after the 2008 financial crisis. While the industry is small relative to the entirety of funding for small businesses, these lenders have become an important part of the credit landscape, especially for small firms. Moreover, the industry is of interest to the Board as online lenders may have expanded access to credit and spurred cooperative relationships with and competitive responses from traditional banks.

The industry consists of various types of nonbank lenders offering products ranging from lines of credit and term loans structured much like those from traditional banks, with fixed rates and monthly payments, to short-term products that are paid weekly or through a set percentage of the business's daily sales receipts.[5] Online lenders use a wide range of terminology to express the cost of money, such as "interest," "simple annual interest," "cents on the dollar," "fee," "factor rate," or as part of a "lump sum repayment."

As noted in your question, the Federal Reserve System collects and disseminates information on small business credit through its annual Small Business Credit Survey (SBCS).[6] The SBCS is a national survey, conducted since 2016, that gathers information from small businesses on credit needs and financing, and provides their perspectives on borrowing experiences—including outcomes, satisfaction, and challenges with both bank and nonbank lenders.

The share of small businesses applying for credit from online lenders has increased in the past year, rising from 20 percent in the 2020 survey to 23 percent in 2021.[7] Certain segments of small businesses were more likely to apply. Smaller firms—those with less than $1 million in annual revenues—applied at higher rates to online lenders. In addition, more than half (58 percent) of high-risk applicants across all firms surveyed sought financing from an online lender, compared to 43 percent that applied to a large bank and 30 percent to a small bank. Small businesses owned by people of color also were more likely to turn to online lenders, with 33 percent of Black-owned- and 29 percent of Hispanic-owned-applicant firms, respectively,

[5] An example of the latter is a Merchant Cash Advance product (MCA) in which a $50,000 advance is provided to a business, which then repays $60,000 through 10 percent automatic draws from its daily credit card receipts.

[6] SBCS survey respondents are firms with fewer than 500 employees. A description of the methodology and full set of reports are available at https://www.fedsmallbusiness.org/. Note, report was reissued on May 6, 2022, to reflect data revisions.

[7] *See* 2022 Small Business Credit Survey Report on Employer Firms at https://www.fedsmallbusiness.org/medialibrary/FedSmallBusiness/files/2021/2022-sbcs-employer-firms-report, (May 6, 2022, version), p. 20. This application rate is specific to traditional financing, so it excludes applications for the Paycheck Protection Program (PPP). The survey found a drop in the online lender application rate in 2020 (from 33 percent in 2019 to 20 percent), which was likely driven by the change in the mix of products early in the pandemic as lenders paused their short-term loan/line-of-credit products and focused on PPP instead.

applying with these lenders compared to 22 percent of white-owned-applicant firms.[8] Consistent responses from past years' surveys indicate that many of these firms turned to online lenders because they believed that was where they were most likely to be approved and because they expected their application would be processed quickly.[9]

Of applicant firms that were approved for at least some financing, small-bank applicants were consistently most satisfied with their experiences, while online-lender applicants were least satisfied. Net satisfaction rates (share satisfied minus share dissatisfied) with small and large banks have held fairly constant over time, while online lender net satisfaction rates have dropped sharply. On net, in 2017, 73 percent and 49 percent of employer firms reported satisfaction with small and large banks, respectively, while 35 percent reported satisfaction with online lenders.[10] By 2021, net satisfaction rates were 70 percent and 54 percent among small and large bank applicants, respectively, but only 5 percent among online lender applicants.[11]

In 2021, applicants reported more challenges with online lenders than with other sources.[12] As noted in your question, high interest rates and unfavorable repayment terms were the top challenges, at 49 percent and 36 percent, respectively. This finding is consistent with prior years' surveys. Since 2017, high interest rates have been the top challenge, reported by roughly one-half of online lender applicants, followed by unfavorable repayment terms, selected by about one third of applicants.[13]

High-credit-risk firms were more likely to report challenges with high interest rates across lenders than were low-credit-risk firms—a finding that is unsurprising, as high-risk firms are typically charged higher rates because of their risk profile. More than half of these high-risk applicants cited high interest rates at online lenders as a challenge, compared to roughly one-third at large banks and less than half at small banks. It is also the case that even low-risk firms—that is, firms with high credit scores—were more than twice as likely to report interest rate challenges at online lenders (40 percent) than at large or small banks (19 percent and 14 percent, respectively), suggesting that concerns about interest rates and repayment terms may not solely reflect their applicants' risk profiles.[14]

To shed light on why high interest rates and repayment terms were broadly cited as challenges with online lenders in the SBCS, the Board together with the Federal Reserve Bank of Cleveland conducted qualitative studies with 86 prospective or actual small business credit applicants.[15] In

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[8] *See* 2022 Small Business Credit Survey Report on Employer Firms, Data Appendix, "Race/ethnicity of owners" tab.

[9] *See* 2020 Small Business Credit Survey Report on Employer Firms, p. 16.

[10] *See* 2018 Small Business Credit Survey Report on Employer Firms, p.14.

[11] *See* 2022 Small Business Credit Survey Report on Employer Firms, p. 22.

[12] *See* 2022 Small Business Credit Survey Report on Employer Firms, p. 23.

[13] Questions on challenges with lenders were not included in the 2020 SBCS.

[14] *See* 2022 Small Business Credit Survey Report on Employer Firms, Data Appendix, "Credit risk" tab.

[15] Federal Reserve System: "Alternative Lending through the Eyes of 'Mom-and-Pop' Small-Business Owners" (2015) at https://www.clevelandfed.org/newsroom-and-events/publications/special-reports/sr-20150825-alternative-lending-through-the-eyes-of-mom-and-pop-small-business-owners.aspx. Participants in this study were prospective borrowers. Participants in the following studies had sought credit in the previous 12 months: "Browsing to Borrow: 'Mom & Pop' Small Business Perspectives on Online Lenders" (2018) at

a simulated credit-shopping exercise, participants viewed online lender websites and sample credit products and were asked about their understanding of the products' costs and features.

The Board appreciates the importance monitoring developments in this space and are committed to continuing our work going forward.

https://www.federalreserve.gov/publications/files/2018-small-business-lending.pdf, and "Uncertain Terms: What Small Business Borrowers Find When Browsing Online Lender websites (2019) at https://www.federalreserve.gov/publications/files/what-small-business-borrowers-find-when-browsing-online-lender-websites.pdf.