THE FEDERAL RESERVE'S SEMI-ANNUAL MONETARY POLICY REPORT

HEARING

BEFORE THE

COMMITTEE ON FINANCIAL SERVICES

U.S. HOUSE OF REPRESENTATIVES

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THE FEDERAL RESERVE'S SEMI-ANNUAL MONETARY POLICY REPORT

Wednesday, March 8, 2023

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

The committee met, pursuant to notice, at 10:03 a.m., in room 2128, Rayburn House Office Building, Hon. Patrick McHenry [chairman of the committee] presiding.

Members present: Representatives McHenry, Lucas, Sessions, Posey, Luetkemeyer, Huizenga, Wagner, Barr, Williams of Texas, Hill, Emmer, Loudermilk, Mooney, Davidson, Rose, Steil, Timmons, Norman, Meuser, Fitzgerald, Garbarino, Kim, Donalds, Flood, Lawler, Nunn, De La Cruz, Houchin, Ogles; Waters, Sherman, Scott, Lynch, Green, Himes, Foster, Beatty, Vargas, Gottheimer, Gonzalez, Casten, Pressley, Horsford, Tlaib, Garcia, Williams of Georgia, Nickel, and Pettersen.

Chairman MCHENRY. The Financial Services Committee will come to order.

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

Today's hearing is entitled, "The Federal Reserve's Semi-Annual Monetary Policy Report."

And I will note at the outset that this hearing has a hard stop of 1 p.m., which is traditional for the Fed Chair, and we intend to strictly observe that.

I now recognize myself for 4 minutes to give an opening statement.

Thank you, Chairman Powell, for your testimony today. This week, you stated that the Fed will, "stay the course until the job is done," and that job is to restore price stability. This is positive. But you know as well as I do that you are facing a very strong headwind from the political left. Democrats are pressuring the Fed to stray from its narrow mandate. It is a page out of their same old progressive playbook. When they don't have the votes to achieve something here in Congress, they turn to regulators, and now, Chair Powell, they are looking at you and the Federal Reserve. President Biden's kowtow into the far left is what got us into this inflationary mess. I urge you to reject the idealogues who put their social agenda ahead of economic prosperity.

High prices continue to eat away at workers' wages and retirees' incomes. Since President Biden took office, we have experienced inflation rates not seen since the late 1970s and early 1980s. Inflation rapidly accelerated after Democrats passed their so-called

American Rescue Plan, which poured nearly $2 trillion of inflationary fuel into the economy. By June of last year, the Consumer Price Index (CPI) showed that inflation skyrocketed from below 2 percent to nearly 9 percent, and personal consumption expenditures, the Fed's preferred measure of consumer prices, ballooned to 7 percent. Instead of being rescued by Democrats, Americans were punished with pain at the grocery store and sticker shock at the pump. While inflation is below its mid-2022 peak, it is persisting at rates well above the Fed's target. It remains broad-based and continues to hammer Americans' pocketbooks. In fact, a recent Gallup poll shows that half of the respondents say they are worse off financially than they were a year ago. It is clear that there is still a long way to go in an effort to bring down costs. I look forward to hearing you reaffirm your commitment to that work today.

Republicans also want to hear from you regarding some concerning developments from the Federal Reserve on the regulatory front. Recently, the Federal Reserve's Vice Chair for Supervision announced a, "holistic review of bank capital and the Fed's regulatory regime." However, it seems that only a small group within the Fed knows what this means, what it entails, how much review is being vetted by the full Board, and the type of quantitative analysis the Fed is performing. The Fed shouldn't operate in the shadows, especially when the regulation in question can have broad and significant economic effects.

The motivation for the Fed's holistic review is also clear, particularly when so many Board members have stated that the banking system is very well-capitalized, and a review of the capital standard should be targeted—it appears that the Federal Reserve Board is laying the groundwork for climate policy to be implemented through the Fed regulation with an opening salvo to, "scenario analysis." Addressing an issue like climate change is important, but that is a policy that should originate here in Congress by the elected representatives of the people, not the central bank. As you said, the Fed needs to stick to its knitting. I agree. There is concern by many that the Fed is picking up new needles and knitting partisan sweaters. At such a precarious time for our economy here at home and in the global economy, that would be a mistake.

Thank you for being here today. I look forward to your testimony and the questions of our Members.

The Chair now recognizes the ranking member of the committee, Ms. Waters, for 4 minutes for an opening statement.

Ms. WATERS. Thank you very much, Mr. Chairman. Good morning, Chair Powell. Since your last visit, our country, under the leadership of President Biden, has made major progress toward improving economic conditions, including adding a record 12 million jobs, and reducing unemployment to its lowest rate in 54 years, while also reducing the deficit by $1.7 trillion. Unfortunately, many families are still struggling to afford basic necessities because of inflation.

What's more, interest rate hikes are making borrowing, especially for mortgages, outrageously expensive. Since I raised this concern for you in a November letter, the rate hikes continue to have an outsized impact on housing costs, which are, as you know, a primary driver of core inflation. But, Chair Powell, I think that

you will agree that Congress also has a role. That is why I am somewhat disappointed that after 2 months, Republicans have taken no serious action to address inflation.

By this time last Congress, House Democrats had passed the American Rescue Plan to provide relief from the ongoing pandemic, which included our committee's efforts to provide $70 billion for homeowners, renters, businesses, and first responders. If Republicans are looking for ideas, Committee Democrats have put forth additional bills, like the Build Back Better Act, to bring down costs for Americans, especially housing costs.

Even more concerning, we are just months away from an economic catastrophe beyond what we have ever seen, including spiking interest rates, massive job losses, and global instability. I am talking about the threats by the Republican leadership to force a default on our nation's debt if we don't agree to their demands to cut Social Security, Medicare, or other critical programs.

You have urged Congress to take immediate action to raise the debt ceiling, but rather than focusing on this very real issue, the first bill that Committee Republicans brought to the House Floor instead suggested that Social Security and Medicare are socialist threats to America. Since then, we have considered legislation related to deregulating securities and banking laws, and countering threats from China, but Republicans have completely ignored the biggest economic threat to businesses, consumers, and our economy: defaulting on our debt. Last month, I wrote a letter to Chair McHenry urging him to take this matter seriously and hold the hearing, but I am still waiting for a response. I hope Republicans will listen today to the real consequences that even the mere threat of a default would have for everyone in this country.

And finally, I am so pleased that we are finally making progress on diversity and inclusion for key positions at the Fed, including last year's historic confirmation of Dr. Lisa Cook to serve as the very first Black woman on the Federal Reserve Board, with the Board's Vice Chair and Kansas City Fed President positions vacant. I think President Biden and the Kansas City Fed Board should build on this progress by seriously considering diverse candidates for these positions. With that, I yield back the balance of my time.

Chairman MCHENRY. The ranking member yields back.

I ask unanimous consent to submit for the record my letter to Secretary of the Treasury Janet Yellen from February 28th, asking for an update on the X date for the debt ceiling. I also ask unanimous consent to submit for the record the latest CBO long-term budget outlook on the unsustainability of our debt, most recently released.

Without objection, it is so ordered.

The Chair now recognizes the gentleman from Kentucky, Mr. Barr, who is also the Chair of our Subcommittee on Financial Institutions and Monetary Policy, for 1 minute.

Mr. BARR. Thank you, Mr. Chairman. And Chairman Powell, thank you for being here today to discuss the Federal Reserve's monetary policy actions in a time of economic uncertainty, mixed economic data, and historic inflation that continues to plague families and businesses around the country.

It is paramount that the Federal Reserve remain vigilant on reducing inflation, anchoring inflation expectations, and restoring price stability at the Fed's 2-percent target. I also look forward to discussing the Fed's regulatory and supervisory activities. As the Fed reviews the bank capital framework, it needs to consider the impact to the real economy and our global competitiveness when raising capital requirements, and sidelining capital would work at cross purposes with monetary tightening, constraining the supply side when we need more, not less, investment to fix supply chains and reduce inflation. Tailored regulations are required of the Fed by law, and a one-size-fits-all approach would be the wrong path to take. Finally, I urge the Fed to, in your words, "stick to its knitting," and not attempt to be a climate regulator. I yield back.

Chairman MCHENRY. The gentleman's time has expired. I will now recognize the ranking member of our Financial Institutions and Monetary Policy Subcommittee, the gentleman from Illinois, Mr. Foster, for 1 minute.

Mr. FOSTER. Thank you, and thank you, Chair Powell, for being here today. Today is the 15th anniversary of when I was first elected to Congress and placed on the Financial Services Committee just as the economy was about to collapse. And that was my trial by fire, the emergency response to rescue the economy and the legislative response to the Dodd-Frank Act that successfully stabilized our financial system.

So 15 years later, as I take my place as the ranking member on the subcommittee with oversight over U.S. banking and monetary policy, I recall the solemn oath that I swore to myself back then to make sure that this kind of calamity never happened again. The monetary policy report that we are receiving today is largely a narrative of a return to normal. Lead times to manufacturers are back to pre-COVID levels, the job market retains supernatural strength, and inflation is responding more or less as predicted to the usual measures. And by far the largest threat on the horizon is a repeat of the 2011 default crisis. Congress has the power to avoid that, and we owe it to the American people to do so. I yield back.

Chairman MCHENRY. Today, we welcome the testimony of Jerome Powell, Chair of the Board of Governors of the Federal Reserve System. Chair Powell was reappointed and sworn in for a second 4-year term as the Chair on May 23, 2022. Chair Powell also serves as Chairman of the Federal Open Markets Committee (FOMC), which is the System's principal monetary policymaking body. Chair Powell, we thank you for taking the time to be here. We will recognize you for 5 minutes to give an oral presentation of your testimony. And without objection, your written statement will be made a part of the record

Chairman Powell, you are now recognized.

STATEMENT OF THE HONORABLE JEROME POWELL, CHAIR, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Mr. POWELL. Chairman McHenry, Ranking Member Waters, and members of the committee, good morning, and I appreciate the opportunity to present the Federal Reserve's Semi-Annual Monetary Policy Report.

My colleagues and I are acutely aware that high inflation is causing significant hardship, and we are strongly committed to returning inflation to our 2-percent goal. Over the past year, we have taken forceful actions to tighten the stance of monetary policy. We have covered a lot of ground and the full effects of our tightening so far are yet to be felt. Even so, we have more work to do. Our policy actions are guided by our dual mandate to promote maximum employment and stable prices. Without price stability, the economy does not work for anyone. In particular, without price stability, we will not achieve a sustained period of labor market conditions that benefit all.

I will review the current economic situation before turning to monetary policy. The data from January on employment, consumer spending, manufacturing production, and inflation have partly reversed the softening trends that we had seen in the data just a month ago. Some of this reversal likely reflects the unseasonably-warm weather in January in much of the country. Still, the breadth of the reversal, along with the revisions to the previous quarter, suggests that inflationary pressures are running higher than expected at the time of our previous Federal Open Market Committee (FOMC) meeting.

From a broader perspective, inflation has moderated somewhat since the middle of last year, but remains well above our longer-run objective of 2 percent. The 12 months' change in total Personal Consumption Expenditures (PCE) prices has slowed from its peak of 7 percent in June to 5.4 percent in January. As energy prices have declined and supply chain bottlenecks have eased over the past 12 months, core PCE inflation, which excludes the volatile food and energy prices, was 4.7 percent. As supply chain bottlenecks have eased, and tighter policy has restrained demand, inflation in the core goods sector has fallen. And while housing services inflation remains too high, the flattening out in rents evident in recently-signed leases points to a deceleration in this component of inflation over the year ahead.

That said, there is little sign of disinflation thus far in the category of core services, excluding housing, which accounts for more than half of core consumer expenditures. To restore price stability, we will need to see lower inflation in this sector, and there will very likely be some softening in labor market conditions. Although nominal wage gains have slowed somewhat in recent months, they remain above what is consistent with 2-percent inflation and current trends in productivity. Strong wage growth is good for workers, but only if it is not eroded by inflation.

Turning to growth, the U.S. economy slowed significantly last year, with real GDP rising at a below-trend pace of 0.9 percent. Although consumer spending appears to be expanding at a solid pace this quarter, other recent indicators point to subdued growth of spending and production. Activity in the housing sector continues to weaken, largely reflecting higher mortgage rates. Higher interest rates and slower output growth also appear to be weighing on business fixed investment.

Despite the slowdown in growth, the labor market remains extremely tight. The unemployment rate was 3.4 percent in January, its lowest level since 1969. Job gains remained very strong in Janu-

ary while the supply of labor continued to lag. As of the end of December, there were 1.9 job openings for each unemployed individual, close to the all-time peak recorded last March, while unemployment insurance claims have remained near historic lows.

Turning to monetary policy, with inflation well above our longer-run goal of 2 percent, and with the labor market remaining extremely tight, the FOMC has continued to tighten the stance of monetary policy, raising interest rates by 4.5 percentage points over the past year. We continue to anticipate that ongoing increases in the target range for the Federal funds rate will be appropriate in order to attain a stance of monetary policy that is sufficiently restrictive to bring inflation down to 2 percent over time. In addition, we are continuing the process of significantly reducing the size of our balance sheet.

We are seeing the effects of our policy actions on demand in the most interest-sensitive sectors of the economy. It will take time, however, for the full effects of monetary restraint to be realized, especially on inflation. In light of the cumulative tightening of monetary policy and the lags with which monetary policy affects economic activity and inflation, the committee slowed the pace of interest rate increases over its past two meetings. We will continue to make our decisions meeting by meeting, taking into account the totality of the incoming data and their implications for the outlook for economic activity and inflation.

Although inflation has been moderating in recent months, the process of getting inflation back down to 2 percent has a long way to go and is likely to be bumpy. As I mentioned, the latest economic data have come in stronger than expected, which suggests that the ultimate level of interest rates is likely to be higher than previously anticipated. And I stressed that no decision has been made on this, but if the totality of the data were to indicate that faster tightening is warranted, we would be prepared to increase the pace of rate hikes. Restoring price stability will likely require that we maintain a restrictive stance of monetary policy for some time.

Our overarching focus is using our tools to bring inflation back down to our 2-percent goal and to keep longer-term inflation expectations well-anchored. Restoring price stability is essential to set the stage for achieving maximum employment and stable prices over the longer run. The historical record cautions strongly against prematurely loosening policy. We will stay the course until the job is done.

To conclude, 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 Chairman Powell can be found on page 58 of the appendix.]

Chairman MCHENRY. Thank you, Chairman Powell. I will now recognize myself for 5 minutes for questions.

Chairman Powell, there has been a lot of discussion over the last 24 hours about the effect of rate increases on the economy, and a lot of debate about what you said yesterday in the Senate, but no one asked you this directly. We have a March Open Markets Com-

mittee meeting coming up in 2 weeks. What do you think about the March meeting? What is your approach to that? What are we likely to see?

Mr. POWELL. Thank you. I won't repeat what I just said in my testimony, but if I turn to the March meeting, I guess I would say that we have some potentially important data coming up, data to be analyzed. One of them came out at exactly 10:00. That would be the Job Openings and Labor Turnover Survey (JOLTS) report, which, of course, I haven't seen, having been sitting here at 10:00. But we are also getting a jobs report on Friday, and a Consumer Price Index (CPI) and Producer Price Index (PPI) inflation report next week, so those will be important and we will scrutinize them.

When we say that we are going to be looking at the totality of the data, which is what I said, that does include these reports yet to come. They are going to be important in our assessment of the higher ratings that we have very recently received, and of the overall direction of the economy and of our progress in bringing inflation down, and we will be carefully analyzing them. Again, we have not made any decision about the March meeting. We are not going to do that until we see the additional data. The larger point, though, is that we are not on a preset path and that we will be guided by the incoming data and the evolving outlook.

Chairman MCHENRY. But you have also said higher, longer. Is that still the case?

Mr. POWELL. Yes. As I said in my testimony, we looked at the data since January, and also the revisions to the November and December inflation data, and they suggest that the ultimate level of interest rates is likely to be higher than we had expected.

Chairman MCHENRY. So to repeat, what are those economic factors?

Mr. POWELL. Going back to January, as I mentioned, the softer inflation readings of November and December were revised up. We got a very strong inflation report for January. We got an extraordinarily-strong employment report, very strong consumer spending, and strong manufacturing data right across-the-board. And as I pointed out, some of that may have been affected by the very warm January weather, but nonetheless, all of it pointed in the same direction.

Chairman MCHENRY. Okay. Let's move to regulation. Chair Powell, in January, the Federal Reserve put out a policy statement noting that digital asset custody is permissible activity if done in a safe and sound manner. However, if a bank can demonstrate to the Fed that it can conduct that activity in a safe and sound manner, the capital impact of the SEC's Staff Accounting Bulletin effectively precludes banks from offering digital asset custody service at any scale. Are you aware of this Staff Accounting Bulletin (SAB) by the Securities and Exchange Commission and its impact on custodial services?

Mr. POWELL. I am aware of it, of course. It is an SEC accounting bulletin, SAB 121, I believe, and—

Chairman MCHENRY. That is right.

Mr. POWELL. —we are certainly aware of it. And we do follow generally accepted accounting principles (GAAP) in our preamble of regulation.

Chairman McHENRY. Okay. Without objection, I will submit for the record my letter to the bank regulators about this.

So, while the Fed says it can be done in a safe and sound manner, the Securities and Exchange Commission is regulated so that it cannot be done.

My next question is about bank capital standards. You received questions about this yesterday. Vice Chair for Supervision Barr has announced a holistic review of capital requirements. As I said in my opening statement, there are a lot of questions about this process and previous statements by members of the Fed Board of Governors about the adequacy of current capital standards. So, while the Vice Chair for Supervision has announced that the Fed will engage in a holistic review of capital regulation, is that done at the Governors, the Board level? What is the process? There are a lot of questions that people have about his statements, and we want to understand why it is necessary for the Fed to conduct a holistic review and what that process will entail.

My general question is, do you still agree with your previous statements about the adequacy on a generalized basis of our financial system, or are we to read into this that we are not adequately-capitalized, and there is a high level of risk in the system that we are unaware of at this point?

Mr. POWELL. Thank you. As a new Vice Chair for Supervision, Vice Chair Barr is taking a fresh look at everything, including capital. That actually is typical of the last two people to have this job. And that makes a lot of sense. In terms of the process, it is certainly conducted under Vice Chair Barr's leadership with input from the staff and discussions with Governors on that committee, and I am kept broadly apprised about what is going on. But the bottom line is that nothing has been proposed to the Board. Nothing has been formalized at this point. There is a lot of work that is going on, discussions are going on, meetings with industry, and that kind of thing.

When we get to the place where it is appropriate, the Board will be carefully briefed, and will ultimately vote on a proposal. And that proposal will go out for comment, and we will solicit comment from any and all commenters, and we will look very carefully at that. So, it will be a wide-open process in the sunshine.

Chairman McHENRY. Thank you. I yield back. And I now recognize the ranking member of the committee, the gentlewoman from California, Ms. Waters.

Ms. WATERS. Thank you very much. Chair Powell, I agree with what you said on February 1st, that Congress must raise the debt limit because of what you described as the highly-risky consequences of failing to do so. You are perhaps the most important expert on the debt limit, which is why I find it very concerning that your recommendation to raise the debt limit in a timely manner is being ignored by my colleagues on the other side of the aisle.

I am also concerned that the consequences of this brinksmanship are imminent. Fitch Ratings said this week they may seriously look at downgrading the U.S. debt based on the escalating brinksmanship they are observing, even if Congress ultimately addresses the debt limit at the last minute. This is history repeating itself. Standard & Poor's downgraded our debt back in 2011 when

Republicans last controlled the House and threatened default. The Bipartisan Policy Center later found that the 2011 debt limit debate cost us $18.9 billion in higher borrowing costs, even though we never defaulted. To put that into perspective, that could have been leveraged to provide up to $200 billion in loans to small businesses through the State Small Business Credit Initiative (SSBCI) or to provide hundreds of thousands of people downpayment assistance to buy their first home.

I want to emphasize that House Republicans, including most of the Republicans on this committee, had no qualms about paying our debts when Trump was in office. Three times, they addressed the debt ceiling in a timely manner without holding our country hostage. But Republicans are now ready to tear down the hard work of Americans everywhere to weather the pandemic and build back a strong recovery.

Chair Powell, can you describe for us the risk you see if Congress continues to delay action on the debt limit, both for our economy and for individuals and families?

Mr. POWELL. Let me start briefly by saying that we have no role and seek no role in what is really at the heart of fiscal policy, except I will limit myself to the two things that other Fed Chairs have said about this. One is just that Congress raising the debt ceiling is really the only alternative. There are no rabbits in hats to be pulled out on this.

Two really is just that no one should assume that the Fed can protect the economy from the non-payment of the government's bills, let alone a debt default or something of that nature, which we don't think will happen here. But no one should be thinking that we have the tools to protect the economy from all of the potential effects of that.

Ms. WATERS. Thank you very much. I don't want to misrepresent what you said. I somewhat quoted you when you said that Congress must raise the debt limit because of what you described as, "highly-risky consequences of failing to do so." Is that your language?

Mr. POWELL. "Must" in the sense that it really the only way for the debt limit to be raised is if Congress acts to do so. Again, these are fiscal discussions and we don't want to be a part of them, and really they are between elected officials.

Ms. WATERS. But you are an expert on the subject.

Mr. POWELL. I spent a lot of time on this, as you will recall, prior to this—

Ms. WATERS. As an expert on this subject, you are concerned about the highly-risky consequences of failing to do so, is that correct? Did I correctly quote you?

Mr. POWELL. That is correct.

Ms. WATERS. Thank you. And again, let me just go a little bit further. The Chair mentioned that he had either written a letter or maybe even had some conversation from Treasury Secretary Janet Yellen about the time limit that she had attempted to describe. Is it your understanding that she said she could maneuver and kind of manipulate things so that she paid the bills that were coming due, but this could only last until about June? Is that your understanding?

Mr. POWELL. Honestly, I would really have to not try to interpret the Secretary's words for you. That is really up to her to do.

Ms. WATERS. Can she keep us afloat until about June?

Mr. POWELL. Honestly, that is not for me to say. These are really questions for the Secretary. I'm sorry, Ms. Waters.

Ms. WATERS. Have you had any conversation with her about the statement that she made about being able to manipulate the debt and pay bills that are coming due out of another account, et cetera? Did you have that conversation with her?

Mr. POWELL. The conversations that you and I have privately don't go anywhere. I don't talk about them with anybody. And the conversations I have with Secretary Yellen, I don't—

Ms. WATERS. Okay. And I don't want to get—

Chairman MCHENRY. The gentlelady's time has expired.

Ms. WATERS. I beg your pardon?

Chairman MCHENRY. The gentlelady's time has expired.

Ms. WATERS. Did I have equal time with you?

Chairman MCHENRY. You sure did. He went over time.

Ms. WATERS. If I did, thank you. I yield back.

Chairman MCHENRY. I now recognize the Vice Chair of the committee, Mr. Hill of Arkansas.

Mr. HILL. Thank you, Mr. Chairman, and thank you, Chair Powell, for being with us. You are welcome anytime. Don't wait until we ask, if you want to volunteer to come here. We love having your views on many topics.

Thanks for talking about your commitment to price stability. We had this discussion last June of, I do think that is the primary mission of the Fed, and I think the only priority of the Fed should be price stability, because it is the Legislative Branch and the Executive Branch that really are responsible for, "full employment, and having that policy environment, and making sure that that is right." So, your commitment to price stability is welcomed by this committee.

Yesterday, in the Senate, you suggested that you supported a broad regulatory framework for digital assets, is that correct?

Mr. POWELL. Yes.

Mr. HILL. And is it your view that if we had a regulatory framework here in the United States for digital assets, there would be more transparency and rules of the road for consumers, investors, and developers?

Mr. POWELL. Absolutely.

Mr. HILL. And what if we had those rules of the road for business seeking to use and develop blockchain as a potential new technology in their business and tokenize payments that, again, it would be beneficial to business to know how to go about that?

Mr. POWELL. Yes, and to ensure that it is all done in a safe and sound manner when we are talking about banks.

Mr. HILL. Right. And my next point would be exactly that. To help banks, investment brokers, and custodians understand how they could even participate in that market in a safe and sound manner, do you agree that a regulatory framework would help with that?

Mr. POWELL. Yes.

Mr. HILL. And then finally, we have grown up in our country, and it is unique in the world that we have a dual banking system, and due to a quirk here in Congress over 100 years ago, we have insurance regulated exclusively by the States. Would you believe that regulatory framework would also have to preserve some sort of role, subject to safety and soundness, for States to play some role in that regulatory framework for digital assets?

Mr. POWELL. Let me just say I think that the work certainly works in banking and insurance. I have no problem with those.

Mr. HILL. Right, but you consider it possible that it could also work in digital assets?

Mr. POWELL. It is certainly possible.

Mr. HILL. Yes. Thank you. Turning to a topic that has been a subject here for nearly 4 years, central bank digital currencies (CBDCs), Article I of the Constitution reserves coins, which is money issuance to the Congress, and we have, in turn, delegated that to the U.S. Treasury, which has, since 1912, engaged the Federal Reserve as their fiscal agent. You have testified here many times before that to issue a CBDC, it would have to be authorized by statute, by Congress. Is that still your testimony?

Mr. POWELL. That is absolutely the case as it relates to a retail CBDC.

Mr. HILL. Right.

Mr. POWELL. Potential little forms of a wholesale CBDC, that you would need to look at, it is less clear, but we have always been talking about a retail CBDC, and that is something for which we would certainly need congressional approval.

Mr. HILL. And what would be a parameter on something that is not a retail CBDC, where you think that could be issued in some form or fashion without Congress' direct statutory authorization?

Mr. POWELL. For example, it would just be something between banks, so it would look an awful lot like a bank reserve. And you might ask, well, why would we need it, and that is a really good question, too. But it is just something that is literally within a wholesale market.

Mr. HILL. But that speaks that you might have a blockchain between banks, and the Fed using a central bank digital currency token to settle transactions institutionally inside the—

Mr. POWELL. Yes.

Mr. HILL. Yes. That leads me to FedNow, which is supposed to be up and running, I think this summer, somewhat behind the scenes there. I would like to ask you to formally have this committee briefed on that by the Federal Reserve. I know the Chair of the Kansas City Fed was involved. She has now left, and I think the committee has a lot of questions about FedNow, how its interoperability will work, how it is going to roll out, and also just a question that we have been asked about why the Fedwire system ended up 24-hours-a-day, 7-days-a-week now to benefit consumers who are using Venmo. Do you have any thoughts on that?

Mr. POWELL. I am not sure why we are not 24/7 on that, and, of course, we are delighted to come up and brief the committee on FedNow.

Mr. HILL. That would be good. We will take you up on that, and the right person from the Fed. And Mr. Chairman, I yield back.

Chairman McHenry. The gentleman yields back. I will now recognize the ranking member of our Capital Markets Subcommittee, Mr. Sherman of California, for 5 minutes.

Mr. Sherman. Thank you. Mr. Chairman, I want to thank you for bringing to our committee's attention several years ago the importance of tough legacy London Interbank Offered Rate (LIBOR), some $16 trillion of instruments where the creditor would know how much the debtor was supposed to pay. This committee passed legislation over a year before the LIBOR hit the fan. You issued regulations 7 months before the absolute deadline. I hope we do this in other areas. And it is my understanding that with those final regulations, we are done and we have solved the LIBOR issue. Is that correct?

Mr. Powell. That is my understanding as well.

Mr. Sherman. Okay. People talk about inflation, and some say that it is a matter of the personalities and politics in the United States. Others argue that the entire world is hit by inflation because of Ukraine and COVID. I think we have the answer to this question in that inflation is considerably higher in the eurozone than it is in the United States today, and it is very hard to say that Joe Biden is responsible for inflation in Germany.

I commend the ranking member for bringing up the debt limit and the harm that it has already done to our economy. If we solve the problem tomorrow, we will still have had less investment than we would have had yesterday, and I would say that I commend the President. He is going to issue a budget plan tomorrow, and perhaps in their time, one of our Republican colleagues can tell us when the Republican budget plan will be released. We are all eagerly awaiting it.

Housing is a huge part of inflation, and we have left it to local government, but the permitting process there guarantees scarcity, which guarantees high housing costs. Mr. Chairman, we talked back in 2001, and several times even before that, about wire fraud. And having just bought a home, I saw the process upfront. Everybody is very nervous about one thing, and that is, will the buyer of the house be tricked into wiring their downpayment to the wrong account, or will the seller or the buyer be tricked or the escrow agent be tricked into sending the money to someone other than the seller of the property?

We talked about this back in 2001, where I urged you with your FedNow system, which I am glad is on track to move forward, to have what the Brits have, that when you send the wire, you identify not only the number of the account you are sending it to, but also the name of the person or entity that is supposed to receive that. At that time, back in 2001, you said that payee matching was not the best way to do it, that there were are other ways to do it and that you would be happy to get back to me as to how you were going to make sure that an email from a Nigerian prince does not get the wired funds, particularly in a housing transaction wired to an account number that turns out to be in Lagos. What progress have you made? When can homebuyers have a system where they are sending it to a named payee as well as to a number?

Mr. POWELL. I hope we did come back in a timely way to you on that, but it is a problem you brought to our attention. You are right over many years, and we continue to focus on that.

Mr. SHERMAN. The bureaucrats who are working on this don't want to do what the Brits did. They have proven it can be done. You said you were going to accomplish the same goal in some other way, and it has been a while and it is not solved, nor are you aware of any solution. I would hope that you would go back and say, we don't want to add this anxiety to every real estate transaction, so we will go back to the drawing board, follow what the Brits have done, and have pay matching.

Finally, as to crypto, cryptocurrency says what it means: hidden money. That is what it means. And if we impose Know Your Customer (KYC) and Anti-Money Laundering (AML) statutes to it, it won't be crypto anymore. What crypto wants is to have part of its ecosystem above the waterline, visible and subject to Know Your Customer, and then have the rest of the iceberg below the waterline.

Chairman MCHENRY. The gentleman's time has expired.

Mr. SHERMAN. My time has expired.

Chairman MCHENRY. I will now go to the gentleman from Texas, Mr. Sessions, for 5 minutes.

Mr. SESSIONS. Chairman McHenry, thank you very much. Chairman Powell, thank you for joining us today. We appreciate not only your professionalism, but your direction.

Chairman Powell, I know that the Fed considers divergences, and you talked about it in your opening statement, about the Consumer Price Index, personal consumer expenditures, inflation, GDP, and all of these things are also talked about in your monetary report of March 3, 2023. Thank you. A couple of days ago, I had an opportunity to see that an economist, Arthur Laffer, produced a report that spoke about literally this country doubling GDP. Now, I know we are putting CPI, PCE, inflation, all of these things into a mix, but he said that if we made changes in healthcare, to efficiencies, we can double the current GDP rate.

My question to you, and I hope you can answer, is what do you think about that? Is it something that is in this document, that I have missed, and it is seemingly to a person who follows this, as Art Laffer does, for 50 years? What do you think is an important way to look at efficiencies in healthcare? Thank you.

Mr. POWELL. So, no, that is not in our monetary policy report. I will just say one thing, and that is we do spend something like 17 or 18, in that range, percent of GDP delivering healthcare. Other similarly-wealthy countries spend 10 percent, so it is the delivery system. It is not that the benefits are incredibly rich or anything like that; it is just that the delivery system is very expensive. That is a trillion dollars a year that we spend and get nothing for it. This is fiscal policy, so I would think that he may have meant that if we had a delivery system that saved that trillion dollars that doesn't really get us anything, then that would be great for the economy, with which I agree.

Mr. SESSIONS. You have spoken of supply chain disruptions because it, in fact, is an inhibitor or an accelerator as we gain that advantage. You just talked about some seemingly, which would

offer some validation to Mr. Laffer as he spoke about the huge importance of this. Is that something you should start paying attention to, to where policy people not only at the Fed, but your Fed banks around the country would start looking at and start putting pressure on us to gain those efficiencies as a result of a global view?

Mr. POWELL. On supply chains generally, they have suddenly become tremendously important in inflation, as you know, for the last couple of years, and for the first time, really have been something that we have had to study carefully. In terms of healthcare delivery, that is strictly a question for you and for the parts of the government that are charged whether the Fed does not have a role to play and does not seek a role in that.

Mr. SESSIONS. Does not see a role, and yet, as I look at this, you have a role in projecting confidence, you have a role in education, you have a role in who is in the workplace, you have a role—my talk—my interest rates. And yet my point is, it is such a staggering number that impacts us. I would just love to have you go back. Perhaps we on this committee need to give you some direction on that, but I think your testimony today recognizes the staggering impact on that. I don't think it is political. The answer may be political, but I think the actual numbers are not political. It is an inefficiency that is happening across the country, not a regional matter, and so I wanted to get your take on that, and I appreciate you being here as always. Thank you for your confidence and your hard work that you give this country. Mr. Chairman, I yield back my time.

Chairman MCHENRY. The gentleman yields back. I will now recognize the gentleman from Georgia, Mr. Scott, who is also the ranking member of the House Agriculture Committee, for 5 minutes.

Mr. SCOTT. Thank you very much, Mr. Chairman, and welcome back, Chairman Powell.

Chairman Powell, listen to me very carefully here, because I think we are on the verge of making a terrible mistake. Back in 2008, if you recall, Barney Frank and Ms. Waters asked me to take a look at and kind of work with you and the Fed. You were a Board member in 2008, and we came to the conclusion that we needed a more-equitable playing field between our large banks like Goldman Sachs and Citigroup, and our regional and smaller banks like Truist, and our community banks, and we changed that. But now, I hear that the Fed and the FDIC plan to drop a new rule which seeks to apply the long-term and higher capital requirements that were created. And you and I did this back in 2008, and you will remember, that were created for the Goldman Sachs and for them, and now we want to apply these rules to the regional banks. There is a big difference.

And we have omitted this difference if you proceed in this manner. I think it is very misguided. It works. And you and I worked on this. You recall this. You were a Board member, and we saw that we needed to have a better playing field to protect. And if you all go along with this, it could put many of our regional banks and small community banks out of business. So, I want you to reverse this.

First of all, tell me, am I speaking the truth? Are you all planning to, all of a sudden, put the smaller and regional banks under the same heavy or financial load as your large worldwide banks? Tell me.

Mr. POWELL. No, we are not planning that. We believe strongly, and always have, in tailoring to address the different size and risk characteristics of financial institutions and certainly nothing like that for the regionals. They won't have anything like what the very large, most systemically important banks have in terms of overall regulation.

Mr. SCOTT. Yes, because I remember clearly, I think we were on this side then, talking about this in the same committee room, and you worked with us on that. I am glad to hear that. Where is that coming from? Is it a concern? Is it just a rumor? Have there been any discussions about removing the playing field and the guard rails we have here, the differentiations and the requirements between the regional banks, community banks, and your larger global banks? There is nothing to that?

Mr. POWELL. I would say this. We are required by the law now and we are doing this. Dodd-Frank actually required us.

Mr. SCOTT. Yes.

Mr. SCOTT. It suggested that we should tailor, and then, S. 2155 then required it, and anything that we do will reflect appropriate tailoring.

Mr. SCOTT. Okay. So, that is off the board. We are not going to change and put the smaller and regional banks under the same financial obligation role as large banks. We got that right from you, correct?

Mr. POWELL. Yes, that is right.

Mr. SCOTT. Okay. Good. Now, let me turn to China. I am really worried about China, and right now, people may not know it, but China is the world's largest economy in terms of purchasing power. At our last meeting, I talked about this move where we didn't blow the balloon up, and this is an example of what I was pointing out.

Chairman MCHENRY. The gentleman's time has expired. I will now recognize the gentleman from Oklahoma, Mr. Lucas, who is also the Chair of the House Science Committee, for 5 minutes.

Mr. LUCAS. Thank you, Mr. Chairman. Chairman Powell, I would like to follow up on the topic of capital standards, one of those things we have discussed many times together. As you know, commodity markets have seen significant volatility in the last few years. And during times of tremendous economic uncertainty, like we have seen, end users turn to the markets to hedge risk, particularly those in the agriculture and energy sectors. And I know that the Fed is early in the review process of potential changes in capital requirements, but I will ask this anyway. Can you commit to ensuring that these changes will not increase the cost for banks providing those commodity derivatives to end users?

Mr. POWELL. That is really specific. Can I go look at that? I am not actually sure that the work even addresses that, so let me get back to you on that.

Mr. LUCAS. Fair point, and that particular response makes me feel better because, after all, those products are very important to

my folks and make a great deal of difference in how they are able to address their issues.

As you discussed earlier, and as you have consistently assured us, the Fed is not a climate-making policymaker. You and I have talked about this issue, again, many times in the past. However, I am concerned that the Fed could be heading in that direction and could be laying the groundwork for climate-related stress tests that would reduce access to capital for entire sectors of the economy. This would also potentially open up the Federal Reserve to political pressure and force the Fed, in fact, to make policy decisions related to climate change. We have seen, for example, this Administration turn to regulators to impose climate policy as an alternative to the legislative process.

Chairman Powell, how careful are you in ensuring that the Fed does not place itself into the climate debate, and how can Congress ensure that the Fed's regulatory toolkit is not, shall we say, warped into creating climate policy outcomes?

Mr. POWELL. I think we do have a narrow, but real, role there, which is around bank supervision, making sure the banks understand and can manage their risks over time from climate. I think my colleagues and I all understand that it is a tightly-circumscribed role that we are playing, and that we are not looking to move into an area where we are actually becoming a climate policymaker. I would completely agree with you, though, that over time, that border needs to be very carefully guarded, and I will tell you that I will do that as long as I am at the Board of Governors.

Mr. LUCAS. I very much appreciate that because, again, it is a very important issue in my district in Oklahoma. Traditional production, agriculture, oil and gas, and the actions that the Fed takes have a significant impact back home, so it is vital that we resist the demands to do that sort of thing now or in the future, and I very much appreciate that response. And with that, I will yield back the balance of my time, Mr. Chairman.

Chairman MCHENRY. The gentleman yields back. The gentleman from Massachusetts, Mr. Lynch, who is also the ranking member of our Subcommittee on Digital Assets, Financial Technology and Inclusion, is recognized for 5 minutes.

Mr. LYNCH. Thank you, Mr. Chairman, and thank you, Chairman Powell, for your willingness to come here and update us.

Last week, the Treasury Department announced that leaders from Treasury would begin to meet regularly with leaders from the Fed and from the White House to discuss a possible central bank digital currency (CBDC) and other payment innovations. In the statement, it was mentioned that, "The Fed is encouraged to provide periodic public updates as it continues its research and its technical experimentation on central bank digital currencies." I was wondering, first of all, when you might be expecting to share some of these public updates. What is the timing on that?

Mr. POWELL. We did go out for comment, in general, on a CBDC a year or so ago, and I do expect we will go out, I can't give you a date, but we will certainly go out and engage. We engage with the public on an ongoing basis. We are also doing research on policy and also on technology. That is where we are up to.

Mr. LYNCH. I am aware that the Boston Fed has a partnership, the Hamilton Project, with the folks from MIT Media Lab where they want to create jobs, but it says here that the discussions would include technical experimentation. I was just wondering, at what level are you talking about making decisions on architecture for a retail CBDC?

Mr. POWELL. We are not at the stage of making any real decisions. What we are doing is experimenting in kind of early-stage experimentation. How would this work? Does it work? What is the best technology? What is the most efficient? We are really at an early stage, but we are making progress on sort of technological issues. The policy issues were equally important, though. We haven't decided that this is something that the financial system in this country wants or needs, so that is going to be very important.

Mr. LYNCH. Okay. I think I speak for the chairman as well, that we would love to have more dialogue with the Fed on that, and maybe bring in the folks from MIT as well, and just make sure that Congress and this committee is as up-to-date as others.

Let me switch over to FedNow. There are some champions of digital currency and stablecoins, in particular, that continue to cite the need for faster payment systems. However, as was mentioned earlier, FedNow is a service that the Fed is working to finalize that will allow for instant payments between bank accounts, and the Fed has a target release date of between May and July, which is right around the corner. Do you see any reason why cryptocurrencies would provide faster payments than the FedNow system? And with this offer, with the transparency of FedNow, would it offer distinct advantages over some of these stablecoins that are touting faster payments?

Mr. POWELL. What FedNow will do is it will enable all of the banks, any bank in the United States, not just the big ones, to offer instantly-available funds and real-time payments to their customers. That is what it will do. That is a great thing. I think you are asking whether a CBDC would serve some of that, but a CBDC is going to be years in the evaluation, and I think we can get this into the hands of the public very quickly. And I think we will have real-time payments in this country very, very soon, and that is a good thing.

Mr. LYNCH. It is. I do have an overriding question, and that is, before the greenback, everybody had their own currency. You had rail companies. You had coal companies. You had State banks that were authorized to issue their own currency. But when the greenback came out, all of those various currencies went to zero because the greenback had the full faith and credit of the United States behind it.

I am worried about a lot of these stablecoins and other cryptocurrencies. Do they go to zero when we come up with a CBDC that has the full faith and credit of the United States behind it? We have thousands of these out there, and you have people investing millions and millions of dollars, well, trillions right now. And I am just thinking, if we had those advantages built into a CBDC, wouldn't those alternatives go to zero if they did not have the transparency and the full faith and credit that we enjoy?

Mr. POWELL. Certainly, unbacked cryptocurrencies that don't have any intrinsic value, but nonetheless trade for a positive number—I have never understood the valuation of those. Stablecoins, many of them are really drawing on the credibility of the dollar. They are dollar-based. They are dollar-denominated, mainly dollar-based reserves, although we don't know what is in the reserves because there is no regulation.

Chairman MCHENRY. The gentleman's time has expired. The gentleman from Missouri, Mr. Luetkemeyer, who is also the Chair of our Subcommittee on National Security, Illicit Finance, and International Financial Institutions, is recognized for 5 minutes,

Mr. LUETKEMEYER. Thank you, Mr. Chairman, and thank you, Chairman Powell, for being here this morning. The reserve currency status of the dollar to the U.S. has enormous financial and national security benefits. In the wake of Russia's unprovoked invasion of Ukraine, the Fed took action to prevent the Kremlin from accessing more than $300 billion in reserves, roughly half of Russia's reserves. However, this led to an accelerated effort by countries like China to de-dollarize their official foreign exchange reserves. Just last week, there was an article in the Wall Street Journal entitled, "Russia Turns to the Yuan in an Effort to Ditch the Dollar." Not only that, but China's President Xi Jinping pushed for the settlement of energy trades in the Chinese yuan at a summit with Arab leaders in December.

My question is, are you concerned about these actions by Russia and China to establish different reserves and conduct transactions in non-U.S. dollars?

Mr. POWELL. The U.S. dollar is the widely-accepted and really the only serious candidate for the world's principal reserve currency, and that is because of our democratic institutions, our liquid markets, the rule of law, and all those kinds of things, and also the fact that the dollar has held its value over time. Other countries who are competing on other playing fields want to establish different currencies, but, really, the dollar is the one that is going to be used more broadly in international commerce because we have those aspects and other countries don't.

Mr. LUETKEMEYER. That is true until now, but my question is, are you concerned about the actions of these countries, because if they see themselves being challenged or concerned, for instance, if China were to invade Taiwan? As Russia invaded Ukraine, there were some sanctions put on. I don't disagree with the sanctions. The last time you were here, though, Mr. Chairman, I asked the question, because it is an instructive moment for us from the standpoint that knowing that we put sanctions on Russia, all of their different accounts, as well as the oligarchs from that country, are we thinking about doing the same thing to China when they invade Taiwan? And your answer at that point was, no.

We passed a bill out of this committee last week to ask the Administration basically to start thinking about that in those terms. What kind of situations can you come up with? Are you talking to allies, begin to talk to them to start putting together a list of how you would go about sanctioning the different individuals, the different accounts, things like that? Have you started thinking about that at all yet?

Mr. POWELL. Let me say that the business of sanctions is entirely in the hands of the elected government and the Treasury Department. We are an implementer as it relates to banks. That is it. We don't make those decisions.

Mr. LUETKEMEYER. Yes, but we are going to take your advice on the different aspects of this.

Mr. POWELL. Honestly, when the sanctions were being put in place, Treasury was doing it. We were not doing it.

Mr. LUETKEMEYER. Okay.

Mr. POWELL. Yes, and that is the way it works.

Mr. LUETKEMEYER. Next question. There was an article in one of the political newspapers, yesterday I guess it was, and it talked about the problem that we have here with the Fed's balance sheet. It says it now appears similar to a hedge fund whose long-term assets are financed by short-term borrowing, and the bottom line is that it is going to cost money. The Fed now has a negative income as a result of having to do this, and it says here that the Fed will simply borrow the money to pay the bills. Is this true, that we are having the Fed losing money right now as a result of the way you have these debts, the borrowings that you have purchased, structured?

Mr. POWELL. The place I would start is, we always turn over all of our earnings in every year. We turn them over on an ongoing basis, and we have turned over something like $1.2 trillion in earnings just in the last decade or so. We always know that when we raise interest rates, you are going to lose money, and—

Mr. LUETKEMEYER. Okay. But do you agree with the point that we have a negative income right now?

Mr. POWELL. That is right.

Mr. LUETKEMEYER. And this goes to my concern that the Consumer Financial Protection Bureau (CFPB) gets their money to run their agency from the Fed.

Mr. POWELL. That is right.

Mr. LUETKEMEYER. Basically, there is no money for the Fed to pay the CFPB's bills, if this is the case, unless you continue to borrow, which is basically what is going to happen now is you are going to have to borrow money to be able to pay the CFPB's bills. Is that not correct?

Mr. POWELL. No, we don't borrow money. We don't shut down the Fed when we have negative income.

Mr. LUETKEMEYER. Okay.

Mr. POWELL. We can pay our bills, and we can—

Mr. LUETKEMEYER. My follow-up question then is, do you do any accountability or assessing of the CFPB's spending of these dollars at all?

Mr. POWELL. No, we don't. The Inspector General does.

Mr. LUETKEMEYER. So, they just get a blank check? You just told me they get a blank check. They send you a bill. You send them a check. There is no accountability for them—

Mr. POWELL. No, I think there are limits built into the law, which I don't have in front of me right now.

Mr. LUETKEMEYER. I have yet to see a limit, Mr. Chairman. I would love to see what the limits are, because I don't think that

they have ever agreed they have limits, but I see that my time is up, Mr. Chairman, so I yield back.

Chairman MCHENRY. The gentleman's time has expired. We will now go to the gentleman from Illinois, Mr. Foster, who is also the ranking member of our Financial Institutions and Monetary Policy Subcommittee.

Mr. FOSTER. Thank you, and just a quick comment, I think it is a mistake to imagine that you can completely hide from the macroeconomic effects of technology in your scenario planning. We just talked briefly about healthcare costs. Obesity is half of our healthcare costs, and there are treatments in these GLP-1 agonists that look like they are just a home run against obesity. So, these will be near-term impacts, which will have major macroeconomic effects. I hope you have a certain fraction of futurists in the room when you are talking about your scenario planning, because a lot of that future is now.

Okay. Back to economics. We have this historically-low unemployment rate of 3.4 percent, and historically, this would be considered to drive runaway inflation. Your predecessor, Alan Greenspan, repeatedly referred to dangerously low levels of unemployment, and yet we see inflation is coming down now. What is going on here? How can we have these historically-low levels of unemployment without having inflation take off? Is it possible that we simply have less frictional unemployment in our system due perhaps to the fact that people get their new jobs online and have a job lined up before they quit?

Mr. POWELL. Inflation is coming down, but it is very high, is the thing. I have never said all of it or most of it, but some part of the high inflation that we are experiencing is very likely related to an extremely-tight labor market. Wages affect prices, and prices affect wages, so I do think that is part of it.

More to your point, though, there was a time when there was a tight relationship between inflation and unemployment. In other words, the Phillips curve was steep, and that went away over the period of the Great Moderation. And really, in our thinking, that is because people came to expect 2-percent inflation and we had 2-percent inflation, and then people just stopped focusing on inflation, and it stayed very low. So, there was really no relationship or a very, very tiny relationship. We could have very weak economic growth or very strong economic growth, and we wouldn't have inflation respond very much. That was before the pandemic, though.

Mr. FOSTER. Okay. I hope you don't overlearn some of the lessons there. It is one of my worries. There have been a number of exogenous shocks to the system here, and it will take a while to go through them. You want to be careful there.

And a related issue, when you say refer to the totality of factors, you are looking at a mixture of leading and lagging indicators when you look at this totality of factors. And perhaps you might be paying too much attention to the lagging indicators and not enough to the leading indicators, the example that you reference in your remarks, and there is more detail in the report about the difference between using current rental payments versus the amount that you pay for a new rental contract, and the difference in how

much they lag. Had you paid more attention, for example, to the leading indicators like current rental contracts, then you probably would have picked up inflation earlier. You would have not gotten so far behind the curve on that.

And secondly, there are policy implications going forward. If you look at current rental prices for new contracts, you are much further along in fixing inflation, and you can take your foot off the brake. So, what is your thinking on that and whether you may perhaps be systematically not paying enough attention to leading indicators versus lagging ones?

Mr. POWELL. We have had our eyes on the whole housing inflation thing from the very beginning, and right now, what I would say is that every forecaster is baking in lower rent increases. That is a big part of why people think inflation is going to come down in 2023. I think the thing with transitory is it more had to do with goods, and it had to do with the thought that the supply side disruptions would go away much quicker than they would, that the labor market disruptions would go away much quicker than they did. And in hindsight, it just took much longer for those disturbances to go away.

Mr. FOSTER. Yes, and if you allow yourself to Monday-morning-quarterback yourself, you probably would have gone up to 4 percent earlier and not had such a big problem with inflation. Are there structural things you can contemplate or even after-action reviews to say what would have happened if we would have paid more attention to the leading indicators or, an engineering term, improved the bandwidth of your feedback regulator? If you want to get the best result, you need a high bandwidth feedback in the system even when there is averaging on the back end.

Mr. POWELL. This is something we only think about during waking and sleeping hours, as you can imagine. It is really hard to know what the lessons are. Again, nobody had seen the supply chains collapse. No one had seen labor force participation plummet or unemployment go to 14 percent and higher than that really—

Chairman MCHENRY. The gentleman's time has expired.

Mr. POWELL. —it would take to go away. And if we ever see this pitch again, we will know how to swing at it, but it has been—

Chairman MCHENRY. We will now recognize the—

Mr. POWELL. —a bunch of firsts. Sorry.

Chairman MCHENRY. The gentleman's time has expired. We will now go to the gentlewoman from Missouri, Mrs. Wagner, who is also the Chair of our Capital Markets Subcommittee, for 5 minutes.

Mrs. WAGNER. I thank you, Chairman McHenry, and, Chair Powell, welcome. Thank you for your service and for being here today. Yesterday, I was pleased to hear you discuss how inflation is severely hurting the working people in America. In your testimony, you also state that strong wage growth is good for workers but only if it is not eroded by inflation, and that is key. Inflation is a tax, a hidden tax on every American. If the Federal Reserve were to shirk its mandate to stabilize prices, leaving inflation alarmingly high, what would it cost America's hardworking families in Missouri's 2nd Congressional District and beyond?

Mr. POWELL. I think the costs of failure to restore price stability would be extremely high, and while there will be a cost to success,

the cost of failure will be much higher. You would be looking at an extended period where people learn to expect and live with high and volatile inflation, and it is very, very hard to have rising real incomes during such a period. So, it would be a bad thing for the country.

Mrs. WAGNER. Can you reassure the committee that the Fed remains committed to bringing prices down for our constituents?

Mr. POWELL. Yes, I do.

Mrs. WAGNER. Thank you.

Mr. POWELL. I hereby assure you.

Mrs. WAGNER. And changing topics here a bit, as China's economy reopens, and about 18 percent of the world's population resumes its consumption of oil and other key goods, what sort of inflationary impact will we see here in the United States, sir?

Mr. POWELL. A faster reopening of China, which it looks like we may be seeing, does have the potential to put upward pressure on commodity prices, but it also would mean a faster sort of unraveling of the problems in supply chains, so those would be offsetting effects. I think sitting here today, we don't expect the net effect to be big for the United States. It might be bigger for other parts of the world, but we think it ought to be moderate overall.

Mrs. WAGNER. China is one of the world's top oil importers. Do you expect any inflationary effects on global energy markets as China's oil consumption returns to previous levels?

Mr. POWELL. I think oil prices could be affected. I think that is a big concern in Europe, for example. We have our own domestic oil and we have a lot of natural gas as well.

Mrs. WAGNER. We sure do. I wish we were actually harvesting more of that liquid natural gas. Chair Powell, you, Vice Chair Barr, and many others have recently identified that the banking system is well-capitalized and strong. Bank capitalization remained robust during the shock of the pandemic and related shutdowns of economic activity. Capitalization of large financial institutions weathered severe stress testing mandated by the Fed. And despite all of that, as also previously mentioned by Chairman McHenry, Vice Chair Barr insists on conducting a review of capital rules.

I am concerned that this review is being conducted in a silo, and that the findings will not be made fully available to the public. Taking such an approach in the context of this holistic capital requirement review would make it impossible to conduct a transparent rulemaking process, denying the public information necessary to consider and to comment. I think this is just simply not appropriate in this situation, and I am concerned by the lack of clarity, I think is the best word, perhaps at this point by the Vice Chair.

I have a couple of questions. You have served on the Fed Board for over 10 years since the financial crisis regulatory framework has been put in place. And over that period, have you seen any real-world evidence that America's banks are undercapitalized?

Mr. POWELL. American banks are strongly-capitalized, and I believe Vice Chair Barr has said that as well.

Mrs. WAGNER. Yes.

Mr. POWELL. But the point is there have not been any real proposals to evaluate yet, and when there are, that will be done in a highly-transparent manner.

Mrs. WAGNER. I hope so. I am glad to hear you say, "in a highly-transparent manner." Do you agree that excessively-high capital levels constrain banks' lending capacity, with spillover effects on jobs and living standards for Americans?

Mr. POWELL. I think it is always a balance, right? More capital means more safety and soundness and more ability to withstand terribly-stressful periods, but it is more expensive. Equity capital is more expensive. U.S. banks have competed incredibly well around the world with the high levels of capital.

Mrs. WAGNER. Yes, they have internationally.

Mr. POWELL. That is a tradeoff that you are always going to be making when you think about capital.

Chairman MCHENRY. The gentlewoman's time has expired.

Mrs. WAGNER. My time has expired, yes. Thank you.

Chairman MCHENRY. We will now recognize the gentlewoman from Ohio, Mrs. Beatty, who is also the ranking member of our Subcommittee on National Security, Illicit Finance, and International Financial Institutions, for 5 minutes.

Mrs. BEATTY. Thank you, Mr. Chairman, and I like that title. Chairman Powell, thank you for coming and being such a good colleague and friend. I have a couple of questions I am going to try to get through quickly.

Chair Powell, in a press conference last month, you stated, "There is a lot of spending coming into the construction pipeline, both private and public, and that is going to support economic activity." How do you think the strong pipeline of funding from what the Democrats put together in passing the Inflation Reduction Act, the Infrastructure Investment and Jobs Act, and the CHIPS and Science Act will do to have economic activity this year and moving forward?

Mr. POWELL. I guess I was making the point that there are a lot of sources of demand that we can rely on, even though demand has been relatively increasing at a relatively modest rate. Part of it is—

Mrs. BEATTY. Will this help in that demand?

Mr. POWELL. Yes. State and local governments, I mentioned, are about to—

Mrs. BEATTY. Would you say this is a great thing that we have done, coming from the left of—

Mr. POWELL. It is not for me to judge the merits of what gets done, but I am just saying there is—

Mrs. BEATTY. But it will contribute—

Mr. POWELL. —demand there that will support economic activity.

Mrs. BEATTY. —and support it?

Mr. POWELL. Yes.

Mrs. BEATTY. I am going to assume from that, that that is a positive. Let me go to the second question. Chairman Powell, the Federal Open Markets Committee is projecting that unemployment will increase to 4.6 percent by the end of the year, and those costs, as we know, won't be borne equally. If we look at the ratio from the last time unemployment was 4.6 percent and compare it to our numbers now, it would mean that White unemployment would go

up to about 0.9 percent, but Black unemployment would go up by 2.3 percent. Does that sound somewhat accurate to you?

Mr. POWELL. Yes.

Mrs. BEATTY. Can you address the disparity impact with that, and before you answer, let me go to the book, and thank you that it was put in our places together. In this book with your signature on it, it is stated, "However, while disparities in unemployment have largely returned to pre-pandemic levels, there still remains significant disparities in absolute levels of employment across groups like African Americans and Hispanics." Can you address that?

Mr. POWELL. I can. Right now, to your point, actually, African-American unemployment is, I think, 5.4 percent, which is just about as low as it has been since we started tracking it in 1972.

Mrs. BEATTY. But differential from majority by—

Mr. POWELL. That is 5.4 percent, whereas the overall is 3.4 percent, and that includes Blacks, so that means for Whites, it is well lower than that, so there is a persistent gap between Black and White unemployment. And also, when unemployment goes up quickly in a recession, it goes up much faster for African Americans. When the economy grows again, it comes down faster. So, that is somehow embedded in our economy. The best thing we can do is achieve stable prices so that we can have long expansions. And what happens in those long expansions is that the labor market gets tight, sustainably tight, and we have historic lows in unemployment, including for African Americans.

Mrs. BEATTY. Let me say, thank you. As you know, in the 117th Congress, I was the Chair of the Diversity and Inclusion Subcommittee, and let the record state that you always pushed for making sure that you understood and respected that. This is very minor and certainly personal to me. In this report, maybe those who helped you author it, I would like to see the areas that talks about unemployment not under a title of special topics, but something that draws a little more attention to it as some of the others. Just very minor.

Last question, can you tell me if the Fed is committed to working with the other agencies like the FDIC and the OCC to finalize a rule soon on the Community Reinvestment Act (CRA)? Certainly, that is something of great interest to many of my colleagues, so can you give us any updates on it, or how the process is going, or what we can expect?

Mr. POWELL. Yes. With Governor Brainard's departure from the White House, I have asked Vice Chair Barr to take the lead in moving it forward. I would characterize it that there is essentially agreement between the three banking agencies on the changes to be made. That is all being written up and vetted, and at a certain point, the members of the Board of Governors will be briefed on it, and will vote on it.

Mrs. BEATTY. Is there anything we can do to help with that?

Mr. POWELL. No, I think we are hard at work on it. It is going to take some months, but I think we can see the airport and we will be landing in a few months.

Chairman MCHENRY. The gentlewoman's time has expired.

Mrs. BEATTY. Thank you. I yield back.

Chairman McHENRY. The gentleman from Kentucky, Mr. Barr, who is also the Chair of our Financial Institutions and Monetary Policy Subcommittee, is recognized for 5 minutes.

Mr. BARR. Thank you, Chairman McHenry. And, Chairman Powell, economic data are mixed, as you know. On the one hand, low unemployment, robust hiring, strong consumer spending, and persistent core inflation, and a CPI that is still more than 3 times your 2-percent target suggests more aggressive tightening is warranted. On the other hand, because the Fed misjudged the inflationary impact of Democrats' overspending, kept interest rates too low for far too long, and failed to end quantitative easing soon enough, the Fed has been forced to raise the Fed funds rate 450 basis points in just 11 months and reduce the M2 money supply at the fastest rate since the 1930s. As a result, wage gains have slowed, credit card debt is at an all-time high, the housing market is in a slump, and the yield curve is inverted.

I agree with you that the historical record cautions strongly against prematurely loosening policy, but what would you say to those who caution about the lag effects of monetary policy, the precipitous decline in liquidity? Will the economy have to suffer a recession in order to bring inflation down to 2 percent?

Mr. POWELL. We are very well aware of the lags with which monetary policy affects economic activity, inflation. Those are long and variable, and, I would stress, highly uncertain. There is nearly no agreement on exactly how long they are, but we know that slowing down the pace of rate hikes this year is a way for us to see more of those effects as they come in.

Mr. BARR. In December, most Fed officials expected to lift rates this year to between 5 and 5.5 percent. Is that still your estimated terminal rate, or does the data suggest that the terminal rate could be higher than 5.5 percent?

Mr. POWELL. My colleagues and I will write down new forecasts and release them to the public on March 22nd. But as I mentioned in my testimony, the data we have seen so far this year suggests that the ultimate level of rates will need to be higher, but we still have some more data to come in between now and the meeting. But as of today, it suggests a higher level than that.

Mr. BARR. Let's go to Vice Chairman Barr's review of the capital framework. I have a lot of questions for you on that. When Governors Brainard, Quarles, Clarida, Bowman, and Waller made up the Board under your leadership, major changes in policy were addressed following Board consensus and not when there was significant dissent. Will you commit to not implementing a new capital framework following this holistic review or the Basel end game if there is considerable dissent from the Board?

Mr. POWELL. I can't really commit to that. We are a consensus kind of an organization, and that is what we will work toward, but ultimately, we—

Mr. BARR. Would that be a break from your prior practices? You are a consensus builder, Mr. Chairman. You pride yourself on that, and we credit you for being a consensus-oriented Chairman. Will you commit to continuing that practice and not allow major changes to the bank capital regulatory framework to be made by one person?

Mr. POWELL. They can't be made by any one person, but I do commit to that. And I commit to doing everything I possibly can to bring people together in consensus, to have something that can be broadly supported.

Mr. BARR. Thank you. Earlier this year, you said, "We are not and will not be a climate policymaker." However, in the Fed's draft Principles for Climate-Related Financial Risk Management for Large Financial Institutions, one proposed principle suggested that boards of directors of financial institutions should consider making changes to compensation policies to align with values in the context of supposed climate risks. It appears then that the Federal Reserve, through regulation, wants to begin implementing climate policies, so which is it? There seems to be a disconnect between your statements publicly and the rules that the Board is putting forward for comment.

Mr. POWELL. I feel strongly that climate change is an important issue that needs to be addressed by elected people. It is just not something that we have been charged with by Congress. So, we do have a narrow role, and that role will be around making sure that banks understand and can manage the risks that they are running, and that is going to be it. And as I said before, we don't want to drift into becoming a climate policymaker, and we will have to guard that border very carefully.

Mr. BARR. Regarding the Fed's Climate Scenario Analysis pilot program, did the Board vote to approve the creation of that pilot program?

Mr. POWELL. I have to check, but I don't think so. I think it was already authorized.

Mr. BARR. And this is a concern that I have. I am concerned that one Governor acting unilaterally to implement major policy changes without Board consensus is a problem. So, I would urge you and your colleagues on the Board to continue a consensus-oriented approach.

I yield back.

Chairman MCHENRY. The gentleman's time has expired. We will now go to the gentleman from Connecticut, Mr. Himes, who is also the ranking member of the House Permanent Select Committee on Intelligence, for 5 minutes.

Mr. HIMES. Thank you, Mr. Chairman, and welcome, Chairman Powell. Thank you for your careful conduct of monetary policy, independent of the many political desires that circulate in this building. Independent monetary policy is a bedrock of a solid economy. I want to reflect for a moment on another bedrock of the American economy: the full faith and credit of the United States Government, which is now being put at risk by the Republican Majority.

My Republican friends know how very dangerous a game they are playing. They know that salary payments to our soldiers are at risk. They know that their irresponsibility will raise mortgage rates for new homebuyers, but they say this is the only time we focus on spending in the debt, which, of course, is baloney. It is a pernicious form of baloney. The time to focus on the deficit is when you are voting for the spending and the tax cuts that create the deficit. When you are voting for the Trump tax cuts, which the

Congressional Budget Office (CBO) said would add $2 trillion to the national debt, that is the moment to consider whether you want to do that, not when the good name of the United States is hanging in the balance.

This stuff gets a little complicated, but the American people really need to understand what is happening here. The Congress sits down to a huge 10-course meal of tax cuts, and spending, and more defense spending, and expansion of this program and that stimulus, all of which we vote for collectively, first course, second course, white wine, red wine, four servings of dessert. And then the bill comes and Republicans say, whoa, wait a minute, wait a minute. Hold on. Look at this bill. This is irresponsible. Do we really want to pay this bill? That is not the moment for the consideration. The moment is when you are ordering four helpings of dessert. That is when we should be talking about it and taking responsibility for the choices that we make without putting the full faith and credit of the United States at risk.

Now, here is where the hypocrisy comes in. My Republican friends like to point the finger at this side of the aisle and blame us, but, Chairman Powell, as you know, fully one-quarter, 25 percent of today's U.S. debt, was accrued in the 4 years of the Trump Administration. This country has been around for 246 years, and fully one-quarter of the United States' debt was accrued under President Trump. By the way, speaking of hypocrisy, in the 4 years of President Trump, the debt ceiling was raised or suspended 3 times. I didn't even notice, but now, of course, we have a different President, and so the calculus is different.

Now, I don't think I am going to persuade the Majority to act responsibly here. I actually think the markets will persuade them. And you will recall, because we were watching this closely, that on September 29, 2008, the Republican House of Representatives voted down the Great Recession rescue package. As the vote was going down in the House of Representatives, the equity market dropped 7 percent, with $1.2 trillion lost from people's retirement accounts. Then, Congress sobered up, and a couple of days later, we passed the Rescue Act.

So, Mr. Chairman, there is a question here and the question is this. You and I both watch the markets pretty closely. Treasury tells us that on June 5th—that is just 3 months away—the Treasury runs out of money. My question to you, Mr. Chairman—and I know I am asking you to be a little speculative here—is what should we watch for? What market signals could indicate that the markets are getting fed up with the manifest irresponsibility around this? Give us some things that we should be looking for?

Mr. POWELL. And I would love to, but I am going to limit myself to what other Fed Chairs have said about the debt ceiling, which is that it does need to be raised by Congress. In the end, there are no rabbits in hats, as I mentioned, and also no one should assume that it is the Fed's business to protect the economy from various events. And no one should assume that we have the tools to predict the highly-uncertain effects of that kind of an event.

Mr. HIMES. Monetary policy is obviously very concerned with interest rates. If global capital markets begin to decide that we are really serious about hurting ourselves this time, is it possible that

we could see interest rates rise more because borrowers of United States debt decide that we are actually a little risky? Is that possible?

Mr. POWELL. I think that and many other things are possible. The thing is, we have never crossed that line, and if we cross that line, we are going to find out, and I think it is highly uncertain.

Mr. HIMES. Okay. So, that is possible. And you know I don't like pressing you on these things, but you said that this and many other things are possible. Do you want to elaborate on what might be in the category of, "many other things?"

Mr. POWELL. I would rather not, actually.

Mr. HIMES. Okay. I figured. Thank you. Mr. Powell, again, I thank you for your really responsible conduct of monetary policy. And there is a reason that you are insulated from our political desires, and I very much appreciate that, and I yield back.

Chairman MCHENRY. The gentleman yields back. The Chair now recognizes the gentleman from Texas, Mr. Roger Williams, who is also the Chair of the House Small Business Committee.

Mr. WILLIAMS OF TEXAS. Thank you, Mr. Chairman. And Chairman Powell, it is good to see you. It's always good to have you here. In past congressional testimony, you have repeatedly stated that you support protecting the State-based system of insurance regulation, which is the most effective and competitive in the world. And my home State of Texas is the world's 7th-largest insurance market, proving the success of this system.

Now, with the International Association of Insurance Supervisors (IAIS) conference in November, there is the opportunity to have the U.S. State-based aggregation method become formally recognized as comparable or equivalent to the insurance capital standard. We should not be following the European model that has increased regulations and less competition, and we should prioritize a model that encourages deregulation, competition, and less government involved in pricing.

My question is, Chairman Powell, can you highlight the benefits of the U.S. State-based aggregation method compared to the European model regarding market resiliency and systemic risk, and can you confirm that you will push for an aggregation method to be deemed equivalent by the IAIS?

Mr. POWELL. I can say this. I do think that our insurance regulatory system has proved itself appropriate and adequate and has gotten the job done for a long time, and we don't need to be copying other country's or other region's insurance regulatory systems. I am a little rusty on the details of the capital requirements, but that sounds right.

Mr. WILLIAMS OF TEXAS. But the bottom line is, our side works, and the other doesn't. We need to stay where we are.

Mr. POWELL. Our side works.

Mr. WILLIAMS OF TEXAS. Yes, thank you. Also, in the past, you stated that banks were well-capitalized. We talked about that today, but now there have been increased conversations about raising capital requirements. Numerous economic studies have found that raising capital requirements for banks will increase borrowing costs for their consumer and commercial customers. In 50 years, I have never had a day I wasn't out debt, so I am concerned about

this, and implementing additional regulatory capital requirements will slow economic growth and limit financial institutions' lending ability. So, do you believe that raising capital requirements would raise the cost of borrowing and add cost to our economy and to Main Street America?

Mr. POWELL. It depends on which banks experience higher capital requirements, and there isn't any proposal to evaluate right now, of course, but it is always a tradeoff. Higher capital is good in a sense, because it keeps banks able to lend during bad times. That is really a good thing. Too much capital, though, probably limits credit availability, so we are always trying to strike that balance.

Mr. WILLIAMS OF TEXAS. This has been touched on a little today, but let me come from a different angle on it. The Federal Reserve was created to act as a nonpartisan entity that remains separate from party politics. You talked about that. Unfortunately, throughout recent years, the Fed has gotten caught up in politically-charged issues like economic inequality, gender and race discrimination, and climate change. Recently, the Federal Reserve Board proposed guidance on managing climate-related risks for large banks, further proving that the Fed is giving in to some political pressure and operating outside its intended purpose and responsibilities.

Our country's financial leaders, in my mind, should be focused on addressing runaway inflation instead of worrying what the financial institutions are doing to monitor climate change. We have touched on this a little bit, but how can the Fed ensure that they are not placing undue regulations and guidance on banks by forced involvement in partisan green politics, and how is the Federal Reserve ensuring they remain separate from political influence?

Mr. POWELL. Our independence is partly founded on the idea that we will stay out of stuff that you have not assigned us to do, and if we are going to wander all over and take on the hot issue of the day, our case for our independence is dramatically weakened. On climate change, you mentioned the guidance, and then there are also the stress scenarios, and those are the two things that we have done. We tried to keep those tightly focused on the banks' understanding and being able to manage the risks that they will run over the longer time periods on climate, and not slide into a broader sort of policymaking role on climate change.

I accept that that could be a slippery slope and a moving border. And I just want to say I think my colleagues feel the same way on the Board, that we are going to guard that border carefully, and we are going to stick to our role and not try to be policymakers. In many other countries, the central bank is out there in the lead with the support of the public doing climate policy, but that is not where we are in the United States, and we are not going to pretend that it is.

Mr. WILLIAMS OF TEXAS. I have some time left, and I yield back, but I just want to say as an auditor, I am looking forward to that first day of that rate cut. Thank you for being here. We appreciate it.

Chairman MCHENRY. The gentleman's time has expired. We will now go to the gentleman from California, Mr. Vargas, for 5 minutes.

Mr. VARGAS. Thank you very much, Mr. Chairman, and again, thank you for holding this hearing. Chairman Powell, it's a pleasure to see you again. I have said it before and I will say it again, it is always great to see you because I always think of the old Republicans, the ones who are very noble, did the right thing, didn't play chicken with the economy, very forthright. Anyway, I appreciate you being here very much. Like some of my colleagues on the other side, I would say the same thing about some of them, and I appreciate you.

We heard today that the inflation is President Biden's fault. What is the inflation rate in the European Union today?

Mr. POWELL. It is high.

Mr. VARGAS. It is high. Is it 10 percent possibly?

Mr. POWELL. I don't have that figure in my head, but it is very, very high from a headline standpoint, and they have had core inflation move up, too.

Mr. VARGAS. Are they following President Biden's policies? Is that what caused the inflation, because it seems to be President Biden's fault?

Mr. POWELL. I think inflation is everywhere, and it must have to do with a common factor, and that common factor has to be the reopening of the economy after and the things that were done with COVID. On the other hand, each country has a little bit different case, and I think you have to be careful. We had much more of a demand-oriented issue than they did. Their inflation looks a lot like ours did a year ago.

Mr. VARGAS. Okay. Yes, I just had to bring it up, because, again, Mr. Sherman brought it up, but it is interesting. Every time I hear inflation is caused by President Biden, I wonder, why is it all over the world? It is not because of the pandemic, of course, or because Europe is at war. That wouldn't cause it, of course. It would have to be President Biden's policies. That is ridiculous, and I think the voters saw through it last time.

I haven't been here for 15 years like my good friend, Mr. Foster. I have only been here for 11 years. But when I first got here, I heard from my friends on the other side that the boogeyman was the Dodd-Frank Act. Dodd-Frank was going to be the end of banking, and, in fact, all my colleagues would almost scream how horrible this was. And then we got the bankers up here during a real stress test, which was the pandemic, and we asked them, has it been helpful to have Dodd-Frank? Do you know what they said?

Mr. POWELL. I don't.

Mr. VARGAS. They said it was helpful. In fact, it kept the banks capitalized. It was fascinating. Now, to be fair to them, they did complain about some of the smaller issues, but not Dodd-Frank in general, the bill. Then, it seemed that the Consumer Financial Protection Bureau (CFPB) became the next boogeyman, but they seem to be fading on that. And I think the reason for that is the CFPB has actually helped so many people, that now a lot of their own constituents now are getting helped by the CFPB. All of a sudden, there is not quite the energy. So now, they are attacking ESG, and

they are saying that you and everybody else is somehow conspiring to make sure they don't buy their oil or their coal. Are you conspiring to do that? Are you conspiring?

Mr. POWELL. No, I don't believe we are conspiring.

Mr. VARGAS. No? Now, I heard it was supposedly climate risk. Is there a risk in the climate change?

Mr. POWELL. Yes.

Mr. VARGAS. There is? Could it affect the banks?

Mr. POWELL. Certainly, in the longer run, yes.

Mr. VARGAS. Yes, of course, it can. Do you think insurance companies take this into account?

Mr. POWELL. Yes. Actually, I believe they do.

Mr. VARGAS. They absolutely do.

Mr. POWELL. They write long-duration liabilities. They certainly do.

Mr. VARGAS. Of course, they do. They are very concerned with it. Weather is a big deal. I was the vice president of Liberty Mutual in their corporate legal department, and we used to have what we called catastrophes, and these catastrophes happened every 25, 50, or 100 years. Now, those 25-, 50- and 100-year events happen every 5 years, or every 2 years. So, of course, it is.

It is ridiculous not to take a look at these ESG factors. We have to, and, again, I am glad that you are taking a look at it, because it is real. I am glad that the President is taking a look at it. And it is sad that my colleagues on the other side just want to stick their head in the sand and say, no, climate change is, "supposed climate change." No, the reality is that it is real climate change, and it is costing billions and billions of dollars. And if you don't believe it, go ask all those poor people in Florida who had those huge hurricanes come through and wipe them out.

Again, I appreciate very much the work that you have done. The only thing I hope is, as you said, that if we ever see this pitch again, we will know how to swing at it. And I hope we don't get the pitch of defaulting because I am not sure we will know how to swing at that one. Thank you again, Mr. Chairman.

Mr. POWELL. Thank you.

Mr. VARGAS. I yield back.

Chairman MCHENRY. The gentleman yields back. The Chair now recognizes the gentleman from Michigan, Mr. Huizenga, who is also the Chair of our Subcommittee on Oversight and Investigations, for 5 minutes.

Mr. HUIZENGA. Thank you, Mr. Chairman, and I am going to move quickly. It's good to see you again, Chair Powell. I caught a little bit of the Senate hearing yesterday, and you had a lot of pressure to keep the sugar high going. And frankly, if the Fed and many of our colleagues had listened to what many of us were saying, we should have been weaned off that artificially low, cheap money that kept the party going, and frankly, we wouldn't be in this position.

To reference Chair Greenspan's punchbowl analogy, not only did no one have the courage to remove the punchbowl, you had people cheering on the pouring of another bottle of 151 rum into the punchbowl, and here you have folks wanting to do the exact same thing. Let's spend more, and now, here we are. You have an impos-

sible decision: to slow the economy or let everyone get crushed by inflation. And we know tightening means a slower economy. And a slower economy means fewer jobs. Fewer jobs hit those who can least afford to lose a job. And so, in short, the lower rungs of the economic ladder will suffer more than the rest of the ladder, so that is the state of play of where we are at currently.

I have to hit a couple of quick issues here. I wanted to start off by discussing climate, especially given the Fed's announcement in January that they were going to conduct a Pilot Climate Scenario Analysis Exercise. The Fed, along with the OCC and the FDIC, have each issued proposed climate risk management principles for banks that you are attempting to finalize by the end of the year, and their requirements don't stop at the border. The U.K. and the EU central banks are moving to require significant ESG disclosure regimes as well.

I know the Fed is taking a look at commodities capital charges in the holistic review, but even though the Fed isn't forcing banks to encompass climate analysis in their stress tests, there are many initiatives at the Fed that are going to make it more costly for banks to finance traditional fossil fuel companies. I want to ask you a very specific question: Will you commit that you will withhold support for a new capital rule that increases capital charges on bank activities in traditional energy companies?

Mr. POWELL. I can't sit here and promise what I will and will not vote for, because I don't know what is going to be in the proposal, but that is not the kind of thing I think we are looking at.

Mr. HUIZENGA. I'm sorry. It is not the kind of thing—

Mr. POWELL. This is about overall capital levels more than anything else, I think, rather than the specific thing you are talking about.

Mr. HUIZENGA. Okay. We are going to follow up on that, because we need to have a real-time conversation about what is going on there. I want to quickly switch topics and go in a different direction for this next question. I want to ask you about two opinions issued by your legal staff in November of 2019 and December of 2022 to the asset managers, Vanguard and BlackRock.

Chairman McHenry, I would like to submit the two letters for the record.

Chairman MCHENRY. Without objection, it is so ordered.

Mr. HUIZENGA. Thank you. These opinions appear to outline the parameters of how both Vanguard and BlackRock can operate without being deemed a bank holding company. In addition to the legal restrictions outlined by the bank holding company, these opinions listed out here in quite detail list out commitments that the companies would need to take to avoid being viewed as having, "control." These opinions also appear to provide assurances that the Federal Reserve Board staff would not recommend that the Board find the asset managers to be bank holding companies. Further, it is unclear whether the Board will take any steps beyond a periodic self-certification by the asset managers to monitor compliance, with the condition that they, "not take any action to control a banking organization. As some asset managers play a larger role and clearly strive to influence policy in companies across the free market, we need to remain vigilant."

So, Chair Powell, is the Board taking any steps to assess or monitor whether Vanguard and BlackRock are complying with the commitments made in November of 2019 and December of 2020, respectively?

Mr. POWELL. I would have to check and get back to you on that.

Mr. HUIZENGA. Okay.

Mr. POWELL. I am familiar with the issue.

Mr. HUIZENGA. I appreciate that, but that says to me that it doesn't sound like there is an ongoing assessment that is taking place or scrutiny of that. Is somebody reviewing that or is somebody in charge of reviewing that?

Mr. POWELL. That is a very specific, narrow question. I am quite familiar with the issue.

Mr. HUIZENGA. It is specific and narrow to two companies, but not to an industry. That is what we need to be driving at, and I guess we need to find out whether there is somebody proactively reviewing these activities and these commitments that the companies have made as well as the Fed has made. How often do you think they should be reassessed: annually, monthly, biannually?

Mr. POWELL. This is a very narrow set of questions. I can get you great answers really easily, but I don't have them in my head to—

Chairman MCHENRY. The gentleman's time has expired.

Mr. HUIZENGA. I look forward to those great answers, and I yield back.

Chairman MCHENRY. We will now go to the gentleman from New Jersey, Mr. Gottheimer, for 5 minutes.

Mr. GOTTHEIMER. Thank you, Mr. Chairman. And Chairman Powell, thank you for joining us today. Chairman Powell, when you testified before the committee last June, PCE inflation was up 6.3 percent year-over-year. Just a few weeks ago, PCE data showed that the number has decreased to 5.4 percent. We are moving in the right direction, but despite the Federal Reserve raising interest rates, the highest rates since October 2007, we are still far off from the 2-percent inflation that the Federal Reserve is targeting.

Do you believe 2 percent is still the right target for inflation? And given the ongoing energy transition, the push to shift supply chains out of China, and the labor shortage here in the U.S., should the Fed consider adjusting its target to avoid overly burdening Americans? Would a decline to 3-percent inflation be enough to offer price stability without excessive economic pain?

Mr. POWELL. No, 2-percent inflation is going to remain our longer-term inflation goal.

Mr. GOTTHEIMER. Are you concerned, given all of the other factors that I mentioned, or do you think we just have to keep sticking with that?

Mr. POWELL. I think that has to remain our longer-term inflation goal. It is the global standard and it is our standard, and this is not a time at which we can start talking about changing it. We have no instinct to do that.

Mr. GOTTHEIMER. Thank you, Mr. Chairman. The gig economy has grown significantly in recent years as more Americans are working as contractors or running small businesses. The Dallas Federal Reserve has written that gig workers are often not included in payrolls and not counted among the unemployed, and

this may understate the number of Americans who could be counted as unemployed. The Fed has also noted a large number of Americans who are missing from the workforce after the pandemic. Do we need to change the way we think about measuring unemployment to account for these changes?

Mr. POWELL. I missed the word you are saying. Gig?

Mr. GOTTHEIMER. Sorry. Do you think we need to change the way we think about measuring unemployment to account for these changes?

Mr. POWELL. I didn't catch that. What was the word—

Mr. GOTTHEIMER. Oh, sorry. Gig workers.

Mr. POWELL. Gig workers.

Mr. GOTTHEIMER. Yes, I'm sorry. Gig workers.

Mr. POWELL. That is the word I didn't hear. Okay. No, we clearly need to incorporate gig workers both into the labor force and to whether they are working, and they certainly are working. We are trying to do that. It is not that we are not trying to do that, but we may not be doing it perfectly.

Mr. GOTTHEIMER. And is there a better way to capture them? Given we are still using older measurement ways, are we updating our measurement—

Mr. POWELL. We are definitely trying to get those people. Self-employed people, they do report in the household survey, I believe. I can get more for you on that, but I am sure we are not doing a perfect job at it because it is a relatively new thing. But we are very well aware of it, and they are supposed to be included.

Mr. GOTTHEIMER. That would be great. I would love to talk to you more about that.

Mr. POWELL. Great.

Mr. GOTTHEIMER. Thank you. As you are also aware, many of us are having discussions about the long-term fiscal health of our country and our economy. Like many, I worry that higher interest rates will put upward pressure on the national debt. CBO already estimates that annual interest costs will nearly triple for the U.S. over the next decade. You said to the Senate yesterday that interest payments are not a consideration of the Fed, but are you concerned that higher interest rates will more rapidly make payments on the debt unsustainable, and are there actions Congress should consider to address this issue?

Mr. POWELL. I will say what my predecessors have said, which is that we are on an unsustainable path, and ultimately, we will get back on a sustainable path. And the sooner we get to work on that, the less painful it will be.

Mr. GOTTHEIMER. And rates, of course, were low between the financial crisis and the end of 2021, particularly low. After the target inflation rate is hit, what do you think the new normal looks like in terms of rates and the Fed balance sheet over the next 5 to 10 years?

Mr. POWELL. That is a really good question. There was a secular decline in longer-term interest rates, which we don't control, for 40 years, to the point where the 10-year Treasury was at 10 percent, and then at the end of 40 years, it was quite low. You are at higher levels, as you pointed out, levels we haven't seen since earlier in this century. I don't think anybody knows what this is going to look

like 5 years down the road. Demographics haven't gotten better. Globalization may actually move a little bit in reverse, which would tend to produce higher inflation, and thus, higher rates. But you have to ask, of the factors that caused low rates, how much of that has changed, and some of it has, but much of it hasn't.

Mr. GOTTHEIMER. And building on that a little bit, what is the right metric, do you think, if you were in our shoes, for assessing our fiscal health? Do you think we should be focused on maintaining a specific debt-to-GDP ratio, or is there a specific number? Are there other measures lawmakers should be focusing on?

Mr. POWELL. We have traditionally focused on debt-to-GDP, but many people pointed out before the pandemic that rates were secularly lower, and that, therefore, you could look at sort of real debt service. There was a lot of research on that, and by those measures, actually, debt service was much easier to handle. Now, the 10-year is back close to 4 percent, and I think we need to be careful not to assume that these secularly-low longer-term rates are going to continue indefinitely, because that doesn't look likely now. And frankly, most forecasts have always shown things like the 10-year going back to a higher level, so it won't be that big of a change. I think it has more or less been handled, for example, by CBO that way.

Mr. GOTTHEIMER. Excellent. Thank you so much, and I yield back. Thank you.

Mr. POWELL. Thank you.

Chairman MCHENRY. The gentleman from Ohio, Mr. Davidson, who is also the Chair of our Subcommittee on Housing and Insurance, is now recognized for 5 minutes.

Mr. DAVIDSON. Thank you, Mr. Chairman. And Chairman Powell, thank you. It is an honor to be able to talk with you today, and I appreciate the work you and the monetary policy focus portion of the Fed does. We are waiting for maybe a more consistent input from our bank regulators. So, for the regulatory side, I have spoken with multiple bankers who tell me that they have never seen a higher degree of regulatory burden, steering guidance, and shaping activities in the market from regulators, and I don't think that is just narrowly focused on the Fed, but I ask you to look into it.

There are a lot of people who feel like there is an Operation Choke Point 2.0 going on, and it is particularly focused on de-banking people who are disfavored by the current Executive Branch primarily, just like the previous Operation Choke Point. And so to the extent that you yield any influence over the regulatory component of the Federal Reserve, I think that would be meaningful and important, because part of the strength of the U.S. dollar is, of course, the stable store of value. Currencies around the world are wrestling with that and inflation, and you all are working to tackle it. But the other part is, is it is an efficient means of an exchange, and when people really feel like some third party is going to steer or shape their money, they don't trust it. For the unbanked and the underbanked, fundamentally, that lack of trust is part of why they don't use our banking system today. In fact, that is part of the appeal of the digital asset space, is the permissionless nature of it.

It seems that a lot of people in the financial services space who have grown up in it and are leading it today, feel threatened by

the prospect of change. And if they have maybe reluctantly concluded that you can't ban crypto, they at least want to keep it account-based so that some third party can actually control the assets, which is a polite way of saying we don't actually trust our citizens to control their money or their assets. We will let somebody else do it for them, because we can control those third parties. And in fact, that is what the regulators do, isn't it?

Mr. POWELL. As in what?

Mr. DAVIDSON. They control the third parties. If you don't comply with the regulatory regime, you don't get to operate a financial services business, right?

Mr. POWELL. That is right.

Mr. DAVIDSON. Yes. And at the end of the day, I think a lot of people were concerned by your remarks yesterday—I know I was—saying that permissionless digital assets pose a systemic risk to the financial system.

Mr. POWELL. By the way, I think if you read through the digital guidance, which I did getting ready for this hearing—and of course, I read it before we put it out the first time—but it is pretty careful to say that we don't want regulation to oppose innovation, and thus, entrench incumbents and things like that. It is pretty balanced, the language, and I think it essentially goes to the question of protecting the safety and soundness of institutions. I think what we say about it is—I will paraphrase it—that they have been vehicles for fraud, vehicles for—

Mr. DAVIDSON. Zero-point-two-four percent. So, if you follow your own report on fraud, it is a fraction of what it is with the U.S. dollar. Speaking of the dollar, is there any real current threat to the dollars preeminence as the world's reserve currency?

Mr. POWELL. You are asking a question? I didn't—

Mr. DAVIDSON. Yes, sir.

Mr. POWELL. Is there a real threat?

Mr. DAVIDSON. Is there a threat?

Mr. POWELL. I think that our status as the world's reserve currency is not under a particularly strong threat right now. I think it is a pretty stable equilibrium. It is not a permanent equilibrium, but there isn't really a serious competitor, and that is because of our democratic institutions, and the rule of law, and the fact that the dollar's value is pretty stable.

Mr. DAVIDSON. Okay. Quickly, on the repo market, just any insight into that, and then I will have my last comment here and just leave the last word to you, but I'm particularly curious about the repo market. But I will close by simply saying I would ask you to turn off the purchase of mortgage-backed securities. As the Chair of the Housing and Insurance Subcommittee, I am particularly concerned about affordable housing, and the artificial prop for the mortgage-backed securities does raise the cost of capital in that space. So whether you own it, or occupy it, or rent it, it is going to raise the cost there, but I just ask if you would comment on the safety and soundness of the repo market, if you would?

Mr. POWELL. Of the repo market—as far as I know, the repo market is functioning reasonably well these days. You are talking about the reverse repo facility or the—

Mr. DAVIDSON. Yes.

Mr. POWELL. Reverse repo facilities are a different thing. We can continue this later.

Mr. DAVIDSON. I would like to follow up with you later. My time has expired, so I yield back.

Mr. POWELL. Thank you.

Chairman MCHENRY. The gentleman from Illinois, Mr. Casten, is recognized for 5 minutes.

Mr. CASTEN. Thank you, Mr. Chairman. Chairman Powell it's always a pleasure to see you, and I appreciate your time here today. I want to start with this chart in your monetary policy report, which I think is fascinating, Chart 14 on page 17. This is the history of wage growth and job growth, and for those of you who don't have it in front of you, broadly speaking, from 2000 to 2017, we had more workers than jobs. From 2017 until the COVID crisis, it was about the same, and since COVID, we have had more jobs than workers. And there is tons of rich stuff in here that I just enjoyed reading. But broadly speaking, if that was the only thing going on in the economy, I would assume that we had 20 years where it was essentially a buyer's market for labor, and the last year-and-a-half where it has been a seller's market for labor, as you look at that.

And if I go through and I look at from 2010 to 2020, CPI was up 20 percent over the period and real median wages was less than 10 percent. So, for half of the economy, they didn't keep up with wages, even though we think of that as a very low inflationary period. Corporate profits were also up strongly, as you would expect. I am not saying that with judgment. If it is a buyer's market for labor, you would expect the gains from labor productivity to flow to consumers and profits, and it looks like that is what it did. In the—

Mr. POWELL. Which chart you are looking at?

Mr. CASTEN. This is Chart 14 on page 17. It is the top right corner there.

Mr. POWELL. Got it. Okay. Thanks.

Mr. CASTEN. In the last year-and-a-half, median wages are up 5 percent, which is almost as much as they grew during that 10-year period before, and, yes, inflation is still a bit higher than that. But what I am wondering is, as you look at the economy, is wage growth universally bad in your view, or is wage growth good to the extent that it is keeping up with wages because, historically, wages didn't keep up? And how do you think through that nuance, because interest rates are a very blunt tool? And if you agree with me that we are now basically in a seller's market for labor, shouldn't we expect and welcome some of the wage inflation which goes with that?

Mr. POWELL. I would say two things. First, we want wages to go up in ways that are consistent over time with the increase in productivity and inflation, and that makes all the sense in the world. The other thing I would say is that in this instance, what we have seen is these very high nominal wage gains have very largely been eaten up by higher inflation. So, it is very important that we restore price stability so that we can start to see real wage gains after inflation across the income spectrum.

Mr. CASTEN. No. And to be clear, we are all opposed to inflation here. But in that 2010–2020 period that we all viewed as a very low inflationary period, the gains from productivity did not flow to labor. Wages did not keep up with inflation, and we didn't think about that as a problem for the Fed to fix because overall inflation was down. This gets sort of theoretical, but let's say that we had 6-percent wage inflation and 5-percent CPI. There would be more money in people's pockets, but would we view that as an inflationary period to clamp down because we didn't view the inverse as a problem, if you will?

Mr. POWELL. Our job is to restore price stability and keep price stability. It isn't to keep wages down, and it is certainly not to get involved in trying to establish the appropriate level of labor share of profits, for example. That is not the way we think about it at all. We think about price stability, and when we think about price stability, we think about wages as an important input to that. But we are not targeting a particular level of prices, and we would never say that we don't want real wages to go up.

What we are really charged with is price stability, and to do that, we have to think about wages. In particular, no one at the Fed would be upset to see the labor share go up, but that is not something that our policies affect. That is set by globalization, and the advance of technology, and educational skills, and aptitude and all those things. That is what drives productivity, and that is what drives labor share.

Mr. CASTEN. Yes, and I realize it is hard to have these conversations in 5 minutes.

Mr. POWELL. Yes. I would be happy to follow up after the hearing.

Mr. CASTEN. I guess what is hard is that, also in that 2010–2020 period, median home prices went up by 50 percent. We didn't view that as inflationary. And 401(k)s went up a lot. We didn't view that as inflationary because those were asset increases. So, as we have shifted the gains from people who had wealth to people who were dependent on wages, there needs to be some correction. And I leave it there because I am out of time, but how we think about that—

Chairman MCHENRY. The gentleman's time has expired.

Mr. CASTEN. I yield back.

Chairman MCHENRY. We will now go to the gentleman from Tennessee, Mr. Rose, for 5 minutes.

Mr. ROSE. Thank you for being with us today, Chairman Powell. I just want to echo at the outset some of the concerns that my colleagues have raised about Vice Chair Michael Barr's, "holistic review," of capital markets, and also about the Fed engaging in climate policy, as well as your decision to put Vice Chair Barr in charge of the Community Reinvestment Act rulemaking. With that said, I am going to dive right into my questions.

Chair Powell, I was pleased to see that the U.S. Coin Task Force released their report on the State of Coin a few months ago. The report notes that the Federal Reserve and the U.S. Mint will be jointly contracting with a third-party consultant to review the coin supply chain and develop recommendations to improve it.

Chairman Powell, could you provide us with an update on what the Fed has learned from its review of the coin circulation issues that occurred during the pandemic?

Mr. POWELL. We know that the natural flow of coins in the economy slowed down a lot because people were staying home and that kind of thing, and they may have switched to non-coin-based means of payment. And we feel like the evidence shows that has continued now. People are paying electronically and things like that, and coins are sitting in jars on people's desks and at home, and they are not circulating back into the banks, and thus, to the retail stores. So, we are working on that. We are working with the Mint. We are working with all of the stakeholders in the coin ecosystem to try to address this problem, and we are well aware of it.

Mr. ROSE. It seems to me that what we learned from that is that it is probably necessary to have a greater reserve of coins if there is such an interruption in the future so that commerce is not indeed interrupted. Would you share that broad view?

Mr. POWELL. That sounds right. I am not an expert. I will say it feels like we need more coins now because more of them are sitting in people's homes and pockets, and they are not flowing back to where retailers, in particular, need the flow of coins. So, that sounds right to me.

Mr. ROSE. On a related note, could you speak about the importance of maintaining cash as a viable payment option, particularly for those who lack or don't have access to traditional financial services?

Mr. POWELL. We think it is absolutely critical, because there are people who don't have credit cards. Many people don't have credit cards, they don't have good credit, and they need to be paying in cash. And when stores are not dealing with people who don't have cash, it is a serious problem for those people in the economy. We have it at the Board of Governors and you see it elsewhere because most payments are now taken care of by credit cards, and it is very efficient, but we need to be looking out for people who use cash.

Mr. ROSE. Thank you. I appreciate the perspective. Picking up on Mr. Luetkemeyer's concerns that he expressed earlier, as you know, the Consumer Financial Protection Bureau's (CFPB's) funding mechanism is intricately linked to the Federal Reserve System. According to Title X of Dodd-Frank, each quarter, the CFPB Director requests an amount that is reasonably necessary to carry out the Bureau's authorities, and the Federal Reserve must transfer that amount so long as it does not exceed 12 percent of the Federal Reserve's total operating expenses.

For the first 5 years of the existence of the CFPB, of course, there was a relaxation there with respect to that 12-percent cap that allowed $200 million annually to be spent beyond that number so long as it was reported and so long as the reported excess was sent to the President by congressional appropriators. Chair Powell, during your chairmanship, has the Fed ever rejected a CFPB budget request?

Mr. POWELL. I do not believe so.

Mr. ROSE. And could you tell us what policies and procedures are in place at the Fed to ensure that there is no waste, fraud, or abuse, or that these limits are not otherwise exceeded?

Mr. POWELL. We have no role in engaging with that. We share a common Inspector General who does work on those issues, but we don't have any governance of any kind over the CFPB. We are just a source to them.

Mr. ROSE. Thank you. I appreciate that insight. In closing, Chair Powell, yesterday Senator Warren asked you what you would say to the 2 million people who may lose their jobs if the Fed keeps raising interest rates. Frankly, Senator Warren should have been asking herself the same question when she voted and advocated for the Democrats' reckless spending packages that caused this inflation that we are seeing today, and is the reason the Fed has had to raise interest rates, in my view. Frankly, I would call on Senator Warren, the President, and the Democratic Party, for that matter, to apologize to the American people for causing this kitchen table crisis across the country. With that, Mr. Chairman, I yield back.

Chairman MCHENRY. The Chair now recognizes the gentlewoman from Massachusetts, Ms. Pressley, for 5 minutes.

Ms. PRESSLEY. Thank you, Chairman Powell, for joining us today and for your testimony. I am going to focus my comments and my questions on the high costs that families in my district are seeing because of your interest rate hikes. Now, while the Fed has acknowledged that higher interest rates are not the primary driver for the slowdown in price increases, you continue to raise interest rates, risking not only millions of jobs, but also a recession. Based on projections from the Fed, approximately 2 million people will lose their jobs, so that is 2 million families who will struggle to put food on the table, keep a roof over their heads, and to make ends meet, but the economic hardship does not end there.

Mr. Chairman, I would like to request unanimous consent to submit a recent paper by the Federal Reserve Bank of Cleveland, entitled, "Post-COVID Inflation Dynamics," into the record.

Chairman MCHENRY. Without objection, it is so ordered.

Ms. PRESSLEY. Chairman Powell, are you familiar with this publication? Yes or no?

Mr. POWELL. No, I am not.

Ms. PRESSLEY. Okay. Let me give you some context. In this paper, the Fed's own economists predict that reaching the 2-percent inflation goal that you have set will be impossible without causing a recession and spiking the unemployment rate to 7.4 percent, which translates to millions of working people losing their jobs.

Chairman Powell, many economists agree with me when I say that engineering a recession to bring inflation under control is not the right strategy, especially at a time when we are seeing inflation cool in real time, independent of your rate hikes. On behalf of the people of this country, to prevent a recession, yes or no, Chairman Powell, will you pause future interest rate hikes?

Mr. POWELL. We are not seeking to have a recession, and we don't think we need to have a recession to get—

Ms. PRESSLEY. Respectfully, will you pause interest rate hikes, yes or no?

Mr. POWELL. I don't answer, "yes" or "no',' about whether I will pause the interest rate hikes. That is a serious question, and I can't tell you because I don't know all the facts. That is not a possible—

Ms. PRESSLEY. It is a very serious question because it has very serious implications. The people who will bear the brunt of an economic recession are most-vulnerable. We know from past experiences that recessions have catastrophic and deeply inequitable consequences. In fact, while some will catch a cold, others will catch pneumonia, but you know that, an economic cold or pneumonia. In fact, in your opening statement, you said, "We will stay the course until the job is done." To conclude, "We understand that our actions affect communities, families, and businesses across the country." Could you elaborate what this effect will be on communities, families, and businesses of these interest rate hikes?

Mr. POWELL. Right now, we are trying to bring down inflation on behalf of all of those families. I think high inflation is particularly hurting working families all around the country very badly. And as you know, if you are on a very limited budget and you don't have a lot of excess earnings, when prices start going up, you are in trouble right away. Middle- and upper-middle-class people have more resources, so we think it is absolutely critical for the working people of this country that we get inflation back under control. And also, while we are at it, we have a dual mandate—

Ms. PRESSLEY. Apologies, Mr. Chairman, just reclaiming my time here, the most devastating impacts will be to our most-vulnerable populations: veterans, the elderly, low-income workers, and Black and Brown workers, those who have often been ignored and neglected in the name of what you refer to as, "appropriate monetary policy." And yet, you assert that you will stay the course. It is unconscionable, and our most-vulnerable workers and families cannot afford to wait for you to realize the harm that you were doing. In my opinion, this sounds more like the assertions of a greedy corporation than someone who has a public mission on behalf of the people of this country.

I have one more question with my remaining time here. Chairman Powell, another consequence of your interest rate hikes has been the increase of the average 30-year fixed-rate mortgage rate to 6.6 percent, double what it was 2 years ago. Do you see this widening inequity in the housing market as a problem, and what steps will you take to make housing more affordable? This is putting homeownership further and further out of reach for my constituents, including new parents, parents, millennials, and people of color, and contributing to inequities and the racial wealth gap. So, what are your thoughts on that?

Mr. POWELL. Our policies do affect—

Chairman MCHENRY. The gentlelady's time has expired. Chair Powell can submit an answer for the record.

Mr. POWELL. I will briefly say, if I can, that interest rate policies affect interest sensitive spending very directly. When we cut rates, they help housing. When we raise rates, you see the effect on housing.

Ms. PRESSLEY. Thank you.

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

Mr. TIMMONS. Thank you, Mr. Chairman, and thank you, Chair Powell, for being with us today. We currently have $32 trillion in debt. Our debt-to-GDP ratio is 120 percent, the highest it has ever been, and, yes, we have a debt ceiling fight brewing for the summer. I would argue it is an opportunity to get our fiscal house in order, but sadly, there is no meaningful bipartisan effort to responsibly address our debt.

Both sides have even preemptively started political attacks, alleging either side wants to cut Social Security and healthcare, but politics and talking points will not fix our problem. Our debt is the greatest national security threat. Social Security will be insolvent in 2033, and our healthcare system is fundamentally broken. We spend twice as much as the average country per person, and our obesity rate is 3 times the average. I want to be clear, though, I am not advocating cuts to Social Security, but my Social Security will have to be different than my father's, and we must change the incentive structures of our healthcare system.

Briefly, let's go over some history. Social Security was created in 1937. The retirement age then was 65, and average life expectancy was 60. It's easy to see how that math works. In 1960, Congress raised the retirement age to 67. It has not been increased since then. That year, life expectancy was 69. That math still works due to a growing population, but it is getting narrower. I will throw in another few statistics for that year, 1960: 14 percent of Americans were obese; and our debt-to-GDP ratio was 53 percent. Let's fast forward to this year. Our retirement age is still 67, but our life expectancy is 77. That math clearly does not work, nor is the program functioning for the purpose for which it was designed. And shockingly, our obesity rate is 37 percent, and we spend $13,000 per person on healthcare, compared to the global average of $6,000 per person, and a 13-percent obesity rate. Clearly, our healthcare system is failing.

Our system focuses on managing sickness, where we should be facilitating health and wellness. We will only meaningfully be able to address the debt ceiling by focusing on the biggest drivers of our debt. Responsible policymakers should be focused on saving Social Security by reforming it and transforming our healthcare system to facilitate healthy citizenry capable of working and being contributing members of society. The American people deserve more than the political nonsense.

Five years ago, the number-one issue I ran on was debt. It has been and continues to be our greatest national security risk. I hate to say it, but in the last 4 years, it has gotten way worse. Congress has spent $7 trillion, of which $5 trillion was done mostly on party lines. The Democrat Majority has not only spent money we don't have over the last 4 years, but their fiscal policy has caused out-of-control inflation, which caused you to raise interest rates.

Last year, I asked you if you ever took into consideration the impact of interest rate increases on the cost of our debt service. You appropriately and adamantly said, no. Our debt service cost the next 10 years will be over $10 trillion. I am going to point out two things. Number one, that is more than all of our debt service since

1940 combined, the last 80 years. And while you did not take interest rate increases impact on our debt service into your decision-making, the best estimate is that those rate increases will increase our debt service cost by $2 trillion in the next 10 years. So basically, the $7 trillion that the Democrats spent in the last 4 years is going to cost us an additional $2 trillion, and that is not factoring in future rate increases as you continue to appropriately try to get inflation under control. As you can tell, this is a huge problem. The $7 trillion in unnecessary spending in the last 4 years has caused inflation.

Some of my colleagues across the aisle disagree with that causal relationship. Clinton's Treasury Secretary and Obama's Director of the National Economic Council, Larry Summers, wrote an op-ed before they spent the money and said it was going to cause inflation, and he has gone on the, "I was right," tour for the last couple of years. We need responsible policymakers to address our debt.

Let's talk about what is not serious, and that is minting a trillion-dollar coin. Many of my colleagues across the aisle have advocated for this. Luckily, both President Biden and Treasury Secretary Yellen have said that this is not a serious proposal, and they have no plans of considering it. Unfortunately, the Biden Administration has a bit of a history of doing a 180 when the political winds blow. Most recently, President said he would veto the D.C. crime bill, and now he is adamantly supporting it and plans to sign it.

Chair Powell, my only question to you is, if President Biden and Secretary Yellen send you a trillion-dollar coin, will you accept it?

Mr. POWELL. And what I will say to that is this only winds up one way, and that is with Congress raising the debt ceiling.

Mr. TIMMONS. So, you will not accept a trillion-dollar coin and treat it as a trillion dollars if it is sent to you?

Mr. POWELL. I will add, there are no rabbits to be pulled out of hats here. This only—

Mr. TIMMONS. I know you don't like yes-or-no questions, but if you were sent a trillion-dollar coin and asked to treat it as a trillion dollars, will you treat it as a trillion dollars?

Mr. POWELL. That would be a rabbit coming out of a hat.

Mr. TIMMONS. I will take that as a, no. Thank you. Mr. Chairman, I yield back.

Chairman MCHENRY. The Chair now recognizes the gentlewoman from Michigan, Ms. Tlaib, for 5 minutes.

Ms. TLAIB. Thank you so much, Mr. Chairman. And thank you, Chair Powell, for being here. You have a lot of economic projections of various data, various reports that are coming out, and you have studied inflation, right? Obviously, it is your number-one priority right now. How much is inflation impacted by these three things: corporate profiteering; egregious executive pay; and the use of stock buybacks?

Mr. POWELL. I don't have the numbers, but I would say in the case of executive pay, and, well, in the case of share repurchases, I can't think of how it would affect inflation. In the case of executive pay, that would be very small in terms of the broader economy. In terms of profits, though, the way I think about that is the places where profits are really high are places where there are shortages

and supply chain issues. And as those things get better, as they are, you are going to see inflation comes down and even prices come down, and you will see corporate margins come down there. And that will be part of how inflation comes down.

Ms. TLAIB. Corporate profiteering does impact inflation. You don't have any stats of, percentage-wise, how much of it? I really paid attention to your testimony in the Senate hearing yesterday, and there was a lot of conversation about my neighbors' and residents' wages and so forth. They are finally starting to see a little bit more closer to possibly getting fair wages. It is not even far enough. But I don't know if the Fed is paying closer attention to monopolies, corporate profiteering, and executive egregious pay, all of it, even these stock buybacks. You are saying all of that aside, you are focused more on wages and increasing the interest rate than on those other major—

Mr. POWELL. Our focus is really on price stability, not so much wages. Wages play into that because they are an important cost for business, but we are not trying to achieve a particular level of wages. We are trying to achieve 2-percent inflation.

Ms. TLAIB. Yes, and I think it is really important. Chairman Powell, what we saw during the pandemic is the wealthy and the corporations continued to profit in large scale, and still do buybacks, and still do really egregious executive pay, and benefits, and so forth for those at the top. And then, of course, the communities and such were impacted by it. But what I hear consistently is folks thinking that is the reason that all of a sudden, wages are skyrocketing and all this. But all I see is a continuation, again, of those who are already getting a huge benefit, the folks at the top, the executives and so forth.

My friend, Glenn, taught me this today, that the Feds are actually sitting on something in Dodd-Frank, Section 956. You all have been sitting for the last 12 years on guidance regarding executive compensation and the high risks of it. There were some proposals done, but not implemented. Again, it has been 12 years. Why is that something that you are not concerned about regarding inflation? One, you are sitting on it, right? Why? It has been 12 years. And then two, why is that you are saying that is not a big deal, that it is not going to impact the cost of products and so forth for our residents?

Mr. POWELL. It is a multi-agency rule, and there have been repeated attempts to get five or six or seven, however many it is, agencies to agree. That is one thing.

Ms. TLAIB. On disclosures?

Mr. POWELL. No, no, it is on policies to—

Ms. TLAIB. Yes, which include disclosures and arrangements regarding the executive pay and risk of it.

Mr. POWELL. I think the disclosures are there. You are right, we haven't been able to get agreement among the agencies. But more to the point, the Board has long since—this is just for the big banks where we have this authority—the Board of Governors are very focused on how executive compensation works and that it not reward unnecessarily-risky behavior and that kind of thing.

Ms. TLAIB. Yes, but in Dodd-Frank, which Congress passed, you are supposed to put something in place, and it is not in place. And

look, I am saying this because I feel like the Fed is more obsessed with wages than they are in regards to the monopolies, the corporate profiteering. I don't think there is a laser focus on that, because I think the Fed and Congress can support fair wages and still combat inflation if you are fair in combating egregious executive pay, monopolies, and corporate profiteering.

Mr. POWELL. We don't do competition policy, and we also don't, broadly speaking, regulate corporate wages.

Ms. TLAIB. But Section 956 sort of addressed it.

Chairman MCHENRY. The gentlelady's time has expired.

Ms. TLAIB. Section 956 addresses it. And it has been 12 years.

Chairman MCHENRY. The gentleman from South Carolina, Mr. Norman, is now recognized for 5 minutes.

Mr. NORMAN. Thank you. Chair Powell, I appreciate you coming in. I don't have to tell you the fact that as goes housing, so goes the economy. I am from South Carolina. We have people moving in, and the population is increasing, and I can tell you that housing, and not just single-family housing, is in trouble. People are finishing what is in the pipeline. It has now affected multifamily apartments, the higher rents that they did get with inflation. This is entirely caused, for the most part, by the policies of this Administration with gas, buying it from other countries, and with supply chain shortages. There is no reason to start a project when you can't get supplies, and that is what we are facing in the housing industry at all levels. So, any increase in interest is just another dagger that is going to kill the housing industry along with commercial projects.

Again, the pipeline is filling up, but the pipeline, once it leaves, you are not going to have any. And I am from a State where there are people moving in. One of the things that you hear, I think Mr. Davidson mentioned, was regulations. Banks are complaining about being overregulated and the costs associated with it. I know that since Governor Brainard left, the CRA is in a state of flux. Who is determining that, and when you will you have some guidelines out?

Mr. POWELL. That will be done by the whole Board of Governors when we vote on it, and also by the OCC and the FDIC.

Mr. NORMAN. Will they have any input from those who are having to pay the price of implementing CRA, like get any input from banks or having to navigate—

Mr. POWELL. I know that throughout the multiyear process, there has been a tremendous amount of interaction with banks, a tremendous amount, and bank lobbying groups, and also consumer groups. But yes, there has been a ton of input and working with the industry to try to achieve these statutory goals efficiently. I wouldn't say it is perfect, but there has certainly been a lot of interactions.

Mr. NORMAN. So, they are getting input prior to implementing the requirements for CRA or the guidelines for CRA?

Mr. POWELL. Yes, I am pretty sure there has been quite a bit of interaction with the industry in terms of what to do and how to do it.

Mr. NORMAN. Okay. Now, I think you have stated that you don't feel it is the Federal Reserve's policy to get into implementing climate change.

Mr. POWELL. We are not and we shouldn't be climate policymakers. We do have a small role, a focused role to play, principally with the larger banks to make sure they understand and can manage their climate risks in the long run.

Mr. NORMAN. Should it be mandated?

Mr. POWELL. Should what be mandated?

Mr. NORMAN. Should climate change policies be mandated by the Federal Reserve?

Mr. POWELL. Again, climate change is something that is going to affect businesses, and people, and regions, and States, and whole countries, and I think that has to be a job for elected people, by and large. I think what we are going to affect is we just want to make sure that banks understand and can manage the risks that they are running, and these are principally longer-term risks.

Mr. NORMAN. What is concerning to those of us in the business community is that we have to borrow from banks. The Federal Reserve is conducting a Pilot Climate Scenario Analysis that is being mandated, not asked. It is being mandated for the six largest banks to participate in. When you have to do a scenario and mandate that they do this, is that not the Federal Reserve getting directly involved in mandating it?

Mr. POWELL. I think the banks actually want this. These six big banks have to face this globally, and what they want is uniform approaches and guidance on how to have one set of rules. The big six banks that we are talking to are already running climate scenarios all the time, multiple climate scenarios.

Mr. NORMAN. Most of the banks are well-capitalized now. That could change, and this is just another expense that is out there. On the CFPB, the history, I think you said it was 12 percent. It cannot go above 12-percent ratio. That does not seem logical to me. Has it ever been below the 12 percent, from your perspective?

Mr. POWELL. Someone here quoted the law, and that rang a bell for me, so that is what the law says. Have they been below? I would have to go back. I am happy to provide it. It is all kind of—

Mr. NORMAN. If you could, because it seems to me like it is. If you have that cap, businesses couldn't operate like that, because there would be no incentive to reduce the price as long as it is automated. Thank you.

Mr. POWELL. That is the way the law is set up.

Mr. NORMAN. Okay. Thank you for being here.

Mr. POWELL. Thank you.

Chairman MCHENRY. The gentlewoman from Texas, Ms. Garcia, is now recognized for 5 minutes.

Ms. GARCIA OF TEXAS. Thank you, Mr. Chairman, and thank you, Chairman Powell for being with us today. The end is in sight.

I would like to begin by highlighting an issue that has been a concern for the Congressional Hispanic Caucus and others. I know that the Chair has suggested that we are going to weave in the diversity and inclusion issues throughout our hearing, so here is my concern: There has never been a Latino Federal Reserve President, and further, only about 5 percent of the Federal Reserve's overall

workforce identifies as Hispanic or Latino. As we know, over the past year or so, there have been several presidential vacancies at the Federal Reserve Banks, and there has still been consistent failure to appoint a Latino candidate.

Chair Powell, are you aware of this trend, and do you agree that it is a problem that our diversity and inclusion numbers in Federal Reserve Board are not reflective of the Latino population?

Mr. POWELL. Yes, it is something we have been focusing on.

Ms. GARCIA OF TEXAS. Okay. And can we get a commitment from you that you will work on the workforce issues internally?

Mr. POWELL. Yes.

Ms. GARCIA OF TEXAS. Thank you so much. And I would like to now follow up a little bit on some of the questions from Representative Norman, because I do have a concern about housing costs, particularly as it relates to equity and the negative impact on minority communities. I think you said in your paper that activity in the housing sector continues to weaken, largely reflecting higher mortgage rates. As he mentioned, the rates are higher, not only impacting single-family housing, but multifamily housing. And it is also becoming even more and more difficult for people in my district, which is 77-percent Latino, to be able to buy their first-time/first homebuyer, the workforce, entry-level kind of housing.

As financing for homes get harder to find and mortgage rates rise, the population of new buyers is skewing towards older, wealthier, and wider communities. In many cases, in our suburbs, equity firms are buying out the housing stock.

Chair Powell, can you please speak about the relationship between Federal Reserve interest rate hikes and housing inequity, and what needs to change here?

Mr. POWELL. What needs to change is we need to get inflation under control so that interest rates can come back down. In the meantime, they are high because inflation is hurting all of your constituents, not just the housing sector, and all of everybody's constituents, and it is our job under the law to restore price stability, and also to keep maximum employment.

Ms. GARCIA OF TEXAS. Is there anything else that Congress can be doing in this respect?

Mr. POWELL. That would be up to Congress, but there are lots of ways in which Congress can support people in various ways, but that is really in your hands.

Ms. GARCIA OF TEXAS. Right. Now, I want to move on to the numbers that you mentioned. Again, in your remarks at page 2, of course, we all know there has been a record. The historic unemployment rate is down now to 3.4 percent, the lowest, I believe, in history, and thank you, Mr. President, for that. But you also mentioned that there are 1.9 job openings for each unemployed individual. I wonder if you could tell me how you define, "unemployed individual?" What does the unemployed individual profile look like?

Mr. POWELL. That has a very specific meaning. It is someone who is not working, but is actively seeking a job. For example, if you take 6 months off and stop looking for a job, you are no longer unemployed. That means there is a group of people who are kind of around the edges of the labor force who don't count as unemployed, and those people are marginally attached to the labor force,

that kind of thing. But to be actually considered unemployed in the statistics, you have to be actively looking for work.

Ms. GARCIA OF TEXAS. Right. So, it does not include people who are perhaps disabled and cannot find accommodations in the workplace to be able to get a job?

Mr. POWELL. Unless they are looking for it. The test is whether you are actively looking, I think, in the last—

Ms. GARCIA OF TEXAS. Actively looking, regardless of age.

Mr. POWELL. That is right.

Ms. GARCIA OF TEXAS. Whether or not they are—

Mr. POWELL. It is not a value judgment. It is just the way we assess unemployment. We look at the other groups, too, but actual unemployment is—

Ms. GARCIA OF TEXAS. How do you factor in the people who actually are on unemployment insurance?

Mr. POWELL. I'm sorry?

Ms. GARCIA OF TEXAS. How do you factor in the people who are on unemployment insurance?

Mr. POWELL. Well, they are unemployed. By definition, we count them as unemployed or they wouldn't qualify under the State requirements.

Ms. GARCIA OF TEXAS. Right. I just want to make sure that we clearly understand that there are children, there are people who are older, people who are disabled, people who can't find daycare; there are so many other reasons why someone is unemployed.

Mr. POWELL. Yes.

Ms. GARCIA OF TEXAS. Okay. Thank you. I yield back.

Chairman MCHENRY. The gentleman from Wisconsin, Mr. Steil, who is also the Chair of the House Administration Committee, is recognized for 5 minutes.

Mr. STEIL. Chairman Powell, thank you for being here with us today. Your testimony has been insightful as we look to tackle inflation and the impact that it is having on families across the United States right now. I want to go back to a comment that was attributed to you regarding a question from Senator Kennedy yesterday on the impact that fiscal policy is having as it relates to inflation, and the quote that was attributed to you was that it wasn't a big factor.

As we look at kind of a whole host of policies here on Capitol Hill, from reckless spending that we saw in the previous Congress, a lack of, what we just discussed, individuals who are outside the labor market, how do we get these folks back into the labor market, whether or not we have policies that are discouraging folks to come back into work, as we look at high energy costs and the opportunity to drive energy prices lower by unleashing American energy, how do you factor in the fiscal policies, or how should policymakers factor in the fiscal policies and the impact that is also having an inflation? I'm not looking for your advice on the fiscal policies, because I know you want to stay out of that, but how should lawmakers be looking at the fiscal policy and its impact on inflation?

Mr. POWELL. Let's take energy, for example. Remember, inflation is the change in prices. It is not the level, as you well know. Energy prices have been coming down, right? They are still high, but they have been coming down, and they are contributing negatively

to headline inflation. So, when I say it is not contributing to inflation, that is what I mean. In addition, if you look at aggregate spending, it peaked, and then it has been coming down, so the fiscal impulse is actually negative at this point. Most of the inflation that we now have, something like two-thirds of the contribution of inflation in core PCE inflation, comes from the services sector, and that isn't really about fiscal policy.

Fiscal policy was important at the very beginning. So is monetary policy, by the way, but now it is more about just that inflation is out there and you have to bring it down. The record is that it doesn't come down by itself unless it is driven by transitory factors. For example, in the goods sector, the supply chains have been getting better, and as that has happened, goods inflation has come way down, and sometimes it is negative now. I hope that is helpful.

Mr. STEIL. Yes. Thank you. To take that one step further, we are waiting on the President's budget, it is over a month late, but we are anticipating receiving that in the near term. And as we look at interest payments on the debt and the cash flow implications that has, not asking for what you are going to do at the next Board meeting, for obvious reasons, but as you are in those deliberations in future Board meetings on potential rate increases, how does the impact of interest on the debt factor into the calculus of you and your colleagues?

Mr. POWELL. We don't look at that. If we started to change our monetary policy because we were concerned about the level of debt payments and things like that, that is not something that the United States needs to do, and it is not something we do.

Mr. STEIL. Why would it be something that the United States doesn't need to do? What do you mean? Could you elaborate on that?

Mr. POWELL. Yes, we are going to do our job. Congress has given us the job: maximum employment, price stability, regulate the banks, and manage the payment system to some extent. We will do those jobs. We don't have to worry about the United States budget. That is not our job. And it isn't that the debt today is unsustainable. It is that the path is unsustainable. We can service our debts. It is just that we are on an unsustainable path, meaning that the debt is growing faster than the economy. So, we would never consider that. We will never look. If a central bank has to avoid taking actions because it is concerned about the budget, that is called fiscal dominance, and that is the thing you don't see among advanced economies. We think we are a long way from that.

Mr. STEIL. Thanks. Thanks for your feedback on that point. The CBO just released their report showing potential interest payments on the debt accelerating dramatically over the next decade, showing it would be 14 percent of our fiscal spend to compare that, right? National defense will be 13 percent. Social Security is also 14 percent. On that level, that is a policymaker issue, but your insights on that are helpful.

I only have a few seconds left, and a handful of my colleagues have commented on the ongoing review of bank capital standards. I just want to echo those concerns about what the impact would be of a significant capital-level increase. Could you just comment

briefly about how you quantify the costs of higher capital in the supposed benefits and how you balance out that risk and reward?

Mr. POWELL. It is always a balance. That is exactly as you say. We know that the capital increases that I supported back in 2012, 2013, 2014, 2015, 2016, earlier in my time at the Fed, they made the bank stronger, and they made them more resilient, and you really want that. You want a banking system that can stand up and keep doing its job in times of crisis, but the exact balance between that and the availability of capital and the cost of capital is always going to be a matter of judgment.

Mr. STEIL. Thank you very much. I yield back.

Chairman MCHENRY. The gentlewoman from Georgia, Ms. Williams, is now recognized for 5 minutes.

Ms. WILLIAMS OF GEORGIA. Thank you, Mr. Chairman. As the Member of Congress representing Atlanta, the City with the highest racial wealth gap in the country, I am focused on creating an economy of inclusion, an economy that works for everyone and brings the most-marginalized into our economy. Americans and Atlantans flourish when the economy works for everyone. The Federal Reserve has a mandate of maximum employment that is measured by analyzing various data points of economic conditions. In 2020, the Federal Reserve updated its approach to fulfilling and measuring this mandate to include job growth that was broad-based and inclusive.

Chairman Powell, do you agree that broad-based and inclusive growth means job growth that helps reduce racial unemployment and wage disparities?

Mr. POWELL. I think it means what it says. Remember, we can't really target a particular racial or ethnic group with that, but we like to think that our decisions are informed by an understanding of diverse groups across the economy.

Ms. WILLIAMS OF GEORGIA. Chairman Powell, could you share examples of how the Fed is including broad-based and inclusive job growth in the maximum employment mandate?

Mr. POWELL. Sure, I would be glad to. One thing we do is it is always part of the data that we look at. At each meeting, we always talk about it. We always mention it: different unemployment rates, and labor force participation rates, and wage rates, and things like that by racial, ethnic, and gender groups, and that kind of thing. That is always in the data that we look at and talk about. That is the first thing, so it informs our pursuit of maximum employment. We are trying to take a broader and more-inclusive understanding of what that statutory goal means.

Ms. WILLIAMS OF GEORGIA. Thank you. Two weeks ago, the Federal Trade Commission released data indicating that Georgians reported the most fraud and scam claims of any other State in 2022, amounting to millions of dollars of stolen money. The Federal Reserve's website has resources to help consumers protect themselves from scams where criminals leverage the Federal Reserve's name, including emails claiming potential victims are eligible for lottery winnings, robocalls threatening arrest in exchange for money, and other phishing communications.

Chairman Powell, how does the Federal Reserve measure whether its counter-fraud communications are reaching the most-vulner-

able households and communities, especially those who might not be following the Federal Reserve press releases or your website or have limited access to broadband?

Mr. POWELL. When those kinds of scams happen, particularly when they involve us, we go on social media to try to reach people and tell them that if they are contacted by someone pretending to be a Federal Reserve person, that is not, so we do that. Also, we work with our Inspector General, who works with law enforcement to make sure that law enforcement is involved. So, we are aware of these scams. I think you are talking about the ones that involve people pretending to be a Federal Reserve person and get in touch with me and we will send you some money, and we do what we can to reach out to the public on that.

Ms. WILLIAMS OF GEORGIA. That is after the fact, but what happens before so that the general public is aware that this is happening? For those people who are not on social media, is there another way to get this information out to the general public?

Mr. POWELL. It is real. We do what we can. We are not an institution that deals with the general public very much. We deal with banks, and, of course, our rate hikes and rate cuts, and monetary policy affects all Americans. But I think when something like that happens, it is a broad program. It is a bunch of people who are perpetuating a fraud on many, many people, and we try to get out there quickly, and try to reach people and, again, also alert law enforcement.

Ms. WILLIAMS OF GEORGIA. Thank you, Mr. Chairman. And, Chairman McHenry, I yield back the balance of my time.

Chairman MCHENRY. That is very kind and gracious of you. The first of the day. We need to commend that for the record. With that, we will recognize the gentleman from Pennsylvania, Mr. Meuser, for 5 minutes.

Mr. MEUSER. Thank you very much, Chairman McHenry. And thank you, Chairman Powell, for being with us. Chairman Powell, is the Fed's commitment regarding ESG not to force investment banks to renege on their fiduciary responsibilities?

Mr. POWELL. We don't actually have policies in effect in that space.

Mr. MEUSER. Okay.

Mr. POWELL. That is not an assignment that we have.

Mr. MEUSER. You saw some issuances by heads of some investment banks, not to mention any names, who felt like that was the case.

Mr. POWELL. The Fed was asking them to—

Mr. MEUSER. The SEC, the Fed, you stated a couple of minutes ago that you feel that some sort of ESG—you stated that banks want it.

Mr. POWELL. I am telling you that is completely different. It is regulated financial institutions that we regulate and supervise. The big ones are probably subject to the climate change issues all over the country.

Mr. MEUSER. So, you agree that the Fed won't ask banks to renege on their fiduciary responsibilities? The Fed won't do that?

Mr. POWELL. We don't regulate the investment banks. The SEC does.

Mr. MEUSER. Okay. So, the answer is, no?

Mr. POWELL. What is the question again?

Mr. MEUSER. I will move on. Earlier, some of my colleagues and Chairman McHenry questioned the holistic review of the capital bank holdings. This holistic view, which no one has seen, according to my sources, but there are published reports that it will call for more capital to be held by banks. I understand the deferral to Vice Chair Barr, but do you have anything you could add that would warrant the need for large banks' capital increases?

Mr. POWELL. There isn't a proposal to evaluate or talk about it yet. Vice Chair Barr has indicated he was going to take a look. He said he thinks capital is strong, and the question really is, is it strong enough? I know he has been working on it, and there will be a process when he does arrive at conclusions. He has no authority to enact something himself. It has to go through the Board of Governors, and also through the FDIC and the OCC.

Mr. MEUSER. Okay. This has nothing to do with the QT initiative, the tightening of the money supply; they are not related at all?

Mr. POWELL. No, I would say not.

Mr. MEUSER. Okay. Are you comfortable with the QT reductions which have taken place?

Mr. POWELL. Yes. We have the balance sheet moving down at a healthy clip, and it seems to be going pretty well.

Mr. MEUSER. Okay. The Biden Administration's fiscal and energy policy has cost trillions in deficit spending, as you well know, very, very excessive, trillions of dollars. Meanwhile, energy costs for the average American, from heating oils to gasoline, have increased by over 40 percent, and businesses, of course, just over the last 2 years. So, high energy obviously affects the cost of manufacturing, wages, general cost of living, and almost every aspect of society. Wouldn't such fiscal and energy policy work of the Biden Administration working hand-in-hand with initiatives, such as QT and initiatives of the Fed, be far more effective than the Fed fighting inflation on your own?

Mr. POWELL. We are the Agency that has the responsibility to restore price stability, and we just have to do it. That is the task we have been given under the law. It is great if Congress helps, it is great if the Administration helps, but we have to deliver it, and we will. That is our responsibility, which we fully accept.

Mr. MEUSER. Not risking stagflation if the fiscal policy and monetary policy are working against each other?

Mr. POWELL. Again, we don't comment on fiscal policy. That is for elected people, and we have a job: maximum employment; and price stability. We use our tools. We try to stay in our lane, stick to our knitting.

Mr. MEUSER. It is just the fear of a number of people that we are going to have high interest rates and higher than 2-percent inflation if there is not that level of fiscal and monetary cooperation.

Mr. POWELL. Again, fiscal policy does what it is going to do. We take that as exogenous. The fiscal policy will be what you and your colleagues do, and that comes into the economy, and we see, and we don't have a view. We don't try to comment on the decisions

that you make. And we use our tools to restore price stability no matter what happens outside of our building.

Mr. MEUSER. Sure. Okay. Mr. Chairman, I yield back. Thank you.

Chairman MCHENRY. The gentleman yields back. We now recognize the ranking member of our Oversight and Investigations Subcommittee, Mr. Green of Texas, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman. And thank you, Chairman Powell, for being with us today. I greatly appreciate your work, but I would like to take just a few moments to talk about how our legislative bodies have legitimized systemic racism. It has been done by having a Fed that has a responsibility to produce maximum employment, knowing that the 2-to-1 Black-White wage gap exists traditionally, and also knowing that traditional actions and methodologies will not change that, but yet, we won't give you the authority to make recommendations or to take actions that would directly target that. It is not your fault. It is the legislative body's fault. We perpetuate systemic racism in your mandate of maximum employment.

We also perpetuate it in lending because we know that invidious discrimination exists in lending. We know it exists, and there are laws that will prevent and punish persons who cheat banks. You will be prosecuted, and you will be fined criminally if you cheat a bank. No such law exists if you cheat a customer. And we know that Black people, who are more qualified than White people, will get less money when they get a loan and pay a higher interest rate. These are all things that are the case. They are true. So, legislative bodies continue to legitimize systemic racism, and the bodies have become so bold now. Many of the members are so bold now as to say that they are sick and tired of hearing about this. They don't want a discussion about racism and systemic discrimination. They believe that all is well as long as all is well in the White world.

A good many won't see it that way, Mr. Powell, but that is the way their actions would lead one to conclude they have positioned themselves. Many of these people are my friends, people that I associate with, talk to regularly, but there comes a time when you just have to be truthful. Systemic racism can be eliminated. It can be dealt with. We know how to, but we don't have the will to do it.

So, I don't fault you. Not one scintilla of blame would I cast your way. It is the legislative body. It is the people who sit on this committee who won't allow laws to be passed making it a crime to deny a person a loan who is qualified to get that loan, people on this committee who will say they don't want to hear any more and encourage persons who are professionals, experts, encourage them to push back against talk about invidious discrimination.

Systemic racism emanates from the legislative body. You are in a very awkward position, because I genuinely believe that you would like to do something about it, but you can't. It creates a sad state of affairs. I thank you for the time, Mr. Chairman, and I yield back.

Chairman MCHENRY. The gentleman's time has expired and he yields back.

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

Mr. FITZGERALD. Chairman Powell, thanks for being here today. I just had one question, and some of my colleagues have touched on this today, again, that I think we are well aware, I am well aware, that there is a dynamic back in the district and across this nation. There is a certain segment of adults, 25- to 35-year-olds, many of them dual income, no kids, and they are completely frozen out of the housing market right now because the cost of a home in a new subdivision, in any municipality, is a half a million dollars or more.

And as a result of that, it is not only by actions of the Fed, I think, on the interest rates, but certainly the other thing I wanted to bring up is, because the balance sheet at the Fed has gone from $4 trillion to $9 trillion post-pandemic, could the Fed, by no longer buying mortgage-backed securities in a smaller universe of the private sector, buyers who demand a higher rate of return, is there not another kind of built-in trigger there that mortgage rates are going to continue to go higher unrelated to what the Fed does? Because I think the concern is that between the dynamics of no new subdivisions, 25- to 35-year-olds unable to get a loan, and then interest rates continuing to climb, we are going to lose a generation of adults here who are never going to get homeownership. They are never going to benefit, which we all know is the big wealth-builder for any family.

So, if there is anything I take away from what we heard today, and the questions asked, I hope that is something that the Fed is in tune to and is looking at closely.

Mr. POWELL. One thing is that there is a challenge with supply nationally, and that is zoning, it is people, it is materials. And so, the housing stock is constrained to some extent by just harder to find zoning anymore because things are so built up in so many places, and those are not things that we can control. In terms of our ownership of mortgage-backed securities, what happens with them as they mature is, they are repaid or prepaid, and they run off on their own. That is a passive sort of way to shrink the balance sheet. And, of course, they don't run off very quickly when rates are this high, because people are not refinancing their mortgages, because they have much lower mortgage rates. So, there is no evidence at this point of the markets having a hard time absorbing this supply of mortgages because the supplies in play of new mortgages is very low.

It has to be right that when we are no longer buying mortgages, and we won't be. We are not buying mortgages now, and I hope we don't have to buy any more mortgage backs. We don't buy individual mortgages. We buy mortgage-backed securities. I hope we are not doing that anytime soon. We only do that in really severe situations where the fixed-income markets are gigantic, and there are a lot of buyers out there, and where there is a yield, there will be buyers, and I expect that will be the case. Not that it wouldn't have some upward pressure on rates for us not to be a buyer anymore, but we weren't a buyer for a very long time. We thought we would never go back in after the global financial crisis. And we

kind of had to after the pandemic financial crisis just to keep the markets working, and now we have stopped again.

Mr. FITZGERALD. Good. Thank you very much, Mr. Chairman, and I yield back.

Chairman MCHENRY. The gentleman yields back. Noteworthy. I want to thank, in particular, our Members, Mr. Fitzgerald and Ms. Williams, for their additional minutes back to the Fed Chair. In a rate environment like this, time is money, and that is much more valuable these days. And I would like to thank Chair Powell for his testimony.

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.

And with that, this hearing is adjourned.

Mr. POWELL. Thank you.

[Whereupon, at 1:01 p.m., the hearing was adjourned.]

A P P E N D I X

March 8, 2023

For release at
8:30 a.m. EST
March 8, 2023

Statement by

Jerome H. Powell

Chair

Board of Governors of the Federal Reserve System

before the

Committee on Financial Services

U.S. House of Representatives

March 8, 2023

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

My colleagues and I are acutely aware that high inflation is causing significant hardship, and we are strongly committed to returning inflation to our 2 percent goal. Over the past year, we have taken forceful actions to tighten the stance of monetary policy. We have covered a lot of ground, and the full effects of our tightening so far are yet to be felt. Even so, we have more work to do. Our policy actions are guided by our dual mandate to promote maximum employment and stable prices. Without price stability, the economy does not work for anyone. In particular, without price stability, we will not achieve a sustained period of labor market conditions that benefit all.

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

Current Economic Situation and Outlook

The data from January on employment, consumer spending, manufacturing production, and inflation have partly reversed the softening trends that we had seen in the data just a month ago. Some of this reversal likely reflects the unseasonably warm weather in January in much of the country. Still, the breadth of the reversal along with revisions to the previous quarter suggests that inflationary pressures are running higher than expected at the time of our previous Federal Open Market Committee (FOMC) meeting.

From a broader perspective, inflation has moderated somewhat since the middle of last year but remains well above the FOMC's longer-run objective of 2 percent. The 12-month change in total personal consumption expenditures (PCE) prices has slowed from its peak of 7 percent in June to 5.4 percent in January as energy prices have declined and supply chain bottlenecks have eased.

Over the past 12 months, core PCE inflation, which excludes the volatile food and energy prices, was 4.7 percent. As supply chain bottlenecks have eased and tighter policy has restrained demand, inflation in the core goods sector has fallen. And while housing services inflation remains too high, the flattening out in rents evident in recently signed leases points to a deceleration in this component of inflation over the year ahead.

That said, there is little sign of disinflation thus far in the category of core services excluding housing, which accounts for more than half of core consumer expenditures. To restore price stability, we will need to see lower inflation in this sector, and there will very likely be some softening in labor market conditions. Although nominal wage gains have slowed somewhat in recent months, they remain above what is consistent with 2 percent inflation and current trends in productivity. Strong wage growth is good for workers but only if it is not eroded by inflation.

Turning to growth, the U.S. economy slowed significantly last year, with real gross domestic product rising at a below-trend pace of 0.9 percent. Although consumer spending appears to be expanding at a solid pace this quarter, other recent indicators point to subdued growth of spending and production. Activity in the housing sector continues to weaken, largely reflecting higher mortgage rates. Higher interest rates and slower output growth also appear to be weighing on business fixed investment.

Despite the slowdown in growth, the labor market remains extremely tight. The unemployment rate was 3.4 percent in January, its lowest level since 1969. Job gains remained very strong in January, while the supply of labor has continued to lag.[1] As of the end of December, there were 1.9 job openings for each unemployed individual, close to the all-time

[1] A box in our latest *Monetary Policy Report*, "Why Has the Labor Force Recovery Been So Slow?" discusses the factors that have been holding back labor supply.

peak recorded last March, while unemployment insurance claims have remained near historical lows.

Monetary Policy

With inflation well above our longer-run goal of 2 percent and with the labor market remaining extremely tight, the FOMC has continued to tighten the stance of monetary policy, raising interest rates by 4½ percentage points over the past year. We continue to anticipate that ongoing increases in the target range for the federal funds rate will be appropriate in order to attain a stance of monetary policy that is sufficiently restrictive to return inflation to 2 percent over time. In addition, we are continuing the process of significantly reducing the size of our balance sheet.[2]

We are seeing the effects of our policy actions on demand in the most interest-sensitive sectors of the economy. It will take time, however, for the full effects of monetary restraint to be realized, especially on inflation. In light of the cumulative tightening of monetary policy and the lags with which monetary policy affects economic activity and inflation, the Committee slowed the pace of interest rate increases over its past two meetings. We will continue to make our decisions meeting by meeting, taking into account the totality of incoming data and their implications for the outlook for economic activity and inflation.

Although inflation has been moderating in recent months, the process of getting inflation back down to 2 percent has a long way to go and is likely to be bumpy. As I mentioned, the latest economic data have come in stronger than expected, which suggests that the ultimate level of interest rates is likely to be higher than previously anticipated. If the totality of the data were to indicate that faster tightening is warranted, we would be prepared to increase the pace of rate

[2] A box in our latest *Monetary Policy Report*, "Developments in the Federal Reserve's Balance Sheet and Money Markets," discusses changes in the size of the Federal Reserve's balance sheet.

hikes. Restoring price stability will likely require that we maintain a restrictive stance of monetary policy for some time.

Our overarching focus is using our tools to bring inflation back down to our 2 percent goal and to keep longer-term inflation expectations well anchored. Restoring price stability is essential to set the stage for achieving maximum employment and stable prices over the longer run. The historical record cautions strongly against prematurely loosening policy. We will stay the course until the job is done.

To conclude, 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.

Congress of the United States
Washington, DC 20515

March 2, 2023

Hon. Michael Barr
Vice Chair for Supervision
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue, NW
Washington, DC 20551

Mr. Michael Hsu
Acting Comptroller
Office of the Comptroller of the Currency
400 7th Street, SW
Washington, DC 20219

Hon. Marty Gruenberg
Chairman of the Board
Federal Deposit Insurance Corporation
550 17th Street, NW
Washington, DC 20429

Hon. Todd Harper
Chairman of the Board
National Credit Union Administration
1775 Duke Street
Alexandria, VA 22314

Re: Prudential Impact of Staff Accounting Bulletin 121

Dear Vice Chair Barr, Chairman Gruenberg, Chairman Harper, and Mr. Hsu:

We write regarding Securities and Exchange Commission (SEC) Staff Accounting Bulletin 121 ("SAB 121") published on April 11, 2022. SAB 121 was intended to clarify the accounting treatment of digital assets safeguarded by custodians, exchanges, and other platforms engaged in digital asset activities.[1] However, SAB 121 places customer assets at greater risk of loss if a custodian becomes insolvent or enters receivership, violating the SEC's fundamental mission to protect customers.

Our concern stems from SAB 121's directive that companies recognize a liability and a corresponding offset on their balance sheets, measured at the fair value of the customer custodial digital assets.[2] A recent decision in the Celsius bankruptcy, which classified all Celsius' customers as unsecured creditors, and therefore at the back of the line to recover their assets, highlights the legal risk of effectively forcing customer custodial assets to be placed on balance sheet.[3] Additionally, SAB 121 upends decades of precedent regarding the accounting treatment of custodial assets for banks, credit unions and other regulated financial institutions.

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[1] *Id.*
[2] *Id.*
[3] *See* Memorandum Opinion and Order Regarding Ownership of Earn Account Assets, *In Re Celsius Network LLC, et al.*, No. 22-10694-MG, at *45 (Bankr. S.D.N.Y. Jan. 4, 2023) (noting "the Court finds that Earn Assets in Earn Accounts constitute property of the Estates, and that the Debtors may sell stablecoins outside of the ordinary course of business. The Court does not take lightly the consequences of this decision on ordinary individuals, many of whom deposited significant savings into the Celsius platform.") (emphasis added).

Federal Reserve Board Chair Powell noted this shift away from traditional custodial practices in testimony before the Senate Banking Committee on June 22, 2022.[4] Typically, custodial assets receive off-balance sheet accounting treatment. This is largely because customers retain ownership of their custodial assets and financial institutions are not permitted to conduct proprietary trading with customer assets.[5] As emphasized in comment letters, SAB 121 "deviates from existing accounting treatment of safeguarded assets held in a custodial capacity, which does not result in assets or liabilities reported on the custodian's balance sheet."[6]

Furthermore, the breadth of the "digital asset" definition in SAB 121 covers any "digital asset that is issued and/or transferred using distributed ledger or blockchain technology using cryptographic techniques."[7] The scope of assets covered by this broad definition, whether virtual currency, stablecoins, or even tokenized equities, is unclear. This is concerning because a more nuanced hierarchy for this asset class which considers the opportunities and risks of digital assets with different functions is necessary. For example, the Bank for International Settlements' Prudential Treatment of Crypto Assets framework differentiates between various types of digital assets for bank capital purposes.[8]

Since SAB 121 purports to require banks, credit unions and other financial institutions to effectively place digital assets on their balance sheets, it would trigger a massive capital charge. This in turn is likely to prevent these prudentially regulated entities from engaging in digital asset custody. To the contrary, we should be encouraging prudentially regulated financial institutions, like banks and credit unions, to provide digital asset services precisely because they are subject to the highest standards of capital, liquidity, recovery and resolution, custody, cyber-security, and risk management.

In sum, the effect of SAB 121 is to deny millions of Americans access to safe and secure custodial arrangements for digital assets. For these reasons, please respond to the following questions regarding the impact of SAB 121 on banks, credit unions, and other financial institutions:

(1) Was your agency contacted by the SEC prior to the issuance of SAB 121? If so, please identify the staff members consulted by the SEC and provide copies of written feedback, if any, provided to SEC staff.

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[4] *Hearing on the Semiannual Monetary Policy Report to Congress*, S. Comm. on Banking, Housing and Urban Affairs, Jun. 22, 2022, 117th Cong., 2d Sess. (testimony of Hon. Jay Powell) ("Custody assets are off balance sheet, have always been.").

[5] Instructions for Preparation of Consolidated Reports of Condition and Income, FFIEC 031 and FFIEC 041 (Mar. 2022) at *12. *See* Instructions for Preparation of Consolidated Financial Statements for Holding Companies, Reporting Form FR Y-9C (Mar. 2022), at *GL-23.

[6] Am. Bankers' Assoc., Bank Policy Inst., and Securities Indus. and Financial Markets Assoc. Joint Comment Letter on SAB 121, Jnne 23, 2022, https://bpi.com/wp-content/nploads/2022/06/ABA-BPI-and-SIFMA-SAB-121-Letter-2022.06.23.pdf.

[7] Staff Accounting Bulletin No. 121, Sec. and Exch. Comm'n, Apr. 11, 2022, *available at* https://www.sec.gov/oca/staff-accounting-bulletin-121.

[8] *See* Bank for Int'l Settlements, *Prudential Treatment of Crypto Asset Exposures*, Jun. 2021, https://www.bis.org/bcbs/publ/d519.pdf.

(2) Has the SEC indicated that it will modify or withdraw SAB 121 in light of widespread comments that the Bulletin is flawed?
(3) What are the legal and supervisory reasons off-balance sheet treatment of custodial assets has historically been the norm for banks and credit unions?
(4) Has your agency directed banks and other financial institutions within your jurisdiction to comply with the terms of SAB 121 for the purposes of capital adequacy, business plan change approvals, reporting and other supervisory matters? If not, do you plan to do so?
(5) Does SAB 121 conflict with your agency's input regarding the Basel Committee on Bank Supervision's Prudential Treatment for Crypto Asset exposures, in so far as the definition of "digital asset" under SAB 121 also encompasses Group 1a, Group 1b, and Group 2 digital assets under the Prudential Treatment framework?
(6) Do you agree that the capital charge for banks, credit unions, and other financial institutions under SAB 121 is prohibitive?
(7) Do you agree that SAB 121 potentially weakens consumer protection by preventing well-regulated banks, credit unions, and other financial institutions from providing custodial services for digital assets?

We would appreciate a response no later than March 16, 2023. Thank you for your attention to this matter.

Sincerely,

Cynthia M. Lummis

Patrick T. McHenry

Sen. Cynthia M. Lummis
Senate Banking Committee

Rep. Patrick McHenry
Chairman, House Financial Services Committee

PATRICK McHENRY, NC
CHAIRMAN

MAXINE WATERS, CA
RANKING MEMBER

United States House of Representatives
One Hundred Eighteenth Congress
Committee on Financial Services
2129 Rayburn House Office Building
Washington, DC 20515

February 28, 2023

The Honorable Janet Yellen
Secretary
Department of the Treasury
1500 Pennsylvania Avenue, NW
Washington, D.C. 20220

I write to request information about Treasury debt management. Treasury securities play important roles in supporting the provision of financial services, and significant harm to financial markets and economic activity could arise from turbulence in Treasury markets. Turbulence can stem from many places, including cyberattacks, payment-system failures, natural disasters, terrorist attacks, or delayed payments on Treasuries caused by a debt-limit impasse.

The current total U.S. public debt outstanding is nearly $31.5 trillion, and debt subject to limit is close to the statutory debt limit of $31,381,463,000,000. Your January 19, 2023 letter to Congress identified that the Department of Treasury (Treasury) began using "extraordinary measures" to stay below the limit, having declared a debt issuance suspension period (DISP) lasting through Monday, June 5, 2023.

Determination of a DISP does not preclude you from making a new DISP determination later. Consequently, June 5 may not be Treasury's projection of when Treasury's operating cash, headroom under the limit facilitated by extraordinary measures, and borrowing ability given the limit would be insufficient to allow Treasury to pay all scheduled outlays and maturing Treasury obligations—the so-called X-Date.

According to the nonpartisan Congressional Budget Office (CBO) "…the government's ability to borrow using extraordinary measures will be exhausted between July and September." Thus, according to CBO the so-called X-Date is projected to occur sometime in the fourth quarter of the current fiscal year.

Treasury has not provided Congress or the American people with its projection of the X-date, and it is unclear whether recent projections by Treasury fiscal managers concur with the recent CBO projections. Clarity about such fiscal projections is necessary, however uncertain projections may be.

Treasury must be fully transparent about the federal debt, projections about how long headroom under the debt limit can be maintained with "extraordinary measures," and projections about Treasury's operating cash balance. As an agent with certain authorities to manage debt and other

fiscal operations, Treasury has no right to withhold information about debt or any other fiscal operation or projections from the American people or Congress.

Your department has a fundamental duty to the public and Congress to be forthright about federal debt and fiscal operations and planning for known risks.

Therefore, I respectfully request that Treasury provide:

1. Treasury's current projection of the X-Date, along with how Treasury has arrived at the projection and statistical indicators of confidence (e.g., confidence bands) associated with the projections by Monday, March 6, 2023.

2. A briefing to this Committee no later than March 6, 2023, about the current state of federal debt, debt management, contingency planning, and Treasury projections about the so called "X-date."

Sincerely,

Patrick T. McHenry

Patrick McHenry
Chairman

CC: The Honorable Maxine Waters, Ranking Member

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

MARK E. VAN DER WEIDE
GENERAL COUNSEL

December 3, 2020

William J. Sweet, Jr.
Skadden, Arps, Slate, Meagher, and Flom LLP
1440 New York Ave., N.W.
Washington, D.C. 20005

Dear Mr. Sweet:

This is in response to your request for a determination that your client, BlackRock, Inc., New York, New York,[1] and its subsidiaries and affiliates (collectively, "BlackRock"), may acquire up to 25 percent of any class of voting securities of a bank holding company, bank, savings and loan holding company, or savings association[2] (each a "Regulated Company") without being deemed to have acquired control of the Regulated Company under the Bank Holding Company Act ("BHC Act") or Home Owners' Loan Act ("HOLA"). This letter also responds to your request for a determination that BlackRock may acquire up to 15 percent of any class of voting securities of a bank holding company, savings and loan holding company, or state member bank without having to file a notice under the Change in Bank Control Act ("CIBC Act").

BlackRock currently holds Regulated Company shares through a variety of investment companies registered under the Investment Company Act of 1940, other pooled investment vehicles, and institutional accounts that are

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[1] BlackRock is not, and is not affiliated with, a bank holding company or a savings and loan holding company.

[2] The terms bank holding company and bank have the same meanings as set forth in the BHC Act and the Board's Regulation Y. The terms savings and loan holding company and savings association have the same meanings as set forth in the HOLA and the Board's Regulation LL.

sponsored, managed, or advised by BlackRock (collectively, the "BlackRock-Advised Entities" and together with BlackRock, the "BlackRock Parties"). In connection with the requested determinations, BlackRock has proposed to agree to conditions and commitments based upon those that other investment managers have agreed to in connection with similar determinations made by Federal Reserve staff.

For purposes of the BHC Act, a company controls another company if the first company (i) directly or indirectly or acting in concert through one or more other persons owns, controls, or has power to vote 25 percent or more of any class of voting securities of the second company; (ii) controls in any manner the election of a majority of the directors of the second company; or (iii) directly or indirectly exercises a controlling influence over the management or policies of the second company.[3] HOLA includes a substantially similar definition of control.[4] The Board's Regulation Y and Regulation LL also set forth several rebuttable presumptions of control.[5] Based on the limits on ownership and director representatives under the proposal, BlackRock would only be deemed to control a Regulated Company under the BHC Act or HOLA, as applicable, if the Board were to find that BlackRock exercises a controlling influence over the management or policies of a Regulated Company.[6]

For purposes of the CIBC Act, the BlackRock Parties are presumed by Regulation Y or Regulation LL to control a bank holding company, savings and loan holding company, or state member bank if, individually or collectively, "immediately after the transaction ... [they] will own, control, or hold with power to vote 10 percent or more of any class of voting securities of the institution" and either the institution has registered securities or no other person owns or controls a greater percentage of the same class of voting securities of the institution.[7] Under the proposal, the BlackRock Parties would, from time to time, acquire in excess of

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[3] 12 U.S.C. §1841(a)(2); 12 CFR 225.2(e), 238.2(e).

[4] 12 U.S.C. § 1467a(a)(2); 12 CFR 238.2(e). Additionally, BlackRock will be deemed to control a company under HOLA if BlackRock has contributed more than 25 percent of the capital of the company. 12 U.S.C. § 1467a(a)(2)(B); 12 CFR 238.2(e)(2).

[5] 12 CFR 225.32, 238.22, as amended by 85 FR 12398.

[6] See 12 CFR 225.31 et seq. and 12 CFR 238.21 et seq.

[7] 12 CFR 225.41(c).

10 percent of a class of voting securities of a bank holding company, savings and loan holding company, or state member bank, and therefore in some circumstances would be presumed to have acquired control for purposes of the CIBC Act, absent relief.

BlackRock proposes several conditions and commitments to ensure that the BlackRock Parties would not exercise a controlling influence over a Regulated Company for purposes of the BHC Act and HOLA, and to rebut the presumption of control for purposes of the CIBC Act. In particular, the BlackRock Parties collectively would not own or control 25 percent or more of any class of voting securities, or control the election of a majority of the directors of, any Regulated Company. In addition, the BlackRock Parties would not acquire 15 percent or more of any class of voting securities of a Regulated Company without receiving the Board's prior non-objection under the CIBC Act. Moreover, neither BlackRock nor any BlackRock-Advised Entity would individually own or control more than 10 percent of any class of voting securities of a Regulated Company.

Furthermore, BlackRock has made a number of commitments designed to mitigate the ability of the BlackRock Parties to control a Regulated Company. Among these commitments, BlackRock has committed that, whenever the BlackRock Parties own or control, in the aggregate, 10 percent or more of any class of voting securities of a Regulated Company, the BlackRock Parties will not, individually or collectively:

1) take any action to control the Regulated Company within the meaning of the BHC Act or HOLA, as applicable;

2) have more than one director interlock with the Regulated Company;

3) have any officer or employee interlocks with the Regulated Company;

4) except in the context of a tender offer or in certain other specified transactions, dispose of voting shares of the Regulated Company (i) to any person seeking control over the institution or (ii) in block transactions exceeding 5 percent of any class of voting shares of the institution; or

5) threaten to dispose of voting shares in any manner as a condition of specific action or non-action by the Regulated Company.[8]

In addition to considering the commitments made by BlackRock, Board staff has considered the nature of BlackRock and its proposed investments. BlackRock operates and provides investment advice to the BlackRock-Advised Entities. The proposed acquisitions in Regulated Companies would not be proprietary investments by BlackRock. Rather, they would be investments made by BlackRock-Advised Entities and on behalf of the beneficial owners of the BlackRock-Advised Entities. The BlackRock-Advised Entities are not operating companies, and BlackRock does not lend to the BlackRock-Advised Entities or to their portfolio companies. Moreover, BlackRock is not in the business of operating or controlling Regulated Companies, or other companies. The proposed acquisitions will be made for investment purposes with the expectation of resale and not for the purpose of exercising a controlling influence over the management or policies of any Regulated Company.

In light of the nature of BlackRock's business and proposed investments, staff believes that the commitments that BlackRock has executed in connection with this letter are appropriate to mitigate concerns about whether BlackRock will exercise a controlling influence over Regulated Companies.

In view of the commitments made by BlackRock and the facts described in this letter, Board staff would not recommend that the Board find that acquisitions made within the parameters, and subject to the conditions, set forth in this letter would cause BlackRock or any of the BlackRock-Advised Entities: (i) to control a bank holding company or bank for purposes of the BHC Act; (ii) to control a savings and loan holding company or savings association for purposes of the HOLA; or (iii) to control a bank holding company, savings and loan holding company, or state member bank for purposes of the CIBC Act.[9]

[8] For a complete list of the commitments that BlackRock has made to the Board, see the Appendix.

[9] To the extent BlackRock were to make acquisitions outside the parameters of this letter, or contrary to the conditions and commitments described herein, BlackRock would be required to comply with all other applicable filing requirements, including the filing of applications or notices, respectively, under the BHC Act, HOLA, and the CIBC Act.

The preceding opinions are based expressly on the facts and circumstances of this case as they have been described to Board staff, and any change in these facts or circumstances may result in a different opinion. In addition, this letter expresses no opinion as to whether a CIBC Act notice would be required for transactions involving direct investments in national banks, state non-member banks, or savings associations, nor as to any requirement under state or federal law not explicitly discussed herein. If you have any questions about this matter, please contact Patricia Yeh (202) 452-3089 or Nathaniel Balk (202) 872-7517 of the Board's Legal Division.

Sincerely,

Mark Van Der Weide

Mark E. Van Der Weide

cc: Federal Reserve Bank of New York

APPENDIX

Commitments of BlackRock to the Board

Aggregate investments by BlackRock and the BlackRock-Advised Entities in 10 percent or more of any class of voting securities of a bank holding company, bank, savings and loan holding company, and savings association (each, a "Bank") will be conducted in accordance with the commitments and restrictions listed below.

1. BlackRock and the BlackRock-Advised Entities in the aggregate:

   a. will not acquire 25 percent or more of any class of voting securities of any Bank without receiving the Board's prior approval under the Bank Holding Company Act, or the Home Owners' Loan Act, as applicable; and

   b. will not acquire more than 15 percent of any class of voting securities of any bank holding company, savings and loan holding company, or state member bank, without receiving the Board's prior nonobjection under the Change in Bank Control Act.

2. Neither BlackRock nor any BlackRock-Advised Entities will, directly or indirectly, individually or in the aggregate:

   a. take any action to cause a Bank or any of its subsidiaries to become a subsidiary of BlackRock or any BlackRock-Advised Entity for purposes of the BHC Act;

   b. unless agreed to by the Federal Reserve Board or its staff, and permitted by applicable law, seek or accept representation of more than one director on the board of directors of any Bank or its subsidiaries;

   c. have or seek to have any representative of BlackRock or any BlackRock-Advised Entity serve as an officer, agent or employee of any Bank or its subsidiaries;

d. propose a director or slate of directors in opposition to any nominee or slate of nominees proposed by the management or board of directors of any Bank;

e. exercise or attempt to exercise a controlling influence over the management or policies of any Bank or any of its subsidiaries;

f. attempt to influence the dividend policies; loan, credit, or investment decisions or policies; pricing of services; personnel decisions; operations activities (including the location of any offices or branches or their hours of operation, etc.); or any similar activities or decisions of any Bank or any of its subsidiaries;

g. enter into any agreement with a Bank or any of its subsidiaries that substantially limits the discretion of the Bank's management over major policies and decisions, including, but not limited to, policies or decisions about employing and compensating executive officers; engaging in new business lines; raising additional debt or equity capital; merging or consolidating with another firm; or acquiring, selling, leasing, transferring, or disposing of material assets, subsidiaries, or other entities;

h. solicit or participate in soliciting proxies with respect to any matter presented to the shareholders of a Bank or any of its subsidiaries; or

i. dispose or threaten to dispose (explicitly or implicitly) of equity interests of a Bank or any of its subsidiaries in any manner as a condition or inducement of specific action or non-action by Bank or any of its subsidiaries.

3. Neither BlackRock nor any BlackRock-Advised Entity will dispose of voting securities of a Bank:

   a. to any person if BlackRock or the BlackRock-Advised Entity knows that such person seeks to change the control of the Bank in any manner; or

   b. to any person whom BlackRock or the BlackRock-Advised Entity knows (i) has made a filing with the U.S. Securities and Exchange

Commission or other federal agency with respect to the ownership of more than 5 percent of the Bank's voting securities, or (ii) would be required to do so as a result of the purchase from BlackRock or a BlackRock-Advised Entity; or

c. in an amount of more than 5 percent of the Bank's voting securities in any single transaction;[10]

provided that notwithstanding paragraphs (a) through (c) above, BlackRock and the BlackRock-Advised Entities may dispose of their stock in a Bank in the following circumstances:

(i) in a cross trade between two BlackRock-Advised Entities in compliance with the rules governing such cross trades under the Investment Company Act of 1940, as amended (the "1940 Act");

(ii) in a sale by BlackRock or a BlackRock-Advised Entity to the Bank or one of its subsidiaries;

(iii) in a tender or exchange offer for voting stock of the Bank; or

(iv) in a widespread public distribution effected on a stock exchange or otherwise (which may include a sale to one or more broker-dealers acting as market makers or otherwise intending to resell the shares sold to it or them in accordance with its or their normal business practices).

4. Neither BlackRock nor any BlackRock-Advised Entity will individually own, control, or hold with power to vote more than 10 percent of any class of voting securities of a Bank.

BlackRock and the BlackRock-Advised Entities understand that these commitments constitute conditions imposed in writing in connection with the Board's findings and decisions related to acquisitions of voting securities of Banks, and, as such, may be enforced in proceedings under applicable law.

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[10] A single transaction includes a bunched trade effected by two or more BlackRock-Advised Entities in compliance with the rules governing bunched trades under the 1940 Act.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

MARK E. VAN DER WEIDE
GENERAL COUNSEL

November 26, 2019

Anne E. Robinson, Esq.
Managing Director, General Counsel and Secretary
The Vanguard Group, Inc.
400 Devon Park Drive
Wayne, PA 19087

Dear Ms. Robinson:

This is in response to your request for a determination that The Vanguard Group, Inc., Malvern, Pennsylvania,[1] and its subsidiaries and affiliates (collectively, "Vanguard"), may acquire up to 25 percent of any class of voting securities of a bank holding company, bank, savings and loan holding company, or savings association[2] (each a "Regulated Company") without being deemed to have acquired control of the Regulated Company under the Bank Holding Company Act ("BHC Act") or Home Owners' Loan Act ("HOLA"). This letter also responds to your request for a determination that Vanguard may acquire up to 15 percent of any class of voting securities of a bank holding company, savings and loan holding company, or state member bank without having to file a notice under the Change in Bank Control Act ("CIBC Act").

Board staff previously determined (the "2013 Letter") that Vanguard may acquire up to 15 percent of any class of voting securities of a Regulated Company

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[1] The Vanguard Group is not, and is not affiliated with, a bank holding company or a savings and loan holding company.

[2] The terms bank holding company and bank have the same meanings as set forth in the BHC Act and the Board's Regulation Y. The terms savings and loan holding company and savings association have the same meanings as set forth in the HOLA and the Board's Regulation LL.

without Board staff recommending that the Board find that the acquisitions would cause Vanguard to control that institution under the BHC Act, HOLA, or the CIBC Act under certain circumstances.[3]

Vanguard currently holds Regulated Company shares through a variety of investment companies registered under the Investment Company Act of 1940, other pooled investment vehicles, and institutional accounts that are sponsored, managed, or advised by Vanguard (collectively, the "Vanguard-Advised Entities" and together with Vanguard, the "Vanguard Parties"). Vanguard represents that, due to growth in its U.S. assets, particularly in funds that track the performance of a securities index, it may cross the 15 percent threshold of ownership in one or more Regulated Companies if it continues to use its current investment strategies. In connection with the requested determinations, Vanguard has requested amendments to the conditions and commitments imposed in connection with the 2013 Letter, as described herein.

For purposes of the BHC Act, a company controls another company if the first company (i) directly or indirectly or acting in concert through one or more other persons owns, controls, or has power to vote 25 percent or more of any class of voting securities of the second company; (ii) controls in any manner the election of a majority of the directors of the second company; or (iii) directly or indirectly exercises a controlling influence over the management or policies of the second company.[4] HOLA includes a substantially similar definition of control.[5] The Board's Regulation Y and Regulation LL also set forth several rebuttable presumptions of control.[6] Based on the limits on ownership and director representatives under the proposal, Vanguard would only be deemed to control a Regulated Company under the BHC Act or HOLA, as applicable, if the Board were to find that Vanguard exercises a controlling influence over the management or policies of a Regulated Company.

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[3] See Letter from Scott G. Alvarez, General Counsel of the Board, to Satish M. Kini, Esq., dated April 11, 2013.

[4] 12 U.S.C. §1841(a)(2); 12 CFR 225.2(e), 238.2(e).

[5] 12 U.S.C. § 1467a(a)(2); 12 CFR 238.2(e). Additionally, Vanguard will be deemed to control a company under HOLA if Vanguard has contributed more than 25 percent of the capital of the company. 12 U.S.C. § 1467a(a)(2)(B); 12 CFR 238.2(e)(2).

[6] 12 CFR 225.31(d), 238.21(d).

For purposes of the CIBC Act, the Vanguard Parties are presumed by Regulation Y or Regulation LL to control a bank holding company, savings and loan holding company, or state member bank if, individually or collectively, "immediately after the transaction ... [they] will own, control, or hold with power to vote 10 percent or more of any class of voting securities of the institution" and either the institution has registered securities or no other person owns or controls a greater percentage of the same class of voting securities of the institution.[7] Under the proposal, the Vanguard Parties would, from time to time, acquire in excess of 10 percent of a class of voting securities of a bank holding company, savings and loan holding company, or state member bank, and therefore in some circumstances would be presumed to have acquired control for purposes of the CIBC Act, absent relief.

Vanguard proposes several conditions and commitments to ensure that the Vanguard Parties would not exercise a controlling influence over a Regulated Company for purposes of the BHC Act and HOLA, and to rebut the presumption of control for purposes of the CIBC Act. In particular, the Vanguard Parties collectively would not own or control 25 percent or more of any class of voting securities, or control the election of a majority of the directors of, any Regulated Company. In addition, the Vanguard Parties would not acquire 15 percent or more of any class of voting securities of a Regulated Company without receiving the Board's prior nonobjection under the CIBC Act. Moreover, neither Vanguard nor any Vanguard-Advised Entity would individually own or control more than 10 percent of any class of voting securities of a Regulated Company.

Furthermore, Vanguard has made a number of commitments designed to mitigate the ability of the Vanguard Parties to control a Regulated Company. Among these commitments, Vanguard has committed that, whenever the Vanguard Parties own or control, in the aggregate, 10 percent or more of any class of voting securities of a Regulated Company, the Vanguard Parties will not, individually or collectively:

> 1) take any action to control the Regulated Company within the meaning of the BHC Act or HOLA, as applicable;
>
> 2) have more than one director interlock with the Regulated Company;

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[7] 12 CFR 225.41(c).

3) have any officer or employee interlocks with the Regulated Company;

4) except in the context of a tender offer or in certain other specified transactions, dispose of voting shares of the Regulated Company (i) to any person seeking control over the institution or (ii) in block transactions exceeding 5 percent of any class of voting shares of the institution; or

5) threaten to dispose of voting shares in any manner as a condition of specific action or non-action by the Regulated Company.[8]

The commitments described herein differ from the commitments made by Vanguard in connection with the 2013 Letter (the "2013 commitments") in two ways. First, the 2013 commitments required Vanguard to use its best efforts to vote shares in excess of 10 percent of any class of voting securities in proportion to the vote taken on all other shares (i.e., to "mirror" the vote of the other shares voted), or, in the event that such efforts to provide for mirror voting are unsuccessful, to abstain from voting. Second, the 2013 commitments prohibited Vanguard from seeking to place a director on the board of any Regulated Company in which it invests. The commitments described herein would eliminate the mirror voting requirement, and permit Vanguard to seek to place up to one director on the board of any Regulated Company in which it invests. These revisions would more closely align the Vanguard commitments with traditional passivity commitments, and staff believes that the revised commitments have the potential to improve the corporate governance of Regulated Companies.

In addition to considering the commitments made by Vanguard, Board staff has considered the nature of Vanguard and its proposed investments. Vanguard operates and provides investment advice to the Vanguard-Advised Entities. The proposed acquisitions in Regulated Companies would not be proprietary investments by Vanguard. Rather, they would be investments made by Vanguard-Advised Entities and on behalf of the beneficial owners of the Vanguard-Advised Entities. The Vanguard-Advised Entities are not operating companies, and Vanguard does not lend to the Vanguard-Advised Entities or to

[8] For a complete list of the revised commitments that Vanguard has made to the Board, see the Appendix. These revised commitments would replace the existing commitments Vanguard made to the Board in connection with its prior request, as described in the 2013 Letter.

their portfolio companies. Moreover, Vanguard is not in the business of operating or controlling Regulated Companies, or other companies. The proposed acquisitions will be made for investment purposes with the expectation of resale and not for the purpose of exercising a controlling influence over the management or policies of any Regulated Company.

In light of the nature of Vanguard's business and proposed investments, staff believes that the amended commitments that Vanguard has executed in connection with this letter are appropriate to mitigate concerns about whether Vanguard will exercise a controlling influence over Regulated Companies.

In view of the commitments made by Vanguard and the facts described in this letter, Board staff would not recommend that the Board find that acquisitions made within the parameters, and subject to the conditions, set forth in this letter would cause Vanguard or any of the Vanguard-Advised Entities: (i) to control a bank holding company or bank for purposes of the BHC Act; (ii) to control a savings and loan holding company or savings association for purposes of the HOLA; or (iii) to control a bank holding company, savings and loan holding company, or state member bank for purposes of the CIBC Act.[9]

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[9] To the extent Vanguard were to make acquisitions outside the parameters of this letter, or contrary to the conditions and commitments described herein, Vanguard would be required to comply with all other applicable filing requirements, including the filing of applications or notices, respectively, under the BHC Act, HOLA, and the CIBC Act.

The preceding opinions are based expressly on the facts and circumstances of this case as they have been described to Board staff, and any change in these facts or circumstances may result in a different opinion. In addition, this letter expresses no opinion as to whether a CIBC Act notice would be required for transactions involving direct investments in national banks, state non-member banks, or savings associations. If you have any questions about this matter, please contact Jay Schwarz (202) 452-2970 or Greg Frischmann (202) 452-2803 of the Board's Legal Division.

Sincerely,

Mark Van Der Weide

cc: Federal Reserve Bank of Philadelphia

APPENDIX

Commitments of Vanguard to the Board

Aggregate investments by Vanguard and the Vanguard-Advised Entities in 10 percent or more of any class of voting securities of a bank holding company, bank, savings and loan holding company, and savings association (each, a "Bank") will be conducted in accordance with the commitments and restrictions listed below.

1. Vanguard and the Vanguard-Advised Entities in the aggregate:

    a. will not acquire 25 percent or more of any class of voting securities of any Bank without receiving the Board's prior approval under the Bank Holding Company Act, or the Home Owners' Loan Act, as applicable; and

    b. will not acquire more than 15 percent of any class of voting securities of any bank holding company, savings and loan holding company, or state member bank, without receiving the Board's prior nonobjection under the Change in Bank Control Act.

2. Neither Vanguard nor any Vanguard-Advised Entities will, directly or indirectly, individually or in the aggregate:

    a. take any action to cause a Bank or any of its subsidiaries to become a subsidiary of Vanguard or any Vanguard-Advised Entity for purposes of the BHC Act;

    b. unless agreed to by the Federal Reserve Board or its staff, and permitted by applicable law, seek or accept representation of more than one director on the board of directors of any Bank or its subsidiaries;

    c. have or seek to have any representative of Vanguard or any Vanguard-Advised Entity serve as an officer, agent or employee of any Bank or its subsidiaries;

d. propose a director or slate of directors in opposition to any nominee or slate of nominees proposed by the management or board of directors of any Bank;

e. exercise or attempt to exercise a controlling influence over the management or policies of any Bank or any of its subsidiaries;

f. attempt to influence the dividend policies; loan, credit, or investment decisions or policies; pricing of services; personnel decisions; operations activities (including the location of any offices or branches or their hours of operation, etc.); or any similar activities or decisions of any Bank or any of its subsidiaries;

g. enter into any agreement with a Bank or any of its subsidiaries that substantially limits the discretion of the Bank's management over major policies and decisions, including, but not limited to, policies or decisions about employing and compensating executive officers; engaging in new business lines; raising additional debt or equity capital; merging or consolidating with another firm; or acquiring, selling, leasing, transferring, or disposing of material assets, subsidiaries, or other entities;

h. solicit or participate in soliciting proxies with respect to any matter presented to the shareholders of a Bank or any of its subsidiaries; or

i. dispose or threaten to dispose (explicitly or implicitly) of equity interests of a Bank or any of its subsidiaries in any manner as a condition or inducement of specific action or non-action by Bank or any of its subsidiaries.

3. Neither Vanguard nor any Vanguard-Advised Entity will dispose of voting securities of a Bank:

   a. to any person if Vanguard or the Vanguard-Advised Entity knows that such person seeks to change the control of the Bank in any manner; or

   b. to any person whom Vanguard or the Vanguard-Advised Entity knows (i) has made a filing with the U.S. Securities and Exchange Commission or other federal agency with respect to the ownership of

more than 5 percent of the Bank's voting securities, or (ii) would be required to do so as a result of the purchase from Vanguard or a Vanguard-Advised Entity; or

c. in an amount of more than 5 percent of the Bank's voting securities in any single transaction;[10]

provided that notwithstanding paragraphs (a) through (c) above, Vanguard and the Vanguard-Advised Entities may dispose of their stock in a Bank in the following circumstances:

(i) in a cross trade between two Vanguard-Advised Entities in compliance with the rules governing such cross trades under the Investment Company Act of 1940, as amended (the "1940 Act");

(ii) in a sale by Vanguard or a Vanguard-Advised Entities to the Bank or one of its subsidiaries;

(iii) in a tender or exchange offer for voting stock of the Bank; or

(iv) in a widespread public distribution effected on a stock exchange or otherwise (which may include a sale to one or more broker-dealers acting as market makers or otherwise intending to resell the shares sold to it or them in accordance with its or their normal business practices).

4. Neither Vanguard nor any Vanguard-Advised Entity will individually own, control, or hold with power to vote more than 10 percent of any class of voting securities of a Bank.

Vanguard and the Vanguard-Advised Entities understand that these commitments constitute conditions imposed in writing in connection with the Board's findings and decisions related to acquisitions of voting securities of Banks, and, as such, may be enforced in proceedings under applicable law.

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[10] A single transaction includes a bunched trade effected by two or more Vanguard-Advised Entities in compliance with the rules governing bunched trades under the 1940 Act.

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Post-COVID Inflation Dynamics: Higher for Longer

Randal J. Verbrugge and Saeed Zaman

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Post-COVID Inflation Dynamics: Higher for Longer

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January 13, 2023

Abstract

In the December 2022 Summary of Economic Projections (SEP), the median projection for four-quarter core PCE inflation in the fourth quarter of 2025 is 2.1 percent. This same SEP has unemployment rising by nine-tenths, to 4.6 percent, by the end of 2023. We assess the plausibility of this projection using a specific nonlinear model that embeds an empirically successful nonlinear Phillips curve specification into a structural model, identifying it via an underutilized data-dependent method. We model core PCE inflation using three components that align with those noted by Chair Powell in his December 14, 2022, press conference: housing, core goods, and core-services-less-housing. Our model projects that conditional on the SEP unemployment rate path and a rapid deceleration of core goods prices, core PCE inflation moderates to only 2.75 percent by the end of 2025: inflation will be higher for longer. A deep recession would be necessary to achieve the SEP's projected inflation path. A simple reduced-form welfare analysis, which abstracts from any danger of inflation expectations becoming unanchored, suggests that such a recession would not be optimal.

JEL codes: E31, E32, E52, C32
Keywords: nonlinear Phillips curve, frequency decomposition, supply price pressures, structural VAR, core PCE inflation components, welfare analysis

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"…you can break inflation down into three sorts of buckets. The first is goods inflation, and we see now… goods inflation coming down … Then you go to housing services …that inflation will come down sometime next year. The third piece, which is something like 55 percent of the … PCE core inflation index, is non-housing-related core services. And that's really a function of the labor market … And we do see a very, very strong labor market, one where we haven't seen much softening, where job growth is very high, where wages are very high. Vacancies are quite elevated and … there's an imbalance in the labor market between supply and demand. So that part of it, which is the biggest part, is likely to take a substantial period to get down. The other … the goods inflation has turned pretty quickly now after not turning at all for a year and a half. Now it seems to be turning. But there's an expectation … that the services inflation will not move down so quickly, so that we'll have to stay at it so that we may have to raise rates higher to get to where we want to go. And that's really why we are writing down those high rates and why we're expecting that they'll have to remain high for a time."

FOMC Chair Jerome Powell, Press Conference, Dec. 14, 2022

1. Introduction

In his December 14, 2022, press conference, Jerome Powell, chair of the Federal Open Market Committee (FOMC), used a tripartite decomposition of core PCE inflation to explain why the FOMC expects that the federal funds rate will "have to remain high for a time." This decomposition consists of core goods inflation, housing services inflation, and non-housing core services. In the press conference, Chair Powell noted that core goods inflation has "turned down pretty quickly" in recent months. He further noted that housing services inflation is expected to come down sometime in 2023. Finally, he noted that non-housing core services inflation is influenced by the "very, very strong labor market" and, for this reason, is "likely to take a substantial period to get down."

In this paper, we use this tripartite decomposition of core PCE inflation to explore the path of inflation going forward.[1] We build upon recent work by Ashley and Verbrugge (2022a) and Verbrugge and Zaman (2023) – two studies providing compelling evidence in favor of a nonlinear Phillips curve – to construct a nonlinear structural vector autoregression (SVAR), a model suitable

[1] The idea of forecasting aggregate inflation by separately modeling and forecasting its underlying disaggregated components has a long tradition; see Tallman and Zaman (2017) and references therein.

for exploring counterfactual conditional inflation forecasts. We estimate our model over the 1985-2019 period and identify it using the data-determined method of Swanson and Granger (1997), which substantially reduces the role of subjective elements. When we feed in the December SEP's forecasted path for the unemployment rate (which has it increasing by 0.9 percentage point) into our model, we get a higher path for core PCE inflation than the SEP path that has core PCE inflation moderating to 2.1 percent by the end of 2025. Inflation is going to remain higher for longer: rather than core PCE inflation reaching 2.1 percent by the end of 2025, our model projects that it will be at 2.8 percent, with the 70 percent confidence interval spanning 2.4 to 3.2 percent. A key to this result is the fact that inflation is more persistent than commonly believed. We conclude that it would take a deep recession to reduce inflation faster. We investigate the claim of former Treasury Secretary Lawrence Summers (reported in Aldrick, 2022) and the supporting assessment of Ball, Leigh, and Mishra (2022) that it will require two years of 7.5 percent unemployment from its current low level of 3.6 to 3.7 percent to bring inflation down to its 2 percent target. We find that one year of 7.4 percent unemployment would accomplish this task.

But would such a recession be ideal? As a first pass at addressing this question, we perform a simple reduced-form welfare analysis using a quadratic loss function that equally penalizes quarterly deviations of inflation from 2 percent (the FOMC target level of inflation), and deviations of unemployment from 4 percent (the FOMC's estimate of the longer-run level of unemployment). In addition to producing inflation forecasts corresponding to the deep recession noted above and to the December SEP, we produce inflation forecasts corresponding to a moderate recession (defined by the path of unemployment taken in the 2001 recession) and to a soft landing for unemployment (which we define as the path of unemployment reported in the June SEP).[2] This welfare analysis generally prefers the December SEP, unless the weight on inflation is very low (in which case, it prefers the soft landing) or very high (in which case, it prefers the moderate recession). Importantly, this analysis abstracts from any danger of the unanchoring of inflation expectations that might be associated with inflation still being at 2.8 percent three years from now.

[2] Figura and Waller (2022) argue that a soft landing in the labor market is a plausible scenario.

2. Data, Methods and Model

2.1 Data

We use quarterly data spanning from 1985:Q1 through 2022:Q4, though we estimate the model using pre-COVID data.[3] Most of the series are available at a monthly frequency, and we aggregate them up to a quarterly frequency. Following much precedent in the literature, we focus attention on the post-1984 period because inflation dynamics are thought to have changed markedly beginning in the mid-1980s onward, and this is the period associated with anchored inflation expectations.

Our model consists of six variables. The first is the PPI for core intermediate goods, denoted *PPI*. Verbrugge and Zaman (2023) find that PPI captures supply price pressures and is an important determinant of trimmed-mean PCE inflation. The next three variables are also inflation-specific, corresponding to the tripartite decomposition of Chair Powell. These include core goods and housing services. But rather than using non-housing core services, we instead construct, and use, *median* non-housing core services.[4] We do this because non-housing core services are quite sensitive to outliers, particularly in non-market services. Verbrugge (2022) demonstrates that such sensitivity renders core inflation measures less reliable as indicators of trend inflation. Accordingly, we view median non-housing core services inflation as a more accurate estimate of the trend in non-housing core services, helping to more reliably capture both the persistence of non-housing core services and their sensitivity to labor market pressures.[5] Figure 1 plots non-housing core services inflation alongside its "median" counterpart. As expected, the median series is smoother than the original series. Over the sample period displayed, the bias, defined as the gap between their respective inflation rates, is zero. However, over specific periods, there can be

[3] At the time of this writing, we do not have complete 2022Q4 data. We use available monthly data to construct Q4 nowcasts for all variables. Our model is estimated using 1985-2019 data, but data from 2021Q3 onward are used for forecasting because the model specification includes five lags.

[4] Our choice of "median" variable is partly motivated by the successful track record of median CPI and median PCE variables constructed by the Federal Reserve Bank of Cleveland in tracking the trend in CPI and PCE inflation, respectively. The method used to construct the median series is similar to that of Carroll and Verbrugge (2019), who use all the available 190+ disaggregated price categories of the monthly PCE to construct the (weighted) median PCE series. To construct the (weighted) median non-housing core services, we use information about the price changes in the 82 disaggregated price categories of the PCE that are part of "PCE services excluding energy, food, and housing," along with their respective nominal expenditure shares at a monthly frequency. Since we estimate the model with quarterly data, we aggregate up the monthly data to a quarterly frequency.

[5] As with non-housing core services inflation, we find that median non-housing core services inflation has a statistically significant Phillips curve, but a weak relationship with nominal wage inflation (as measured either by average hourly earnings or by the employment cost index).

notable divergence, with more recent periods appearing as a prominent example. Accordingly, in computing forecasts of non-housing core services inflation, we apply bias adjustment to the forecasts of the *median* variable.[6]

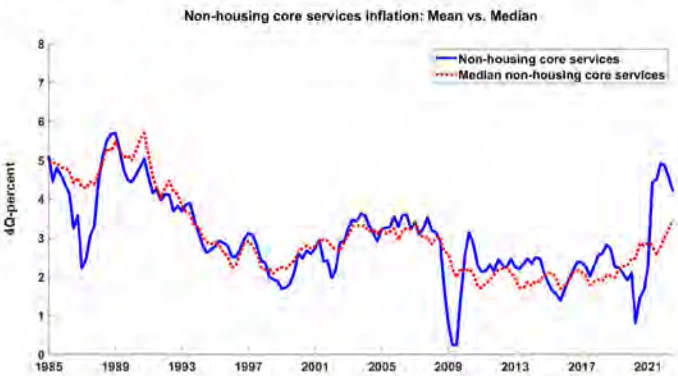

Figure 1: Core cervices ex. housing inflation indicators

Following Ashley and Verbrugge (2022a) and Verbrugge and Zaman (2023), the final two variables are two "components" of the unemployment rate: a persistent (or low-frequency) gap component and a moderately persistent (or medium-frequency) component.[7] The approach to filtering is described in Appendix A. Following Verbrugge and Zaman (2023), these components of the unemployment rate are derived from the *jobless* unemployment rate of Hall

[6] The bias-adjustment procedure is informed by estimating two separate AR(1) processes on the historical wedge (i.e., the gap between the two series) and using the estimated processes to compute the estimates of the time-varying wedge over the forecast period. One of the AR(1) processes is estimated over the entire sample, based upon a 12-month moving average of the monthly series; the other one is estimated over the post-1985 sample (with an intercept change in 2010), based upon a 3-month moving average of the monthly series, resulting in two forecasts of the time-varying wedge that are averaged to construct a single series of the wedge. Forecasts of the median variable are then bias-adjusted using this forecast of the wedge, so as to obtain an unbiased forecast of core services less housing.

[7] Specifically, the unemployment rate is split into "transient," "moderately persistent," and "persistent" components. But since the transient fluctuations were found to be unimportant predictors, to keep our model parsimonious, we abstract from these fluctuations. "Moderately persistent" refers to fluctuations that take 1-4 years to complete; "persistent" fluctuations last longer than that. To obtain valid inferences, frequency filtering must be done in a one-sided manner (see Ashley and Verbrugge 2022b). Hamilton (2018) recently introduced an alternative to HP filtering, but Ashley and Verbrugge (2022c) demonstrate that, for properly decomposing a time series into its lower-frequency and higher-frequency components, this procedure is inferior to the procedure used in Ashley and Verbrugge (2022a) and Ashley, Tsang, and Verbrugge (2020); see Appendix A for more details. We form a low-frequency *gap* by subtracting the Zaman (2022) U_t^* estimate from the low-frequency component. Our model forecasts even slower deceleration in inflation if we instead use the CBO natural rate estimate. The U* estimates from Zaman's model are available to download from https://github.com/zamansaeed/macrostars.

and Kudlyak (2022).[8] The jobless unemployment rate is constructed by removing the temporary layoffs from overall unemployment. We relate inflation to the jobless unemployment rate rather than the overall unemployment rate, since during the pandemic collapse, temporary unemployment experienced a 20-standard-deviation shock. Such an extreme movement severely distorts coefficient estimates and frequency partitions. Even very modest nonlinearities in relationships are likely to dominate the comovement of variables for as long as temporary unemployment remains extremely elevated, and these data points will have extremely high leverage. Putting this differently, it seems likely that the ordinary relationship between overall unemployment and inflation would have broken down in the face of this extreme movement. Our approach is to sidestep these twin problems by a) focusing on the relationship of inflation to the jobless unemployment rate, since the jobless unemployment rate experienced fairly typical dynamics during the COVID recession, and b) by estimating the model over the 1985-2019 period.

These two components of the jobless unemployment rate are depicted in Figure 2. Our partitioning of the jobless unemployment rate into varying persistence components is motivated by the aforementioned previous findings of persistence-dependence in the Phillips curve relationship and by an emerging literature that is re-exploring the frequency domain to obtain clues about business cycle drivers and dynamics. In contrast to the previous work, which modeled the relationship between aggregate inflation (i.e., trimmed-mean PCE inflation), this paper separately models the nonlinear Phillips curve relationship for each of the inflation components using the two components of the unemployment rate. Accordingly, in our inflation equations, we admit sign asymmetry on the unemployment components. We find that each inflation variable is related only to the *negative* part of the persistent unemployment gap (i.e., when the persistent unemployment rate is below the natural rate of unemployment), and to the *positive* part of the moderately persistent unemployment component, which is generally consistent with the previous work focusing on aggregate inflation. Historically, these portions of the two components align closely with overheating and recession, respectively. As we explain below, this simple partition allows us to uncover very insightful nonlinear Phillips curve relationships in all of our inflation variables.

Because we are specifying a structural model, we accordingly specify and estimate an equation for each of these unemployment components separately.

[8] The data necessary to construct the jobless unemployment rate are available from the Bureau of Labor Statistics.

2.2 Methods

Identification is achieved using the data-determined method of Swanson and Granger (1997), which substantially reduces the role of subjective elements. This method, which builds upon the correlation structure of the reduced-form residuals, is briefly discussed below and explained in Appendix B. We generate conditional forecasts by constructing nonlinear system forecasts that condition upon labor market variables and (as we explain below) upon structural shocks that allow us to impose near-term information about core goods inflation and housing services inflation. As has been long-established in the forecasting literature, overall forecast accuracy can be enhanced by conditioning upon near-term information (see, e.g., Faust and Wright, 2013; Tallman and Zaman, 2020).

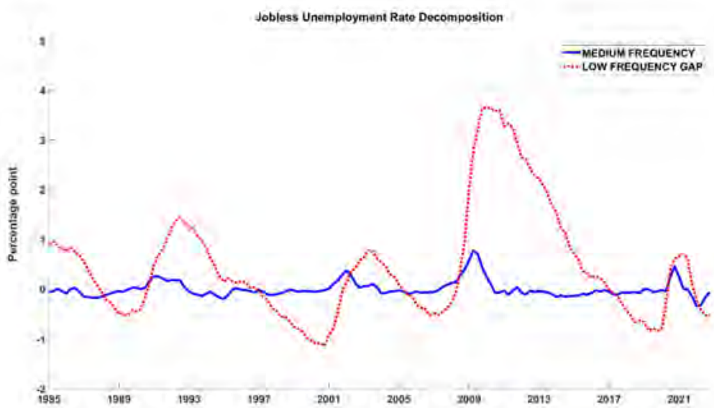

Figure 2: Two most persistent components of the jobless unemployment rate

2.3 Specification

Our specification largely follows Verbrugge and Zaman (2023). We are ultimately interested in reliable forecasts, so model parsimony was a chief consideration. We used step-down testing, equation by equation, removing variable lags to obtain parsimonious equations that were favored by the Bayesian information criterion (BIC). In all inflation equations, we allowed for sign

asymmetry in the two unemployment rate components, but did not impose it. In each equation, we allow up to 5 quarterly lags in the dependent variable and up to 4 quarterly lags in each of the other variables. Allowing for the fifth lag is quite important for accurately assessing the persistence of each series, as demonstrated in Verbrugge and Zaman (2023).

In the *PPI* equation, the inclusion of all other inflation series was rejected. However, *PPI* has a significant Phillips curve relationship. We rejected sign asymmetry in both unemployment rate components. Subsequently, both components appeared to enter as first differences. We thus entered both as first differences, and this yielded an equation that fit the data almost equally well; furthermore, u^{lowgap} was no longer statistically significant. Dropping this term yielded a more parsimonious equation with almost no decline in fit, and so was favored by the BIC.

$$\pi_t^{PPI} = \alpha^{PPI} + \sum_{j=1}^{4} \beta_j^{PPI} \pi_{t-j}^{PPI} + \delta \Delta u_{t-1}^{medfreq} + e_t^{PPI} \tag{1}$$

In Equation (1) and hereafter, π_t^{PPI} refers to 4-quarter (4Q) inflation in the PPI. Similarly, π_t^{CoreG} refers to 4Q inflation in core goods, $\pi_t^{MNHServ}$ refers to 4Q inflation in median non-housing core services, and π_t^{Hous} refers to 4Q inflation in housing services. Labor market variables are as follows: $\Delta u_t^{medfreq}$ refers to the 1-quarter change in the medium-frequency component, $u_t^{+medfreq}$ refers to the positive portion of the medium-frequency component, and $u_t^{-lowgap}$ refers to the negative portion of the low-frequency gap.

The core PCE component inflation rate equations are specified as

$$\begin{aligned} \pi_t^{CoreG} = \alpha^{CoreG} &+ \phi_1^{CoreG} \pi_{t-1}^{CoreG} + \phi_2^{CoreG} \pi_{t-2}^{CoreG} + \phi_5^{CoreG} \pi_{t-5}^{CoreG} + \\ &+ \beta_1^{CoreG} \pi_{t-1}^{PPI} + \beta_2^{CoreG} \pi_{t-2}^{PPI} + \lambda^{CoreG} u_{t-4}^{+medfreq} + \psi I^{1995} + e_t^{CoreG} \end{aligned} \tag{2}$$

$$\begin{aligned} \pi_t^{MNHServ} = \alpha^{MNHServ} &+ \gamma_1^{MNHServ} \pi_t^{MNHServ} + \gamma_2^{MNHServ} \pi_t^{MNHServ} + \gamma_5^{MNHServ} \pi_t^{MNHServ} + \\ &+ \lambda^{MNHServ} u_{t-1}^{+medfreq} + \mu^{MNHServ} u_{t-1}^{-lowgap} + e_t^{MNHServ} \end{aligned} \tag{3}$$

$$\pi_t^{Hous} = \alpha^{Hous} + \sum_{j=1}^{5} \eta_j^{Hous} \pi_{t-j}^{Hous} + \lambda^{Hous} u_{t-1}^{+medfreq} + \mu^{Hous} u_{t-4}^{-lowgap} + e_t^{Hous} \tag{4}$$

where I^{1995} is a dummy variable that is 1 prior to 1995Q1. This variable allows us to capture an evident mean shift in core goods inflation in the mid-1990s; see Clark (2004).

Finally, our $u^{medfreq}$ equation was specified as

$$u_t^{medfreq} = \sum_{j=1}^{2} \lambda_j^{med} u_{t-j}^{medfreq} + \sum_{j=1}^{4} \mu_j^{med} u_{t-j}^{lowgap} + \beta^{med} \pi_{t-1}^{PPI} + e_t^{medfreq} \tag{5}$$

and our u^{lowgap} equation was specified as

$$u_t^{lowgap} = \alpha^{lowgap} + \sum_{j=1}^{2} \mu_j^{low} u_{t-j}^{lowgap} + \sum_{j=1}^{4} \lambda_j^{low} u_{t-j}^{medfreq} + \sum_{j=1}^{4} \beta_j^{low} \pi_{t-j}^{PPI} + e_t^{lowgap} \tag{6}$$

Given the model's nonlinear nature, we construct forecasts and error bands via counterfactual simulations, following the procedure outlined in Kilian and Lütkepohl (2017), with shocks bootstrapped from estimated residuals. We compute the median response as well as the 15th and 85th percentiles from the simulations.

The forecast of core PCE inflation at time t for h quarters ahead is simply the composite forecast of the core goods inflation forecast, housing services inflation forecast, and the median services ex. housing inflation forecast (which is our proxy for the core services ex. housing forecast), combined using the share weights available as of time t. The weights reflect the relative shares of core goods inflation, housing services inflation, and core services ex. housing inflation in the overall core PCE inflation. Specifically, the weight for core goods inflation is computed as a nominal share of the personal consumption expenditures of core goods over the nominal PCE excluding energy and food, and similarly for the other two components.

3. Results

3.1 Identification

Structural identification requires us to model the correlations between the reduced-form residuals. Our procedure (taken from Verbrugge and Zaman (2023); see Appendix B) starts with identifying all statistically significant correlations between the reduced-form residuals. Accordingly, we used simple OLS regressions (i.e., regressed the residuals from equation (1) on those from equation (2), etc.) and examined t-statistics. We found a significant correlation between *PPI* residuals and core goods residuals, between *PPI* residuals and median non-housing core services residuals, and between u^{lowgap} and $u^{medfreq}$ residuals; all other correlations were statistically insignificant. This left us with 8 possible models. On the basis of economic theory and *a priori* timing grounds, we assume that contemporaneously, *PPI* causes core goods, *PPI*

causes median non-housing core services, and $u^{medfreq}$ causes u^{lowgap}. Denoting our SVAR in matrix notation by

$$AM_t = B(L)M_t + V_t$$

where $M_t = \left[\pi_t^{PPI}, \pi_t^{CoreG}, \pi_t^{MNHServ}, \pi_t^{Hous}, u_t^{medfreq}, u_t^{lowgap}\right]^T$, and imposing that V_t is diagonal, our assumptions lead to the following loading matrix A (only nonzero entries are indicated):

$$AM_t = \begin{bmatrix} 1 & & & & & \\ -a_{21} & 1 & & & & \\ -a_{31} & & 1 & & & \\ & & & 1 & & \\ & & & & 1 & \\ & & & & -a_{65} & 1 \end{bmatrix} \begin{bmatrix} \pi_t^{PPI} \\ \pi_t^{CoreG} \\ \pi_t^{MNHServ} \\ \pi_t^{Hous} \\ u_t^{medfreq} \\ u_t^{lowgap} \end{bmatrix}$$

Maximum likelihood estimation of A, based on the variance-covariance matrix from the equation residuals and the zeroes of the loading matrix A, indicated that a_{21}, a_{31} and a_{65} were statistically significant.[9]

Given these results and the sparsity of the A matrix, to estimate the identified system, it suffices to modify the core goods and median non-housing core services equations by including a contemporaneous *PPI* term, modify the u^{lowgap} equation by adding a contemporaneous $u^{medfreq}$ term, and estimate the (now fully identified) nonlinear system equation by equation.[10] Thus, the three respecified equations are

$$\begin{aligned} \pi_t^{CoreG} &= \alpha^{CoreG} + \phi_1^{CoreG}\pi_{t-1}^{CoreG} + \phi_2^{CoreG}\pi_{t-2}^{CoreG} + \phi_5^{CoreG}\pi_{t-5}^{CoreG} + \\ &+ \beta_0^{CoreG}\pi_t^{PPI} + \beta_1^{CoreG}\pi_{t-1}^{PPI} + \beta_2^{CoreG}\pi_{t-2}^{PPI} + \lambda^{CoreG}u_{t-4}^{+medfreq} + \psi I^{1995} + v_t^{CoreG} \end{aligned} \tag{7}$$

$$\begin{aligned} \pi_t^{MNHServ} &= \alpha^{MNHServ} + \gamma_1^{MNHServ}\pi_t^{MNHServ} + \gamma_2^{MNHServ}\pi_t^{MNHServ} + \gamma_5^{MNHServ}\pi_t^{MNHServ} + \\ &+ \beta_0^{MNHServ}\pi_t^{PPI} + \lambda^{MNHServ}u_{t-1}^{+medfreq} + \mu^{MNHServ}u_{t-1}^{-lowgap} + v_t^{MNHServ} \end{aligned} \tag{8}$$

$$u_t^{lowgap} = \alpha^{lowgap} + \sum\nolimits_{j=1}^{2}\mu_j^{low}u_{t-j}^{lowgap} + \sum\nolimits_{j=1}^{4}\lambda_j^{low}u_{t-j}^{medfreq} + \sum\nolimits_{j=0}^{4}\beta_j^{low}\pi_{t-j}^{PPI} + v_t^{lowgap} \tag{9}$$

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[9] There is some abuse of notation. Our full structural model has 11 equations, 5 of which are identities, as explained below. But what matters for identification is determining the contemporaneous causation structure among the variables, and none of these involve sign asymmetry

[10] Results are qualitatively unchanged if we adopt the commonly used practice of adjustiug the original reduced-form coefficients by multiplying by A^{-1}.

Further, in equations (1), (4), and (5), the reduced-form residuals e are relabeled as structural residuals v. Coefficient estimates are reported in Appendix C.

For simulating the system – necessary for estimation of forecasts and their error bands – we must augment these 4 equations with 5 additional equations: 4 equations that split each unemployment rate component projection into positive and negative parts, and a final one that defines the first difference of $u^{medfreq}$.

$$u_t^{+lowgap} \equiv \max\left(0, u_t^{lowgap}\right) \tag{10}$$

$$u_t^{-lowgap} \equiv \min\left(0, u_t^{lowgap}\right) \tag{11}$$

$$u_t^{+medfreq} \equiv \max\left(0, u_t^{medfreq}\right) \tag{12}$$

$$u_t^{-medfreq} \equiv \min\left(0, u_t^{medfreq}\right) \tag{13}$$

$$\Delta u_t^{medfreq} \equiv u_t^{medfreq} - u_{t-1}^{medfreq} \tag{14}$$

The full structural model consists of equations (1), (4), and (5) (with residuals v), and equations (7) through (14).

3.2 Forecasts

As has been long-established in the inflation forecasting literature, overall forecast accuracy can be enhanced by conditioning upon near-term information (see, e.g., Faust and Wright, 2013). The variables where such information is most useful for our purposes are core goods inflation (where monthly inflation has decelerated sharply) and housing inflation (where models relying on short-term information, discussed below, suggest that we will have at least one more quarter of inflation growth).

We incorporate the recent deceleration in core goods inflation by conditioning a path for 4Q core goods inflation over the next four quarters that leaves it slightly negative in 2023Q4.[11] If anything, doing so imposes a strong downward bias on our forecasts, since the model by itself (i.e., unconditionally) predicts a slower deceleration in core goods inflation.

[11] Following the nowcasting inflation work of Knotek and Zaman (2017), who found superior accuracy of core PCE nowcasts and short-term forecasts using simple models including AR processes, we construct the short-term forecast path for monthly core goods inflation using a simple AR(2) model estimated over our sample.

We incorporate short-term information in housing services by use of a short-term model, informed by Adams et al. (2022). This paper uses confidential CPI rent microdata to demonstrate that new-tenant rents lead official CPI rents (the ultimate source of the housing services inflation information in the core PCE) by about 4 quarters, and that the CoreLogic Single-Family Rent Index (SFRI) has historically tracked a CPI-microdata-based new-tenant rent index fairly well. We use a simple model for monthly housing services inflation[12] using lags of both housing services inflation and SFRI rent inflation to produce a forecast for housing services inflation for January, February, and March of 2023. This yields a 2023Q1 estimate of 7.7 percent (quarterly annualized or 7.9 percent 4Q-trailing basis), which we use as a starting condition for housing services inflation.

We first present the model projection for core PCE inflation through 2025, along with 70 percent confidence intervals, and the SEP projection in Figure 3. Our model projections are conditional on the December SEP path for unemployment. (For interpretive ease, we have interpolated between the SEP projected values for core PCE inflation, which are provided only for 2023Q4, 2024Q4, and 2025Q4.)

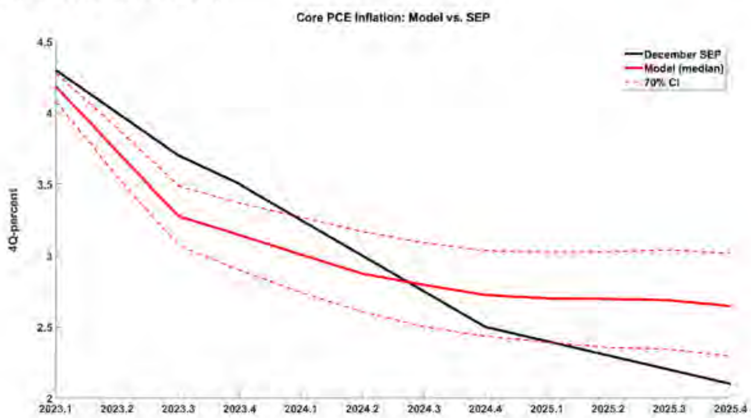

Figure 3: Projections of core PCE inflation

[12] We thank Mark Bognanni and Katia Peneva for advice in constructing this model.

The SEP projection initially lies above the model's mean projection, and outside the 70 percent confidence interval. This is because, in our model, the projected 2023 uptick in the unemployment rate in the SEP projection puts downward pressure on all of the inflation variables. Thereafter, however, the persistence of inflation reflected in our model estimates becomes evident, and progress toward the 2 percent target slows. Conversely, the SEP projection then continues its steady downward drift. This steady decline moves the SEP projection within the confidence interval, where it remains for most of 2024. However, thereafter, the SEP projection continues to move steadily lower, so that it moves outside of, and well below, the confidence interval. Hence, from late 2024 onward, the SEP projection is assessed as too optimistic relative to our model's assessment. Our model forecast is a touch below 2.7 percent by the end of 2025; it does not reach 2.1 percent inflation until several years later.

Figure 4 presents our model projections for our three components: core goods inflation, non-housing core services inflation, and housing inflation, conditional on their respective short-term conditions (as discussed above) and the SEP path for unemployment over the 2023-2025 period. Our model sees core goods inflation rebounding from -0.5 percent inflation in 2022Q3 to near 0 in early 2024, then slowing to a -0.40 percent pace in 2025. Non-housing core services inflation is projected to fall to 3.8 percent by the end of 2023, driven by downward pressure from the rising unemployment. Then its downward progress slows so that it decelerates to 3.4 percent by the end of 2025. Housing services inflation is projected to decline at a steady rate through late 2024, but then its downward progress stalls out, likely reflecting the sluggish dynamics of rent (see Adams et al., 2022 and Gallin and Verbrugge, 2019). During 2025, it settles in at a 4.5 percent pace, before continuing to decline briskly, reaching 3.8 percent by early 2027.

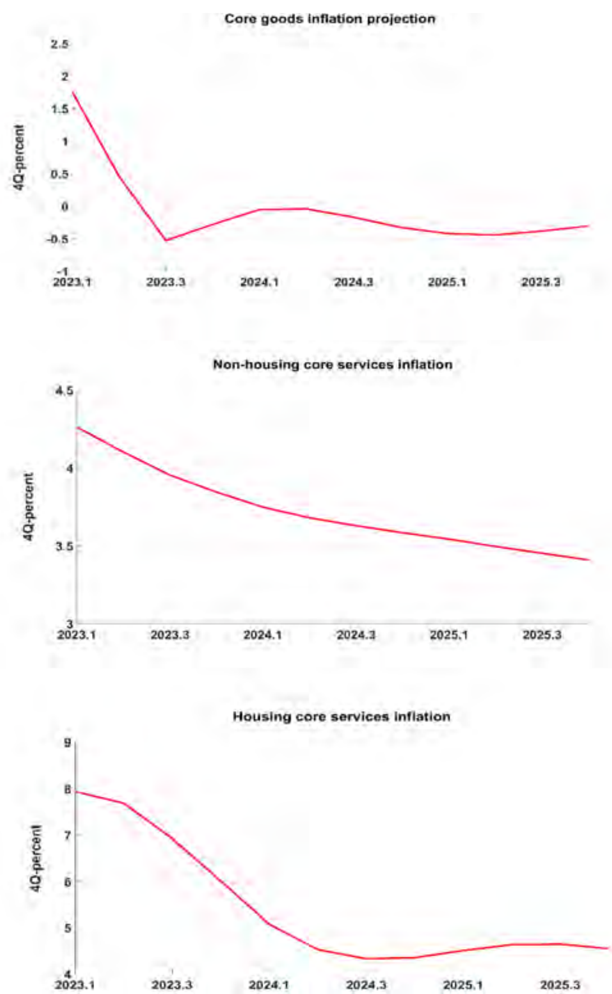

Figure 4: Projections of the components of core PCE inflation

We next provide a number of additional inflation projections, conditional on three alternative unemployment rate scenarios: a soft landing scenario, a moderate recession scenario, and a severe recession scenario. The soft landing scenario, which conditions on the projected unemployment path from the June SEP, has unemployment peaking at 4.1 percent by the end of 2024.[13] The moderate recession scenario conditions on a path for unemployment from 2023Q1 onward that mimics the 2001 recession. For this path, unemployment tops out at 5.6 percent in 2025Q3. Finally, the severe recession scenario (inspired by the Summers/Ball/Leigh/Mishra assertions) conditions on a path for unemployment from 2023Q1 onward that mimics the 1973 recession. For this path, unemployment tops out at 7.8 percent in 2024Q2, although unemployment averages 7.4 percent over the year. Unemployment rates in all scenarios, with the exception of the severe recession, are assumed, after 2025Q4, to descend linearly to hit 4 percent by the end of 2029 (or in the case of the soft landing, by the end of 2025). All of these scenario paths are plotted below in Figure 5. In our specification, the exact path of unemployment taken after 2024 in its descent toward 4 percent is essentially immaterial for inflation, but these paths will impact the simple welfare analysis conducted below. The implied forecasts for core PCE inflation are shown in Figure 6.

[13] The SEP projection reports the forecast of the overall unemployment rate. To back out the implied projection of the underlying jobless unemployment rate, we take the temporary-layoff rate reported by the BLS for the month of December 2022, and assume that it will persist into the future.

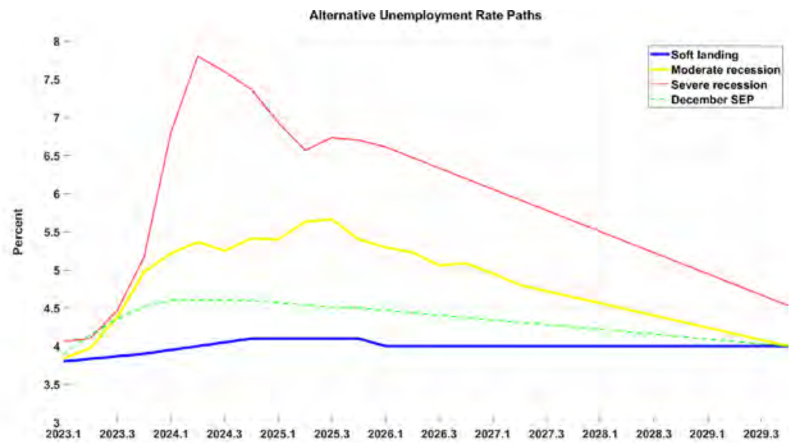

Figure 5: Projections of the unemployment rate

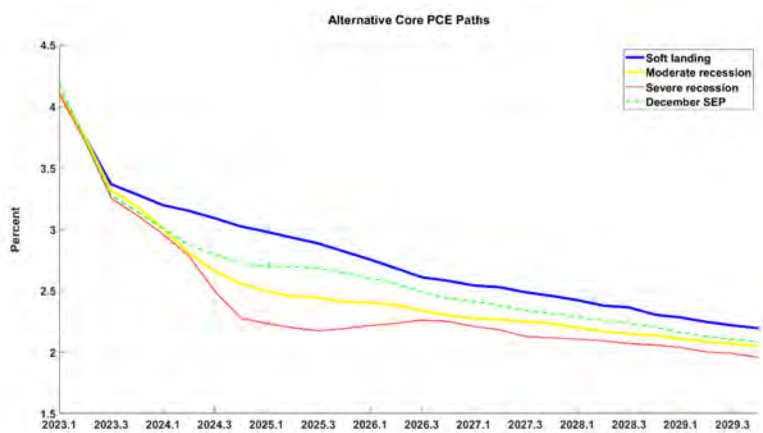

Figure 6: Alternative projections of core PCE inflation

Our model sees rapid deceleration of inflation over 2023, for all of these scenarios, driven by rapid deceleration in core goods prices and by initial movement back toward trend. Recessionary downward force, i.e., the deceleration pressure associated with the positive portion of the medium-frequency component of unemployment, amplifies this descent for all scenarios except the soft landing. This pressure eases in early 2024 for the December SEP path and the moderate recession path but continues for three more quarters in the severe recession scenario. Notice, however, that once the deceleration pressures ease, progress toward 2 percent slows markedly. Inflation is more persistent than is commonly believed.

Regarding that persistence, as noted in Verbrugge and Zaman (2023), allowing for the fifth lag in each of the three core PCE component inflation variables is quite important. In the appendix of their paper, Verbrugge and Zaman (2023) show that, effectively, the persistence of an autoregressive process with (say) a coefficient of 0.1 on the fifth lag is far greater than an autoregressive process with only one lag, even if the coefficient on that lag is equal to the sum of the autoregressive coefficients in the lag-5 process. These forecasts imply that it takes a very long time for inflation to return to trend. This fact is consistent with the inflation experience over the 2012-2019 period, when trend inflation moved a mere 0.5 percentage point (see Ashley and Verbrugge, 2022a). We further note that our core PCE projections are very similar to those of the model in Verbrugge and Zaman (2023), which is built upon trimmed-mean PCE inflation, and also to those from the headline PCE forecasts of the model in Verbrugge and Zaman (2022).

In Appendix D, we display a 10-year conditional recursive forecast from our model over the 2007-2016 period. Its accuracy leads us to believe that the forecasts from our model are generally reliable.

3.3 A Simple Welfare Analysis

Despite its higher inflation path, is a soft landing preferable? We conduct a simple welfare analysis, using a standard (though ad hoc) quadratic loss function. In some contexts, such loss functions are a second-order Taylor series approximation to the expected utility of the economy's representative household (Woodford, 2002), specified as

$$L\{u_t,\pi_t\}_{t=t_1}^{t_2} = \sum_{s=0}^{t_2-t_1}\left[w\left(u_{t_1+s}-u_t^*\right)^2+(1-w)\left(\pi_{t_1+s}-\pi^*\right)^2\right]$$

Guided by the December SEP and the FOMC's inflation target, we set $u_t^* = 4.0$ and $\pi^* = 2.0$. We examine losses from t_1 = 2023Q1 to t_2 = 2029Q4. We compare the soft landing, moderate recession, severe recession, and December SEP scenarios. We report the losses in Table 1, for $w = \{0.1, 0.25, 0.5, 0.75, 0.9\}$.

Table 1: Welfare losses

Weight on unemployment	Soft landing	Moderate recession	Severe recession	December SEP
0.1	20.7	15.5	22.8	16.0
0.25	17.3	16.6	38.0	13.8
0.5	11.7	18.4	63.4	10.1
0.75	6.1	20.2	88.8	6.4
0.9	2.7	21.3	104.0	4.1

In Table 1, we have highlighted the minimum-loss scenario for each value of w. The estimates indicate that for moderate values of w, i.e., a weight of 0.25 or 0.50 on the unemployment rate, the projection conditioned on the SEP path results in a smaller welfare loss than does the soft landing. Only for higher values of w does the soft landing result in smaller welfare losses than does the SEP path, and only for very low values of w does the moderate recession result in smaller welfare losses than does the SEP path. In summary, this welfare analysis suggests that a December SEP is the preferred outcome. Importantly, however, this welfare analysis abstracts from any danger of the unanchoring of inflation expectations that might be associated with core PCE inflation still being nearly 2.7 percent three years from now.

4. Conclusion

This paper implements a nonlinear structural VAR model to jointly estimate the dynamics of inflation, as measured by three components of core PCE inflation, an indicator of supply-chain pressures, and two components of the jobless unemployment rate: a persistent component and moderately persistent component.

The model is estimated with post-1985 quarterly data and identification of structural shocks is achieved using the data-determined method of Swanson and Granger (1997), which substantially reduces the role of subjectivity.

Looking ahead, our model projects that inflation only very gradually falls back to 2 percent. Progress toward target is very much influenced by the path that unemployment will take over the next several years. Conditional on the December SEP median unemployment rate projections, inflation is projected to still be nearly 2.7 percent by the end of 2025, far above the SEP's median projection of 2.1 percent. A moderate recession (roughly equal to the recession of 2001) would put inflation at 2.4 percent by the end of 2025; conversely, a soft landing (which we define as the path of unemployment in the June SEP projection) would put inflation a touch above 2.8 percent by the end of 2025. What kind of recession would it take to hit the SEP projection for inflation, according to the model developed in this paper? We investigate the claim of former Treasury Secretary Lawrence Summers (reported in Aldrick, 2022) and the supporting assessment of Ball, Leigh, and Mishra (2022) that it will take two years of 7.5 percent unemployment from its current low level to bring inflation down to its 2 percent target. We find that one year of 7.4 percent unemployment would accomplish this task.

A simple welfare analysis based on a standard quadratic loss function overall favors the December SEP unemployment rate path. However, this welfare analysis abstracts from any danger of the unanchoring of inflation expectations that would be associated with core PCE inflation still being 2.8 percent three years from now.

Ashley and Verbrugge (2022a) summarize a large number of extant theoretical works whose predictions are consistent with their (and our) empirical results regarding the nonlinearity of the Phillips curve. We hope that the present paper provides further impetus for the development of structural models that are consistent with, and provide a theoretical explanation for, our findings.

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Appendix A: Partitioning the Jobless Unemployment Rate

A.1 Overview

To partition the jobless unemployment rate while applying the Ashley/Verbrugge (2022a,b) method (described below), we use the Iacobucci-Noullez (2005) filter, setting $k = 4$ (i.e., using 4 quarters of univariate forecasts in each rolling window). The Iacobucci-Noullez filter introduces no phase shift (unlike, e.g., the Christiano-Fitzgerald (2003) filter).[14] Following Ashley and Verbrugge (2022a), we choose frequency cutoffs so that the jobless unemployment rate is partitioned into fluctuations lasting longer than 4 years (termed u_t^{lowgap}, for low-frequency gap), fluctuations lasting between 1 year and 4 years (termed $u_t^{medfreq}$, for medium-frequency), and transient fluctuations. Transient fluctuations were found to be unimportant drivers of inflation, and so were omitted. The two more persistent unemployment components are plotted in Figure 2. This figure also demonstrates how unusual the COVID collapse and recovery were. In particular, the low-frequency gap rose, notably much more sharply than usual. Meanwhile, the medium-frequency component also fell very sharply back to zero, dropping to historic lows.

The first step is to *partition* the real-time unemployment rate u_t into 3 persistence components – $u_t = \sum_{j=1}^{3} u_{j,t}$ – which *by construction* add up to the original series. These 3 persistence components partition the variation in u_t into monotonically decreasing levels of persistence or, equivalently, increasing frequency levels. These components are obtained from the sample data using a moving window (augmented with a k-quarter forecast) to filter the u_t data at each time t in a one-sided (backward-looking) manner. This approach mitigates end-of-sample filter distortions, ensures that parameter estimates are consistent, and retains both the causality structure of the data-generating process and any orthogonality conditions that are present in the unfiltered data. The Ashley/Verbrugge persistence-dependent regression methodology then merely replaces $u_t - u_t^*$ with these 3 persistence components, estimating a separate coefficient for each. (We note in passing that we subtract u_t^* from the most persistent component. That way, the

[14] Use of the CF filter in the AV method produced qualitatively similar results, though it calls for the predicted recession to begin a quarter or two later. For a comparison of the use of different filters for frequency-dependent regression (as well as the sensitivity of results to forecast parameters), see Ashley and Verbrugge (2020c). Using the CF filter with the Ashley/Verbrugge method mitigates its phase shift in any case.

3 components add up to an unemployment gap, the typical Phillips curve specification in the literature.) Simulation evidence in Ashley, Tsang, and Verbrugge (2020) and Ashley and Verbrugge (2022c) indicate that the method yields reliable coefficient estimates and inferences, for both linear and nonlinear data-generating processes. Below we summarize why partitioning, one-sided filtering, augmentation or 'padding' with forecasts, and restriction of the filtering solely to the u_t data are all *essential* for obtaining reliable inferences.

A.2 One-Sided Filtering Method of Ashley and Verbrugge

Figure A.1: One-sided filtering of unemployment rate data at date s+τ
(using a two-sided filter, from time s to time s+k+m)

A2.1 Description of one-sided filtering

In brief, one undertakes the one-sided filtering by running a window through the data. Over each window, one saves the decomposition at the final *data point* in the window. Then one increments the window by one quarter. However, each window includes not just data but also a second component that is a forecast. In other words, each window includes data augmented with a forecast.

To explain this in more detail, consider Figure A.1. We wish to compute the decomposition of the unemployment rate at time s+κ. As is well-known, obtaining the decomposition at s+κ by using a two-sided filter from time s to time s+κ would yield estimates with very poor properties. In particular, the resultant time series would (for most filters) incorporate a pronounced phase shift, in addition to being highly inaccurate; this inaccuracy is due to the well-known "edge effect" problem plaguing all filters.

Both the phase-shift and edge-effect problems are addressed by augmenting the data within a window with forecasts. In particular, as in Dagum (1987), Stock and Watson (1999), Kaiser and

Maravall (1999), Mise, Kim and Newbold (2005), and Clark and Kozicki (2005) – and as is done routinely in seasonal-adjustment procedures – one should augment the window sample data with forecasted data. In the situation depicted in Figure A.1 we have κ sample data points (from time period s to time period s+κ), and m months of projections, yielding a (κ+m)-quarter window (from time period s to time period s+κ+m). We then use a two-sided filter to partition that window into persistence components, and then save the partition at date s+κ; notice that this is a one-sided partition, since no *data* after date s+κ are used. To obtain the partition at date s+κ+1, we repeat this procedure, obtaining a forecast from data s+κ+1 to data s+κ+1+m, then use a two-sided filter over dates s+1 to s+κ+m+1 and saving the partition at date s+κ+1. This procedure also gracefully allows one to use real-time data.

A2.2 Testing for persistence-dependence

How does testing proceed? In the present case, we wish to test whether the Phillips curve is persistence-dependent. Thus, we partition the unemployment rate *un* into three components (say): un^1, un^2, *and* un^3. Then we replace *un* in the Phillips curve specification with its 3 components. One may readily test for persistence-dependence using a standard Chow test. Since the components sum to the original series and are based upon one-sided filtering, the causality structure and the properties of the error term are preserved. For more details, see the appendix to Ashley, Tsang, and Verbrugge (2020).

A2.3 Sensitivity to forecasts and filter

Ashley and Verbrugge (2022c) demonstrate that the resultant persistence decomposition is not very sensitive to the number of forecast periods chosen, as long as at least a year of projections are used, nor to the frequency filter used (the Iacobucci-Noullez filter, the Christiano-Fitzgerald filter, or the Ashley-Verbrugge filter) nor to the details of how these forecasts are produced (as long as they are reasonably accurate).

What is crucial is to *partition* the explanatory variables into an interpretably small set of frequency/persistence components that add up to the original data, using moving windows passing through the data so that the filtering is done in a backward-looking or one-sided manner. The Ashley-Verbrugge filter has a key advantage: it can partition the time series into *k* components in a single pass and is thus more readily used for discovering the persistence-dependence in the original data. Other filters must be used in an iterative manner, and in our experience, results are disappointing if one attempts to partition the data into more than 3 components. Furthermore, Ashley and Verbrugge (2022c) demonstrate that the results using other filters are somewhat sensitive to the manner in which this iteration is done.

But with these details in mind, what is of practical macroeconometric importance is to allow for frequency/persistence dependence in the relationship, not – so long as one is mindful of the basic desiderata delineated above – the technical details of precisely how the explanatory variable is partitioned into its frequency/persistence components. Ashley and Verbrugge (2022a) report that

alternative techniques usually yield quite similar empirical results in practice; see Ashley and Verbrugge (2022c) for more details. RATS, Stata, and Matlab code to accomplish this type of one-sided decomposition (using simple univariate or multivariate forecasts) is available from the authors.

A2.4 Rationale for partitioning, one-sided filtering, and filtering only explanatory variables

Why are partitioning, one-sided filtering, and restriction of the filtering solely to the $u_t - u_t^*$ data all essential? Partitioning is necessary to ensure that these 3 components of the unemployment rate gap add up to the original data, making it easy to test the null hypothesis that the coefficients with which these 3 components enter a regression model for the inflation rate are all equal. One-sided filtering is necessary because two-sided filtering – such as ordinary HP filtering or ordinary spectral analysis – inherently mixes up future and past values of the unemployment rate gap in obtaining the persistence components, distorting the causal meaning of inference in the resulting inflation model and limiting its use for practical forecasting and/or policy analysis. These distortions from the use of two-sided filtering are particularly severe when the dependent variable is also filtered and when the key relationship likely (as here) involves feedback from the dependent variable (inflation) to the (filtered) components of $u_t - u_t^*$ being used as explanatory variables. Fundamentally, this is because filtering the dependent variable in a regression model implies that the model error term is similarly filtered. For more details, see Ashley and Verbrugge (2008, 2022b); for a "practical" comparison of methods, including the Hamilton (2018) filter, see Ashley and Verbrugge (2022c).

How about two-sided spectral estimates or filtering with wavelets? These are two-sided methods, so the same criticisms apply. Hence, two-sided cross-spectral estimates or filtering with wavelets are ruled out for analyses of the present sort. And regarding spectral methods, even absent feedback, transfer function gain and phase plots are substantially more challenging to interpret than our approach; even without the presence of feedback, Granger describes interpretation of such plots as "difficult or impossible" (Granger, 1969).

Appendix B: Identification

We adopt the Swanson and Granger approach to identification.[15] This method is built upon the fact that most structural causal models, whether linear or nonlinear, imply overidentifying constraints. In particular, a given structural model implies partial correlation constraints on reduced-form regression residuals ($e_{X,t}, e_{Y,t}, e_{Z,t}$). These restrictions take the form $e_X \perp e_Y \mid e_Z$. Under fairly weak assumptions, such constraints may be tested using standard t-statistics and, if the test is rejected, one may thus reject that structural model.

But notice that *all* structural models that share such a constraint are also accordingly rejected. Hence, such tests may be used to restrict the class of models that are consistent with the data. By virtue of ruling out candidate models that are inconsistent with the data, tests of such overidentifying constraints thus prove useful in *specifying* a structural model. This procedure substantially reduces the subjective nature in the typical SVAR methodology.

To demonstrate how this works in practice, we provide a simple example. Consider the following structural model, an SVAR involving 3 variables, X, Y, and Z; for simplicity, assume that each is standardized to have mean 0 and standard deviation 1. The model is a structural vector autoregression of order 2:

$$\begin{bmatrix} 1 & 0 & 0 \\ -a_{21} & 1 & 0 \\ -a_{31} & 0 & 1 \end{bmatrix} \begin{bmatrix} x_t \\ y_t \\ z_t \end{bmatrix} = \begin{bmatrix} b_{11} & 0 & b_{13} \\ 0 & b_{22} & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} x_{t-1} \\ y_{t-1} \\ z_{t-1} \end{bmatrix} + \begin{bmatrix} 0 & 0 & 0 \\ 0 & c_{22} & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} x_{t-2} \\ y_{t-2} \\ z_{t-2} \end{bmatrix} + \begin{bmatrix} v_{X,t} \\ v_{Y,t} \\ v_{Z,t} \end{bmatrix} \tag{1}$$

In matrix notation, the SVAR is denoted

$$A\mathrm{M}_t = B(L)M_t + V_t$$

where $\mathrm{M}_t \equiv (X_t, Y_t, Z_t)'$, $B(L)$ is a matrix lag polynomial, and $V_t \equiv (v_{X,t}, v_{Y,t}, v_{Z,t})'$. The corresponding reduced-form model is given by

$$\mathrm{M}_t = A^{-1}B(L)M_t + A^{-1}V_t \equiv \Phi(L)M_t + E_t$$

where $\Phi(L)$ is a matrix lag polynomial, and $E_t \equiv (e_{X,t}, e_{Y,t}, e_{Z,t})'$. Identification of the SVAR implies obtaining estimates of A and $B(L)$, with the variance-covariance matrix of V being diagonal.

The structural model errors ν are assumed to be distributed normally, with a diagonal covariance matrix (assumed, for simplicity, to be the identity matrix). This model may be graphically represented in Figure B.1, depicting time t variables as a function of other time t variables and lagged variables. In this figure, an arrow denotes a causal influence: a solid arrow represents a within-period influence, while a dashed arrow represents an intertemporal influence.

---

[15] This method builds upon work in causal modeling (e.g., Glymour and Spirtes, 1988) and is extended in Demiralp and Hoover (2003) and Demiralp, Hoover, and Perez (2008); see also Moneta (2008). The method originated in Blalock (1961).

For simplicity, the influence of the exogenous structural shocks v_t^k on variables $k \in \{X, Y, Z\}$, is not depicted.

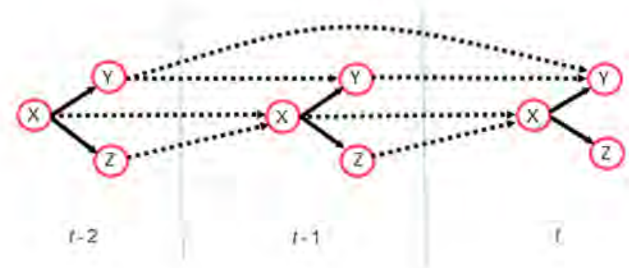

Figure B.1: A structural VAR, with causal influences depicted. Solid lines depict contemporaneous causation; dashed lines depict intertemporal causation. Thus, for example, at time *t*, variable *Y* is influenced by variable *X* contemporaneously, by its own value at time *t*-1, and by its own value at time *t*-2.

This model will be estimated in reduced-form, yielding the residuals (e_X, e_Y, e_Z). Notice that if Equation (1) is the data-generating process, the reduced-form residuals will obey certain correlation and partial correlation restrictions. In particular, letting $\rho(e_j, e_k)$ denote the correlation between e_j and e_k, some of the correlation restrictions that these residuals must satisfy are $\rho(e_X, e_Y) \neq 0$; $\rho(e_X, e_Z) \neq 0$; $\rho(e_Y, e_Z) \neq 0$; and $\rho(e_Y, e_Z \mid e_X) = 0$.

Of course, in general, the model that generated the data is unknown. How can the data help us specify the model (or more specifically, the structure of the A matrix)?[16] Suppose the model in Equation (1) is true, but the analyst does not know that. As will typically be the case with Normally distributed residuals, the data will not fully identify the model. But the power of the Swanson/Granger approach is that the data may nonetheless be used to sharply reduce the set of possible models. In a three-variable VAR with normal structural errors, ruling out structural models that are impossible to identify leaves 22 possible models (6 of which correspond to Cholesky identification schemes; see Figure A.1 in Appendix A). In the present case, as we will now demonstrate, the data will reject 19 of these. We describe the Swanson/Granger heuristic

[16] The identification challenge in structural VARs of this form consists of restrictions on the A matrix. Of course, each unique set of restrictions on the A matrix corresponds to an entire class of models wherein intertemporal relationships are not restricted. However, intertemporal relationships may be estimated without ambiguity from the data, so identification consists of restrictions on the A matrix. For brevity, we refer to the class of models corresponding to a particular structure of the A matrix as "a" model.

procedure somewhat more formally below. Here we describe informally how one would reject the models that are inconsistent with data generated by Equation (1).

In the first step, by testing all pairwise correlations among the regression residuals (using simple t-tests), one would find that the three residuals are all pairwise correlated. This rules out the last 7 models in Figure A.1, namely, those in which at least one variable is neither caused by, nor causes, any other variable contemporaneously. As the next step, one would conduct all pairwise conditional residual tests, i.e., test $e_X \perp e_Y \mid e_Z$, $e_X \perp e_Z \mid e_Y$, and $e_Z \perp e_Y \mid e_X$ using OLS regressions. Given the data-generating process, the first two hypotheses will be rejected, but not the third. What does this additional information tell us? It rules out 12 of the remaining models, namely, those in which Y and Z have a relationship that is not intermediated in some fashion by X. Putting this differently, it tells us that there are only three possible models that are compatible with the data: those in which $Y \rightarrow X \rightarrow Z$, or $Z \rightarrow X \rightarrow Y$, or $Y \leftarrow X \rightarrow Z$. The data alone cannot be used to discriminate between these three models. However, prior economic information can now be used (in the usual manner) to select from among the three candidate models. For instance, economic theory can sometimes pin down a model based upon the *signs* of the partial correlations. Or one can use the usual timing restrictions – bearing in mind that at the micro level, agents may be responding to the micro data they currently observe, data that will later be aggregated up to data published by a statistical agency.

The heuristic search procedure involves three steps and relies upon the weak "faithfulness" assumption that if X causes Y (or vice versa) within the period, then their residuals will be correlated.[17] First, compute all bivariate partial correlations and examine their statistical significance. If the correlation between e_X and e_Y is weak, and $e_X \perp e_Y$ cannot be rejected, then the data reject $X \rightarrow Y$ and $Y \rightarrow X$ within the period. In an SVAR, the corresponding entries in the impact matrix A would be set to 0. Second, for those variable pairs (X, Y) with significant correlation, construct trivariate partial correlations with all third variables Z, paying particular attention to those that are correlated with both. If $e_X \perp e_Y$ can be rejected, but if $e_X \perp e_Y \mid e_Z$ cannot be rejected, then we again conclude that the data reject $X \rightarrow Y$ and $Y \rightarrow X$; their correlation stems from a joint relationship with Z. Third, construct all models that are consistent with this evidence, and select the one that is in accord with economic theory priors. In our experience (and in the experience of Granger and Swanson), parsimonious models appear to agree with the data in most cases, and economic theory often plays a minor role in the selection

[17] Swanson and Granger (1997) begin by forgoing unconditional correlation tests and start by examining all conditional correlations; this evidently mitigates reliance on the faithfulness assumption. This assumption will fail under "measure-zero" cases where X causes Y, but the two variables are uncorrelated because X causes Z and Z causes Y, and the two causal paths exactly cancel. In the literature, the "faithfulness-failure" examples occur when there is a decision maker who specifically exerts control over variable Z to accomplish this "cancelation." If there is reason to believe that such a situation exists in a given context, we would recommend omitting conditional correlation tests (and using this information to help identify the model); otherwise, we recommend the usage of unconditional correlation tests for two reasons. First, our recommendations follow standard practice in the causal analysis literature (see, e.g., Moneta 2008). Second, in practice, what matters most for impulse response function estimates are the identifying assumptions made vis-à-vis variables whose residuals are strongly correlated.

of the final model.[18] (In models with numerous variables, one may formally test higher-order partial correlation constraints implied by the model.)

While a joint testing procedure is unavailable, so that the usual size problems might arise, in practice this issue is often moot. This is because in many cases, the significance levels of tests can be adjusted significantly without any change in inferences. Furthermore, when a borderline case is "accommodated" – i.e., if the model is extended to specify either $X \rightarrow Y$ and $Y \rightarrow X$, when their partial correlation is modest – estimation typically yields impulse response functions that are insensitive to this choice.

[18] If more than one model appears equally reasonable, one may investigate the sensitivity of, e.g., IRFs, to model choice.

Appendix C: Model Estimation Results

$$\pi_t^{PPI} = \alpha^{PPI} + \sum_{j=1}^{4} \beta_j^{PPI} \pi_{t-j}^{PPI} + \delta \Delta u_{t-1}^{medfreq} + e_t^{PPI} \tag{1}$$

$$\begin{aligned} \pi_t^{CoreG} = {} & \alpha^{CoreG} + \phi_1^{CoreG} \pi_{t-1}^{CoreG} + \phi_2^{CoreG} \pi_{t-2}^{CoreG} + \phi_5^{CoreG} \pi_{t-5}^{CoreG} + \\ & + \beta_0^{CoreG} \pi_t^{PPI} + \beta_1^{CoreG} \pi_{t-1}^{PPI} + \beta_2^{CoreG} \pi_{t-2}^{PPI} + \lambda^{CoreG} u_{t-4}^{+medfreq} + \psi I^{1995} + v_t^{CoreG} \end{aligned} \tag{7}$$

Table A.1: Regression Results for Equations (1) and (7).

	Eq. (1); Dependent variable π_t^{PPI}		Eq. (7); Dependent variable π_t^{CoreG}	
Regressor	Coefficient estimate	Standard error	Coefficient estimate	Standard error
α	0.26	0.13	-0.12	0.05
π_{t-1}^{CoreG}			1.08	0.08
π_{t-2}^{CoreG}			-0.27	0.09
π_{t-5}^{CoreG}			0.05	0.04
π_t^{PPI}			0.08	0.03
π_{t-1}^{PPI}	1.49	0.08	-0.14	0.3
π_{t-2}^{PPI}	-0.78	0.15	0.10	0.02
π_{t-3}^{PPI}	0.04	0.15		
π_{t-4}^{PPI}	0.11	0.08		
$u_{t-4}^{+medfreq}$			-0.39	0.25
$\Delta u_{t-1}^{medfreq}$	-5.85	1.57		
I^{1995}			0.34	0.14
$\overline{R}^2$	0.87		0.94	

Note: We elected to retain $u_{t-1}^{+medfreq}$ and π_{t-5}^{CoreG} in the core goods equation since, absent I^{1995} both clearly belong in the regression. Dropping π_{t-5}^{CoreG} would have little influence, given the size of the estimated coefficient, but dropping $u_{t-1}^{+medfreq}$ would make inflation a tad less responsive to recessionary pressure.

Table A.2: Regression Results for Equations (4) and (8).

$$\pi_t^{MNHServ} = \alpha^{MNHServ} + \gamma_1^{MNHServ}\pi_{t-1}^{MNHServ} + \gamma_2^{MNHServ}\pi_{t-2}^{MNHServ} + \gamma_5^{MNHServ}\pi_{t-5}^{MNHServ} + \\ + \beta_0^{MNHServ}\pi_t^{PPI} + \lambda^{MNHServ}u_{t-1}^{+medfreq} + \mu^{MNHServ}u_{t-1}^{-lowgap} + v_t^{MNHServ} \tag{8}$$

$$\pi_t^{Hous} = \alpha^{Hous} + \sum_{j=1}^{5}\eta_j^{Hous}\pi_{t-j}^{Hous} + \lambda^{Hous}u_{t-1}^{+medfreq} + \mu^{Hous}u_{t-4}^{-lowgap} + e_t^{Hous} \tag{4}$$

Regressor	Eq. (8); Dependent variable $\pi_t^{MNHServ}$		Eq. (4); Dependent variable π_t^{Hous}	
	Coefficient estimate	Standard error	Coefficient estimate	Standard error
α	0.01	0.04	0.27	0.06
$\pi_{t-1}^{MNHServ}$	1.20	0.08		
$\pi_{t-2}^{MNHServ}$	-0.36	0.09		
$\pi_{t-5}^{MNHServ}$	0.14	0.04		
π_{t-1}^{Hous}			1.24	0.08
π_{t-2}^{Hous}			-0.26	0.13
π_{t-3}^{Hous}			0.06	0.13
π_{t-4}^{Hous}			-0.48	0.13
π_{t-5}^{Hous}			0.35	0.07
π_t^{PPI}	0.00	0.01		
π_t^{CoreG}			0.01	0.01
u_{t-1}^{lowgap}	-0.12	0.05		
u_{t-4}^{lowgap}			-0.15	0.06
$u_{t-1}^{medfreq}$	-0.19	0.12	-0.88	0.15
$\overline{R}^2$	0.98		0.97	

Table A.3: Regression Results for Equations (5) and (9).

$$u_t^{medfreq} = \sum_{j=1}^{2} \lambda_j^{med} u_{t-j}^{medfreq} + \sum_{j=1}^{4} \mu_j^{med} u_{t-j}^{lowgap} + \beta^{med} \pi_{t-1}^{PPI} + e_t^{medfreq} \quad (5)$$

$$u_t^{lowgap} = \alpha^{lowgap} + \sum_{j=1}^{2} \mu_j^{low} u_{t-j}^{lowgap} + \sum_{j=1}^{4} \lambda_j^{low} u_{t-j}^{medfreq} + \sum_{j=0}^{4} \beta_j^{low} \pi_{t-j}^{PPI} + v_t^{lowgap} \quad (9)$$

	Eq. (5); Dependent variable $u_{t-1}^{medfreq}$		Eq. (9); Dependent variable u_t^{lowgap}	
Regressor	Coefficient estimate	Standard error	Coefficient estimate	Standard error
α	0.00	0.00	0.01	0.01
π_{t-1}^{PPI}	0.002	0.001	-0.01	0.01
π_{t-2}^{PPI}			0.03	0.01
π_{t-3}^{PPI}			-0.03	0.01
π_{t-4}^{PPI}			0.01	0.01
u_{t-1}^{lowgap}	0.44	0.03	0.58	0.14
u_{t-2}^{lowgap}	-0.44	0.04	0.37	0.14
u_{t-3}^{lowgap}	-0.18	0.05		
u_{t-4}^{lowgap}	0.18	0.04		
$u_t^{medfreq}$			2.08	0.25
$u_{t-1}^{medfreq}$	0.82	0.07	-1.40	0.28
$u_{t-2}^{medfreq}$	-0.18	0.06	1.32	0.29
$u_{t-3}^{medfreq}$			-0.77	0.27
$u_{t-4}^{medfreq}$			0.43	0.16
$\overline{R}^2$	0.97		0.99	

Appendix D: Historical Forecasts

To highlight the fit of our model to historical core PCE inflation data, in Figure D.1 below, we plot an inflation forecast from our model, conditional on the actual path of the unemployment rate over the 2007Q1-2016Q4 period, alongside the conditional forecast from a more conventional Phillips curve model. This latter model is specified as a *linear* bivariate model of core PCE inflation and the unemployment gap.[19] As Ashley and Verbrugge (2022a) found in their study of trimmed mean PCE inflation, the conditional forecast from the present nonlinear model broadly captures the decline in inflation following the financial collapse and the very slow return of inflation to the inflation target. We think this serves as a demonstration of how the model responds appropriately to evolving slack and how it accurately captures inflation dynamics over an extended period. In contrast, the conventional model underestimates the strength of the Phillips curve relationship, thereby missing the large drop in inflation following the 2008 financial crisis (and the Great Recession), and its recovery after that. However, this simple model, just like our nonlinear model, correctly captures the high degree of persistence in core PCE inflation.

As discussed in Clark and Zaman (2013), these sorts of conditional forecasting exercises provide us some indication of how well a model is formulated. By conditioning on the historical path of the unemployment rate (thereby removing this source of uncertainty), we can assess how well the rest of the model (i.e., the inflation subcomponents) translates this information into inflation pressures and correctly captures the persistence of inflation. If the model is well-constructed and the unexpected shocks to the inflation components are not too large over the forecast horizon, then the conditional forecast of inflation should be close to the actual inflation path. As noted above, the conditional forecast of inflation coming from our nonlinear model does a respectable job tracking actual inflation over a 10-year period, and clearly outperforms its more standard counterpart, lending strong support to our model and providing reassurance about its ability to accurately provide conditional forecasts of the sort conducted in this study.

[19] This model has 5 coefficients: a constant, coefficients on lags 1, 2, and 5, and the Phillips curve coefficient. For the importance of including the fifth lag, see the appendix to Verbrugge and Zaman (2023).

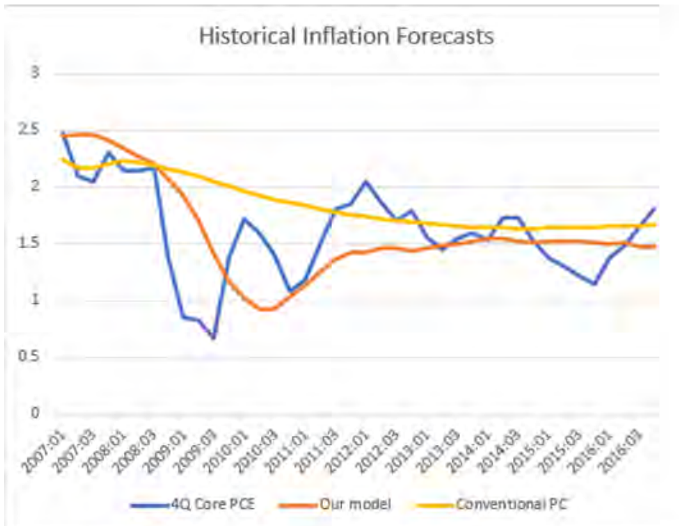

Figure D.1: Historical 10-year forecast from the model and from a conventional Phillips curve. Both are conditional recursive forecasts. The models see no inflation data after 2006Q4, but the forecasts are conditioned on the evolution of the unemployment rate.

Accountable US

STATEMENT FOR THE RECORD
for the
HOUSE FINANCIAL SERVICES COMMITTEE
hearing on
"THE FEDERAL RESERVE'S SEMI-ANNUAL MONETARY POLICY REPORT"
on
MARCH 8, 2023
prepared by
KYLE HERRIG
PRESIDENT AND CEO
and
ANGELA CANTERBURY
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Thank you to Chair McHenry, Ranking Member Waters, and members of the Committee for the opportunity to submit this statement for the record of the hearing entitled "The Federal Reserve's Semi-Annual Monetary Policy Report" and the testimony of the Honorable Jerome Powell, Chair of the Board of Governors of the Federal Reserve System.

Accountable.US is a nonpartisan organization that shines a light on corporations and special interests that too often wield unchecked power and influence in Washington and beyond. We conduct investigations and bring attention to our findings to help create an economy that works for everyone, a democracy that functions, and a sustainable environment for future generations. We believe corporations and special interests have too much power and the people have too little. It is our mission to change this.

In our view, the Federal Reserve should stop doing more harm than good for the economy. The Fed's choice to raise interest rates higher and higher is stunting economic growth, while doing little to combat a leading cause of inflation: corporate greed. Naturally, a recession would be devastating for workers and consumers. Congress needs to act now on President Biden's agenda to crack down on industry overcharging, and ensure greedy corporations finally pay their fair share in taxes.

The biggest companies represented by key sectors in the U.S. Labor Department's Consumer Price Index (CPI) have needlessly and excessively hiked prices on consumers based on their own earnings calls which have shown higher profits as well as billions of dollars in new shareholder giveaways. The Fed's staggering eight interest rate hikes in a row have done little to contain this clear corporate greed problem, but instead invited a new one: a potential recession.

The latest CPI showed inflation is slowing overall while most industry sectors continue to raise prices on average consumers. While higher interest rates have failed to address ongoing corporate profiteering keeping prices high, during the hearing Federal Reserve Chairman Jerome Powell declared interest rates are "likely to be higher" than previously expected despite the Fed's own economists projecting higher rates will drive up the unemployment rate to 4.6 percent – a staggering 2 million layoffs.

Doing More Harm Than Good: Higher rates have already slowed wage growth and caused a decline in demand in the U.S. manufacturing sector. While millions of Americans losing their jobs appears to be an acceptable outcome for Chairman Powell, experts are speculating the Fed could pause further hikes in the aftermath of Silicon Valley Bank's collapse. Other poorly managed banks that made risky decisions after Dodd-Frank safeguards were gutted also find themselves in trouble

under higher rates.

The Fed's aggressive interest rate hikes are driving wages down and unemployment up while destabilizing the financial industry – and the economic consequences are just beginning to be felt. Raising rates again would be a colossal mistake for working families and the health of our economy. Higher interest rates have done little to deter the corporate greed epidemic keeping consumer prices high and will not be worth the cost of some 2 million American jobs.

According to Accountable.US research, a chorus of experts agree: raising interest rates again may cause an unnecessary recession.

- **Former Federal Reserve Economist and Council of Economic Advisers Senior Economist Claudia Sahm** said "it is inexcusable, bordering on dangerous for the Fed to be raising rates so aggressively," warning it would cause "great pain" without addressing longer-term economic issues.

- The **United Nations Conference On Trade And Development** criticized the Federal Reserve and other central banks for seeking to reduce inflation through interest rate hikes despite the risk of a global recession, with a senior official suggesting it was "'a very dangerous approach.'"

- **Economic Policy Institute Research Director Josh Bivens** has warned "'we are now pointing the plane at the ground pretty hard and hitting the accelerator,'" called it a "'fallacy'" that the Fed can hike rates without widespread consequences, and said he was "'so worried'" that there will be inadequate public assistance during a recession after critics blamed government stimulus for inflation.

Members of Congress also agree:

- **Senate Banking Committee Chair Sherrod Brown (D-OH)** sent a letter to Chairman Powell in October 2022 reminding him of the Federal Reserve's "responsibility to maintain full employment," writing that "We can't risk the livelihoods of millions of Americans who can't afford it."

- **House Financial Services Ranking Member Maxine Waters (D-CA)** sent a letter to Chairman Powell in November 2022 expressing her concern that "rapid and continued interest rate hikes may only serve in the long run to be an over-correction that results in recession."

- **Sen. Elizabeth Warren (D-MA)**, who previously signed onto a letter cautioning Powell against rate increases, warned that the latest interest rate increase was "still pushing the envelope 'too far, too fast.'" and that "'if the Fed keeps

pushing these extreme interest rate hikes, they can tip this whole economy off an economic cliff.'"

- **Sen. John Hickenlooper (D-CO)** urged the Federal Reserve to pause raising interest rates, warning that continued interest rate hikes will "make it more expensive for small businesses" and put "a drag on consumer spending," all while "widespread concern of a recession continues."

- **House Budget Committee Ranking Member Brendan F. Boyle (D-PA)** shared his concern "that raising rates too high and too fast could endanger the record job growth" while reminding the Federal Reserve of its dual mandate to maintain maximum employment, alongside price stability.

According to a March 2022 Accountable.US analysis, corporate profiteering across industries is exacerbating inflation while rewarding shareholders with over $140 billion after raising prices on consumers. The top three corporations in several major categories under the CPI—including food, energy, commodities, health care and shelter—used higher prices not to just cover their own expenses, but to line their shareholders' pockets on the backs of hardworking consumers in 2021. Accountable.US found these companies all raised prices on consumer staples and/or benefited from increased costs while making $151 billion in increased profits from their last reported earnings periods.

Adding insult to injury, these same companies increased spending on shareholder handouts like stock buybacks and dividends by 25%, totaling over $140.6 billion – raising serious questions whether industry price hikes correspond with their own added costs during the pandemic given the staggering level of profit they are enjoying and their extreme generosity to shareholders. The findings came as President Biden vowed last year to fight inflation and combat corporate profiteering in an effort to help struggling Americans.

Across nearly every industry that is measured for price changes, we're seeing highly profitable corporations demand more money for consumer staples that families depend on. These companies would have consumers believe they marked up prices just to keep up with outside costs, but the tens of billions in extra profits and generous giveaways to investors show otherwise. It simply doesn't add up. Despite what they claim, these highly profitable businesses do have a choice, and they're choosing to fatten their bottom line rather than keep consumer prices stable.

The report followed Accountable.US' previous research on how clear pandemic profiteering from the big shipping, trucking and railroad companies were making inflation/supply chain problems worse for everyday consumers.

KEY FINDINGS:

Food At Home: As grocery prices increased 6.5% in 2021, the country's largest grocery chains—Walmart, Kroger, and Costco—benefited from price increases while their fiscal year net incomes increased by a total of $238 million while stock buybacks and dividends increased by over $12 billion.

Food Away From Home: As prices increased 6% in 2021, two of the biggest U.S. food chains—McDonald's and YUM! Brands—saw profits increase by over $3.4 billion in FY 2021 while boosting shareholder handouts by over $1.48 billion. Meanwhile, Starbucks, the second-biggest restaurant chain, saw its FY 2021 profits increase by nearly $3.2 billion.

Gasoline: As gasoline prices increased 49.6% in 2021, the three biggest U.S. oil companies—ExxonMobil, Chevron, and Marathon Petroleum—benefited from higher prices, seeing previously negative profits jump nearly $87.5 billion while boosting shareholder handouts by over $4.5 billion in FY 2021.

Utility Gas & Electricity: As gas and electric utility prices climbed 24.1% and 6.3% respectively in 2021, the three biggest U.S. gas and electric companies—Exelon, Duke, and Southern Company—all benefited from higher rates, with profits climbing by $1.64 billion while spending $7.3 billion on shareholder handouts in FY 2021.

New Vehicles: As new vehicle prices increased nearly 12% in 2021, the two top-selling U.S. automakers—General Motors and Ford—saw profits climb at least $22.7 billion and spent nearly $586 million on shareholder handouts in 2021.

Used Vehicles: While used vehicle prices climbed 37.3% in 2021, the biggest used car dealers—CarMax, Carvana, and AutoNation—saw profits climb by over $1.4 billion while shareholder handouts increased by over $2.2 billion.

Apparel: While apparel prices climbed 5.8% in 2021, the biggest clothing companies—TJX, Nike, and Gap—saw profits climb by over $4.5 billion while boosting shareholder handouts by over $5 billion that year.

Medical Commodities: While medical care prices increased 2.2% in 2021, the biggest drugmakers—Johnson & Johnson, Pfizer, and AbbVie—saw profits jump by over 90% to $54 billion while boosting shareholder handouts by nearly $2.6 billion.

Medical Services: While medical care prices climbed 2.2% in 2021, the biggest healthcare companies—CVS, UnitedHealth, and Cigna—benefited from increased consumer costs as they saw profits of nearly $31 billion while boosting shareholder handouts by over $2 billion.

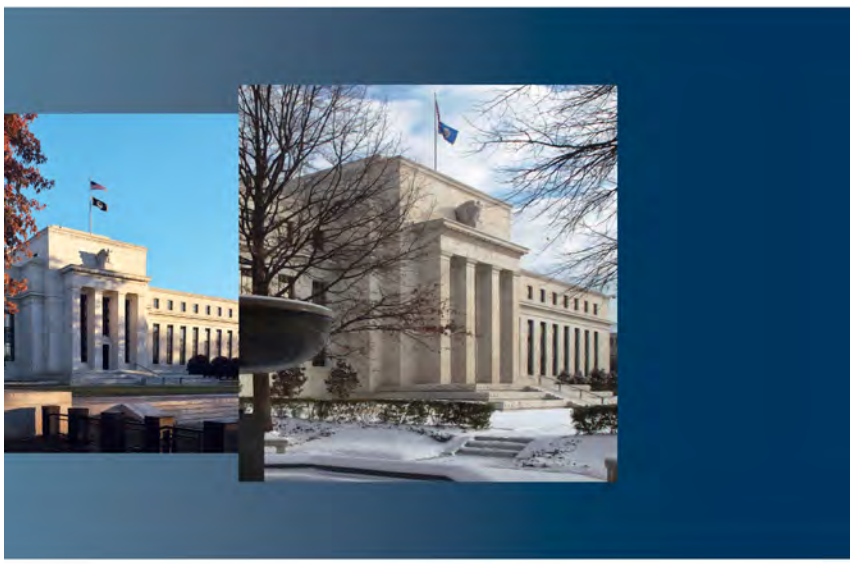
Shelter: While shelter prices increased 4.1% in 2021, the biggest apartment companies—Mid-America Apartment Communities, Starwood Property Trust, and AvalonBay—touted rent hikes as they saw profits climb $588 million while increasing shareholder dividends by $24.4 million that year.

How many CEOs are asking themselves, "If that company is getting away with profiteering during inflation, why can't we?" It's all the more reason why Congress needs to act now on President Biden's agenda to rein in corporate greed and the Fed needs to stop putting everyday Americans at risk.

Thank you for your consideration.

For use at 11:00 a.m. EST
March 3, 2023

Monetary Policy Report
March 3, 2023



Board of Governors of the Federal Reserve System

Letter of Transmittal

Board of Governors of the
Federal Reserve System

Washington, D.C., March 3, 2023

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, Chair

Statement on Longer-Run Goals and Monetary Policy Strategy

Adopted effective January 24, 2012; as reaffirmed effective January 31, 2023

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.

CONTENTS

Note: This report reflects information that was publicly available as of 4 p.m. EST on March 1, 2023. Unless otherwise stated, the time series in the figures extend through, for daily data, February 28, 2023; for monthly data, January 2023; and, for quarterly data, 2022: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

Although inflation has slowed since the middle of last year as supply bottlenecks eased and energy prices declined, it remains well above the Federal Open Market Committee's (FOMC) objective of 2 percent. The labor market remains extremely tight, with robust job gains, the unemployment rate at historically low levels, and nominal wage growth slowing but still elevated. Real gross domestic product (GDP) growth picked up in the second half of 2022, although the underlying momentum in the economy likely remains subdued. Bringing inflation back to 2 percent will likely require a period of below-trend growth and some softening of labor market conditions.

In response to high inflation, the FOMC continued to rapidly increase interest rates and reduce its securities holdings. The Committee has raised the target range for the federal funds rate a further 3 percentage points since June, bringing the range to 4½ to 4¾ percent, and indicated that it anticipates that ongoing increases in the target range will be appropriate. The Federal Reserve has also reduced its holdings of Treasury securities and agency mortgage-backed securities by about $500 billion since June, further tightening financial conditions.

The Federal Reserve is acutely aware that high inflation imposes significant hardship, especially on those least able to meet the higher costs of essentials. The Committee is strongly committed to returning inflation to its 2 percent objective.

Recent Economic and Financial Developments

Inflation. Consumer price inflation, as measured by the 12-month change in the price index for personal consumption expenditures (PCE), was 5.4 percent in January, down from its peak of 7 percent last June but still well above the FOMC's 2 percent objective. Core PCE prices—which exclude volatile food and energy prices and are generally considered a better guide to the direction of future inflation—also slowed but still increased 4.7 percent over the 12 months ending in January. As supply chain bottlenecks have eased, increases in core goods prices slowed considerably in the second half of last year. Within core services prices, housing services inflation has been high, but slowing increases in rents for new tenants in the second half of last year point to lower inflation for housing services in the year ahead. For other services, however, price inflation remains elevated, and prospects for slowing inflation may depend in part on an easing of tight labor market conditions. Measures of longer-term inflation expectations remain within the range of values seen in the decade before the pandemic and continue to be broadly consistent with the FOMC's longer-run objective of 2 percent, suggesting that high inflation is not becoming entrenched.

The labor market. The labor market has remained extremely tight, with job gains averaging 380,000 per month since the middle of last year and the unemployment rate remaining at historical lows. Labor demand in many parts of the economy exceeds the supply of available workers, with the labor force participation rate essentially unchanged from one year ago. Nominal wage gains slowed over the second half of 2022, but they remain above the pace consistent with 2 percent inflation over the longer term, given prevailing trends in productivity growth.

Economic activity. Real GDP is reported to have fallen in the first half of 2022 but to have then risen at roughly a 3 percent pace in the second half. Some of the swings in growth reflect fluctuations in volatile expenditure categories such as net exports and inventory investment. Private domestic final demand, which excludes these volatile components, rose

at a subdued rate in both the first and second halves last year. Consumer spending has continued to rise at a solid pace, supported by the savings accumulated during the pandemic. However, manufacturing output declined in recent months, and the housing sector has continued to contract in response to elevated mortgage rates.

Financial conditions. Financial conditions have tightened further since June and are significantly tighter than a year ago. The FOMC has raised the target range for the federal funds rate a further 3 percentage points since June, and the market-implied expected path of the federal funds rate over the next year also shifted up notably. Yields on nominal Treasury securities across maturities have risen considerably further since June, while investment-grade corporate bond yields and mortgage rates have also increased but by less than Treasury rates. Equity prices were volatile but increased moderately on net. The rise in interest rates over the past year has weighed on financing activity. Issuance of leveraged loans and speculative-grade corporate bonds slowed substantially in the second half of the year, while investment-grade bond issuance declined modestly. Business loans at banks continued to grow in the second half of 2022 but decelerated in the fourth quarter. While business credit quality remains strong, some indicators of future business defaults are somewhat elevated. For households, mortgage originations continued to decline materially, although consumer loans (such as auto loans and credit cards) grew further. Delinquency rates for credit cards and auto loans rose last year.

Financial stability. Against the backdrop of a weaker economic outlook, higher interest rates, and elevated uncertainty since June, financial vulnerabilities remain moderate overall. Valuations in equity markets remained notable and ticked up, on net, as equity prices increased moderately even as earnings expectations declined late in the year. Real estate prices remain high relative to fundamentals, such as rents, despite a marked slowing in price increases. While market functioning remained orderly, market liquidity—the ability to trade assets without a large effect on market prices—remained low in several key asset markets, including in the Treasury market, when compared with levels before the COVID-19 pandemic. Nonfinancial business and household debt grew in line with GDP, leaving vulnerabilities associated with borrowing by businesses and households unchanged at moderate levels. Risk-based capital ratios at banks declined a touch last year but remain well above regulatory requirements. Funding risks at domestic banks and broker-dealers remain low, and the large banks at the core of the financial system continue to have ample liquidity. Prime and tax-exempt money market funds, as well as many bond and bank-loan mutual funds, continue to be susceptible to runs. (See the box "Developments Related to Financial Stability" in Part 1.)

International developments. Foreign economic growth moderated in the second half of last year, weighed down by the economic fallout of Russia's war against Ukraine and a slowdown in China related to COVID-19. Despite some signs of easing in headline inflation abroad, core foreign inflation remains high and inflationary pressures are broad, in part reflecting tight labor markets and the pass-through of past energy price increases to other prices. In response to persistently high inflation, many major foreign central banks, along with the Fed, have tightened the stance of monetary policy significantly since June. More recently, many foreign central banks slowed the pace of their policy rate increases, signaled that such a slowing is coming, or paused policy rate hikes to take stock of the effects of policy tightening thus far on their economies.

Financial conditions abroad have tightened modestly, on net, since the middle of last

year. Global sovereign bond yields rose from continued tightening of foreign monetary policy and spillovers from increases in U.S. yields. Equity prices abroad rose toward the end of the year amid surprising resilience of European economies and the removal of China's zero-COVID policy. Meanwhile, the trade-weighted exchange value of the U.S. dollar is a touch higher since mid-2022.

Monetary Policy

In response to high inflation, the Committee last year rapidly increased the target range for the federal funds rate and began reducing its securities holdings. Adjustments to both interest rates and the balance sheet are playing a role in firming the stance of monetary policy in support of the Committee's maximum-employment and price-stability goals.

Interest rate policy. The FOMC continued to swiftly increase the target range for the federal funds rate, bringing it to the current range of 4½ to 4¾ percent. In light of the cumulative tightening of monetary policy and the lags with which monetary policy affects economic activity and inflation, the Committee slowed the pace of policy tightening at the December and January meetings but indicated that it anticipates that ongoing increases in the target range will be appropriate in order to attain a stance of monetary policy that is sufficiently restrictive to return inflation to 2 percent over time.

Balance sheet policy. The Federal Reserve has continued the process of significantly reducing its holdings of Treasury and agency securities in a predictable manner.[1] Beginning in June of last year, principal payments from securities held in the System Open Market Account have been reinvested only to the extent that they exceeded monthly caps.

Special Topics

Employment and earnings across groups. At the onset of the pandemic, employment fell by more for disadvantaged groups than the overall population, but tight labor market conditions over the past two years have largely reversed those movements. As the labor market tightened, employment grew faster for African Americans and Hispanics, and for less educated workers, than for other workers. Wages have grown more rapidly for these workers also, as extremely strong labor demand has outstripped available labor supply. However, while disparities in employment have largely returned to pre-pandemic levels, there remain significant disparities in absolute levels of employment across groups. (See the box "Developments in Employment and Earnings across Demographic Groups" in Part 1.)

Weak labor supply. Even with labor demand remarkably strong, the labor force has been slow to recover from the pandemic, leaving a significant labor supply shortfall relative to the levels expected before the pandemic. More than half of that labor force shortfall reflects a lower labor force participation rate because of a wave of retirements beyond what would have been expected given demographic trends. The remaining shortfall is attributable to slower population growth, which in turn reflects both the higher mortality primarily due to COVID and lower rates of immigration in the first two years of the pandemic. (See the box "Why Has the Labor Force Recovery Been So Slow?" in Part 1.)

Monetary policy rules. Simple monetary policy rules, which prescribe a setting for the policy interest rate based on a small number of other economic variables, can provide useful guidance to policymakers. Since 2021, inflation has run well above the Committee's 2 percent

1. See the May 4, 2022, press release regarding the Plans for Reducing the Size of the Federal Reserve's Balance Sheet, available on the Board's website at https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504b.htm.

longer-run objective, and labor market conditions have been very tight over the past year. As a result, simple monetary policy rules have prescribed levels for the federal funds rate that are well above those observed over the past decade. (See the box "Monetary Policy Rules in the Current Environment" in Part 2.)

Federal Reserve's balance sheet and money markets. The size of the Federal Reserve's balance sheet decreased as the Federal Reserve reduced its securities holdings. Reserve balances—the largest liability on the Federal Reserve's balance sheet—continued to fall. Take-up in the overnight reverse repurchase agreement (ON RRP) facility remained elevated, as low rates on repurchase agreements persisted amid still abundant liquidity and limited Treasury bill supply. The ON RRP facility continued to serve its intended purpose of helping to provide a floor under short-term interest rates and supporting effective implementation of monetary policy. Because of the significant increases in administered rates to address high inflation, the Federal Reserve's interest expenses rose considerably, and, as a result, net income turned negative. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets" in Part 2.)

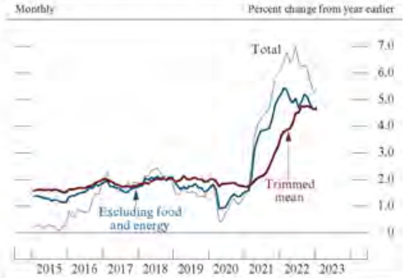
Part 1
Recent Economic and Financial Developments

Domestic Developments

Inflation has declined in recent months but remains elevated . . .

Inflation, as measured by the 12-month change in the price index for personal consumption expenditures (PCE), stepped down from its peak of 7.0 percent in June of last year to 5.4 percent in January, still notably above the Federal Open Market Committee's (FOMC) longer-run objective of 2 percent (figure 1). Core PCE prices—which exclude volatile food and energy prices and are generally considered a better guide to the direction of future inflation—rose 4.7 percent over the 12 months to January, down from the above 5 percent pace that prevailed last spring.[2]

1. Personal consumption expenditures price indexes



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

. . . in part because energy prices declined in the second half of last year, while food price inflation slowed but remains high

After rising sharply in the first half of last year, oil prices peaked and have since declined. This decline comes mainly on global growth concerns and despite a European Union embargo on Russian crude oil and petroleum products (figure 2). As a result of these movements, gasoline prices declined over the second half of last year following their earlier large increases. On net, the PCE energy price index in January stood 10 percent above its level 12 months earlier (figure 3).

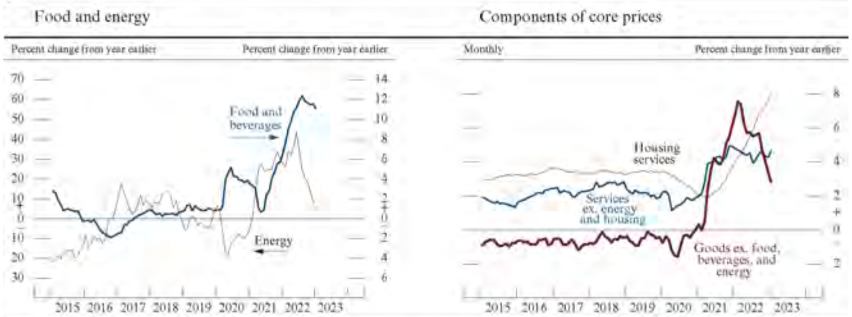
2. Spot and futures prices for crude oil

Note: The data are weekly averages of daily data and extend through February 24, 2023.
Source: ICE Brent Futures via Bloomberg.

Food price increases slowed in recent months, but, given earlier sizable increases, grocery store prices are up 11 percent over the 12 months ending in January. After having

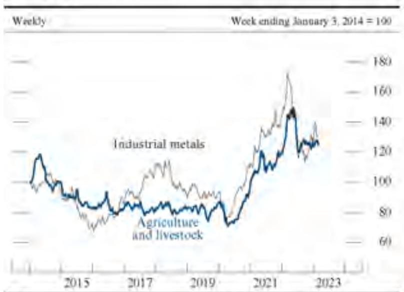
2. The latest 12-month changes in PCE prices are likely overstated at present (and will remain so until the annual revisions of the national income and product accounts in September) because they only incompletely incorporate new seasonally adjusted consumer price index data. The current overstatement in headline and core PCE inflation appears to be roughly 0.2 percentage point and 0.1 percentage point, respectively.

3. Subcomponents of personal consumption expenditures price indexes



NOTE: The data are monthly.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

4. Spot prices for commodities



NOTE: The data are weekly averages of daily data and extend through February 24, 2023.
SOURCE: For industrial metals, S&P GSCI Industrial Metals Spot Index; for agriculture and livestock, S&P GSCI Agriculture & Livestock Spot Index; both via Haver Analytics.

spiked at the start of the war in Ukraine, prices of most food commodities (agricultural products and livestock) have stabilized in recent months, likely contributing to the recent slowing of food price increases (figure 4).

Prices of both energy and food are of particular importance for lower-income households, for which such necessities are a large share of expenditures.

Softer core goods prices reflect easing supply bottlenecks and declines in import prices . . .

Recent inflation performance has varied markedly across spending categories. Price increases for goods (outside of food and energy) slowed considerably in the latter part of 2022. Demand for these goods appears to have stabilized, and supply chain issues and other capacity constraints have waned. For example, transportation costs have fallen, and supplier delivery times have improved notably (figure 5). In addition, nonfuel import prices have declined, on net, since last spring, bringing the 12-month change down to around 1 percent from a peak of almost 8 percent early last year (figure 6). This moderation occurred following both the appreciation of the dollar that occurred earlier in the year and declines in commodity prices such as those for industrial metals.

The easing of inflation pressures in goods has been especially pronounced for durable goods, where prices have declined, on net, since June of last year. In particular, used motor vehicle prices, which skyrocketed in 2021 amid reduced production of new cars and trucks, have fallen more than 9 percent over that period.

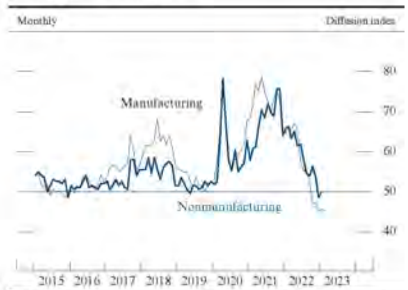
. . . while core services price inflation remains elevated

In contrast, core services price inflation remains elevated (figure 3). Housing services prices have risen especially rapidly, up 8 percent over the 12 months ending in January. However, market rents on new housing leases to new tenants, which had risen strongly over the past two years, have decelerated sharply and flattened out since autumn (figure 7). Because prices for housing services measure the rents paid by all tenants (and the equivalent rent implicitly paid by all homeowners)—including those whose leases have not yet come up for renewal—they tend to adjust slowly to changes in rental market conditions and should therefore be expected to decelerate over the year ahead. In contrast, prices for other core services—a broad group that includes services such as travel and dining, financial services, and car repair—rose 4.7 percent over the 12 months ending in January and have not yet shown clear signs of slowing. Some softening of labor market conditions will likely be required for core services price inflation to abate.

Measures of longer-term inflation expectations have remained contained, while shorter-term expectations have partially reversed their earlier increases

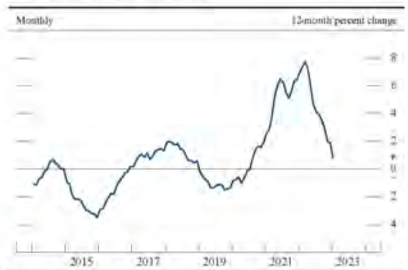
Inflation expectations likely influence actual inflation by affecting wage- and price-setting decisions. Over the past year, survey-based measures of expected inflation over a longer horizon remained within the range of values seen in the years before the pandemic and appear broadly consistent with the FOMC's longer-run 2 percent inflation objective. That is evident for the median value for expected inflation over the next 5 to 10 years from

5. Suppliers' delivery times



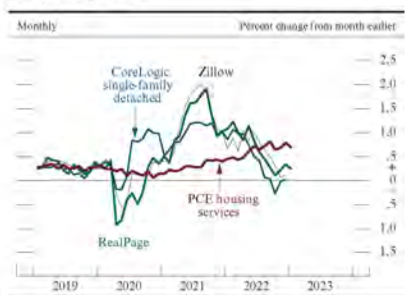
NOTE: Data for manufacturing extend through February 2023. Values greater than 50 indicate that more respondents reported longer delivery times relative to a month earlier than reported shorter delivery times.
SOURCE: Institute for Supply Management, *Report on Business*.

6. Nonfuel import price index



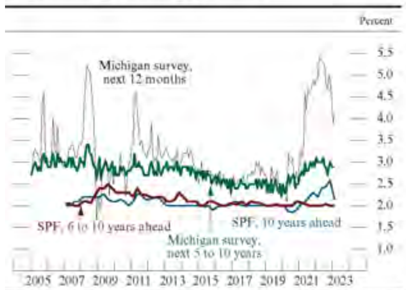
SOURCE: Bureau of Labor Statistics via Haver Analytics.

7. Housing rents



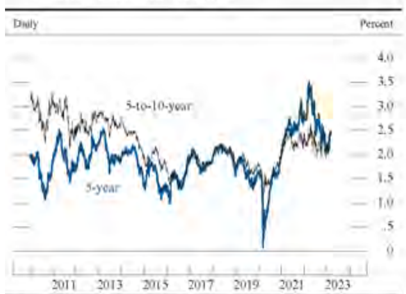
NOTE: CoreLogic and Zillow data extend through December 2022. Zillow, CoreLogic, and RealPage measure market-rate rents–that is, rents for a new lease by a new tenant.
SOURCE: Bureau of Economic Analysis, personal consumption expenditures (PCE), via Haver Analytics; CoreLogic, Inc.; Zillow, Inc.; RealPage, Inc.; Federal Reserve Board staff calculations.

8. Measures of inflation expectations



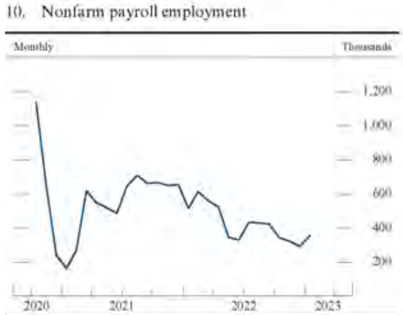
NOTE: The Survey of Professional Forecasters (SPF) data are quarterly, begin in 2007:Q1, and extend through 2023:Q1. The data for the Michigan survey are monthly and extend through February 2023.
SOURCE: University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia, SPF.

9. Inflation compensation implied by Treasury Inflation-Protected Securities



NOTE: The data are at a business-day frequency and are estimated from smoothed nominal and inflation-indexed Treasury yield curves.
SOURCE: Federal Reserve Bank of New York; Federal Reserve Board staff calculations.

10. Nonfarm payroll employment



NOTE: The data shown are a 3-month moving average of the change in nonfarm payroll employment.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

the University of Michigan Surveys of Consumers (figure 8). And while expected inflation over the next 10 years in the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, has moved up somewhat, that increase is driven by expectations for the next few years: The median forecaster in the survey expects PCE price inflation to average 2 percent over the five years beginning five years from now.

Furthermore, inflation expectations over a shorter horizon—which tend to follow observed inflation and rose when inflation turned up—moved lower in the second half of 2022 and into 2023, accompanying the softer inflation readings over this period. In the Michigan survey, the median value for inflation expectations over the next year was 4.1 percent in February, a step-down from the values in the middle of 2022. Expected inflation for the next year from the Survey of Consumer Expectations, conducted by the Federal Reserve Bank of New York, has also moved lower in recent months.

Market-based measures of longer-term inflation compensation, which are based on financial instruments linked to inflation, are also broadly in line with readings seen in the years before the pandemic. A measure of inflation compensation over the next 5 years implied by Treasury Inflation-Protected Securities moved notably lower last year, and inflation compensation 5 to 10 years ahead still appears consistent with inflation returning to 2 percent (figure 9).

The labor market has continued to strengthen

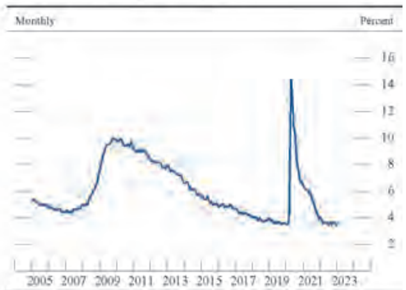
Payroll employment gains averaged 380,000 per month since the middle of 2022, down from the 445,000 per month pace in the first half but still quite robust (figure 10). Employment in the leisure and hospitality sector continued its steady recovery from the pandemic, and payrolls also increased robustly in health services and in state and

local governments.[3] Alternative indicators of employment—the Bureau of Labor Statistics' household survey, the Federal Reserve Board staff's measure of private employment using data from the payroll processing firm ADP, and the Quarterly Census of Employment and Wages—suggest a slower pace of job gains last year, particularly in the first half. However, these other indicators suggest continued job gains in recent months, roughly in line with published payroll data.

The unemployment rate has remained at historically low levels (figure 11). At 3.4 percent in January, the jobless rate was a touch below its level right before the pandemic. Unemployment rates among various age, educational attainment, gender, and ethnic and racial groups are also near their respective historical lows (figure 12). (The box "Developments in Employment and Earnings across Demographic Groups" provides further details.)

3. Two sectors where employment growth slowed notably in the second half were transportation and warehousing—where employment had expanded robustly since the onset of the pandemic—and retail trade.

11. Civilian unemployment rate



SOURCE: Bureau of Labor Statistics via Haver Analytics.

12. 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.

Developments in Employment and Earnings across Demographic Groups

As the labor market has recovered from the depths of the pandemic, conditions have become extremely tight. Tight labor markets, characterized by low unemployment and plentiful job openings, have historically proven especially beneficial to minorities and less educated workers.[1] These disproportionate benefits can help make up for disproportionate losses experienced by the same groups during recessions.

Tight labor market conditions have largely erased the pandemic-induced widening of the gaps in employment across different groups. As shown in the left panel of figure A, both men and women aged 25 to 54 with a high school degree or less saw much larger employment declines in early 2020 than workers with at least some college education, but by the end of 2022, this gap had almost entirely closed.[2] The same story is true among both Black or African American and Hispanic or Latino workers aged 25 to 54, as shown in the right panel. From mid-2021 through 2022, as labor market conditions became extremely tight, employment rose faster for the groups that saw larger initial declines. However, while disparities in employment have largely returned to pre-pandemic levels, these disparities are significant in absolute levels of employment across groups.

Differences in employment dynamics between groups during the pandemic stem from a mixture of demand and supply factors. On the labor demand side, for example, the leisure and hospitality sector experienced severe losses in 2020 but has seen a strong rebound in employment growth in the past two years. Since workers with a high school degree or less are historically more than twice as likely as workers with a college degree to be employed in leisure and hospitality, part of this group's unusually large employment decline and rebound is likely attributable to the fluctuations in labor demand from this sector.[3] On the labor supply side, many parents left work during the pandemic period when schools and childcare facilities were closed. This phenomenon appears to have been particularly acute for women, especially

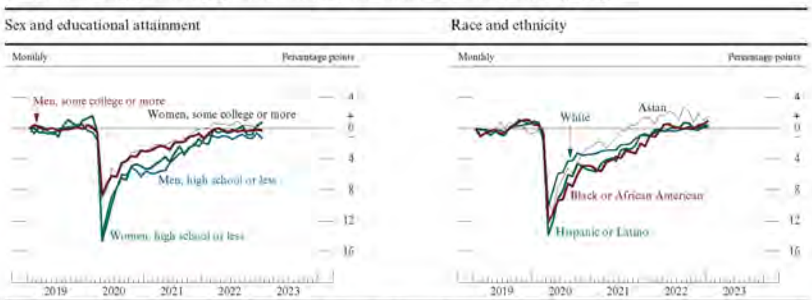
(continued)

1. See Arthur M. Okun (1973), "Upward Mobility in a High-Pressure Economy," *Brookings Papers on Economic Activity,* no. 1, pp. 207–61, https://www.brookings.edu/wp-content/uploads/1973/01/1973a_bpea_okun_fellner_greenspan.pdf; and Stephanie R. Aaronson, Mary C. Daly, William L. Wascher, and David W. Wilcox (2019), "Okun Revisited: Who Benefits Most from a Strong Economy?" *Brookings Papers on Economic Activity,* Spring, pp. 333–75, https://www.brookings.edu/wp-content/uploads/2019/03/aaronson_web.pdf.

2. Women saw slightly greater employment losses relative to men with a similar educational background at the beginning of the pandemic but also experienced a slightly more rapid recovery. The disproportionate effect of the pandemic on women contrasts with previous recessions, when employment has historically fallen more among men than women.

3. Similarly, Black or African American, Hispanic or Latino, and Asian workers are also overrepresented in the leisure and hospitality industry relative to white workers, although these differences are smaller than differences by education. See Guido Matias Cortes and Eliza Forsythe (2022), "Heterogeneous Labor Market Impacts of the COVID-19 Pandemic," *ILR Review,* vol. 76 (January), pp. 10–55.

A. Prime-age employment-to-population ratios compared with the 2019 average ratio, by group



NOTE: Prime age is 25 to 54. All series are seasonally adjusted by the Federal Reserve Board staff.
SOURCE: Bureau of Labor Statistics; U.S. Census Bureau, Current Population Survey; Federal Reserve Board staff calculations.

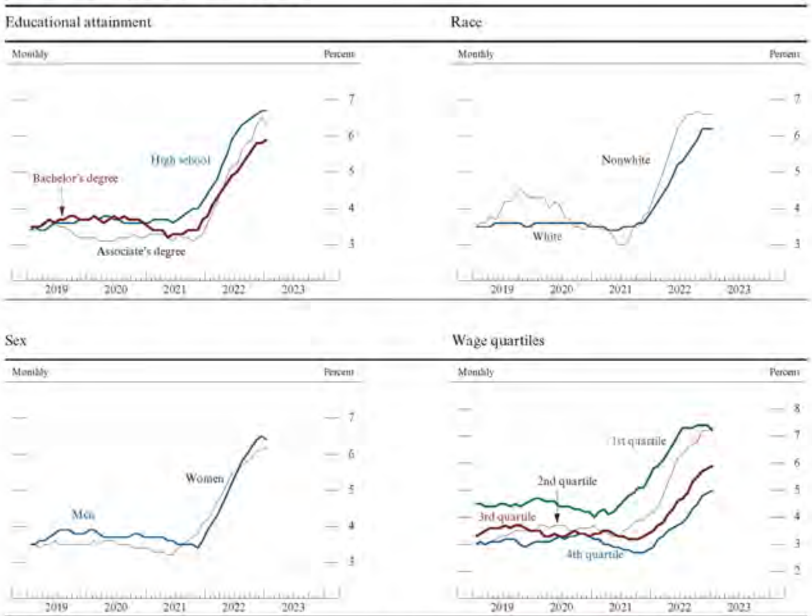
Black and Hispanic mothers, as well as those with less education.[4] (For more discussion of recent labor supply developments, see the box "Why Has the Labor Force Recovery Been So Slow?")

As labor market conditions have tightened, wage growth has risen sharply, especially for the least advantaged groups. As shown in the upper panels of figure B, growth of nominal hourly wages jumped in 2022, but growth was higher for non-college-educated workers than for college-educated workers and higher for nonwhite workers than for white workers. This largely reflects that wage growth has been consistently stronger at the lower end of the income distribution (see the lower-right panel).[5] Importantly, these higher rates of wage growth for less advantaged groups coincided with the faster increase in employment, indicating that labor supply could not keep up with the growth in labor demand.

4. See Joshua Montes, Christopher Smith, and Isabel Leigh (2021), "Caregiving for Children and Parental Labor Force Participation during the Pandemic," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, November 5), https://www.federalreserve.gov/econres/notes/feds-notes/caregiving-for-children-and-parental-labor-force-participation-during-the-pandemic-20211105.htm.

5. Wage growth for the bottom quartile was a bit stronger than for other groups even before the pandemic, as labor market conditions tightened at the end of the previous expansion.

B. Nominal weekly earnings growth, by group



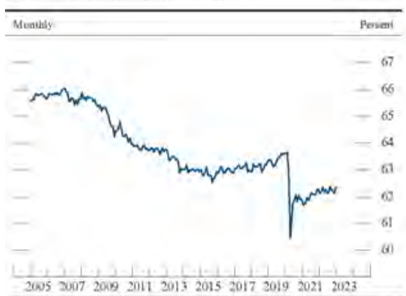
NOTE: Series show 12-month moving averages of the median percent change in the nominal hourly wage of individuals observed 12 months apart. In the bottom right panel, workers are assigned to wage quartiles based on the average of their wage reports in both Current Population Survey outgoing rotation group interviews; workers in the lowest 25 percent of the average wage distribution are assigned to the 1st quartile, and those in the top 25 percent are assigned to the 4th quartile.

SOURCE: Federal Reserve Bank of Atlanta, Wage Growth Tracker; Bureau of Labor Statistics; U.S. Census Bureau, Current Population Survey.

Labor demand has remained very strong, showing only tentative signs of easing . . .

Demand for labor continued to be very strong in the second half of 2022. The Job Openings and Labor Turnover Survey indicated that there were 11 million job openings at the end of December—down about 850,000 from the all-time high recorded last March but still more than 50 percent above pre-pandemic levels. An alternative measure of job vacancies constructed by Federal Reserve Board staff using job postings data from the large online job board Indeed also shows that vacancies moved gradually lower throughout 2022 but remain well above pre-pandemic levels. Many employers report having scaled back their hiring plans somewhat, though levels of anticipated hiring remain high by historical standards.[4] Also consistent with strong labor demand, initial claims for unemployment insurance have remained at historically low levels.

13. Labor force participation rate



Note: The labor force participation rate is a percentage of the population aged 16 and over. Data are adjusted for the January 2022 updated population controls. See Bureau of Labor Statistics (2022), "Adjustments to Household Survey Population Estimates in January 2022," Current Population Survey Technical Documentation, February, https://www.bls.gov/cps/population-control-adjustments-2022.pdf.

Source: Bureau of Labor Statistics via Haver Analytics.

. . . while labor supply has increased only modestly . . .

Meanwhile, the supply of labor increased only modestly last year. The labor force participation rate, which measures the share of people either working or actively seeking work, was essentially flat last year and remains roughly 1¼ percentage points below its February 2020 level (figure 13).[5] (See the box "Why Has the Labor Force Recovery Been So Slow?")

4. For example, the (net) share of employers planning to increase payrolls in coming months, as reported by both the staffing firm ManpowerGroup and the National Federation of Independent Business, has come down in recent months but remains elevated.

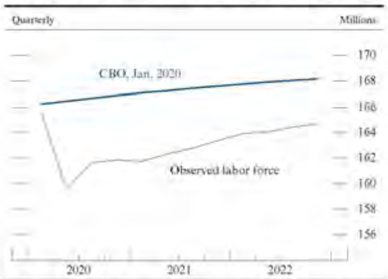
5. This labor force participation rate (LFPR) estimate and figure 13 adjust the historical data to account for the updated population estimates produced by the Census Bureau and incorporated by the Bureau of Labor Statistics in their January 2022 Employment Situation report. Without making an adjustment for these updated population estimates, the LFPR would erroneously appear to have improved more since the onset of the pandemic and to be only about 1 percentage point below its pre-pandemic level.

Why Has the Labor Force Recovery Been So Slow?

By many measures, the labor market has recovered strongly. Unemployment is low, job growth has been robust, and job opportunities are abundant. However, the labor market has underperformed in one key dimension: The labor force, or the number of people working or looking for work, is well below levels projected by most observers before the pandemic. This shortfall has contributed to a widening gap between labor demand and labor supply and to widespread labor shortages.

One estimate of the shortfall compares the labor force that the nation has now to the labor force that might have been expected given past economic and demographic trends. One way to make such a comparison is to look at what professional forecasters at some point in the past expected the labor force to be now. For example, comparing the current level of the labor force with the Congressional Budget Office's January 2020 projection of its current level suggests a shortfall of about 3½ million (figure A).[1] That figure is likely an upper bound on the true shortfall, in light of new data not yet incorporated into the Census Bureau's publicly available population estimates and so not in these calculations.[2] Even so, the shortfall appears large and economically significant, and it reflects both a lower labor force participation rate and slower population growth than was expected without the pandemic (figure B).

A. Labor force relative to an ex-pandemic counterfactual



Note: The "CBO, Jan. 2020" line appends the Congressional Budget Office's (CBO) January 2020 projected labor force growth onto the level of the labor force at the start of the pandemic through the end of 2022.
Source: Congressional Budget Office; Federal Reserve Board staff calculations.

B. Decomposition of the current labor force shortfall

Millions of people

Total shortfall	3.5
LFPR	2.1
Population	1.4
Excess deaths since COVID	.5
Net migration slowdown since COVID	.9

Note: The labor force shortfall is calculated over the period from 2019:Q4 to 2022:Q4.
Source: Current Population Survey; CDC mortality statistics; staff calculations.

Lower labor force participation

The labor force participation rate dropped sharply at the onset of the pandemic and has remained persistently below pre-pandemic levels ever since then (figure 13, main text). Earlier in the pandemic, the low level of participation reflected several pandemic-related influences (figure C). Many people left the labor force to care for sick relatives or for children learning

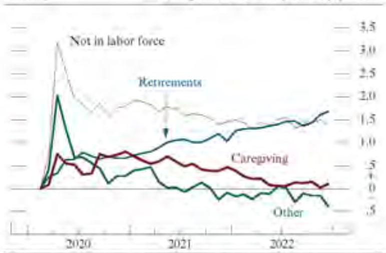
(continued on next page)

1. All analysis in this discussion is through the end of 2022 and based on data from the Current Population Survey that are adjusted for the January 2022 updated population controls as described in the main text. To account for the effect of those population controls on the level of the labor force, the shortfall is calculated by appending the Congressional Budget Office's (CBO) January 2020 projected labor force growth from the start of the pandemic through the end of 2022 onto the level of the labor force just before the start of the pandemic that is adjusted for population controls. The CBO projected the labor force participation rate (LFPR) to decline about ¼ percentage point per year from 2020 onward, consistent with the downward pressure on the LFPR from the aging of the baby boomers into retirement ages. The CBO also projected the population to increase at an average annual rate of 2.1 million from 2020 onward. See Congressional Budget Office (2020), *The Budget and Economic Outlook: 2020 to 2030* (Washington: CBO, January), https://www.cbo.gov/publication/56073.

2. This analysis does not adjust for the updated January 2023 population controls. The January 2023 updated population controls revised up the level of the labor force in December 2022 by 871,000 people, which suggests that the labor force shortfall may be materially smaller. However, as the detailed population estimates are not yet available, it is not possible to precisely estimate the level of the labor force before the pandemic that reflects the January 2023 updated population controls.

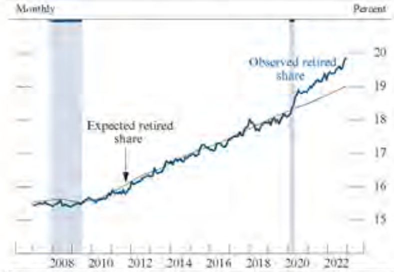
Why Has the Labor Force Recovery Been So Slow? *(continued)*

C. Nonparticipation in the labor force as a percent of the population and by reason, relative to February 2020



NOTE: The curves show estimates of the percent of the population indicating they are not in the labor force for various reasons, relative to February 2020 values. The "Other" category includes disability, illness, school, and all other reasons. The data extend through December 2022.
SOURCE: Staff estimates using microdata from the Current Population Survey, Bureau of Labor Statistics.

D. Retired share of the population (aged 16 and older), actual relative to expected



NOTE: Data are adjusted for the January 2022 updated population controls. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research. The data extend through December 2022.
SOURCE: Joshua Montes, Christopher Smith, and Juliana Dajon (2022), "'The Great Retirement Boom': The Pandemic-Era Surge in Retirements and Implications for Future Labor Force Participation," Finance and Economics Discussion Series 2022-081 (Washington: Board of Governors, November), https://doi.org/10.17016/FEDS.2022.081.

remotely. Others withdrew because they were sick with COVID-19 or feared getting COVID-19 at work. Many others retired early. As COVID concerns have waned, the influence of caregiving and fears of contracting COVID at work have diminished, whereas the contribution of retirements has increased. As a result, essentially all of the current participation rate shortfall can be accounted for by the higher percentage of the population that is retired.

The retired share of the population jumped sharply at the onset of the pandemic (figure D, blue line). Some of this increase was to be expected. In the decade leading up to the pandemic, retirements increased steadily as the baby-boom cohort aged. If the pandemic had not occurred, this trend of rising retirements would have likely continued (figure D, black line). Currently, however, the total number of people retired is well above that expected level. Excess retirements (the difference between total and expected) number roughly 2.2 million and are concentrated among older Americans, particularly among people aged 65 and over.[3]

Several factors have led to people retiring before they otherwise would have. Health concerns likely contributed to a portion of the excess retirements, as COVID poses a particularly large risk to the health of older people. In addition, many older workers lost their jobs early in the pandemic when layoffs were historically high, and finding new employment may have been particularly difficult for those workers given pandemic-related disruptions to the work environment and health concerns. Indeed, workers aged 65 and over who lost their job during the pandemic had much lower reemployment rates and much higher rates of labor force exit than did similarly aged displaced

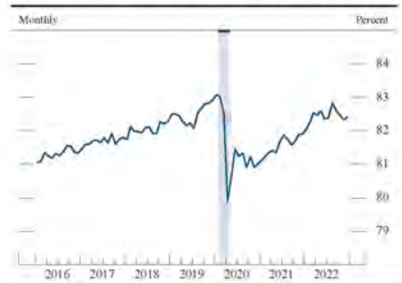
(continued)

3. For more on pandemic retirements, see Joshua Montes, Christopher Smith, and Juliana Dajon (2022), "'The Great Retirement Boom': The Pandemic-Era Surge in Retirements and Implications for Future Labor Force Participation," Finance and Economics Discussion Series 2022-081 (Washington: Board of Governors of the Federal Reserve System, November), https://doi.org/10.17016/FEDS.2022.081.

workers in the years just before the pandemic.[4] Further, increases in wealth, fueled by gains in the stock market and rising house prices in the first two years of the pandemic, may have allowed some people to retire early, and research suggests that excess retirements have been largest among college-educated and white workers—the groups that likely benefited most from the stock market and house price gains earlier in the pandemic. There is little sign yet of a reduction in excess retirements. Instead, older workers are still retiring at higher rates than before the pandemic, and retirees are not returning to the labor force in sufficient numbers to reduce the total number of retirees.

In contrast, participation for those aged 25 to 54 (prime age) has mostly returned to pre-COVID levels (figure E). This recovery likely reflects the abundance of job opportunities and strong wage growth as well as the waning influence of COVID-related factors. However, the prime-age participation rate did move somewhat lower the last few months of 2022. Although the drag on participation from caregiving has diminished since the first year of the pandemic, it remains elevated relative to its pre-pandemic level and, in fact, moved higher over the second half of 2022—perhaps because many caretakers have been unable to participate in the labor force because of flu, COVID, or other respiratory illness among their children and other family members.[5] Further, many workers are still out of work because they are sick with COVID or continue to suffer lingering symptoms from previous COVID infections ("long COVID"), and their illness is likely depressing participation to some extent.[6]

E. Labor force participation rate for prime-age people



NOTE: The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research. The data extend through December 2022.

SOURCE: Bureau of Labor Statistics via Haver Analytics.

Lower population growth

The second contributor to the labor force shortfall is slower population growth. Over the decade before the pandemic, the population increased about 1 percent per year. Since the start of 2020, annual population growth has slowed to about ½ percent per year, on average, resulting in slower labor force growth for a given participation rate. That slowdown reflects two factors. First, primarily because of COVID, mortality over the past few years has far exceeded what was expected before the pandemic; even though the mortality was concentrated among older Americans who are less likely to be working, it still has contributed about 500,000 to the labor force shortfall. Second, pandemic-related restrictions on entry into

(continued on next page)

4. See Bureau of Labor Statistics (2022), "Displaced Workers Summary," Economic News Release, August 26, https://www.bls.gov/news.release/disp.nr0.htm.

5. For more on how caregiving burdens affected labor force participation in the first year and a half of the pandemic, see, for example, Joshua Montes, Christopher Smith, and Isabel Leigh (2021), "Caregiving for Children and Parental Labor Force Participation during the Pandemic," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, November 5), https://doi.org/10.17016/2380-7172.3013.

6. See, for example, Gopi Shah Goda and Evan J. Soltas (2022), "The Impacts of COVID-19 Illnesses on Workers," NBER Working Paper Series 30435 (Cambridge, Mass.: National Bureau of Economic Research, September), https://doi.org/10.3386/w30435; Louise Sheiner and Nasiha Salwati (2022), "How Much Is Long COVID Reducing Labor Force Participation? Not Much (So Far)," Hutchins Center Working Paper Series 80 (Washington: Brookings Institution, October), https://www.brookings.edu/wp-content/uploads/2022/10/WP80-Sheiner-Salwati_10.27.pdf; and Brendan M. Price (2022), "Long COVID, Cognitive Impairment, and the Stalled Decline in Disability Rates," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, August 5), https://doi.org/10.17016/2380-7172.3189.

Why Has the Labor Force Recovery Been So Slow? *(continued)*

the U.S. substantially slowed total immigration in the first two years of the pandemic. Although net migration rebounded considerably in 2022, lower net international migration since the start of the pandemic has lowered the labor force by as much as 900,000 people relative to pre-pandemic trends.[7]

Looking ahead

Due to the aging of the population, a meaningful reversal of the run-up in the retired share of the population seems unlikely, and the labor force participation rate is likely to remain well below its level from before the pandemic. It is possible that some of those who retired during the pandemic will reenter the labor force, but the persistently high level of excess retirements suggests this reentry is not yet happening. In contrast, some further gains in labor force participation among younger people may be possible. Over the five years before the pandemic, the participation rate for 25-to-54-year-olds increased significantly, partially reversing a multidecade decline in their labor force participation, and the participation rate for this group seemed poised for further gains had the pandemic not occurred. However, even if further increases in participation among younger people occur, those increases would likely only gradually reduce the overall labor force shortfall.

Regarding population growth, as pandemic-related restrictions on immigration have eased, immigration has started to rebound. If net migration continues to move higher, it may help alleviate labor shortages, as immigrant workers have tended to work in industries and jobs where labor shortages appear particularly acute, such as childcare, health care, and accommodation and food services.[8]

7. There is considerable uncertainty about the contribution of changes in immigration since the start of the pandemic to the labor force shortfall, especially in light of the revisions to the historical level of the labor force due to the January 2023 updated population controls and because of the pickup in immigration over 2022, which lowered its contribution to the labor force shortfall. The 900,000-person contribution of lower immigration to the labor force shortfall is likely an upper-bound estimate.

8. Immigration had slowed markedly in the few years before the pandemic. If immigration rises only to the relatively low levels prevailing before the pandemic, the population will grow at a historically low rate.

. . . resulting in an extremely tight labor market

As a result, the labor market remains extremely tight despite some tentative signs of modest easing. The number of total available jobs (measured by total employment plus posted job openings) continues to far exceed the number of available workers (measured by the size of the labor force). This jobs–workers gap was 5.3 million at the end of the year, down about 600,000 from the peak recorded last March but still very elevated by historical standards (figure 14).[6] The share of workers quitting jobs each month, an indicator of the availability of attractive job prospects, was 2.7 percent at the end of the year, somewhat below the all-time high of 3 percent reported a year earlier but still elevated. Similarly, households' and small businesses' perceptions of labor market tightness have come down from their recent peaks but remain high. And many employers across Federal Reserve Districts reported some easing of hiring and retention difficulties but continued to view labor market conditions as tight.[7]

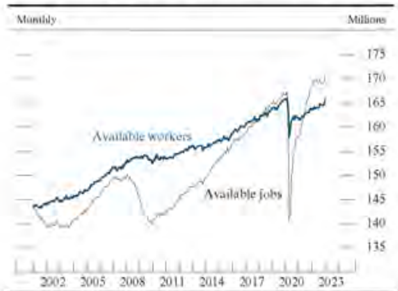
Wage growth has slowed but remains elevated

Wage growth slowed in the second half of 2022 but was still elevated (figure 15). Total hourly compensation as measured by the employment cost index increased at an annual rate of 4.1 percent in the second half of last year, a strong gain but a step-down from the 6.0 percent increase observed during the first half. Increases in average hourly earnings (a less comprehensive measure of compensation) have slowed as well, rising 4.4 percent over the 12 months to January, down from 5.7 percent over the preceding 12 months. Wage growth as computed by the Federal Reserve Bank of

6. The ratio of job openings to unemployment shows that there were 1.9 job openings per unemployed person in December 2022. For comparison, this ratio averaged 1.2 in 2019 and 0.6 over the 10-year period from 2010 to 2019.

7. See the January 2023 Beige Book, available on the Board's website at https://www.federalreserve.gov/monetarypolicy/publications/beige-book-default.htm.

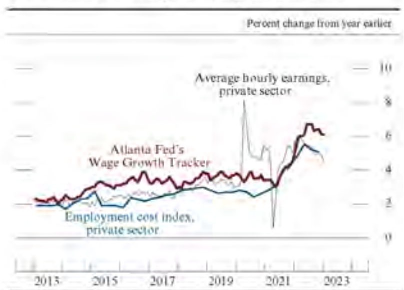
14. Available jobs versus available workers



NOTE: Available jobs are employment plus job openings as of the end of the previous month. Available workers are the labor force. Data are adjusted for the January 2022 updated population controls. See Bureau of Labor Statistics (2022), "Adjustments to Household Survey Population Estimates in January 2022," Current Population Survey Technical Documentation, February, https://www.bls.gov/cps/population-control-adjustments-2022.pdf.

SOURCE: Bureau of Labor Statistics; Job Openings and Labor Turnover Survey; all via Haver Analytics; Federal Reserve Board staff calculations.

15. Measures of change in hourly compensation



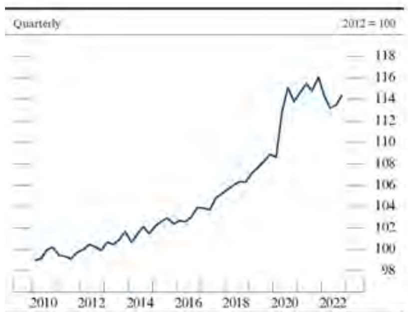
NOTE: For the private-sector employment cost index, change is over the 12 months ending in the last month of each quarter; for private-sector average hourly earnings, the data are 12-month percent changes; for the Atlanta Fed's Wage Growth Tracker, the data are shown as a 3-month moving average of the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

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

Atlanta, which tracks the median 12-month wage growth of individuals responding to the Current Population Survey, was 6.1 percent in January, down from its peak last summer but well above the 3 to 4 percent pace reported over the previous few years.

Following a period of strong growth, labor productivity weakened last year

16. U.S. labor productivity



NOTE: The data are output per hour in the nonfarm business sector.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

The extent to which wage gains raise firms' costs and act as a source of inflation pressure depends importantly on the pace of productivity growth. Productivity rose at a rapid average pace of 3¼ percent over 2020 and 2021, but it declined last year as output growth slowed and employment growth held up (figure 16). In retrospect, much of the strong productivity growth in 2020 and 2021 seems to have been the result of temporary pandemic-related factors such that the decline in 2022 may reflect a normalization as productivity moves back toward its trend. In 2021, as the economy reopened, firms struggled to hire workers, and many firms temporarily operated with overstretched workforces.[8] Subsequently, the slowdown in aggregate demand last year allowed many firms to catch up in their hiring.[9]

The pace of productivity growth going forward remains very uncertain. Productivity growth averaged only about 1 percent per year during the expansion that preceded the pandemic recession, and it is possible that the economy will return to a similar low-productivity growth regime. However, it also seems possible that the high rate of new business formation, widespread adoption of remote-work technology, and the wave of

8. In 2020, there were also significant composition effects boosting labor productivity, as pandemic-induced employment losses were largest in lower-productivity services sectors. Employment composition looks to have largely normalized by 2021.

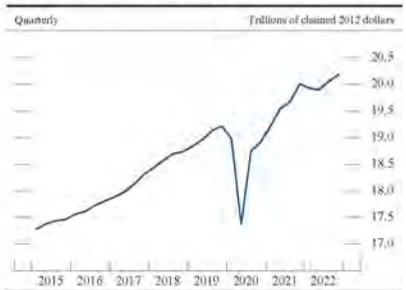
9. Consistent with this view, the November 2022 Beige Book reported that many employers cited concerns that their workforce was being overworked as an important reason for hiring; see that publication, which can be found on the Board's website at https://www.federalreserve.gov/monetarypolicy/files/BeigeBook_20221130.pdf.

labor-saving investments that the pandemic brought about could boost productivity growth above that pace in coming years.

Momentum in gross domestic product has slowed

After the strong rebound in 2021 from the pandemic-induced recession, economic activity lost momentum last year. Although real gross domestic product (GDP) is reported to have risen at a solid 3.0 percent pace in the second half of 2022, growth in real private domestic final purchases—consumer spending plus residential and business fixed investment, a measure of output that often better reflects the underlying momentum of economic activity—slowed to just a 0.6 percent pace (figure 17). Consumer spending growth held up last year, but the fundamentals that underpin household spending have deteriorated. Business investment rose moderately in the second half of 2022, although new orders indexes, business sentiment, and profit expectations suggest that spending growth may slow. And activity in the housing sector contracted sharply last year in response to elevated mortgage rates. Finally, manufacturing output moved lower, on net, over the past few months, with surveys of manufacturing pointing to continued weakness in coming months. Diffusion indexes of new orders from various manufacturing surveys are well into contractionary territory, and backlogs of existing orders have declined sharply.

17. Real gross domestic product

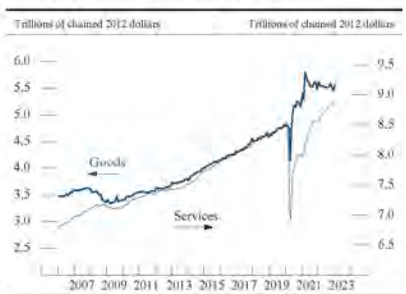


SOURCE: Bureau of Economic Analysis via Haver Analytics.

Consumer spending grew moderately last year . . .

Consumer spending adjusted for inflation grew at a 1.8 percent rate in the second half of 2022, about the same pace as in the first half of the year. And, averaging through some recent volatility, consumer spending has continued to look solid in the most recent data. Spending increases over the past year have been concentrated in services, whereas spending on goods has remained roughly flat since mid-2021 following its surge during 2020 and early 2021, suggesting that consumers' spending habits have been returning toward their pre-pandemic patterns (figure 18).

18. Real personal consumption expenditures

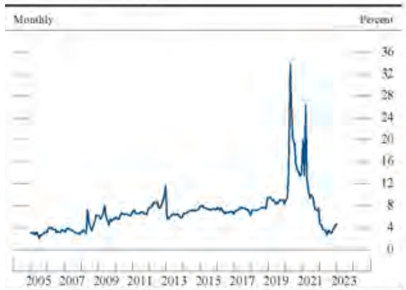


NOTE: The data are monthly.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

19. Indexes of consumer sentiment

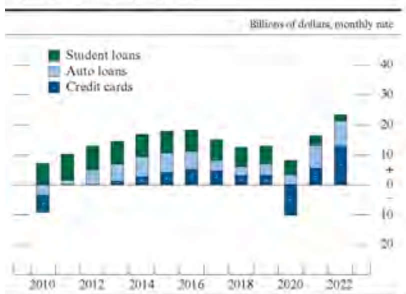
NOTE: The data extend through February 2023.
SOURCE: University of Michigan Surveys of Consumers; Conference Board.

20. Personal saving rate



SOURCE: Bureau of Economic Analysis via Haver Analytics.

21. Consumer credit flows



SOURCE: Federal Reserve Board, Statistical Release G.19, "Consumer Credit."

. . . even as real disposable income fell and consumer confidence was low

The fundamentals for household spending, however, appear to be somewhat less supportive of spending growth. Despite the sizable increases in jobs and wages last year, after factoring in the rise in prices, higher tax payments, and reduced transfers, real disposable income fell 1.4 percent in 2022. And the University of Michigan index of consumer sentiment remains very low by historical standards despite a move higher in the second half of 2022 (figure 19).

As real incomes fell, households likely relied on the savings that had been accumulated during the pandemic as well as higher wealth—reflecting, in part, house price gains over the past few years that outweighed the drag from recent equity price declines—to fund continued consumption. As a result, the personal saving rate fell to its lowest levels since the Great Recession (figure 20).

Consumer financing conditions have tightened somewhat

Interest rates on credit cards and auto loans continued to increase last year and are now higher than the levels observed in 2018 at the peak of the previous monetary policy tightening cycle. In addition, banks reported tighter lending standards across consumer credit products in the second half of 2022, in part reflecting increases in delinquency rates and concerns about further future deterioration in credit performance. After reaching record lows in 2021, delinquency rates for credit cards and auto loans rose last year. That said, the share of delinquent balances for credit cards remained low, while that for auto loans is just a little above its pre-pandemic level. Despite these tighter financial conditions, financing has been generally available to support consumer spending, and consumer credit continued to expand in the past several months (figure 21). Total credit card balances have increased across the credit score distribution, and auto loans continued to rise at a robust pace.

Housing market activity has declined sharply

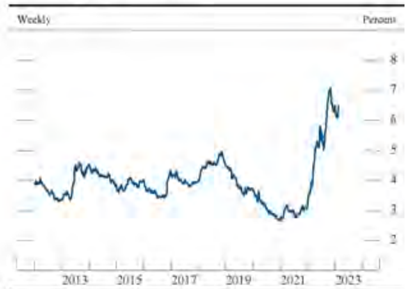
After rising further over the summer, mortgage rates have fallen back some but remain roughly 3 percentage points higher than their levels a year ago (figure 22). Although mortgage credit broadly remains available, the move up in mortgage rates (along with the earlier large home price increases) has greatly reduced affordability and further depressed homebuying sentiment, leading to a sharp decline in demand to purchase homes. Home sales fell precipitously last year and are now at levels seen during the financial crisis, while house prices have ceased their sharp increases (figures 23 and 24).

The drop in housing demand, combined with a larger-than-normal backlog of homes already in the construction pipeline, has led builders to sharply cut back the number of new housing starts. Single-family starts collapsed from their 2021 highs, though multifamily starts have held up, likely supported by a shift in demand toward rentals given the decline in purchase affordability (figure 25).

Capital spending grew at a solid pace in the second half last year but has been slowing

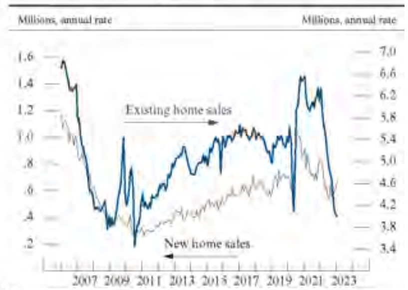
Business investment in equipment and intangible capital grew at a solid 5 percent pace in the second half of 2022 (figure 26). The increase in part reflects a jump in spending on transportation equipment, as supply bottlenecks in the motor vehicles sector eased and aircraft shipments stepped up. Excluding the volatile transportation category, investment in equipment and intangibles declined in the fourth quarter, likely reflecting tighter financial conditions for businesses as well as tepid growth in demand. In contrast, investment in nonresidential structures—which tends to respond with a lag to economic conditions—has shown signs of turning up of late, after falling further last year amid ongoing pandemic-related weakness in demand for categories such as office buildings.

22. Mortgage interest rates



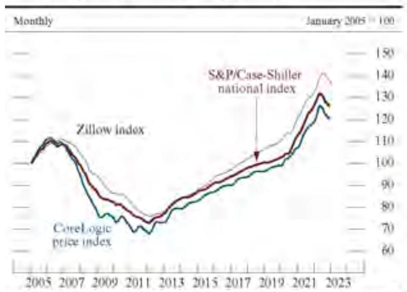
NOTE: The data are contract rates on 30-year, fixed-rate conventional home mortgage commitments and extend through February 23, 2023.
SOURCE: Freddie Mac Primary Mortgage Market Survey.

23. New and existing home sales



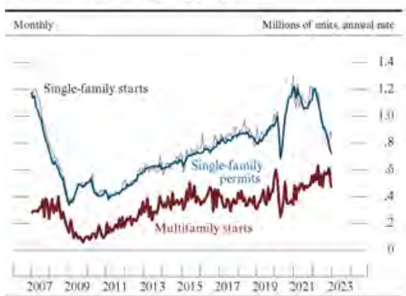
NOTE: The data are monthly. New home sales include only single-family sales. Existing home sales include single-family, condo, and co-op sales.
SOURCE: For new home sales, U.S. Census Bureau; for existing home sales, National Association of Realtors; all via Haver Analytics.

24. Real prices of existing single-family houses



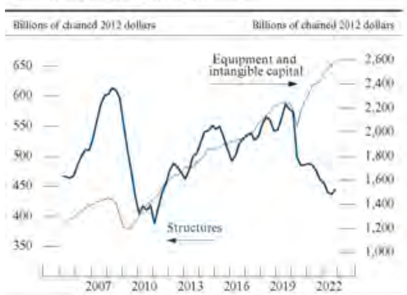
NOTE: Series are deflated by the personal consumption expenditures price index. CoreLogic is not seasonally adjusted. The data for S&P Case-Shiller and CoreLogic extend through December 2022.
SOURCE: Bureau of Economic Analysis via Haver Analytics; CoreLogic Home Price Index; Zillow, Inc., Real Estate 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.)

25. Private housing starts and permits



SOURCE: U.S. Census Bureau via Haver Analytics.

26. 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 business sentiment has declined significantly and financial conditions have tightened, survey indicators of capital spending plans have continued to hold up and remain above levels that would normally be associated with a sharp downturn in capital spending.

Business financing conditions tightened, but credit generally remained available

Credit remained available to most nonfinancial corporations but at generally higher interest rates and under tighter financial conditions more broadly. Issuance of leveraged loans and speculative-grade corporate bonds slowed substantially in the second half of the year, while investment-grade bond issuance declined modestly. Banks tightened lending standards on commercial and industrial loans and commercial real estate loans over the third and fourth quarters of 2022. Credit remained tight for lower-rated borrowers and tightened further for bank-dependent borrowers. Business loans at banks continued to grow in the second half of 2022 but started to decelerate in the fourth quarter, thus moderating the robust pace of growth observed earlier in the year. Despite the increase in borrowing costs, credit quality has remained strong for most nonfinancial firms. However, some predictors of future business defaults suggest that defaults are more likely.

Meanwhile, financing conditions for small businesses have remained stable over the past year. While credit supply appears to have tightened slightly and interest rates on small business loans have risen notably in recent months, credit availability is broadly in line with pre-pandemic levels. Loan performance remains strong but shows signs of weakening, as default and delinquency rates remain below their pre-pandemic levels but have risen moderately since last spring.

Trade softened amid slowing goods demand

After growing at a notable pace during the first half of the year, real imports declined in the second half, reflecting softening domestic demand for goods (figure 27). Real exports

increased modestly, restrained by the past appreciation of the dollar and weak foreign demand. Real exports of services, especially travel services, continue to slowly recover but remain subdued. The current account deficit as a share of GDP narrowed over the second half of last year but remains wider than before the pandemic.

The support to economic activity from federal fiscal actions has largely phased out

The federal government enacted a historic set of fiscal policies to alleviate hardship caused by the pandemic and to support the economic recovery. Policies such as stimulus checks, supplemental unemployment insurance, and child tax credit payments aided households; grants-in-aid supported state and local governments; and business support programs such as the Paycheck Protection Program helped support firms. The support to the level of GDP from these temporary policies has been diminishing, and their unwinding likely imposed a drag on GDP growth in 2022 as the effects on spending waned.

The budget deficit fell sharply from pandemic highs, causing growth in federal debt to moderate

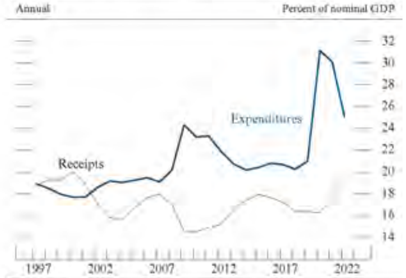
Fiscal policies enacted since the start of the pandemic, combined with the effects of automatic stabilizers—the reduction in tax receipts and the increase in transfers that occur because of subdued economic activity—caused the federal deficit to surge to 15 percent of GDP in fiscal 2020 and to more than 12 percent in fiscal 2021 (figure 28).[10] However,

10. 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.

27. Real imports and exports of goods and services

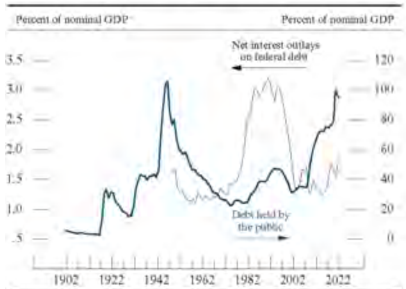
SOURCE: Bureau of Economic Analysis via Haver Analytics.

28. 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.
SOURCE: Department of the Treasury, Financial Management Service; Office of Management and Budget and Bureau of Economic Analysis via Haver Analytics.

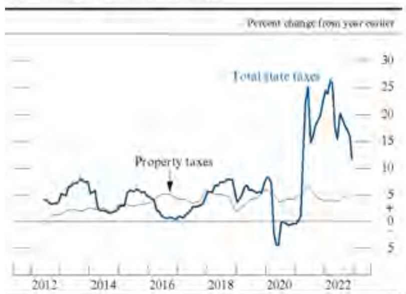
29. Federal government debt and net interest outlays



NOTE: The data for net interest outlays are annual, begin in 1948, and extend through 2022. 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 a four-quarter moving average thereafter and extend through 2022: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."

30. 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 2022, and are aggregated over all states except Wyoming, for which data are not available. Revenues from Washington, D.C., are also excluded. The data extend only through September 2022 for New Mexico and November 2022 for Nevada and South Dakota, 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 2022:Q3, and are primarily collected by local governments.

SOURCE: Monthly State Government Tax Revenue Data via Urban Institute; U.S. Census Bureau, Quarterly Summary of State and Local Government Tax Revenue.

with pandemic-related fiscal support fading and receipts on the rise, the deficit fell to 5.5 percent of GDP in 2022.

As a result of the unprecedented fiscal support enacted early in the pandemic, federal debt held by the public jumped roughly 20 percentage points to 100 percent of GDP in fiscal 2020—the highest debt-to-GDP ratio since 1947 (figure 29). With deficits falling and economic growth rebounding since fiscal 2020, the debt-to-GDP ratio has since leveled off but is expected to remain elevated compared with the years before the pandemic. With interest rates on the rise, net interest outlays have recently picked up and are expected to continue to grow over the next few years.

State and local government budget positions remain strong . . .

Federal policymakers provided a historical level of fiscal support to state and local governments during the pandemic, leaving the sector in a strong budget position overall. In addition, total state tax collections rose appreciably in 2021 and 2022, pushed up by the economic recovery (figure 30). In response to their strong budget positions, lawmakers cut state taxes by roughly $16 billion in state fiscal year 2023 according to the National Association of State Budget Officers.

At the local level, property taxes have continued to rise, 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 grow despite the recent sharp deceleration in house prices.

. . . yet employment and construction outlays are still below their pre-pandemic levels

Despite the strong fiscal position of state and local governments, the sector's payrolls have regained approximately three-fourths of their sizable pandemic losses, and real infrastructure spending by these governments is 10 percent below pre-pandemic levels. Nevertheless, both infrastructure outlays and employment showed

signs of a recovery in the second half of 2022 (figure 31).

Financial Developments

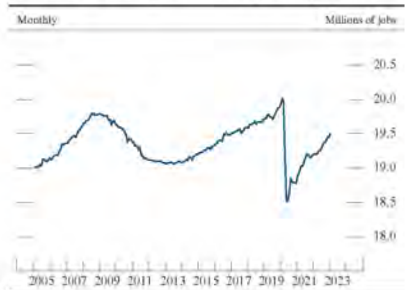
The expected level of the federal funds rate over the next year shifted up notably

The FOMC raised the target range for the federal funds rate a further 3 percentage points since June. Market-based measures of the path of the federal funds rate expected to prevail through the first half of 2024 also shifted up notably over the same period (figure 32).[11] According to these market-based measures, investors anticipate that the federal funds rate will peak at more than 5 percent in mid-2023, which is about 2 percentage points higher than the peak rate that had been expected in June. The market path implies that market participants believe that the federal funds rate will fall gradually starting around the fourth quarter of 2023 and will reach about 3.3 percent by the end of 2025. 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, similarly indicate that respondents' projections of the most likely path of the federal funds rate over 2023 and 2024 shifted up significantly since June.[12]

Yields on U.S. nominal Treasury securities also rose considerably

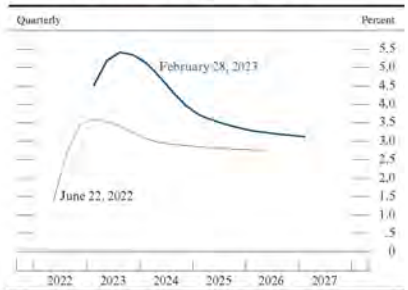
Short-term yields have increased substantially further since June, reflecting expectations for a higher path for the federal funds rate, while long-term yields have risen notably further, following a considerable rise in yields across maturities over the first half of 2022 (figure 33). The increases in nominal yields

31. State and local government payroll employment



Source: Bureau of Labor Statistics via Haver Analytics.

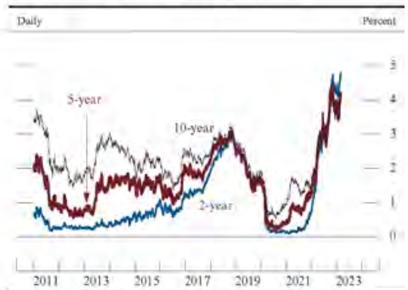
32. Market-implied federal funds rate path



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 June 22, 2022, is compared with that as of February 28, 2023. The path is estimated with a spline approach, assuming a term premium of 0 basis points. The June 22, 2022, path extends through 2026:Q2 and the February 28, 2023, path through 2027:Q1.

Source: Bloomberg; Federal Reserve Board staff estimates.

33. Yields on nominal Treasury securities

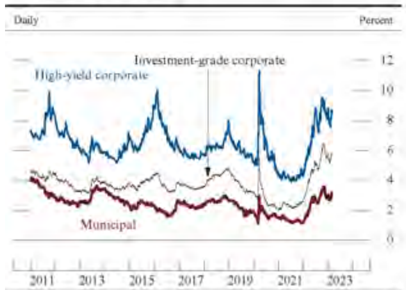


Source: Department of the Treasury via Haver Analytics.

11. These measures are based on market prices for effective federal funds overnight interest rate swaps and are not adjusted for term premiums.

12. 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.

34. 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.

35. 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 2023.

since June were primarily accounted for by higher real yields, consistent with expectations for more restrictive monetary policy.

Yields on other long-term debt increased modestly

After increasing substantially over the first half of 2022, corporate bond yields for investment-grade borrowers and yields for municipal borrowers have increased moderately further since June, while yields for speculative-grade corporate borrowers are about unchanged (figure 34). Corporate and municipal bond spreads over comparable-maturity Treasury securities have declined somewhat since June, particularly so for speculative-grade corporate bonds, and are now near levels prevailing shortly before the pandemic. Corporate and municipal credit quality remains strong, and defaults have been low in 2022 and thus far in 2023. However, an indicator of future business defaults is elevated.

Yields on agency mortgage-backed securities (MBS)—an important pricing factor for home mortgage rates—generally moved in line with longer-dated Treasury yields since June and have increased notably on net (figure 35). The MBS spread remains elevated relative to pre-pandemic levels, at least partly resulting from the large amount of interest rate volatility, which reduces the value of holding MBS.

Broad equity price indexes increased moderately, on net, amid substantial volatility

After declining sharply over the first half of 2022, broad equity price indexes have been volatile and have increased moderately since June, on net, as inflation pressures showed some signs of easing and earnings remained resilient (figure 36). One-month option-implied volatility on the S&P 500 index—the VIX—has declined notably but remains moderately above the median of its historical distribution (figure 37). (For a discussion of financial

stability issues, see the box "Developments Related to Financial Stability.")

Major asset markets functioned in an orderly way, but some measures suggest persistence of low liquidity

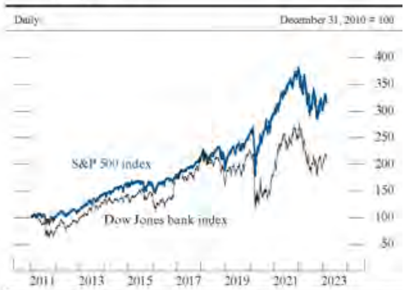
Consistent with ongoing higher interest rate volatility, liquidity conditions in the Treasury cash market continue to remain low relative to pre-pandemic levels. Market depth—a measure of the availability of contracts to trade at best quoted prices—for Treasury securities remains near historically low levels, particularly for short-term Treasury securities, and bid-ask spreads remain elevated relative to pre-pandemic levels. However, trading volumes in Treasury securities markets have remained about in line with historical levels, and market functioning has not been materially impaired. Equity market liquidity has improved somewhat since the summer but is still strained compared with pre-COVID levels. Corporate and municipal secondary bond markets continue to function well; transaction costs in these markets remained fairly low by historical standards.

Short-term funding market conditions remained stable

Conditions in short-term funding markets have remained stable. Increases in the FOMC's target range for the federal funds rate were transmitted effectively to other overnight rates. The effective federal funds rate and other unsecured overnight rates have been a few basis points below the interest rate on reserve balances since June. Secured overnight rates have been somewhat lower than unsecured rates but have shown some signs of firming more recently.

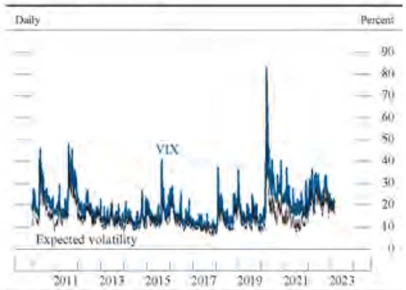
Prime money market funds (MMFs) have seen a notable increase in assets under management (AUM) since June, but government MMF AUM have remained relatively flat. Both prime and government MMFs have shortened their portfolios' weighted average maturities to

36. Equity prices



Source: S&P Dow Jones Indices LLC via Bloomberg. (For Dow Jones Indices licensing information, see the note on the Contents page.)

37. S&P 500 volatility



Note: The VIX is an option-implied volatility measure that represents the expected annualized variability of 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; Federal Reserve Board staff estimates.

Developments Related to Financial Stability

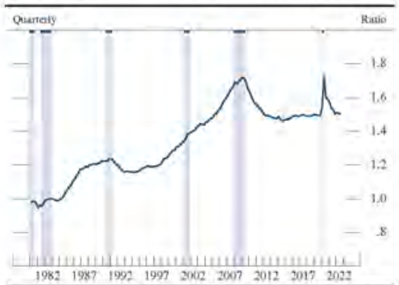
This discussion reviews vulnerabilities in the U.S. financial system. The framework used by the Federal Reserve Board for assessing the resilience of the U.S. financial system focuses on financial vulnerabilities in four broad areas: asset valuations, business and household debt, leverage in the financial sector, and funding risks. Against the backdrop of a weaker economic outlook, higher interest rates, and elevated uncertainty over the second half of the year, financial vulnerabilities remain moderate overall. Valuation pressures in equity markets increased modestly, and real estate prices continued to be high relative to fundamentals, such as rents, despite a marked slowing in price increases. Nonfinancial business and household debt grew in line with gross domestic product (GDP), leaving vulnerabilities associated with borrowing by businesses and households unchanged at moderate levels, and vulnerabilities from financial-sector leverage remained well within their historical range. Funding risks at domestic banks are low, but structural vulnerabilities persist at some money market funds, bond funds, and stablecoins.

Broad equity prices increased moderately since the middle of last year even as earning expectations fell as the economic outlook weakened. As a result, overall valuation pressures, as measured by the ratio of prices to expected earnings, ticked up. Spreads on corporate bonds declined moderately over the past six months and remain roughly in line with their historical median. The prices of several crypto-assets fell substantially after a widely publicized bankruptcy filing in November, but spillovers from crypto markets to the broader financial system were limited. Residential real estate valuations remain elevated despite the rise in mortgage rates and sharply decelerating real estate prices, as the increase in house prices over the past two years has substantially exceeded the increase in rents. Similarly, commercial real estate prices relative to the income associated with such properties remain high by historical standards. Indicators for market liquidity such as market depth, a measure of the availability of contracts to trade at best quoted prices, and price impact, a measure of how much prices move in response to large directional orders, remain low in several important markets—including the Treasury market—relative to pre-pandemic levels. However, market functioning remained orderly.

The total combined debt of households and nonfinancial businesses grew roughly in line with GDP, leaving the credit-to-GDP ratio roughly flat and close to its pre-pandemic level (figure A). Household balance sheets remained strong, with continued buffers of excess savings built up over 2020 and 2021 and sizable home equity cushions. Most of the increases in real household debt were accounted for by borrowers with prime credit scores, for whom delinquency rates remain low and stable. In contrast, some signs of increased stress have become apparent for households at the lower end of the income distribution as delinquency rates for near-prime and subprime borrowers have risen. Business leverage continues to be elevated by historical standards, but indicators of credit quality have remained solid and, thus far, the increase in interest rates has not weighted materially on the ability of businesses to service their debt.

(continued)

A. Private nonfinancial-sector credit-to-GDP ratio



NOTE: Data extend through 2022:Q3. 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"; Bureau of Economic Analysis, national income and product accounts; Federal Reserve Board staff calculations.

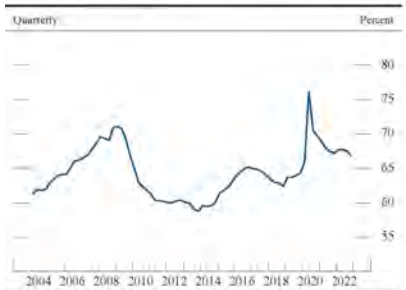
Vulnerabilities from financial-sector leverage are roughly in line with historically average levels. Risk-based capital ratios at domestic bank holding companies declined last year, in part due to strong loan growth, but remain well above regulatory requirements. Moreover, even as rising interest rates have led to declines in the value of available-for-sale securities held on bank balance sheets, earnings and credit quality remain strong for banks. Leverage at certain nonbank financial institutions, including life insurers and hedge funds, has remained near historical highs. While data limitations and the complexity of hedge fund strategies can obscure the true nature of leverage in that sector, one common measure of hedge fund leverage, the ratio of gross notional exposure to equity capital, remained elevated in the third quarter of 2022—the most recent data available.

Funding risks at domestic banks and broker-dealers remain low. Liquidity coverage ratios indicate that large banks continue to have ample liquidity to meet severe deposit outflows. However, prime and tax-exempt money market funds, as well as certain other cash-investment vehicles, remain susceptible to runs. Many bond and bank-loan mutual funds continue to be vulnerable to large redemptions, because they hold assets that can become illiquid amid stress.

Near-term risks to financial stability are little changed. A recession would likely limit the ability of some households and firms to service their debt, potentially increasing delinquency rates. If a recession were to coincide with higher-than-expected inflation and interest rates, the strains on households, businesses, and the financial sector would be exacerbated. Moreover, low liquidity in some financial markets may amplify the volatility of asset prices, impair market functioning, and cause funding pressures at financial intermediaries. International developments such as Russia's continuing war against Ukraine or stresses in China could cause some strains in parts of the U.S. financial system. Finally, cyber risk in the financial system, defined as the risk of loss or operational disruptions relating to dependence on computer systems and digital technology, has increased over time and could impair the U.S. financial system.

near historical lows, likely in response to the continued increase in short-term rates and fund managers' uncertainty about the future path of interest rates. Both elevated AUM and short weighted average maturities at MMFs, as well as a limited supply of Treasury bills, have contributed to continuing elevated take-up at the Federal Reserve's overnight reverse repurchase agreement facility.

38. Ratio of total commercial bank credit to nominal gross domestic product



SOURCE: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States"; Bureau of Economic Analysis via Haver Analytics.

39. Profitability of bank holding companies

NOTE: The data are quarterly.
SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Holding Companies.

Bank credit continued to expand, but growth decelerated in the fourth quarter

Total loans and leases outstanding at commercial banks have continued to expand since June, although the pace of growth has moderated in recent months (figure 38). Banks reported tighter standards and weaker demand for most loan categories over the third and fourth quarters of 2022 in the October and January Senior Loan Officer Opinion Surveys on Bank Lending Practices. Interest rates on bank loans increased through the second half of 2022, in line with the current tightening cycle. Bank profitability in the second half of 2022 remained robust overall, driven by strong net interest income, but revenues and earnings in the fourth quarter were generally weaker, particularly among banks with a greater share of income derived from investment banking activities (figure 39). Bank equity prices increased moderately, on net, in line with broader equity price indexes (figure 36). Delinquency rates on bank loans remained low in the fourth quarter of 2022 relative to historical averages. However, loan loss provisions have increased in recent quarters, consistent with banks' expectations for credit losses to increase in the future, and delinquency rates rose slightly last year for some loan types such as credit cards and auto loans.

International Developments

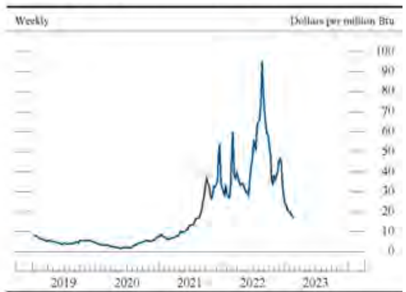
Economic activity abroad has softened . . .

Following solid growth early last year, foreign economic growth slowed, especially at the end of the year, weighed down by a COVID-related slowdown in China, the economic fallout of Russia's war against Ukraine, and tighter financial conditions. A stringent clampdown on COVID cases in the fall brought a marked deceleration in Chinese economic activity. In Europe, GDP growth stepped down notably in the second half of the year as high energy prices compressed real incomes and depressed confidence of households and businesses. In addition to tighter financial conditions, weaker global demand also damped activity in emerging market economies (EMEs), where exports have fallen notably.

More recently, however, economic indicators suggest that a recovery has started to take hold in China following the rapid abandonment of its zero-COVID policy. In Europe, economic activity, although still subdued, is proving more resilient than expected and is being supported by a sharp fall in natural gas prices to below their levels preceding the Russian invasion of Ukraine in 2022 (figure 40).

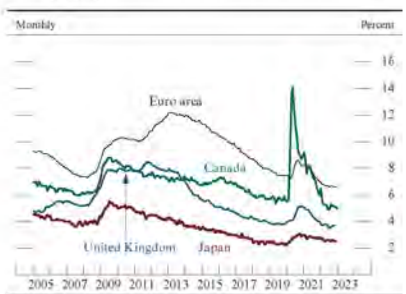
Despite softer activity in the second half of last year, labor markets remained strong in most advanced foreign economies (AFEs), with unemployment rates at or near decades lows (figure 41). As in the U.S., low jobless rates in part reflect continued high labor demand. Job vacancy rates in AFEs eased slightly in recent months but remain near historically high levels, pointing to continued difficulties in hiring. In addition, labor supply challenges in some foreign economies have contributed to tight labor market conditions. For example, the labor force participation rate in the U.K. has not risen back to its pre-pandemic level, reflecting the slow ongoing recovery from a broad range of pandemic-related factors, including long-term

40. European Union natural gas prices



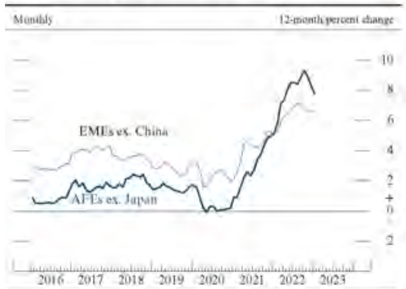
NOTE: The data are weekly averages of daily data and extend through February 24, 2023.
SOURCE: ICE Dutch TTF Futures via Haver Analytics.

41. Unemployment rate in selected advanced foreign economies



NOTE: The data for the United Kingdom extend through November 2022 and are centered 3-month averages of monthly data. The data for the euro area and Japan extend through December 2022.
SOURCE: For the United Kingdom, Office for National Statistics; for Japan, Ministry of Health, Labour and Welfare; for the euro area, Statistical Office of the European Communities; for Canada, Statistics Canada; all via Haver Analytics.

42. Consumer price inflation in foreign economies



NOTE: The advanced foreign economy (AFE) aggregate is the average of Canada, the euro area, and the United Kingdom, weighted by shares of U.S. non-oil goods imports. The emerging market economy (EME) aggregate is the average of Argentina, Brazil, Chile, Colombia, Hong Kong, India, Indonesia, Israel, Malaysia, Mexico, Philippines, Russia, Saudi Arabia, Singapore, South Korea, Taiwan, Thailand, and Vietnam, weighted by shares of U.S. non-oil goods imports. The inflation measure is the Harmonised Index of Consumer Prices for the euro area and the consumer price index for other economies.

SOURCE: Haver Analytics.

sickness and early retirements. In Canada, reduced immigration flows at the onset of the pandemic and an aging population have contributed to slower labor force growth in recent years.

Global supply chains continued to normalize over the latter half of 2022, helped by the slowdown in foreign economic growth. Transportation and production bottlenecks continued to abate amid weakening demand for goods. Recent data suggest that congestion at U.S. ports has broadly decreased. Container spot prices have declined sharply, especially for shipping from China to the West Coast. Both air cargo and ocean cargo transit times from Asia to North America have declined from their early 2022 peaks.

. . . and foreign inflationary pressures have broadened . . .

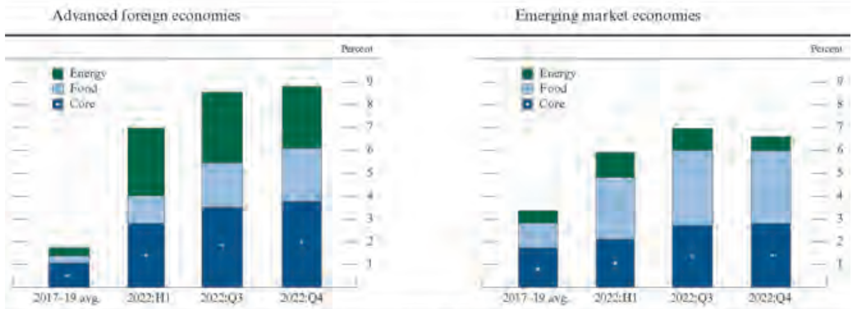
Foreign headline inflation abroad has started falling as effects of earlier commodity price increases have waned, though the decline so far has been less pronounced than in the U.S. (figure 42). Energy inflation has moderated in foreign economies, but food inflation remained strong through year-end (figure 43).

While headline inflation has begun easing, core inflation has been running firmly above its pre-COVID average in the second half of 2022. Pass-through from past energy price increases into other prices, robust wage growth stemming from tight labor markets, and past exchange rate depreciation in some economies have all contributed to elevated core inflation abroad. Core goods inflation has begun moderating, helped by fewer supply bottlenecks and a rebalancing of consumption away from goods. Services inflation, however, remains persistent.

. . . leading many foreign central banks to continue tightening monetary policy

In response to persistent inflationary pressures, foreign central banks—especially those in AFEs—raised policy rates expeditiously. Some also started reducing, or laid out plans to reduce, the size of their balance sheets. In

43. Foreign consumer price inflation components



NOTE: The advanced foreign economy (AFE) aggregate is the average of Canada, the euro area, and the United Kingdom, weighted by shares of U.S. non-oil goods imports. The emerging market economy (EME) aggregate is the average of Argentina, Brazil, Chile, Colombia, Hong Kong, India, Indonesia, Israel, Malaysia, Mexico, Philippines, Russia, Saudi Arabia, Singapore, South Korea, Taiwan, Thailand, and Vietnam, weighted by shares of U.S. non-oil 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 show percent changes from year-ago levels.
SOURCE: Haver Analytics.

light of the cumulative increase in policy rates and signs that inflation is easing, many foreign central banks have in recent months slowed the pace of their policy rate increases, signaled that such a slowing is coming, or paused policy rate hikes to take stock of the effects of policy tightening thus far on their economies. Even so, most foreign central banks have communicated that they would maintain sufficiently restrictive policy stances to lower inflation to target.

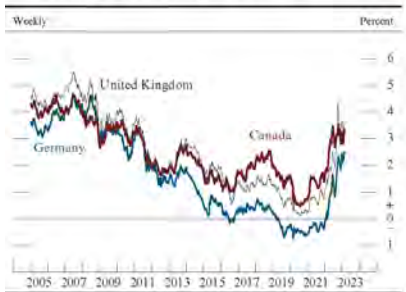
The European Central Bank has communicated its intention to continue raising its policy rate, citing strong underlying price pressures, while the Bank of England has signaled additional tightening will be warranted if inflationary pressures, especially from the labor market, prove more persistent than anticipated. Both these central banks have indicated that future policy decisions depend on realized progress toward their inflation goals. In January, the Bank of Canada conveyed that it was pausing policy rate hikes to assess the effect of the cumulative rise in interest rates on inflation and the economy. That said, the Bank of Canada also warned that it stood ready to raise its policy rate further if needed to lower inflation to its 2 percent target. In contrast to other

foreign central banks, and notwithstanding a widening of the trading band on 10-year Japanese government bond yields, the Bank of Japan reaffirmed that it intends to maintain accommodative monetary conditions "as long as it is necessary" to achieve its 2 percent inflation target, including by conducting further asset purchases.

Within EMEs, the Central Bank of Brazil has left its policy rate unchanged since the middle of 2022 but recently indicated that it will resume tightening the stance of policy if reductions in inflation do not progress as expected. Other EME central banks, including the Bank of Mexico and Reserve Bank of India, have conveyed the possibility of further rate increases given still-elevated core inflation.

The synchronous nature of the recent increases in global interest rates has raised concerns about possible adverse international spillovers of tighter monetary policy. Simulations from global macroeconomic models suggest that U.S. monetary policy actions can produce notable spillovers abroad, especially given the dollar's dominant role in international trade and finance. Spillovers from foreign economies' policy actions to the U.S. can be sizable as well, particularly when many central banks tighten policy simultaneously.[13]

44. 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 24, 2023.
SOURCE: Bloomberg.

Financial conditions abroad have tightened

Since the middle of last year, market-based measures of monetary policy expectations and sovereign bond yields have moved significantly higher in many AFEs (figure 44). The rise in sovereign bond yields reflects rapid tightening in monetary policy and spillovers from higher U.S. yields. Fiscal announcements in the U.K. in late September drove significant global bond market volatility and yield increases, although

13. For a discussion of these spillovers, their channels of transmission, and their likely effects on growth, see Dario Caldara, Francesco Ferrante, and Albert Queralto (2022), "International Spillovers of Tighter Monetary Policy," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, December 22), https://doi.org/10.17016/2380-7172.3238.

these moves largely retraced following changes in government policy plans. The Bank of Japan widened the trading band of its yield curve control policy framework, allowing Japanese 10-year interest rates to rise and leading Japanese yields across the curve to rise. Euro-area yields rose amid communications from the European Central Bank that were perceived as more restrictive than expected.

After declining over the first half of last year, prices of foreign risky assets turned higher toward the end of the year. Foreign equity indexes increased across major economies, buoyed by moderation in U.S. and European inflation readings and by recent economic developments that suggest improved growth prospects in China and Europe (figure 45). In addition, equities abroad were supported by China's shift away from its zero-COVID policy, which led to improved sentiment regarding China's medium-term growth prospects. Financial conditions in EMEs have improved since year-end. Outflows from EME-focused investment funds, which had been slowing toward the end of last year, turned to inflows this year, while EME sovereign spreads are little changed.

The broad dollar index—a measure of the trade-weighted value of the dollar against foreign currencies—continued to rise over the summer and through the beginning of the fourth quarter but, more recently, has largely reversed those increases (figure 46). Widening yield differentials between the U.S. and the rest of the world and concerns around foreign growth pushed the dollar higher through October of last year, prompting several central banks, especially in Asia, to intervene in foreign exchange markets to support their currencies. Since peaking in October, the dollar has largely retraced those gains, reflecting softer inflation data in the U.S., tighter monetary policy abroad, and better prospects for foreign economic growth. Still, the broad dollar index remains stronger than it was in early 2021. After reaching multidecade lows against the dollar in October, the Japanese yen rebounded following the adjustment of the Bank of Japan's yield curve control policy.

45. Equity indexes for selected foreign economies

NOTE: The data are weekly averages of daily data and extend through February 24, 2023.

SOURCE: For the euro area, Dow Jones Euro Stoxx Index; for Japan, Tokyo Stock Price Index; for China, Shanghai Composite Index; all via Bloomberg. (For Dow Jones Indices licensing information, see the note on the Contents page.)

46. U.S. dollar exchange rate index

NOTE: The data, which are in foreign currency units per dollar, are weekly averages of daily values of the broad dollar index. The data extend through February 24, 2023. 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 continued to increase the federal funds rate . . .

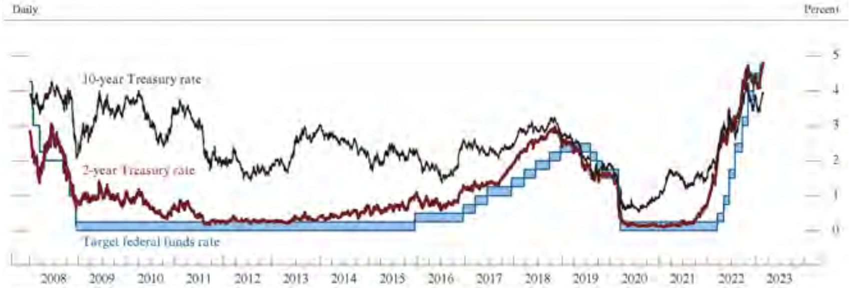
With inflation still well above the Federal Open Market Committee's (FOMC) 2 percent objective and with labor market conditions remaining tight, the Committee continued to swiftly raise the target range for the federal funds rate. Since June, the Committee raised the target range by 3 percentage points, from 1½ to 1¾ percent to 4½ to 4¾ percent (figure 47). In light of the cumulative tightening of monetary policy and the lags with which monetary policy affects economic activity and inflation, after having increased the federal funds rate by 75 basis points at its meetings in June, July, September, and November, the Committee slowed the pace of policy firming at its December and January meetings to 50 basis points and 25 basis points, respectively. The Committee indicated that it anticipates that ongoing increases in the target range will be appropriate in order to attain a stance of monetary policy that is sufficiently restrictive to return inflation to 2 percent over time.

. . . and has continued the process of significantly reducing its holdings of Treasury and agency securities

The Committee has continued to implement its plan for significantly reducing the size of the Federal Reserve's balance sheet in a predictable manner.[14] Beginning in June, principal payments from securities held in the System Open Market Account (SOMA) have been reinvested only to the extent that they exceeded monthly caps. For Treasury securities, the cap was initially set at $30 billion per month and, in September, was increased to $60 billion per month. For agency debt and agency mortgage-backed securities, the cap was initially set at $17.5 billion per month and, in September, was increased to $35 billion per month. As a result of these actions, holdings of Treasury and agency securities in the SOMA have declined

14. See the May 4, 2022, press release regarding the Plans for Reducing the Size of the Federal Reserve's Balance Sheet, available on the Board's website at https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504b.htm.

47. 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.

by about $500 billion to around $8 trillion, or 31 percent of U.S. nominal gross domestic product, since the process to reduce securities holdings began (figure 48). Reserve balances have fallen by about $200 billion to around $3 trillion over that period. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets.")

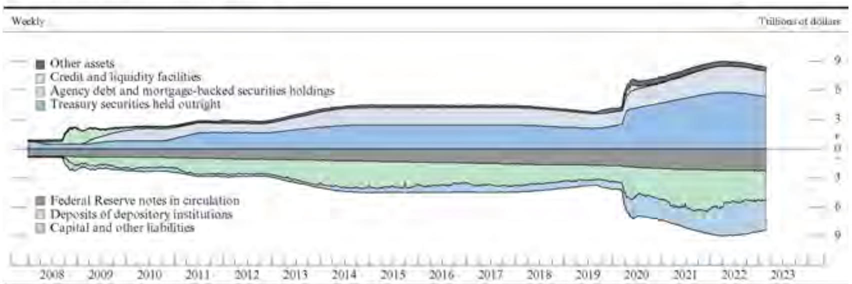
The Committee has stated that it intends to maintain securities holdings in amounts needed to implement monetary policy efficiently and effectively in its ample-reserves regime. To ensure a smooth transition, the Committee intends to slow and then stop reductions in its securities holdings when reserve balances are somewhat above the level the Committee judges to be consistent with ample reserves. Once balance sheet runoff has ceased, reserve balances will likely continue to decline at a slower pace—reflecting growth in other Federal Reserve liabilities—until the Committee judges that reserve balances are at the level required for implementing policy efficiently and effectively in its ample-reserves regime.

The FOMC will continue to monitor the implications of incoming information for the economic outlook

The FOMC is strongly committed to returning inflation to its 2 percent objective. 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's assessments will take into account a wide range of information, including readings on labor market conditions, inflation pressures and inflation expectations, and financial and international developments. The Committee has noted that it is also prepared to adjust any of the details of its approach to reducing the size of the balance sheet in light of economic and financial developments.

In addition to considering a wide range of economic and financial data, the Committee gathers information from business contacts and other informed parties around the country, as summarized in the Beige Book. To hear from a broad range of stakeholders in

48. 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 22, 2023.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

the U.S. economy about how monetary policy affects people's daily lives and livelihoods, the Federal Reserve has continued to gather insights through the *Fed Listens* initiative and the Federal Reserve System's community development outreach. Policymakers also routinely consult prescriptions for the policy interest rate provided by various monetary policy rules. These rule prescriptions can provide useful benchmarks for the FOMC. Although simple rules cannot capture all of the complexities of monetary policy, and many practical considerations make it undesirable for the FOMC to adhere strictly to the prescriptions of any specific rule, some principles of good monetary policy can be illustrated by these policy rules (see the box "Monetary Policy Rules in the Current Environment").

Developments in the Federal Reserve's Balance Sheet and Money Markets

The Federal Open Market Committee (FOMC) began to significantly reduce the size of the Federal Reserve's balance sheet in June 2022. Since that time, total assets have decreased by $550 billion, leaving the total size of the balance sheet at about $8.4 trillion (figures A and B). This discussion reviews recent developments in the Federal Reserve's balance sheet and money market conditions.

Reserve balances—the largest liability on the Federal Reserve's balance sheet—have declined by about $200 billion since June 2022 (figure C).[1] The ongoing reduction in the Federal Reserve's securities holdings would reduce the level of reserve balances one-for-one, if all other balance sheet items stayed constant.

After fluctuating around $2.2 trillion over the second half of 2022, usage at the overnight reverse repurchase agreement (ON RRP) facility increased toward year-end and reached a record high of $2.55 trillion on December 30. Since early January, ON RRP take-up has declined to about $2.1 trillion at the time of this report. Low rates on private money market instruments—reflecting still abundant liquidity in the banking system and limited Treasury bill supply—have contributed to the overall high level of take-up. In addition, uncertainty about the economic outlook—and, as a result, about the magnitude and pace of policy rate increases—continued to contribute to a preference for short-duration assets, like those provided by the ON RRP facility.

(continued)

A. Balance sheet comparison

Billions of dollars

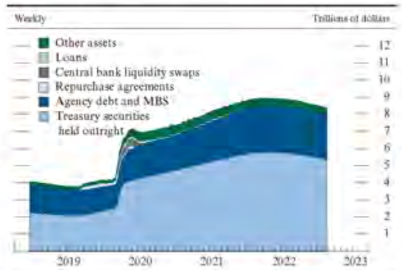
	February 22, 2023	June 15, 2022	Change
Assets			
Total securities			
Treasury securities	5,364	5,763	-399
Agency debt and MBS	2,623	2,730	-107
Net unamortized premiums	308	336	-28
Repurchase agreements	0	0	0
Loans and lending facilities			
PPPLF	11	19	-8
Other loans and lending facilities	34	38	-4
Central bank liquidity swaps	0	0	0
Other assets	41	47	-6
Total assets	**8,382**	**8,932**	**-550**
Liabilities			
Federal Reserve notes	2,252	2,227	25
Reserves held by depository institutions	2,984	3,190	-206
Reverse repurchase agreements			
Foreign official and international accounts	358	259	99
Others	2,114	2,163	-49
U.S. Treasury General Account	451	770	-319
Other deposits	193	258	-65
Other liabilities and capital	32	66	-34
Total liabilities and capital	**8,382**	**8,932**	**-550**

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."

1. Reserve balances consist of deposits held at Federal Reserve Banks by depository institutions, such as commercial banks, savings banks, credit unions, thrift institutions, and U.S. branches and agencies of foreign banks. Reserve balances allow depository institutions to facilitate daily payment flows, both in ordinary times and in stress scenarios, without borrowing funds or selling assets.

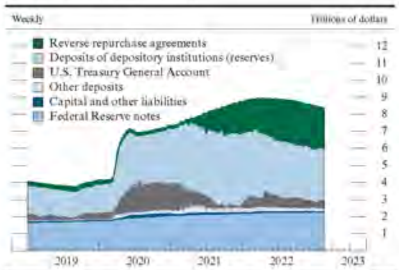
B. Federal Reserve assets



NOTE: MBS is mortgage-backed securities. The key identifies shaded areas in order from top to bottom. The data extend through February 22, 2023.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

C. 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 22, 2023.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

The ON RRP facility is intended to help keep the effective federal funds rate from falling below the target range set by the FOMC, as institutions with access to the ON RRP should be unwilling to lend funds below the ON RRP's offering rate. The facility continued to serve this intended purpose, and the Federal Reserve's administered rates—interest on reserve balances and the ON RRP offering rate—were highly effective at maintaining the effective federal funds rate within the target range as the FOMC has tightened the stance of monetary policy since last March.

The Federal Reserve System had an estimated consolidated net income of about $58 billion over 2022. Given the significant increases in policy rates in response to sustained inflation pressures, the Federal Reserve's interest expenses have risen considerably, and, as a result, net income turned negative in September.[2] Because the Federal Reserve no longer has positive net income to remit to the Treasury Department, as of February 2023, the Federal Reserve's balance sheet now reports a deferred asset of about $36 billion. The deferred asset is equal to the cumulative shortfall of net income and represents the amount of future net income that will need to be realized before remittances to the Treasury resume.[3] Although remittances are suspended at the time of this report, over the past decade and a half, the Federal Reserve has remitted over $1 trillion to the Treasury. Net income is expected to again turn positive as interest expenses fall, and remittances will resume once the temporary deferred asset falls to zero.[4] Negative net income and the associated deferred asset do not affect the Federal Reserve's conduct of monetary policy or its ability to meet its financial obligations.

2. The ongoing monetary tightening also reduces the market value of the Federal Reserve's securities holdings by putting upward pressure on longer-term market interest rates. The System Open Market Account (SOMA) portfolio was in an estimated unrealized loss position of about $1.1 trillion as of September 2022. Under the current May 2022 Plans for Reducing the Size of the Federal Reserve's Balance Sheet, unrealized gains or losses will not flow through to the Federal Reserve's net income, as SOMA securities will be held until maturity. An individual security's market value converges to its face value as it approaches maturity, and, so long as the security is held until that time, any gains or losses due to interest rate fluctuations remain unrealized. Further information on the topics of the Federal Reserve's income and the SOMA portfolio's unrealized position is available in two FEDS Notes articles. For a discussion of concepts related to net income and the SOMA portfolio's unrealized position, see Alyssa Anderson, Dave Na, Bernd Schlusche, and Zeynep Senyuz (2022), "An Analysis of the Interest Rate Risk of the Federal Reserve's Balance Sheet, Part 1: Background and Historical Perspective," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, July 15), https://doi.org/10.17016/2380-7172.3173; and for illustrative projections of the Federal Reserve's balance sheet and income under a wide range of potential interest rate paths, see Alyssa Anderson, Philippa Marks, Dave Na, Bernd Schlusche, and Zeynep Senyuz (2022), "An Analysis of the Interest Rate Risk of the Federal Reserve's Balance Sheet, Part 2: Projections under Alternative Interest Rate Paths," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, July 15), https://doi.org/10.17016/2380-7172.3174.

3. Because of variation in the timing and magnitude of payments for expenditures, interest income, and interest expense, individual Reserve Banks may have positive earnings while Systemwide net income is negative. As net income is remitted on a weekly basis at the Reserve Bank level, individual Reserve Banks may occasionally remit small amounts of positive earnings to the Treasury while the Systemwide deferred asset grows.

4. As a result of the ongoing reduction in the size of the Federal Reserve's balance sheet, it is expected that interest expenses will fall over time as they are tied to a smaller total amount of liabilities.

Monetary Policy Rules in the Current Environment

Simple interest rate rules relate a policy interest rate, such as the federal funds rate, to a small number of other economic variables—typically including the current deviation of inflation from its target value and a measure of resource slack in the economy. Policymakers consult policy rate prescriptions derived from a variety of policy rules as part of their monetary policy deliberations without mechanically following the prescriptions of any particular rule.

Since 2021, inflation has run well above the Committee's 2 percent longer-run objective, and labor market conditions have been very tight over the past year. Reflecting these developments, the simple monetary policy rules considered in this discussion have called for levels of the federal funds rate well above those observed over the past decade. Also because of the persistently high levels of inflation, the Federal Open Market Committee (FOMC) has expeditiously raised the target range for the federal funds rate and has reduced its holdings of Treasury securities and agency debt and agency mortgage-backed securities at a historically rapid pace.

Selected Policy Rules: Descriptions

In many economic models, desirable economic outcomes can be achieved if monetary policy responds in a predictable way to changes in economic conditions. In recognition of this idea, economists have analyzed many monetary policy rules, including the well-known Taylor (1993) rule, the "balanced approach" rule, the "adjusted Taylor (1993)" rule, and the "first difference" rule.[1] Figure A shows these rules, along with a "balanced-approach (shortfalls)" rule, which represents one simple way to illustrate the Committee's focus on shortfalls from maximum employment.[2] All of these simple rules shown embody key design principles of good monetary policy, including that the policy rate should be adjusted forcefully enough over time to ensure a return of inflation to the central bank's longer-run objective and to anchor longer-term inflation expectations at levels consistent with that objective.

All five rules feature the difference between inflation and the FOMC's longer-run objective of 2 percent. The five rules use the unemployment rate gap, measured as the difference between an estimate of the rate of unemployment in the longer run (u_t^{LR}) and the current unemployment rate; the first-difference rule includes the change in the unemployment rate gap rather than its level.[3] All but the first-difference rule include an

(continued)

1. The Taylor (1993) rule was introduced in John B. Taylor (1993), "Discretion versus Policy Rules in Practice," Carnegie-Rochester Conference Series on Public Policy, vol. 39 (December), pp. 195–214. The balanced-approach rule was analyzed in John B. Taylor (1999), "A Historical Analysis of Monetary Policy Rules," in John B. Taylor, ed., *Monetary Policy Rules* (Chicago: University of Chicago Press), pp. 319–41. The adjusted Taylor (1993) rule was studied in David Reifschneider and John C. Williams (2000), "Three Lessons for Monetary Policy in a Low-Inflation Era," *Journal of Money, Credit and Banking*, vol. 32 (November), pp. 936–66. The first-difference rule is based on a rule suggested by Athanasios Orphanides (2003), "Historical Monetary Policy Analysis and the Taylor Rule," *Journal of Monetary Economics*, vol. 50 (July), pp. 983–1022. A review of policy rules is in John B. Taylor and John C. Williams (2011), "Simple and Robust Rules for Monetary Policy," in Benjamin M. Friedman and Michael Woodford, eds., *Handbook of Monetary Economics*, vol. 3B (Amsterdam: North-Holland), pp. 829–59. The same volume of the *Handbook of Monetary Economics* also discusses approaches other than policy rules for deriving policy rate prescriptions.

2. Since August 2020, the FOMC's Statement on Longer-Run Goals and Monetary Policy Strategy has referred to "shortfalls of employment" from the Committee's assessment of its maximum level rather than the "deviations of employment" used in the previous statement. The balanced-approach (shortfalls) rule reflects this change by responding asymmetrically to unemployment rates above or below their estimated longer-run value: When unemployment is above that value, the policy rates are identical to those prescribed by the balanced-approach rule, whereas when unemployment is below that value, policy rates do not rise because of further declines in the unemployment rate. As a result, the prescription of the balanced-approach (shortfalls) rule in 2022:Q4 is more accommodative than that of the balanced-approach rule.

3. Implementations of simple rules often use the output gap as a measure of resource slack in the economy. The rules described in figure A instead use the unemployment rate gap because that gap better captures the FOMC's statutory goal to promote maximum employment. Movements in these alternative measures of resource utilization tend to be highly correlated. For more information, see the note below figure A.

A. Monetary policy rules

Taylor (1993) rule	$R_t^{T93} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t)$
Balanced-approach rule	$R_t^{BA} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2(u_t^{LR} - u_t)$
Balanced-approach (shortfalls) rule	$R_t^{BAS} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2min\{(u_t^{LR} - u_t), 0\}$
Adjusted Taylor (1993) rule	$R_t^{T93adj} = max\{R_t^{T93} - Z_t, \text{ELB}\}$
First-difference rule	$R_t^{FD} = R_{t-1} + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t) - (u_{t-4}^{LR} - u_{t-4})$

NOTE: R_t^{T93}, R_t^{BA}, R_t^{BAS}, R_t^{T93adj}, and R_t^{FD} represent the values of the nominal federal funds rate prescribed by the Taylor (1993), balanced-approach, balanced-approach (shortfalls), adjusted Taylor (1993), and first-difference rules, respectively.

R_{t-1} denotes the midpoint of the target range for the federal funds rate for quarter $t-1$, u_t is the unemployment rate in quarter t, and r_t^{LR} is the level of the neutral real federal funds rate in the longer run that is expected to be consistent with sustaining maximum employment and inflation at the FOMC's 2 percent longer-run objective, represented by π^{LR}. π_t denotes the realized four-quarter price inflation for quarter t. In addition, u_t^{LR} is the rate of unemployment expected in the longer run. Z_t is the cumulative sum of past deviations of the federal funds rate from the prescriptions of the Taylor (1993) rule when that rule prescribes setting the federal funds rate below an effective lower bound of 12.5 basis points.

The Taylor (1993) rule and other policy rules generally respond to the deviation of real output from its full capacity level. In these equations, the output gap has been replaced with the gap between the rate of unemployment in the longer run and its actual level (using a relationship known as Okun's law) to represent the rules in terms of the unemployment rate. The rules are implemented as responding to core PCE inflation rather than to headline PCE inflation because current and near-term core inflation rates tend to outperform headline inflation rates as predictors of the medium-term behavior of headline inflation.

estimate of the neutral real interest rate in the longer run (r_t^{LR}).[4]

Unlike the other simple rules featured here, the adjusted Taylor (1993) rule recognizes that the federal funds rate cannot be reduced materially below the effective lower bound. To make up for the cumulative shortfall in policy accommodation following a recession during which the federal funds rate is constrained by its effective lower bound, the adjusted Taylor (1993) rule prescribes delaying the return of the policy rate to the (positive) levels prescribed by the standard Taylor (1993) rule until after the economy begins to recover.

Policy Rules: Limitations

Simple policy rules are also subject to important limitations. One important limitation is that simple policy rules were designed and tested under very different economic conditions than those faced at present. In addition, the simple policy rules respond to only a small set of economic variables and thus necessarily abstract from many of the factors that the FOMC considers when it assesses the appropriate setting of the policy rate. Another important limitation is that most simple policy rules do not take into account the effective lower bound on interest rates, which limits the extent to which the policy rate can be lowered to support the economy. This constraint was particularly evident during the pandemic-driven recession, when the lower bound on the policy rate motivated the FOMC's other policy actions to

(continued on next page)

4. The neutral real interest rate in the longer run (r_t^{LR}) is the level of the real federal funds rate that is expected to be consistent, in the longer run, with maximum employment and stable inflation. Like u_t^{LR}, r_t^{LR} is determined largely by nonmonetary factors. The first-difference rule shown in figure A does not require an estimate of r_t^{LR}, a feature that is touted by proponents of such rules as providing an element of robustness. However, this rule has its own shortcomings. For example, research suggests that this sort of rule often results in greater volatility in employment and inflation relative to what would be obtained under the Taylor (1993) and balanced-approach rules.

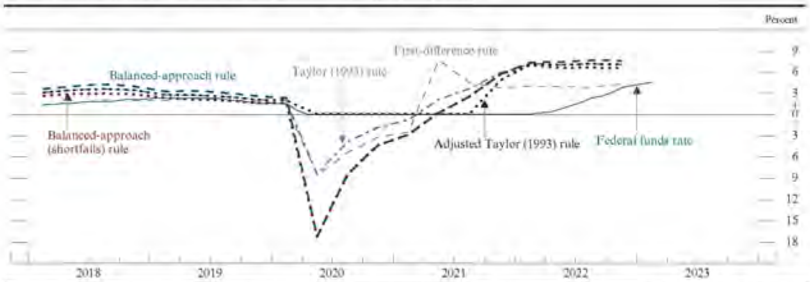
Monetary Policy Rules in the Current Environment *(continued)*

support the economy. Relatedly, another limitation is that simple policy rules do not take into account the other tools of monetary policy, such as balance sheet policies. Finally, simple policy rules generally abstract from the risk-management considerations associated with uncertainty about economic relationships and the evolution of the economy.

Selected Policy Rules: Prescriptions

Figure B shows historical prescriptions for the federal funds rate under the five simple rules considered. For each quarterly period, the figure reports the policy rates prescribed by the rules, taking as given the prevailing economic conditions and survey-based estimates of u_t^{LR} and r_t^{LR} at the time. All of the rules considered called for a highly accommodative stance for monetary policy in response to the pandemic-driven recession, followed by values above the effective lower bound as inflation picked up and labor market conditions strengthened. For most of 2022, the prescriptions for the federal funds rate were between 4 and 8 percent; these values are well above the levels observed before the pandemic and reflect, in large part, elevated inflation readings. Throughout 2021 and 2022, the target range for the federal funds rate was below the prescriptions of most of the simple rules, though that gap has narrowed considerably as the FOMC has expeditiously tightened the stance of monetary policy and inflation has begun to moderate.

B. Historical federal funds rate prescriptions from simple policy rules



NOTE: The rules use historical values of core personal consumption expenditures inflation, the unemployment rate, and, where applicable, historical values of the midpoint of the target range for the federal funds rate. Quarterly projections of longer-run values for the federal funds rate and the unemployment rate used in the computation of the rules' prescriptions are derived through interpolations of biannual projections from Blue Chip Economic Indicators. The longer-run value for inflation is set to 2 percent. The rules prescriptions are quarterly, and the federal funds rate data are the monthly average of the daily midpoint of the target range for the federal funds rate and extend through February 2023.

SOURCE: Federal Reserve Bank of Philadelphia; Wolters Kluwer, Blue Chip Economic Indicators; Federal Reserve Board staff estimates.

Part 3
Summary of Economic Projections

The following material was released after the conclusion of the December 13–14, 2022, meeting of the Federal Open Market Committee.

In conjunction with the Federal Open Market Committee (FOMC) meeting held on December 13–14, 2022, 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 2022 to 2025 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 2022

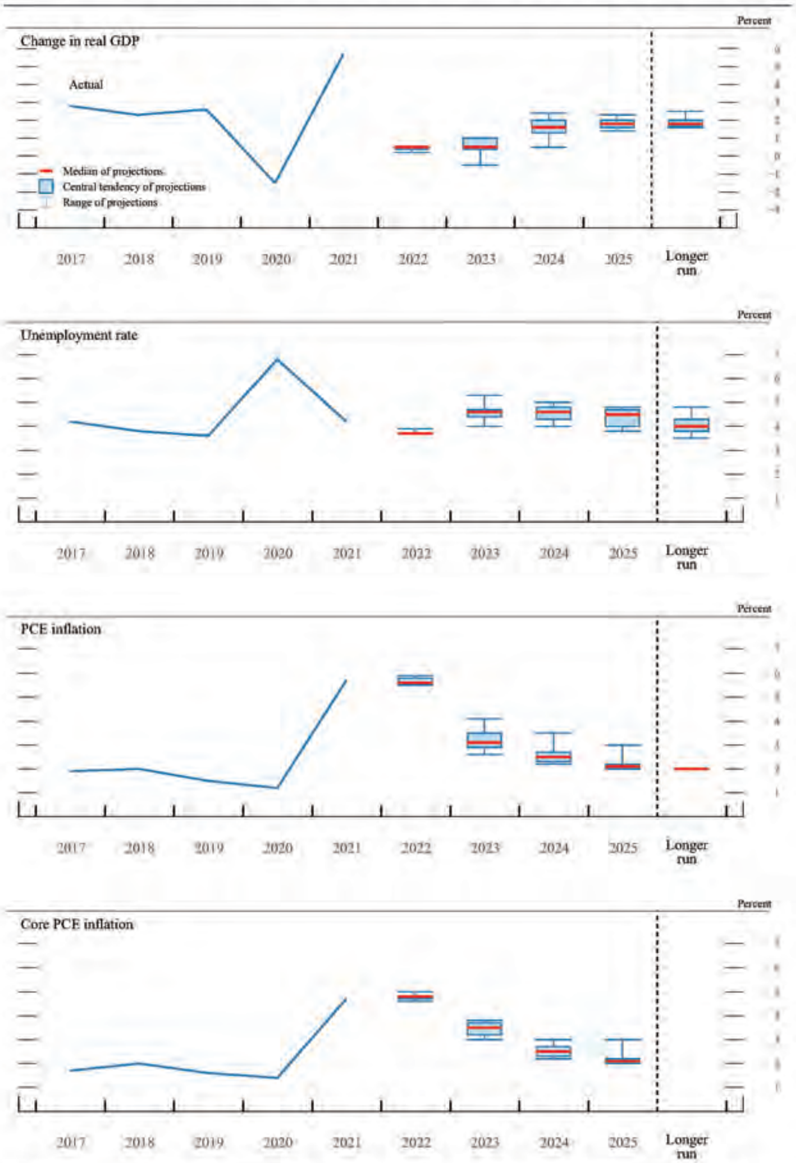
Percent

Variable	Median[1]					Central tendency[2]					Range[3]				
	2022	2023	2024	2025	Longer run	2022	2023	2024	2025	Longer run	2022	2023	2024	2025	Longer run
Change in real GDP	0.5	0.5	1.6	1.8	1.8	0.4–0.5	0.4–1.0	1.3–2.0	1.6–2.0	1.7–2.0	0.2–0.5	-0.5–1.0	0.5–2.4	1.4–2.3	1.6–2.5
September projection	0.2	1.2	1.7	1.8	1.8	0.1–0.3	0.5–1.5	1.4–2.0	1.6–2.0	1.7–2.0	0.0–0.5	-0.3–1.9	1.0–2.6	1.4–2.4	1.6–2.2
Unemployment rate	3.7	4.6	4.6	4.5	4.0	3.7	4.4–4.7	4.3–4.8	4.0–4.7	3.8–4.3	3.7–3.9	4.0–5.3	4.0–5.0	3.8–4.8	3.5–4.8
September projection	3.8	4.4	4.4	4.3	4.0	3.8–3.9	4.1–4.5	4.0–4.6	4.0–4.5	3.8–4.3	3.7–4.0	3.7–5.0	3.7–4.7	3.7–4.6	3.5–4.5
PCE inflation	5.6	3.1	2.5	2.1	2.0	5.6–5.8	2.9–3.5	2.3–2.7	2.0–2.2	2.0	5.5–5.9	2.6–4.1	2.2–3.5	2.0–3.0	2.0
September projection	5.4	2.8	2.3	2.0	2.0	5.3–5.7	2.6–3.5	2.1–2.6	2.0–2.2	2.0	5.0–6.2	2.4–4.1	2.0–3.0	2.0–2.5	2.0
Core PCE inflation[4]	4.8	3.5	2.5	2.1		4.7–4.8	3.2–3.7	2.3–2.7	2.0–2.2		4.6–5.0	3.0–3.8	2.2–3.0	2.0–3.0	
September projection	4.5	3.1	2.3	2.1		4.4–4.6	3.0–3.4	2.2–2.5	2.0–2.2		4.3–4.8	2.8–3.5	2.0–2.8	2.0–2.5	
Memo: Projected appropriate policy path															
Federal funds rate	4.4	5.1	4.1	3.1	2.5	4.4	5.1–5.4	3.9–4.9	2.6–3.9	2.3–2.5	4.4	4.9–5.6	3.1–5.6	2.4–5.6	2.3–3.3
September projection	4.4	4.6	3.9	2.9	2.5	4.1–4.4	4.4–4.9	3.4–4.4	2.4–3.4	2.3–2.5	3.9–4.6	3.9–4.9	2.6–4.6	2.4–4.6	2.3–3.0

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 20–21, 2022. 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 20–21, 2022, meeting, and one participant did not submit such projections in conjunction with the December 13–14, 2022, meeting.

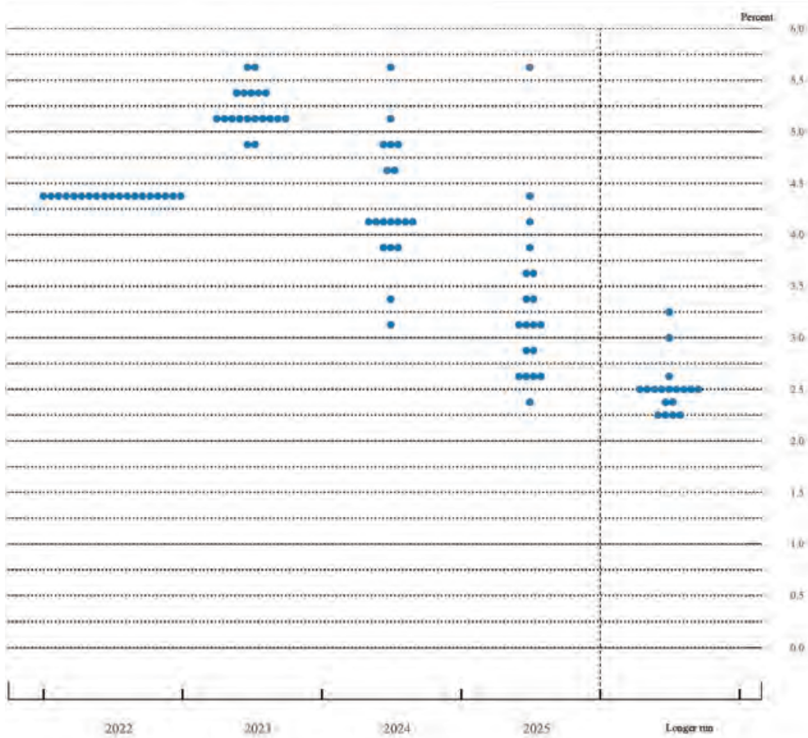
1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable 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, 2022–25 and over the longer run



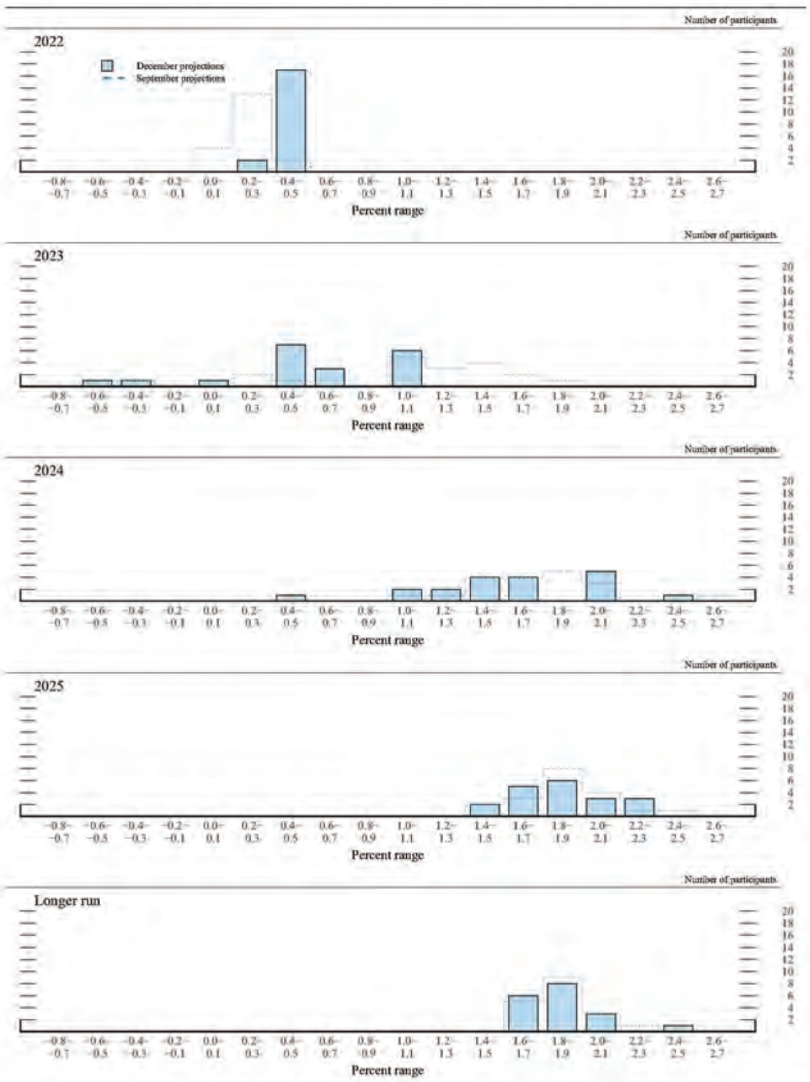
NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



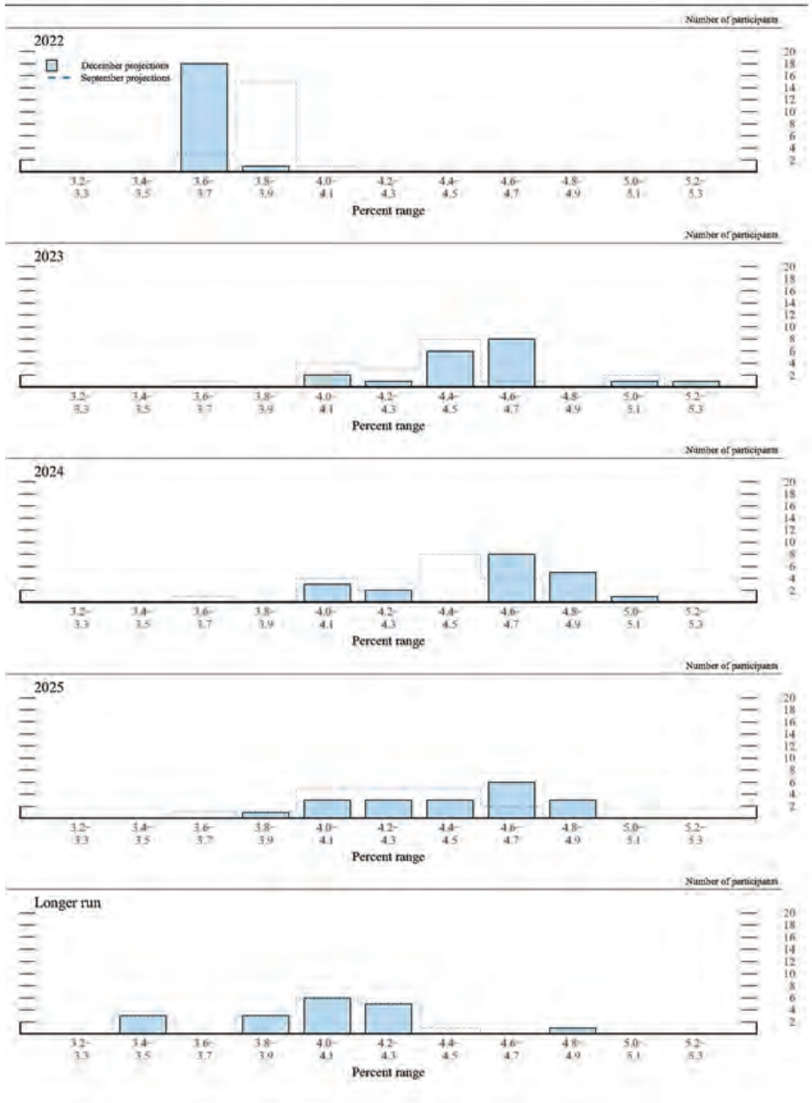
NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar 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, 2022–25 and over the longer run



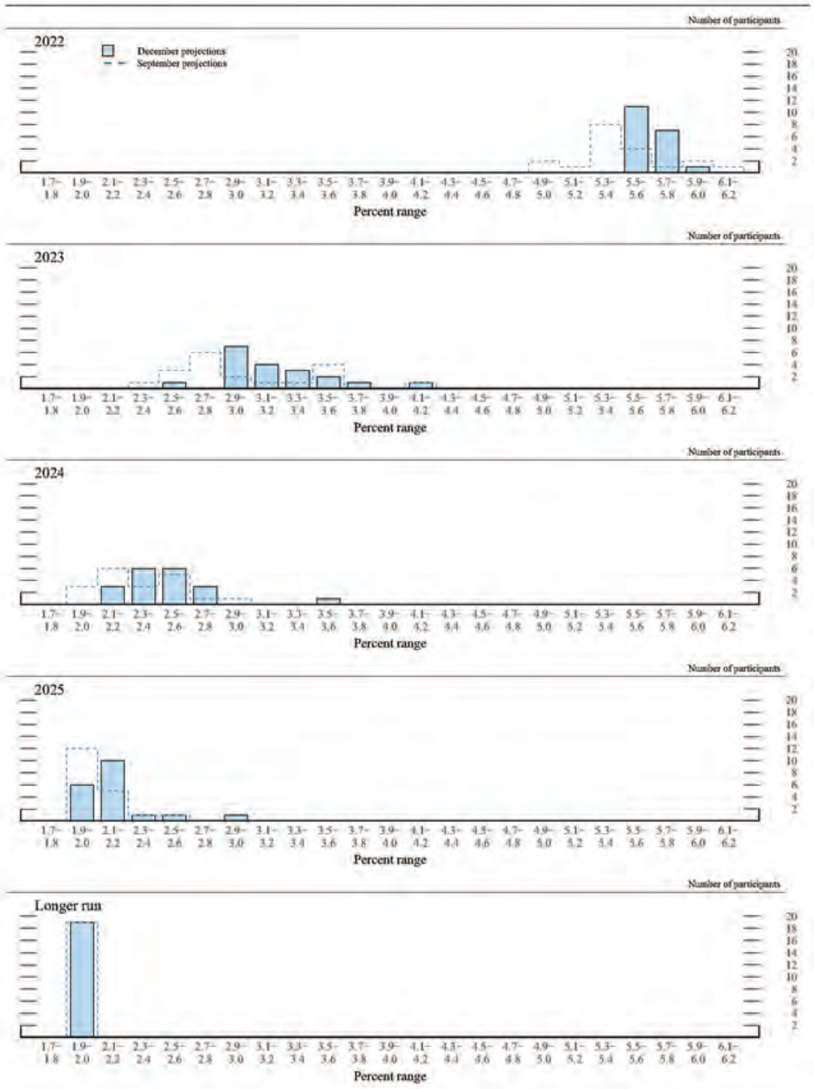
Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2022–25 and over the longer run



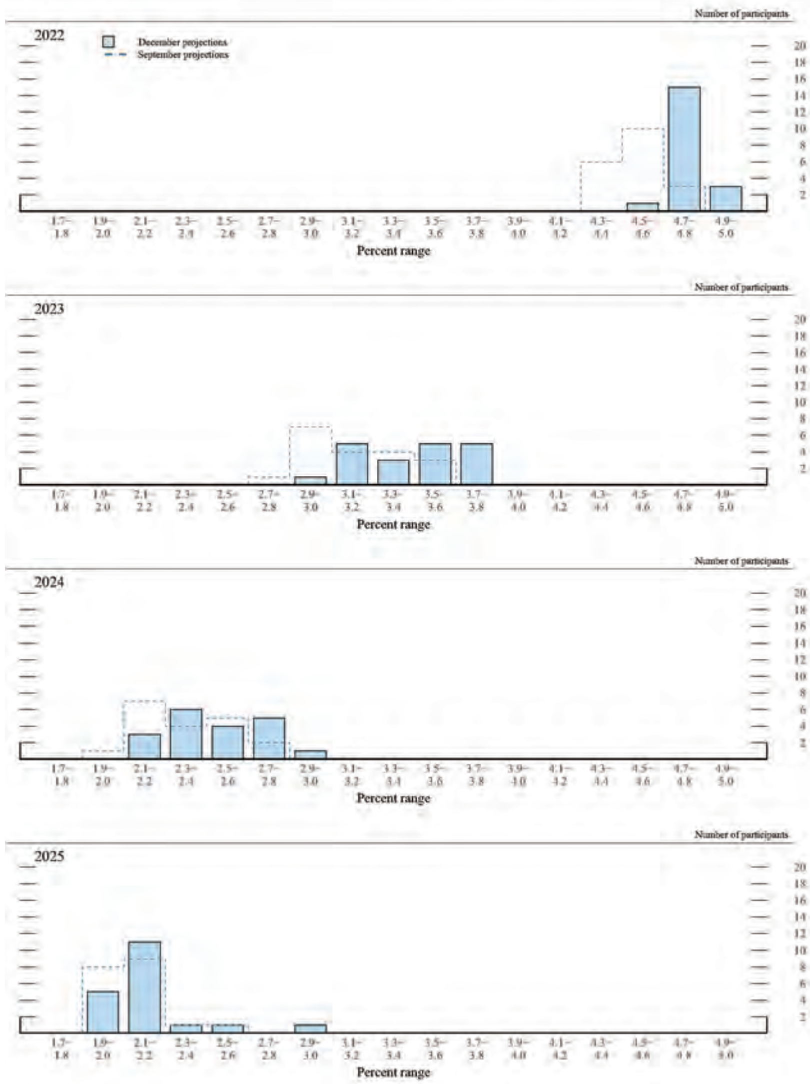
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2022–25 and over the longer run



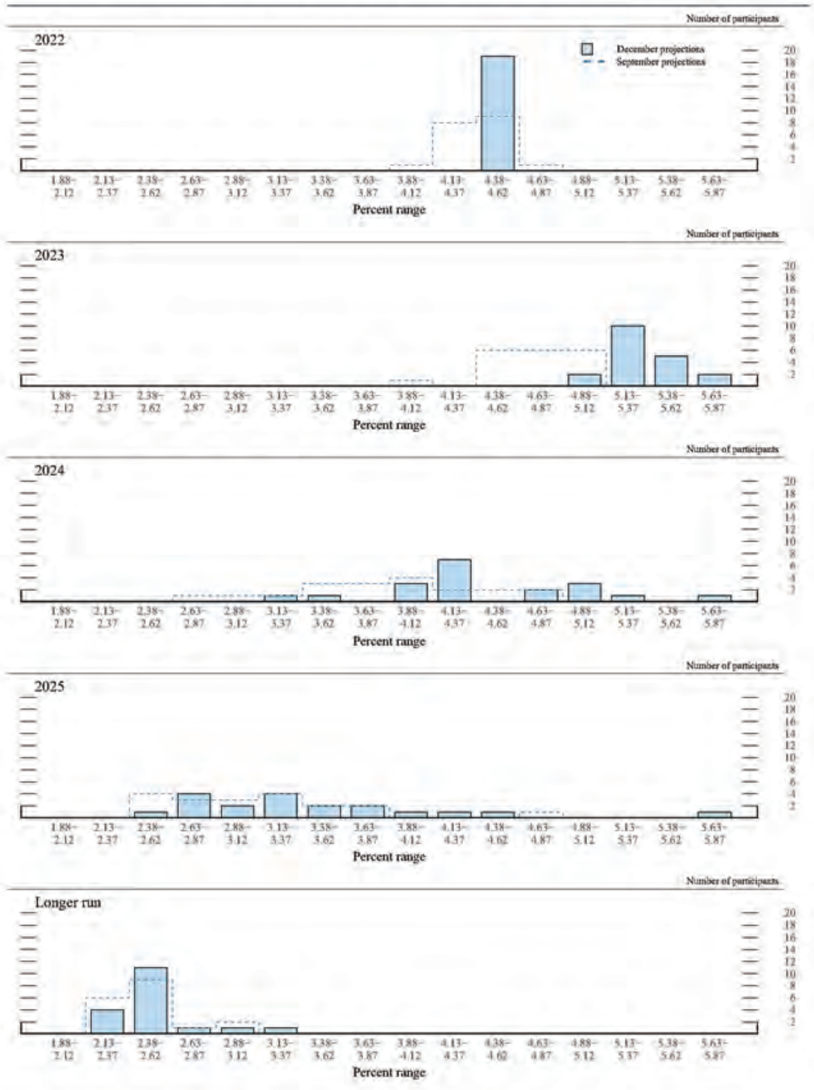
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2022–25



NOTE: Definitions of variables and other explanations are in the notes to table 1.

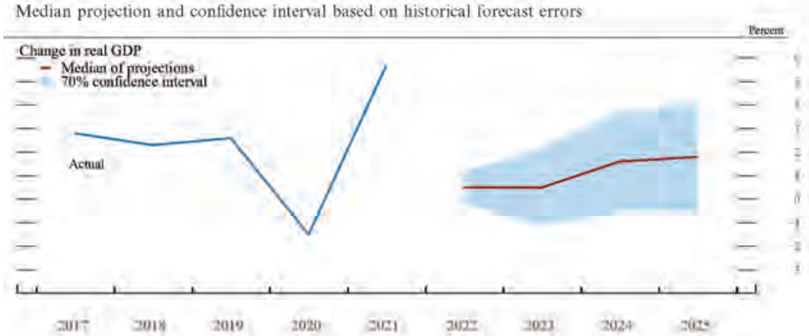
Figure 3.E. Distribution of participants' judgments of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate, 2022–25 and over the longer run



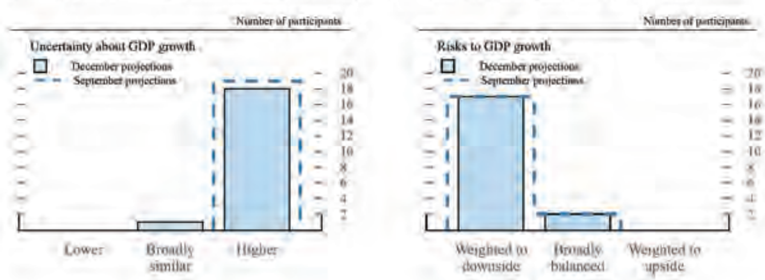
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 4.A. Uncertainty and risks in projections of GDP growth

Median projection and confidence interval based on historical forecast errors

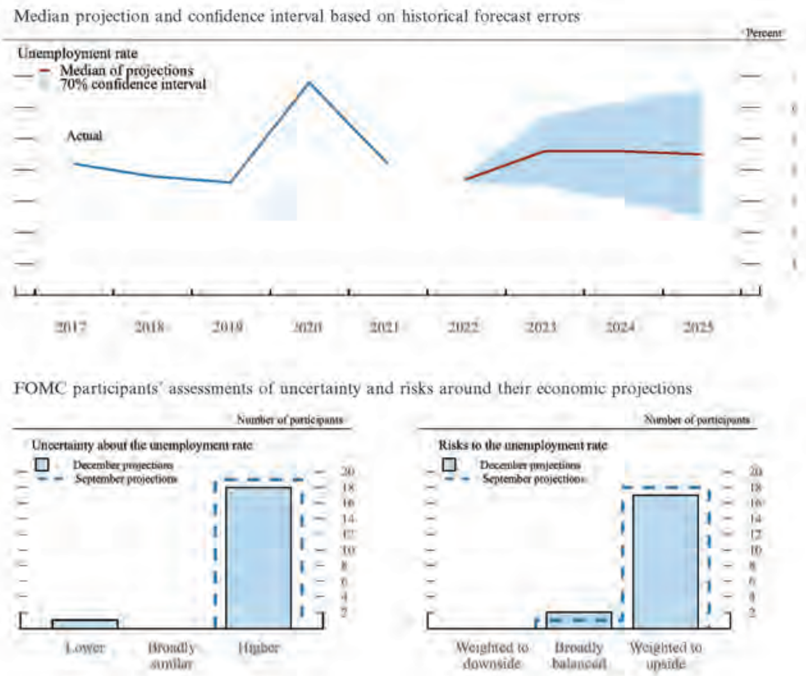


FOMC participants' assessments of uncertainty and risks around their economic projections



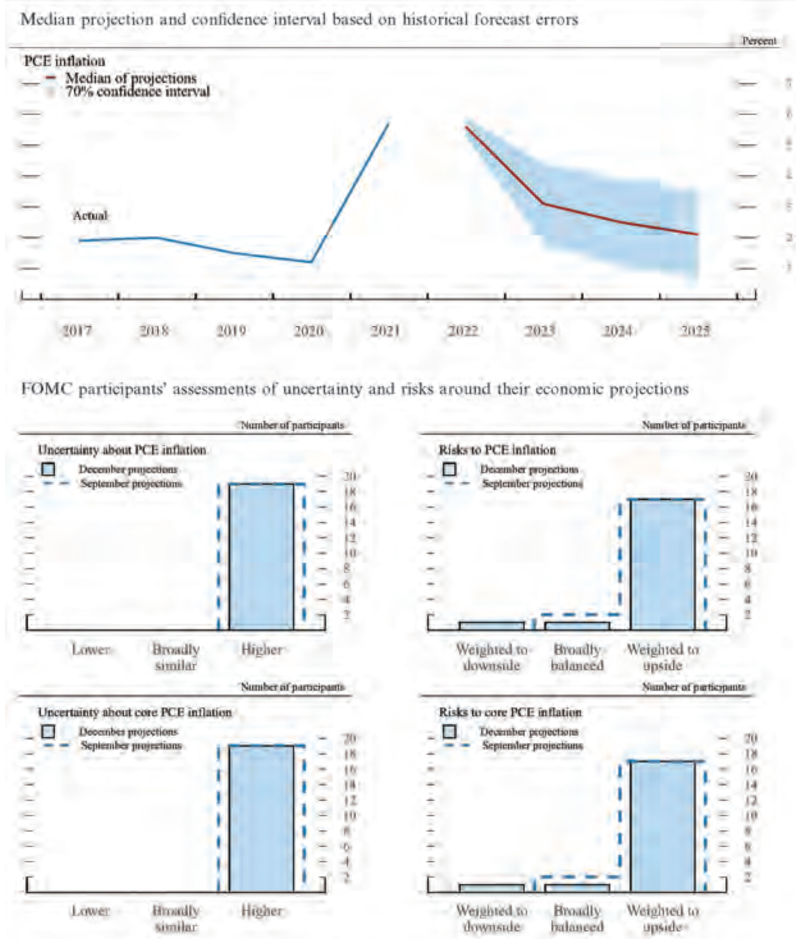
Note: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in real gross domestic product (GDP) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected 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



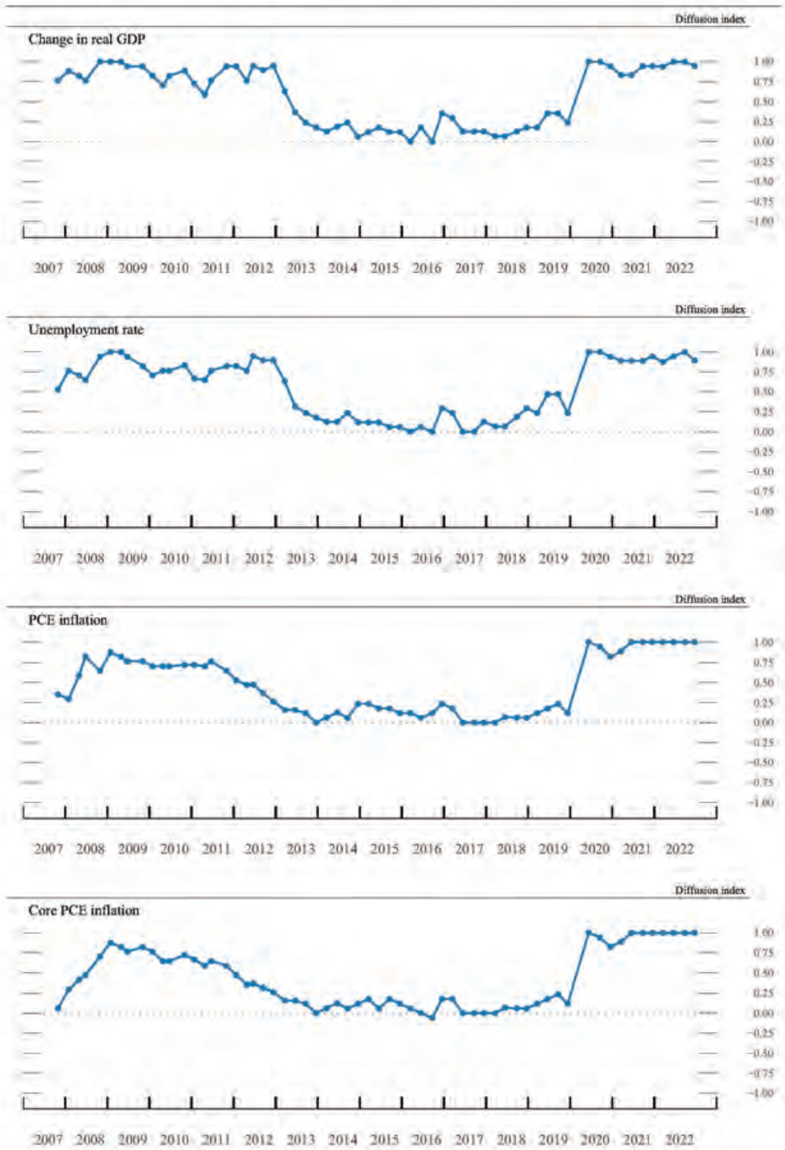
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root 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



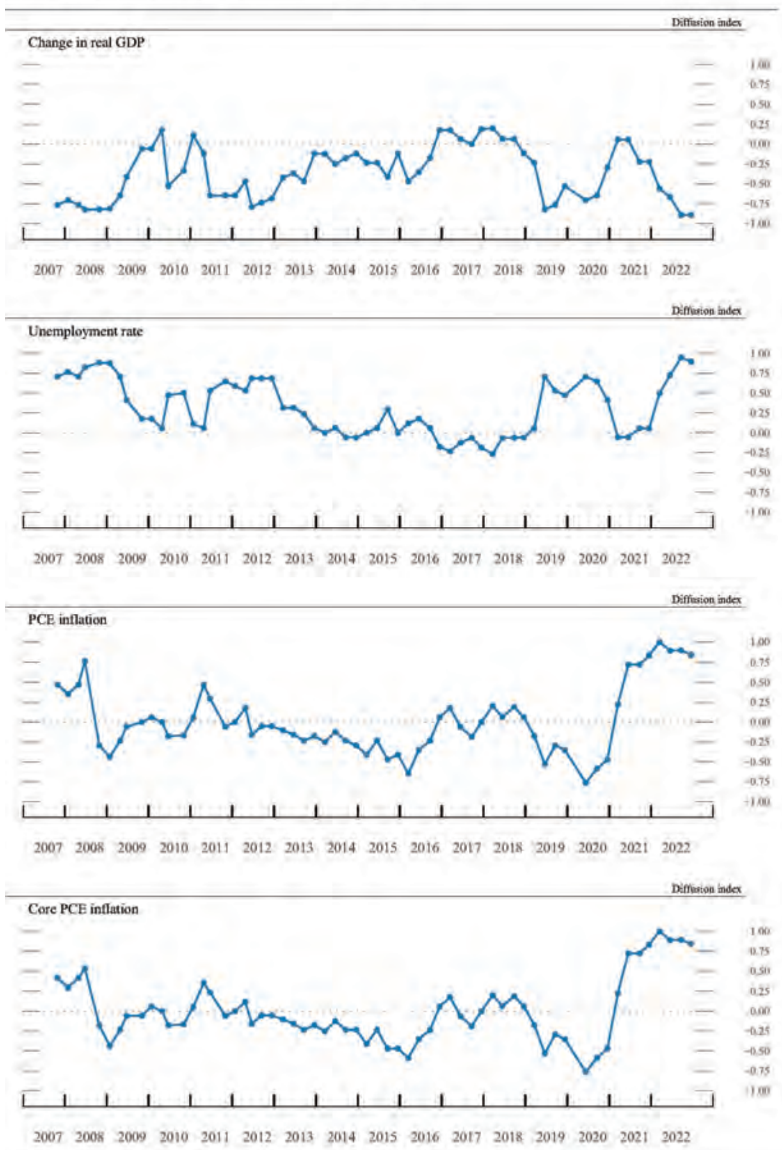
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in the price index for personal consumption expenditures (PCE) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval 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.

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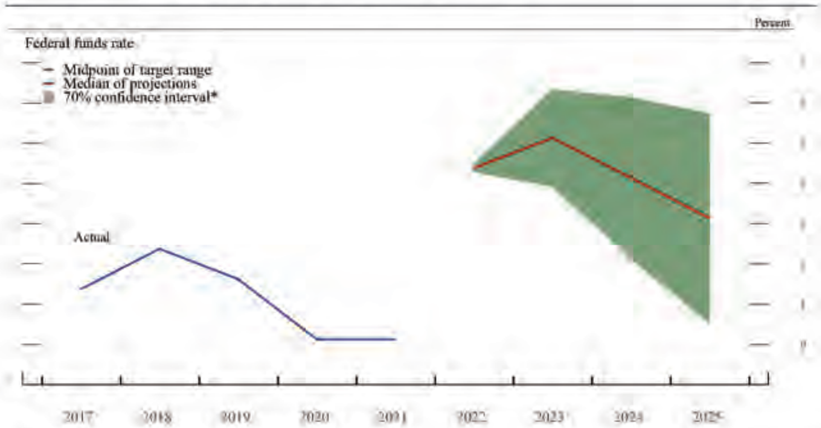
Figure 5. Uncertainty and risks in projections of the federal funds rate



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	2022	2023	2024	2025
Change in real GDP[1]	± 0.7	± 1.6	± 2.1	± 2.3
Unemployment rate[1]	± 0.1	± 1.1	± 1.6	± 2.0
Total consumer prices[2]	± 0.3	± 1.3	± 1.4	± 1.4
Short-term interest rates[3]	± 0.1	± 1.2	± 2.0	± 2.6

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 2002 through 2021 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, 1.4 to 4.6 percent in the second year, 0.9 to 5.1 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 1.7 to 2.3 percent in the current year, 0.7 to 3.3 percent in the second year, and 0.6 to 3.4 percent in the third and fourth years. Figures 4.A through 4.C illustrate these confidence bounds in "fan charts" that are symmetric and centered on the medians of FOMC participants' projections for GDP growth, the unemployment rate, and inflation. However, in some instances, the risks around the projections may not be symmetric. In particular, the unemployment rate cannot be negative; furthermore, the risks around a particular projection might be tilted to either the upside or the downside, in which case the corresponding fan chart would be asymmetrically positioned around the median projection.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each economic variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty seen in the past 20 years, as presented in table 2 and reflected in the widths of the confidence intervals shown in the top panels of figures 4.A through 4.C. Participants' current

(continued)

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
AUM	assets under management
COVID-19	coronavirus disease 2019
EME	emerging market economy
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
MBS	mortgage-backed securities
MMF	money market fund
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
SOMA	System Open Market Account
S&P	Standard & Poor's
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 16, 2023

The Honorable Patrick McHenry
Chairman
Committee on Financial Services
House of Representatives
Washington, D.C. 20515

Dear Chairman McHenry:

Enclosed is my response to the question you submitted following the March 3, 2023,[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 14, 2023.

<u>Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Chairman Patrick McHenry:</u>

1. **Chair Powell, three months ago, the *Financial Data Transparency Act* was enacted as TITLE LVIII of the *National Defense Authorization Act for FY2023 (PL 117-263)*. As you know, technology is a pillar of our financial system, and it makes sense to ensure financial regulators are using machine-readable technology to make public data more easily accessible. Streamlining data sets benefits everyone from financial institutions to startups by increasing transparency and decreasing regulatory burdens. The FDTA, which I have worked on for several Congresses, requires federal financial regulators to work together over the course of two years to jointly promulgate final rules for implementation.**

    a. **What steps has the Fed taken to begin implementing the FDTA?**

    b. **Would the Fed commit to giving the Committee quarterly updates on its progress?**

The Federal Reserve Board (Board) supports the goals of the Financial Data Transparency Act (FDTA) and has been diligently working to implement its requirements. Staff is examining current Board practices that come under the scope of the FDTA, including both collecting and publishing financial data. Board staff is also working with staff from the U.S. Treasury Department and the six other agencies specified in the FDTA to draft the joint data standards required by the FDTA that will, to the extent practicable, render the financial data covered by the FDTA fully searchable and machine-readable. The interagency group is also beginning to consult with other federal departments and agencies on the data standards.

The Board is committed to fulfilling its responsibilities under the FDTA and issue rules within the specified timeframe.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Andy Barr
House of Representatives
Washington, D.C. 20515

Dear Congressman:

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Please let me know if I may be of further assistance.

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Jerome H. Powell

Enclosure

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<u>Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Andy Barr:</u>

1. **The American Rescue Plan Act was enacted on March 11, 2021, a month in which consumer price index (CPI) inflation (year-over-year) was 2.6%, following an average of around 1.53% for the preceding two years. The American Rescue Plan Act poured around $1.9 trillion of mostly fresh appropriations into the economic system, to be deployed rapidly under the guise of being a COVID response set of actions. Commentators such as former Obama officials Lawrence Summers and Jason Furman warned that the American Rescue Plan Act, on the heels of trillions of prior fiscal stimulus bills aimed at responding to economic shutdowns, was akin to pouring kerosene on an already simmering inflationary fire. Subsequent to the American Rescue Plan Act, "supply chain" issues, Putin's invasion of Ukraine, and other factors were invoked by many to help explain the rapid acceleration of inflation almost immediately following the large, roughly $1.9 trillion, infusion of promised resources into the economy from the American Rescue Plan Act. It is surely likely that the evolution of inflation following enactment of that Act involved multiple causal contributors. However, it is also surely the case that the American Rescue Plan Act was a precipitating impulse initially igniting a rapid escalation of inflation. Without need to weigh in on the utility, or lack thereof, regarding the American Rescue Plan Act, I have two questions:**

    a. **Do you agree that enactment of the American Rescue Plan Act and its roughly $1.9 trillion infusion of deficit-financed federal resources into the economy was a significant causal impulse helping give rise to rapid acceleration of inflation following the month of March 2021?**

There were many factors that likely contributed to the imbalance between aggregate demand and aggregate supply and to the supply-demand imbalance in the labor market, which resulted in the high inflation over the past two years. Disentangling the effect of fiscal policy from these many other factors that have contributed to high inflation is quite challenging, and different studies have come to different conclusions. Regardless, it is the responsibility of the Congress and the Administration to decide on appropriate fiscal policy. At the Federal Reserve, we are focused on using our monetary policy tools to restore price stability and are strongly dedicated to this goal.

    b. **When the American Rescue Plan Act was enacted, how much in personal saving was held in the aggregate by Americans and how does that value compare to the long run average for personal saving?**

Aggregate personal savings is often expressed in terms of the savings rate—that is, aggregate personal savings as a percentage of aggregate disposable personal income. The American Rescue Plan was passed in March 2021, and during the first half of 2021, the personal savings rate averaged 15.4 percent. From 2000 to 2019, roughly the 20 years prior to the pandemic, the savings rate averaged 5.9 percent.

2. **The Federal Reserve (Fed) seems to have adopted a strategy that has been labeled flexible average inflation targeting, or F-A-I-T.**

   Part of that strategy says that if inflation has been below the two percent target for a while, the Fed will allow higher-than-target inflation so long as inflation expectations do not become unanchored. The Fed's FAIT strategy is vague in many regards, including uncertainty about how long the Fed will allow inflation to run above target.

   Since passage of the American Rescue Plan Act in March of 2021, American workers and families have been hammered by outsized inflation. The Fed allowed above-target inflation to continue for a long while before finally beginning to take action.

   Did the Fed wait too long to respond to inflation as part of its FAIT strategy and, if so, are the costs of such a strategy satisfactory to Fed?

My colleagues and I at the Federal Reserve understand the hardship that high inflation is causing, and we are strongly committed to bringing inflation back down to our 2 percent goal. Price stability is the responsibility of the Federal Reserve and it serves as the bedrock of our economy.

The framework outlined in the 2020 Statement on Longer Run Goals and Monetary Policy Strategy continued to emphasize that monetary policy must be forward looking, and that if excessive inflationary pressures were to build, we would not hesitate to act. The framework itself did not delay our response to inflation. By far the most important factor in the speed of our initial response to inflation was that, in the spring of 2021, like most other forecasters, the FOMC anticipated that the elevated inflation would pass without a strong policy response. Ultimately, the supply and demand factors driving up inflation did not dissipate nearly as quickly as anticipated. In many economies, including ours, the rotation of demand from services to goods was stronger and more persistent than expected, overall demand remained stronger than expected, and inflationary pressures broadened out.

We pivoted forcefully in the fall of 2021 to remove monetary policy accommodation, and we rapidly tightened policy over the course of 2022. We have moderated the pace of policy tightening in recent quarters, but over the past year and a half, we raised the policy rate by 500 basis points and commenced a significant and ongoing rundown of securities held on our balance sheet. Throughout this policy tightening cycle, in accordance with the framework, our focus has remained on using our tools to bring inflation back down to our 2 percent goal by moderating demand so that it comes into better alignment with supply, and to keep longer-term inflation expectations well anchored. Indeed, one of the primary objectives of the changes made to the framework in 2020 was to enable the FOMC to conduct monetary policy in a way that would keep longer-term inflation expectations anchored at 2 percent. While the risks and uncertainties we have faced when making monetary policy have evolved considerably since the 2020 framework revision, our commitment to maintaining well-anchored inflation expectations remains a foundational motivation behind our policy actions.

3. **Former Fed officials Charles Plosser and Jeffrey Lacker have recently written about challenges that the Fed faces in communicating credible signals about its policy positions and likely future strategies.**

   Absent clear, credible, and transparent commitments and communications, Fed policy can unnecessarily promote volatility in financial markets and the economy.

   Plosser and Lacker suggest that "systemic rule like behavior can be successful in reducing inflation." They also suggest that the Fed base decisions with more weight on policy rules, or what you might call reaction functions such as that embodied in the so-called Taylor Rule.

   Do you agree that less pure discretion and more adherence to rule-like behavior at the Fed can be helpful in keeping inflation and volatility low.

   Policymakers at the Federal Reserve regularly consult policy rate prescriptions derived from a variety of policy interest rules as part of their monetary policy deliberations. However, mechanically following the prescriptions of any rule would not capture the full range of considerations relevant for assessing the appropriate setting of the policy rate in every context.

   For example, simple policy rules do not capture all of the ways in which policy changes affects financial conditions. Relatedly, they do not take into account the other tools of monetary policy, such as balance sheet policies. In addition, simple policy rules respond to only a small set of economic variables, while the FOMC considers the full set of macroeconomic data in informing policy decisions. Finally, they generally abstract from the risk-management considerations associated with uncertainty about economic relationships and the evolution of the economy.

   Over the past 15 months, the FOMC has taken forceful actions to tighten the stance of monetary policy, raising the federal funds rate a total of 5 percentage points. In addition, the FOMC continues reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, as described in its previously announced plans. The FOMC is strongly committed to attain a stance of monetary policy that is sufficiently restrictive to return inflation to 2 percent.

4. **What percentage of total outstanding federal debt held by the public does the Federal Reserve hold, how large is the size of the Fed's balance sheet, and what is the Fed's target for some sort of optimal balance-sheet size?**

As of the end of May 2023, the Federal Reserve held about $5.2 trillion of Treasury securities in its System Open Market Account (SOMA) portfolio, which was about 22 percent of the total outstanding debt held by the public.[1] The Federal Reserve's total balance sheet size was about $8.4 trillion in total assets.

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[1] *See* https://www.federalreserve.gov/releases/H41/20230601/.

The size of the Federal Reserve's balance sheet has been declining according to the FOMC's "Plans for Reducing the Size of the Federal Reserve's Balance Sheet," which were released in May 2022.[2] Over time, the FOMC intends to maintain securities holdings in amounts needed to implement monetary policy efficiently and effectively in its ample reserves regime. To ensure a smooth transition, the FOMC intends to slow and then stop the decline in the size of the balance sheet when reserve balances are somewhat above the level it judges to be consistent with ample reserves. Once balance sheet runoff has ceased, reserve balances will likely continue to decline for a time, reflecting growth in other Federal Reserve liabilities, until the FOMC judges that reserve balances are at an ample level. The level of reserves needed to maintain ample conditions is, however, uncertain and may vary over time. The Federal Reserve monitors a broad range of money market and banking-sector indicators in judging when reserves are approaching, and then have reached, a level consistent with the ample-reserves framework.

5. As the Fed's Vice Chair of Supervision stated in his December 1st speech last year and in Congressional testimony, the Federal Reserve Board has been conducting a "holistic review" of the Fed's regulatory capital framework to inform future rulemaking, including implementing the 2017 Basel accord. Given the emphasis of this review and the fact that it will dictate inform rulemaking, do you agree that analyses conducted as part of any holistic review should be made public?

Soliciting public input is a critical part of our rulemaking process. Any rule changes that might be proposed would go through the normal notice and public comment process, which includes explaining the basis for the proposed changes.

6. Former Vice Chair for Supervision Randal Quarles stated in his final speech as Vice Chair that "implementing the remaining elements of Basel III could result in a material increase in capital levels, perhaps up to 20 percent for our largest holding companies." He went on to say that "[e]ndlessly increasing capital levels is not costless. In the real world … excessively high capital levels constrain the ability of the banking system to provide credit to the real economy, and we pay the cost in jobs and living standards."

Do you agree that excessively high capital levels constrain banks' lending capacity with spillover effects on jobs and living standards for Americans?

Robust capital requirements are fundamental to the strength and stability of our financial system. Capital helps ensure the resilience of firms and our banking system to losses and stress.

Without adequate capital, banks cannot lend. And, while poorly capitalized banks may be forced to shrink during bad times, better capitalized banks have the capacity to support the economy by continuing to lend to households and businesses through stressful conditions.

Of course, we must be mindful of the tradeoffs associated with adjusting capital levels. Requiring banks to fund more of their activities with equity, instead of debt, could raise the private costs of funding to the bank, and cause banks to reduce the availability of credit or pass

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[2] *See* https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504b.htm.

higher costs of credit to consumers. These considerations must be balanced against the public benefits of higher capital.

7. **The Federal Reserve's Vice for Supervision has testified that the Board of Governors is conducting a "holistic" review of the Fed's capital regulatory framework.**

    a. **To what extent has the full Board of Governors been involved in the holistic review of capital requirements being conducted by the Fed?**

    b. **When will the Federal Reserve Board reveal what it is doing in its holistic review?**

    c. **What quantitative analysis is being performed?**

    d. **When details will be completed and released to the public and Congress?**

Vice Chair for Supervision Barr is leading the holistic review of capital requirements and will make recommendations based on the findings of this review. Any rule changes that might be proposed as a result of the review would go through the normal notice and public comment process, which includes explaining the basis for the proposed changes, and would be subject to a vote by the full Board of Governors.

8. **In some circumstances, such as the capital treatment of high-quality collateral on certain transactions by banks reporting under the standardized approach, U.S. capital rules deviated from the Basel framework and, as a result, have placed some banks operating under U.S. regulation at a competitive disadvantage.**

    If the Fed identifies such discrepancies in its capital review, are you willing to make appropriate adjustments to level the playing field and align with other global regulators?

Through international forums such as the Basel Committee on Banking Supervision, the United States seeks to promote strong and consistent banking regulations across jurisdictions. The Board monitors and evaluates the approaches other jurisdictions take regarding matters such as capital regulation, including with respect to the treatment of collateralized transactions. At times, U.S. regulations may differ, for example, to account for U.S.-market specific factors.

A goal of the holistic review of capital requirements is to ensure we have a strong framework that supports the strength and resilience of our financial system through the economic cycle—both today and in the future. The review is taking a comprehensive approach, looking at the entirety of the capital framework.

9. **You recently said at a speech given at the Central Bank of Sweden that the Fed is "not, and will not be, a 'climate policymaker'" and that "without explicit congressional legislation, it would be inappropriate for [the Fed] to use [its] monetary policy or**

supervisory tools to promote a greener economy or to achieve other climate-based goals."

How do you square this stance with the Federal Reserve Board releasing principles for climate-related risk management in conjunction with the OCC and FDIC and the Federal Reserve Board's Vice Chair of Supervision's recent announcement of mandatory climate scenario analysis for some large banks?

The Federal Reserve's responsibilities with respect to climate are important but narrow, and they are tightly linked to our responsibilities for bank supervision and financial stability. The Federal Reserve is not, and will not be, a climate policymaker.

From a supervisory perspective, our primary focus is to evaluate whether banks operate in a safe and sound manner and manage all material risks, including climate-related financial risks. In December 2022, the Federal Reserve proposed for public comment Principles for the Climate-Related Financial Risk Management for Large Financial Institutions. These proposed principles would provide a high-level framework for the safe and sound management of exposures to climate-related financial risks for banking organizations with more than $100 billion in total consolidated assets. Similarly, the pilot climate scenario analysis exercise launched in January 2023 is intended to build the capacity of large banks and supervisors to manage climate-related financial risks.

These steps will help us better understand climate-related financial risks and will contribute to increased resiliency of supervised firms, consistent with our safety and soundness and financial stability mandates. Decisions about policies to directly address climate change are appropriately the responsibility of elected officials.

10. The Federal Reserve Board's website indicates that the Federal Reserve Board is conducting a pilot "climate scenario analysis" by mandating that six large banks participate in simulating effects of climate scenarios designed by an international consortium of central banks and others. However, as you noted, there does not appear to have been a vote of the full Board of Governors on the mandatory analysis. Why not?

In January 2023, the Federal Reserve announced the launch of a pilot climate scenario analysis exercise involving six of the nation's largest banking organizations. This pilot exercise is exploratory in nature and is designed to enhance the ability of supervisors and firms to measure and manage climate-related financial risks. The Federal Reserve anticipates publishing insights gained from this pilot exercise at an aggregate level, reflecting what has been learned about climate-related financial risk management practices. The pilot exercise is separate and distinct from regulatory stress tests, will not have direct capital or supervisory implications, and no firm-specific information will be released in connection with this pilot exercise. The full Board did not take a vote on the climate scenario analysis because of the purely exploratory nature of the exercise.

11. We know that the type of supervisory climate analysis that the Fed is beginning to undertake has been promoted by external, nongovernmental organizations, some of

which the Federal Reserve participates in as a member. They include the Network for Greening the Financial System, the Financial Stability Board, and others. We also know that there has been promotion of the effort from the Financial Stability Oversight Council's (FSOC's) Chair, who is also the Treasury Secretary, following through on an Executive Order from the President, and from coordinated efforts by FSOC "independent" member agencies.

a. Please provide a list of working groups the Fed is engaged with, both in the U.S. and abroad, regarding the Federal Reserve Board's recently proposed climate principles for climate-related risk management and regarding the Board's recent mandatory climate scenario analysis, that may be guiding the Fed's efforts?

The Federal Reserve's responsibilities with respect to climate are important but narrow, and they are tightly linked to our responsibilities for bank supervision and financial stability. From a supervisory perspective, our primary focus is to evaluate whether banks operate in a safe and sound manner and manage all material risks, including climate-related financial risks. As part of our overall approach to climate-related financial risks, the Federal Reserve engages with other central banks and supervisory authorities through participation in domestic and international fora. Domestically, as the Chair of the Board, I am a voting member of the Financial Stability Oversight Council (FSOC), and Federal Reserve staff participate on the FSOC's Climate-related Financial Risk Committee. Internationally, the Federal Reserve is engaged in work on the climate-related financial risks through the Basel Committee on Banking Supervision's (BCBS) Task Force on Climate-related Financial Risks, the Financial Stability Board (FSB), and the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). It is important to note that standards agreed to by international organizations are not binding on any jurisdiction or member, including the United States and the Federal Reserve. Any standards developed by these organizations would not be binding in the United States unless they are consistent with U.S. law and adopted by an agency in accordance with the Administrative Procedure Act.

b. For any of those groups, please identify where one can view and obtain minutes of meetings that have taken place with representatives of the Federal Reserve's Board of Governors at those nongovernmental organizations, and who represents the Board at meetings?

The Board is represented on various committees and groups by its members and senior staff. The FSOC meeting minutes are public and can be found at the U.S. Department of the Treasury's website.[3] A wide variety of information related to the climate-related work of the BCBS, the FSB, and the NGFS can be found on their respective websites.[4]

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[3] *See* https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/fsoc/council-meetings/meeting-minutes.

[4] *See* https://www.bis.org/bcbs/bcbs_work.htm, https://www.fsb.org/2021/07/fsb-chair-presents-a-comprehensive-roadmap-for-addressing-climate-related-financial-risks, and https://www.ngfs.net/en/about-us/governance/general-information.

c. Has the Federal Reserve Board discussed or taken a vote on whether it will follow Executive Order 14030 on Climate-Related Financial Risk?

The Federal Reserve Board has not discussed or taken a vote on whether it will follow Executive Order 14030 on Climate-related Financial Risk. Board votes are public and can be found on our website.[5]

12. The Federal Reserve Board of Governors, according to the Federal Reserve Board's website, will undertake a "climate scenario analysis," which mandates that certain institutions that the Fed supervises must turn over analysis, data, and responses to the Fed about climate scenarios. The scenario analysis looks at, among other things, effects of hypothetical outcomes (scenarios) created by models constructed by outside interest groups on large bank management of possible portfolio stresses. Long term, well beyond any reasonable belief about banks' adaptation to things like weather stresses, effects on what is instructed by the Fed to be fixed bank portfolios are to be determined. Additionally, banks are supposed to make judgements, as we understand the scenario analysis, of hypothetical counterparty adaptations while, over the same simulated future path, banks themselves are to hold their portfolio fixed. The scenario may contain confusing and potentially internally inconsistent mandated assumptions, and may demand results with false precision (e.g., mandatory reporting of some results expressed "as a decimal to four decimal places."

The rationale for the mandatory scenario analysis is questionable, and much of what is requested is subsumed in stress tests to which the institutions are already subjected to test against severe possible future economic scenarios.

The rationale is also questionable because Federal Reserve examiners and supervisors can already just ask the institutions what they are doing, and in some cases could just read about it in publicly available publications. Financial institutions are engaged in measuring risks related to severe weather events, and things you could call climate related. The Federal Reserve has teams of regulators working directly inside large financial institutions. Some of the institutions have been very public in their methodologies approaching weather and climate risks.

The scenarios chosen in the "pilot" climate scenario analysis are derived from outside advocacy organization given that in its selection of the scenarios, according to the Federal Reserve Board: "In selecting scenarios for this exercise, the Board leveraged existing work conducted by the Intergovernmental Panel on Climate Change (IPCC) and the Network of Central Banks and Supervisors for Greening the Financial System (NGFS)." The Federal Reserve Board has thereby effectively endorsed the work of the IPCC and NGFS and, contrary to suggestions that the Fed is participating in organizations such as the NGFS in mere "listening" mode, and chose not to formulate scenarios using existing research resources at the Board.

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[5] *See* https://www.federalreserve.gov/aboutthefed/boardvotes.htm.

a. Should this Committee be concerned that the Fed's foray into setting up climate scenario analysis and setting up supervisory climate principles is simply the first step in getting to regulating financial institutions and channeling of credit by the Fed to support partisan climate policies?

The Federal Reserve's responsibilities with respect to climate are important but narrow. These responsibilities are tightly linked to our responsibilities for bank supervision and financial stability. The Federal Reserve is not, and will not be, a climate policymaker. Decisions about policies to directly address climate change are appropriately the responsibility of elected officials.

From a supervisory perspective, our primary focus is to evaluate whether banks operate in a safe and sound manner and manage all material risks, including climate-related financial risks. Individual firms need to decide for themselves how climate-related factors may affect their strategic goals and business decisions. It is the policy of the Federal Reserve not to dictate to supervised institutions what lawful industries they can and cannot serve, as those business decisions should be made solely by each institution.

b. Has the mandated "pilot" climate scenario analysis been thoroughly reviewed by and approved by all voting Member of the Board of Governors, given that the climate scenario analysis "participant instructions" and other Federal Reserve Board postings identify that "As part of its supervisory efforts, <u>the Board</u> is conducting a pilot climate scenario analysis (CSA) exercise" (emphasis added).

As I noted in my answer to Question 10, in January 2023, the Federal Reserve announced the launch of a pilot climate scenario analysis exercise involving six of the nation's largest banking organizations. This pilot exercise is exploratory in nature and is designed to enhance the ability of supervisors and firms to measure and manage climate-related financial risks. The Federal Reserve anticipates publishing insights gained from this pilot exercise at an aggregate level, reflecting what has been learned about climate-related financial risk management practices. The pilot exercise is separate and distinct from regulatory stress tests, will not have direct capital or supervisory implications, and no firm-specific information will be released in connection with this pilot exercise. The full Board did not take a vote on the climate scenario analysis because of the purely exploratory nature of the exercise.

c. Does the Board as a whole endorse, in discussion or in any votes, the work conducted by the IPCC and NGFS, and has the Board closely analyzed models and their uncertainties used in generating the scenarios for which the Board is mandating that six large banks report detailed results?

The pilot climate scenario analysis exercise leverages existing work conducted by the IPCC and the NGFS. The work of the IPCC and the NGFS is a useful common starting point for analysis and widely recognized and leveraged by the participating firms. The climate scenarios used in the pilot exercise are neither forecasts nor policy prescriptions. They do not necessarily represent the most likely future outcomes or a comprehensive set of possible outcomes. Rather,

the pilot exercise includes a range of plausible future outcomes that can help build understanding of how certain climate-related financial risks could manifest for large banking organizations and how these risks may differ from the past.

d. Will the Board share detailed results gathered within the scenario analysis from individual institutions with Congress, or will such results be cloaked withing the Federal Reserve as confidential supervisory information that will not be available to anyone for use in replicating any aggregate results the Board chooses to reveal from its scenario analysis, given that proper application of the scientific method demands ability for replication.

At the conclusion of the exercise in late 2023, we anticipate publishing insights gained at an aggregate level, reflecting what has been learned about climate risk management practices and how insights from scenario analysis will help identify potential risks and promote effective risk management practices at large firms. No firm-specific information will be made public.

13. The Federal Reserve Board's climate scenario analysis purportedly is to "learn about large banking organizations' climate risk-management practices and challenges and to enhance the ability of both large banking organizations and supervisors to identify, measure, monitor, and manage climate-related financial risks."

a. What are the climate-related risks that the Federal Reserve Board thinks private-sector businesses cannot identify, measure, monitor or manage?

Some large financial institutions are working to integrate climate-related financial risks into their risk management frameworks. Large firms are working to better understand how climate change impacts their business models and balance sheets, including through investment in new data, tools, and methodologies to better measure and monitor both risks and opportunities.

As bank supervisors, it is our responsibility to understand banks' operations, major risks, and how well banks manage those risks. While climate-related financial risks manifest as traditional risks, they pose unique challenges, including challenges related to data, time horizon, and uncertainty.

b. Will the Fed begin biodiversity risk scenario analysis on the U.S. banking system, as the Network of Central Banks and Supervisors for Greening the Financial System, or NGFS, promotes?

The Federal Reserve is focused on conducting the pilot climate scenario analysis to learn about large banking organizations' climate risk management practices and challenges. We have not made decisions about any potential future climate scenario analysis exercises.

14. In a January 2023 Federal Reserve International Finance Discussion Paper titled "What are Large Global Banks Doing About Climate Change?" the authors write about Global Systemically Important Banks for whom, from the Fed's perspective evidently, much work lies ahead "to better align financing activities with their net-zero

targets." The authors write that "Our paper is closely related to a report by InfluenceMap 2022."

InfluenceMap is a London-based think tank devoted to a mission to "hold the corporate and finance sectors accountable for climate performance." It attempts to use name and shame tactics, and is funded by a number of entities, including the Climateworks foundation, which, in turn, is funded by a number of entities including Bloomberg Philanthropies, the Chan Zuckerberg Initiative, and the High Tide Foundation, among others. Some funders may stand to profit from decarbonization efforts.

Is the Federal Reserve following the lead of outside international think tanks and "advocates" and activists of climate policy changes in efforts to try to pressure and push financial institutions toward particular climate policy directions, including pressure to channel credit away from certain sectors not supported by climate advocacy groups and toward certain "green" sectors receiving expansion support from such groups?

The Federal Reserve System has a number of working paper series and the papers in these series are independent research by Federal Reserve staff, sometimes with outside coauthors. Papers in these series do not represent official positions of the Federal Reserve System and these papers are required to carry a disclaimer stating that fact.

The research referenced is from an independent paper authored by researchers from the Board that carried this disclaimer. The disclaimer also notes that papers in this series are preliminary materials circulated to stimulate discussion and critical comment. The paper cites a number of sources and other climate reports, in addition to InfluenceMap 2022.

The value of research lies in exploring a variety of approaches and data sources, particularly on complex issues like climate-related financial risks. As noted previously, our responsibility as bank supervisors is to understand banks' operations, major risks, and how well banks manage those risks.

15. A May 2022 Federal Reserve Finance and Economics Discussion paper titled "Climate Change and Double Materiality in a Micro- and Macroprudential Context" provides a "framework of bank risk-taking to help clarify the concept of 'double materiality,' the idea that supervisory authorities should consider both the risks that banks face from climate change and the impact of a bank's actions on climate change." The framework seeks to identify double materiality, the idea that there may be impacts of climate change on a bank, but also that there may be impacts of a bank's activities, and the aggregate of all bank activities, on the climate.

Chairman Powell, will double materiality be part of the future in Federal Reserve supervision and regulation frameworks, and will the Fed be making up new risks as well as new concepts of materiality in seeking to regulate climate?

As noted previously, the Federal Reserve System has a number of working paper series, and the papers in these series are independent research by Federal Reserve staff. Papers in these series

do not represent official positions of the Federal Reserve System and these papers are required to carry a disclaimer stating that fact. The research referenced is from an independent paper authored by researchers from the Board that carried this disclaimer.

Our responsibility as bank supervisors is to understand banks' operations, major risks, and how well banks manage those risks. Unlike some other central banks and supervisory authorities, the Federal Reserve's mandate does not include facilitating a transition to a lower carbon economy.

16. Financial institutions are engaged in measuring risks related to severe weather events, and things you could call climate related. The Federal Reserve has teams of regulators working directly inside large financial institutions. Some of the institutions have been very public in their methodologies approaching weather and climate risks.

a. Why does the Federal Reserve Board feel the need to do a climate scenario analysis with ultimate public-facing aggregate results being published with no ability for anyone to replicate the results, as desired by the Biden Administration, the Network of Banks and Supervisors for Greening the Financial System, and environmental activists?

As noted in earlier responses, in January 2023, the Federal Reserve announced the launch of a pilot climate scenario analysis exercise involving six of the nation's largest banking organizations. This pilot exercise is exploratory in nature and is designed to enhance the ability of supervisors and firms to measure and manage climate-related financial risks. The Federal Reserve anticipates publishing insights gained from this pilot exercise at an aggregate level, reflecting what has been learned about climate-related financial risk management practices.

b. What specifically are the weather or climate risks that the Federal Reserve or other government officials somehow know about that federal officials may somehow think they know more than the private sector about—flooding, increased frequency of weather events (if so, which; for example, is hurricane intensity or frequency know to the Board to be caused by measures of emissions)?

The Federal Reserve expects supervised institutions to manage all material risks, including climate-related financial risks. Physical risks refer to the harm to people and property arising from acute, climate-related disaster events, such as hurricanes, wildfires, floods, heatwaves, and droughts, and chronic shifts in climate, including higher average temperatures, changes in precipitation patterns, sea level rise, and ocean acidification. An increase in the frequency or severity of physical risk drivers can increase traditional prudential risks for large banking organizations. For example, an increase in the frequency or severity of extreme weather events could impact a borrower's ability to repay or damage assets used to collateralize a loan. As supervisors, we want to ensure that financial institutions identify, measure, monitor, and manage these risks, where they are material.

c. Does the Federal Reserve Board believe that earthquake insurance providers

are properly weighing risks of earthquakes, and consequent possible losses, and will the Federal Reserve Board be conducting scenario analyses also for such risks?

The Federal Reserve does not regulate the manner in which insurance is provided or the types of insurance provided. The regulation of insurance rates, including for earthquake insurance, is the responsibility of the states.

17. The Office of Financial Research (OFR) has been setting up a Climate Data and Analytics Hub for the Financial Stability Oversight Council (FSOC) member agencies who are supposed to be politically independent. The Hub, according to the OFR, has been put in place as "a collaboration between the OFR, the Federal Reserve Board, and the Federal Reserve Bank of New York." According to the OFR, the data Hub was established in response to President Biden's Executive Order on Climate-Related Financial Risks, and partly because in June 2021 "the Federal Reserve requested to leverage the OFR's data and analytic capabilities to support research in climate-related financial risk."

a. Why doesn't the Federal Reserve use its own data and analytic capabilities, given that the Federal Reserve has researchers actively engaged in trying to discover or create new concepts and measures of climate-related financial risks?

The Federal Reserve does use its own data and analytic capabilities. Much of the data that are relevant for research into understanding climate-related financial risks are publicly available on government websites. These data can be large and quite complex, so it is efficient to collaborate with experts in other agencies to help prepare the data for use in economic analysis and economic models. Cloud-based tools are especially useful for such data transformations. The Office of Financial Research (OFR) cloud-based platform has statistical and visualization applications that can be used to generate insights into climate-related financial risks and vulnerabilities. The sharing of data and analytic capabilities is consistent with the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), which provides that the OFR may share data and information, including software developed by the OFR, with the FSOC and its member agencies.

b. Will the Federal Reserve supply the House Committee on Financial Services with the Federal Reserve's request to the OFR to leverage their data and analytic capabilities?

The Federal Reserve did not make a formal request to the OFR. The OFR conducted a pilot with the Federal Reserve to test the OFR's ability to use a cloud-based platform to provide data to an FSOC member agency, and the pilot enabled the Federal Reserve to test its own ability to leverage a cloud-based computing environment.[6]

[6] *See* https://www.financialresearch.gov/press-releases/2023/04/06/ofr-advances-data-and-analytics-platform-following-successful-pilot.

c. Did the Federal Reserve Board vote on the collaboration between the Fed and OFR on "research in climate-related financial risk" and collaboration withing the OFR's Hub, which was established partly in response to President Biden's Executive Order on Climate-Related Financial Risks?

The OFR Hub has the potential to offer FSOC members an efficient way to access publicly available and government data. As a staff-level effort to support the availability of research tools, this is consistent with staff research activities and also work to support the Federal Reserve's engagement with FSOC agencies.

d. Please provide an outline of specifics of what the Federal Reserve Board is engaged in, with respect to data collection and analysis, inside the OFR's Hub, and how much in Federal Reserve System resources will be expended in the collaboration.

The Federal Reserve's independent research efforts have used only publicly available information on OFR's Hub, and those efforts have focused on testing the capabilities of the platform. There are no data collections. Federal Reserve staff have collaborated on the pilot's requirements and tested the cloud environment.

18. The Federal Reserve participates in several working groups, on areas ranging from climate policies to financial regulatory policies to the development of a Central Bank Digital Currency. Those groups are often headed by Executive branch officials, typically in response to partisan policy positions in Executive Orders.

The Federal Reserve is also a member of various nongovernmental and often intertwined consortiums, including the Bank for International Settlements (BIS), the so-called Basel process, the Network of Central Banks and Supervisors for Greening the Financial System, the Financial Stability Board, and more.

What goes on in those consortiums, and what agreements are being made often seems opaque. It is not clear whether minutes of meetings are recorded; some consortiums appear to ask for confidentiality of proceedings among meeting participants; and budgets of the organizations are sometimes opaque.

Do you believe that there is adequate transparency about what transpires between Federal Reserve and other U.S. federal government officials within the global governance structures that I just listed?

The Federal Reserve is committed to transparency in its own work and is supportive of transparency by the international organizations in which it participates. For example, the Federal Reserve supports efforts by international organizations to regularly publish their workplans and financial statements and to subject certain work product such as international standards and principles to public comment.

We recognize the benefit of engaging with international organizations on issues relating to the Federal Reserve's mandates while taking into account the important differences across jurisdictions and our own domestic mandates. It is important to note that standards issued by international organizations are not binding on any jurisdiction or member, including the United States and the Federal Reserve. Any standards developed by these organizations would not be binding in the United States unless they are consistent with U.S. law and adopted by an agency in accordance with the Administrative Procedure Act.

19. The Federal Reserve is a member of the Bank for International Settlements (BIS). BIS provides periodic dividends to members. I am aware that the Federal Reserve has been asked by a nonpartisan Congressional organization about where, within the Federal Reserve System's annual audited statements, any BIS dividend or other remuneration may be found, but the Federal Reserve has not responded.

Does the Federal Reserve receive dividends or other remuneration, perhaps as some return on an initial investment or equity position from the past, from the BIS?

If so, where in the Federal Reserve's annual audited statements can the remuneration be found, or does such remuneration flow to another U.S. agency where it is placed on another set of books?

The Board does not own any Bank for International Settlements (BIS) shares or other equity position and does not receive any dividends from the BIS. The Board does receive certain payments from the BIS related to attendance at BIS board of directors meetings. These payments include annual remuneration (the equivalent of a director's fee), an attendance fee (for those meetings actually attended), a 5 day per diem for each meeting attended, and airfare reimbursement. These payments are reflected in the Board's audited annual statements within the "travel" operating expenses line item on the Statement of Operations as zero because the payments offset the Board's travel expenses.

20. The Federal Reserve is a member of several international organizations such as the Basel Committee on Banking Supervision, the Network for Greening the Financial System, the Financial Stability Board, and more.

- **a. What role does Congress have in authorizing the Fed to participate in and join such organizations and how can Congress oversee what goes on in these international governance structures?**
- **b. What statutory or other authority does the Fed rely on when making decisions to participate in and ultimately, in some cases, join such organizations?**

Congress plays an important oversight role for all of the Federal Reserve's activities, including its participation in international organizations. Members of the Board and Federal Reserve staff regularly answer questions from Members of Congress about participation in these organizations. These international organizations also generally publish their workplans annually

to keep the public informed of their work. In addition, decisions by these organizations are not binding in any jurisdiction, including in the United States. Any formal action by the Federal Reserve that is informed by its participation in international organizations is not binding in the United States unless it is consistent with U.S. law and adopted by the Federal Reserve through appropriate administrative processes.

The Board considers a number of factors in determining whether to participate in international organizations, including whether participation is appropriate to effectuate one of the Federal Reserve's statutory obligations. For example, the international groups referenced are engaged in work relating to identification and evaluation of financial risks relevant to the Federal Reserve's statutory responsibilities as a financial regulator and supervisor. By participating in these organizations, the Federal Reserve is able to better understand global financial risks and help shape international standards and recommendations to reflect the experience of the Federal Reserve and issues relating to the U.S. financial system.

21. The Fed belongs to the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). The NGFS charter, in Article 14, says that members and observers should keep non-public information shared in the consortium confidential, except where laws of the legal framework of a member requires disclosure. In such cases, the NGFS charter says that "the particular jurisdiction will inform the NGFS secretariat of such compulsory disclosure."

   a. Does that mean that if a Member of Congress asks you or anyone at the Board of Governors about what is going on at the NGFS, the Board has agreed to then inform the NGFS secretariat (which is provided to the NGFS by France's central bank)?

No. The NGFS Charter includes confidentiality expectations regarding only a narrow set of information (including non-public data and information shared by members and observers within the NGFS). Further, the Charter clarifies that it is not intended to create any legal rights or obligations (see Article 16).

   b. Under the NGFS charter, which the Fed abides by as member, are you required to inform the NGFS secretariat that I am asking you this question?

No. Your question does not require disclosure of information within the scope of the confidentiality expectations of the NGFS Charter, as discussed above.

22. The Fed belongs to the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). The NGFS charter, in Article 15, says that membership to the NGFS is free of charge. NGFS is supported by voluntary contributions of NGFS Members and observers, according to the charter, and dedicated financing of specific projects is allowed.

Scenario Design and Analysis at the NGFS is funded by grants from Bloomberg Philanthropies and ClimateWorks Foundation, according to the NGFS website. Some

of the Scenario Design and Analysis work at the NGFS is being used, it appears, by the Federal Reserve Board in its recently announced climate scenario analysis for which the Fed is mandating participation of six large banks.

I understand that the climate scenario analysis was not something that was put to a vote by the full Board of Governors.

a. Why was there no full Board vote?

As I noted in my answer to Question 10, in January 2023, the Federal Reserve announced the launch of a pilot climate scenario analysis exercise involving six of the nation's largest banking organizations. This pilot exercise is exploratory in nature and is designed to enhance the ability of supervisors and firms to measure and manage climate-related financial risks. The Federal Reserve anticipates publishing insights gained from this pilot exercise at an aggregate level, reflecting what has been learned about climate-related financial risk management practices. The pilot exercise is separate and distinct from regulatory stress tests, will not have direct capital or supervisory implications, and no firm-specific information will be released in connection with this pilot exercise. The full Board did not take a vote on the climate scenario analysis because of the purely exploratory nature of the exercise.

b. Will the Fed supply the House Committee on Financial Services with: the agreement signed with the NGFS when the Fed entered the NGFS; who currently represents the Fed at the NGFS; and minutes of NGFS meetings in which Fed officials have participated within the past two years?

On December 15, 2020, the Federal Reserve announced that it had joined the NGFS as a member. The Federal Reserve did not sign an agreement with the NGFS in order to join as a member, and Article 16 of the NGFS Charter clarifies that the charter is not intended to create any legal rights or obligations. Instead, the Federal Reserve requested membership in the NGFS on the basis of its desire to improve its understanding of climate-related financial risks. Federal Reserve staff participate in several NGFS working groups and are assigned to participate on the basis of their expertise in relevant subject matter areas. A wide variety of information about the NGFS is available through its website.[7]

23. The Federal Reserve Board on December 8, 2022, filed a notice and request for comments on draft principles on climate-related financial risks. Those principles will likely align with similar efforts by the OCC and FDIC, and they align closely with an Executive Order from the Biden Administration.

One proposed principle suggested in the notice is that boards of directors of financial institutions should consider making "changes to its compensation policies" to align with risks and "values," in the context of supposed climate risks.

Why should the Fed's proposed principle suggesting that boards of directors of financial institutions change compensation policies to align with "values" and

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[7] *See* https://www.ngfs.net/en.

potentially ill- understood climate risks not be taken as a clear signal that the Fed, through regulation and guidance, is beginning to implement climate policies?

The Federal Reserve's responsibilities with respect to climate are important but narrow. These responsibilities are tightly linked to our responsibilities for bank supervision and financial stability. The Federal Reserve is not, and will not be, a climate policymaker. Decisions about policies to directly address climate change are appropriately the responsibility of elected officials.

Rather, our responsibility as bank supervisors is to understand banks' operations, major risks, and how well banks manage those risks. To that end, in December 2022, the Board proposed for comment Principles for Climate-Related Financial Risk Management for Large Financial Institutions. The proposed principles would provide a high-level framework for the safe and sound management of exposures to climate-related financial risks for banks with over $100 billion in total consolidated assets. They cover six risk management areas, including governance; policies, procedures and limits; strategic planning; risk management; data, risk measurement and reporting; and scenario analysis.

The governance section of the proposed principles advises that boards should "consider whether the incorporation of climate-related financial risks into the financial institution's overall business strategy and risk management frameworks may warrant changes to its compensation policies, taking into account that compensation policies should be aligned with business, risk strategy, objectives, values and the long-term interests of the financial institution."

24. The Federal Reserve System funds the CFPB from money the Fed makes by, essentially, creating money—something known as seigniorage. I have three questions regarding Federal Reserve earnings and the Fed's unbridled support of the CFPB.

a. Does any other agency or department in the federal government also get funding from the Fed's seigniorage?

The Board funds the Consumer Financial Protection Bureau (CFPB) through assessments on the Reserve Banks as required by the Dodd-Frank Act. The Board also assesses each Reserve Bank for expenses related to production, issuing, and retiring Federal Reserve Notes (currency). This involves funding specific activities performed by the Bureau of Engraving and Printing and related to currency issued by the Federal Reserve.[8]

In accordance with section 7 of the Federal Reserve Act, the Reserve Banks remit excess earnings to the Treasury after providing for the cost of operations, payment of statutory dividends, and reservation of an amount necessary to maintain aggregate surplus at the statutory amount.

b. Does the Federal Reserve fund the CFPB using proceeds derived from surcharges on or fees collected from banks, as recently claimed, incorrectly

[8] For more information, *see* Federal Reserve Act para 16, sections 10 and 16.

in my view, by the Inspector General of the Federal Deposit Insurance Corporation's Office of Inspector General?

Funding the CFPB is considered part of the Reserve Banks' cost of operations. The Reserve Banks fund their cost of operations from earnings. The Reserve Banks' primary source of earnings is interest income from holdings in the System Open Market Account, used to conduct monetary policy actions.

c. Does the Federal Reserve Board, or the Office of the Inspector General of the Federal Reserve System and for the CFPB perform any due diligence of the CFPB's claims about its budget?

Under the Dodd-Frank Act, the Board is responsible for transferring to the CFPB "the amount determined by the Director to be reasonably necessary to carry out the authorities of the Bureau." This provision does not provide the Board with authority to counter or oversee the Director's budget determination. Further, the Dodd-Frank Act expressly directs the Board not to intervene in any matter before the Director and the CFPB's funding is a matter decided by, or before, the Director. These statutory provisions also do not appear to grant the Office of the Inspector General for the CFPB ("OIG") a role in reviewing the Director's determination. However, it is our understanding that the OIG could complete an after-the-fact review of the CFPB's funding processes as it did in 2020 in response to a request of the ranking member of the Subcommittee on Oversight and Investigations, House Committee on Financial Services.

25. According to Section 1017 of the Dodd Frank Act, each year (or quarter of such year) "the Board of Governors shall transfer to the Bureau [Consumer Financial Protection Bureau (CFPB)] <u>from the combined earnings of the Federal Reserve System</u>, the amount determined by the Director [of the CFPB] to be reasonably necessary to carry out the authorities of the Bureau…" (Emphasis added). The Federal Reserve has had to rapidly increase interest rates following the rapid acceleration of inflation that began when the American Rescue Plan Act was enacted. With rising rates, and the Federal Reserve's asset holdings, on a mark-to-market basis, the Federal Reserve would be facing losses.

a. On a mark-to-market basis and abstracting from any central bank accounting entries such as deferred assets, has the Federal Reserve System incurred negative earnings in any year of quarter in the past, and does the Federal Reserve (as would be consistent with President Biden's most recent budget) project negative earnings in upcoming quarters?

1934 was the last year that the Federal Reserve System did not distribute earnings to the Treasury, either as a statutory transfer or as interest on Federal Reserve Notes. Statistical Table 10 of the Annual Report to Congress details the Federal Reserve System's annual earnings, expenses, and distributions to the Treasury.[9]

[9] *See* https://www.federalreserve.gov/publications/2021-ar-statistical-tables.htm.

The Federal Reserve considers the results of monetary policy paths as noted in a published FedNotes paper entitled "An Analysis of the Interest Rate Risk of the Federal Reserve's Balance Sheet, Part 2: Projections under Alternative Interest Rate Paths." Figure 4 in the paper presents possible paths for the remittances to Treasury and deferred assets.[10] Annually the Federal Reserve Bank of New York publishes the "Annual Report on Open Market Operations" providing updated projections for possible paths for the remittances to Treasury and deferred assets.[11]

b. If the Federal Reserve System is incurring book losses and negative earnings, there are no combined earnings of the Federal Reserve System to be provided to the CFPB, absent extending special central bank accounting and accounting abilities of a money creator to effectively tap future expected seigniorage to cover current mark-to-market losses on the books, so how can the Federal Reserve provide the CFPB with any funds and remain consistent with the law as set forward in Section 1017 of the Dodd Frank Act?

Under the Dodd-Frank Act the Board is not granted any discretion to determine the CFPB's funding level. Rather, the Director of the CFPB determines the funding needed to carry out the authorities of the Bureau, up to an annual cap. The Dodd-Frank Act sets the annual cap based on a percentage of the operating expenses of the entire Federal Reserve System. The Act also states that the funding for the CFPB comes from the combined earnings of the System. The Act does not state that funding comes from the System's net earnings. We follow the rules that Congress sets in this regard and any changes to this framework would be up to Congress.

26. The Consumer Financial Protection Bureau has proposed new regulations that would require resetting the safe harbor from credit card late fees from approximately $40 to $8. As the CFPB explains in page106 of the agency's rulemaking:

"Cardholders who never pay late will not benefit from the reduction in late fees and could pay more for their account if maintenance fees in their market segment rise in response - or if interest rates increase in response and these on-time cardholders carry a balance. Frequent late payers are likely to benefit monetarily from reduced late fees, even if higher interest rates or maintenance fees offset some of the benefits."

Was the Federal Reserve consulted by the CFPB regarding the proposed rule?

Congress transferred the Board's rulemaking authority for these provisions to the CFPB. The CFPB has exclusive rule writing authority on this issue, however, the Dodd-Frank Act requires the CFPB to consult with the Board and the other agencies prior to issuing a rule. We have reviewed the CFPB's proposal and will continue to monitor its progress as the CFPB finalizes it.

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[10] *See* https://www.federalreserve.gov/econres/notes/feds-notes/an-analysis-of-the-interest-rate-risk-of-the-federal-reserves-balance-sheet-part-2-20220715.html.

[11] *See* https://www.newyorkfed.org/medialibrary/media/markets/omo/omo2022-pdf.pdf.

27. CFPB research shows that nearly half of subprime credit card accounts paid no late fees in 2019. As the CFPB notes, if the CFPB's rule is finalized as proposed, costs would rise for such responsible subprime cardholders. Further, as the CFPB's proposal acknowledges, it is "possible that some consumers' access to credit could fall if issuers could adequately offset lost fee revenue expected from them only by increasing APRs to a point at which a particular card is not viable, for example, because the APR exceeds applicable legal limits."

a. Have the CFPB and Federal Reserve Board discussed the impact to responsible subprime cardholders if the CFPB's rule is finalized as proposed?

As mentioned above, the Dodd-Frank Act requires the CFPB to consult with the Board and the other agencies prior to issuing a rule. Board staff have reviewed the CFPB's proposed rule and will continue to monitor its progress as the CFPB finalizes it.

b. Has the Federal Reserve Board attempted to quantify or estimate the impact of the CFPB's proposal to the cost and availability of credit to subprime consumers?

Although we are always available to consult with the CFPB, we do not prepare impact analyses of other agencies' rulemakings and have not done so for this proposal.

c. Has the CFPB shared any of its efforts to quantify or estimate the impact of the CFPB's proposal to the cost and availability of credit to subprime consumers?

Board staff has not seen quantitative analysis regarding the anticipated impact of the proposal on subprime consumers.

d. What is your best quantification or estimate of the impact of the CFPB's proposal to the cost and availability of credit to subprime consumers?

As noted above, while we are always available to consult with the CFPB, we do not prepare impact analyses of other agencies' rulemakings and have not done so for this proposal.

28. In recent presentations, General Manager of the Bank for International Settlements (BIS), Agustín Carstens, has identified that the BIS, which the Federal Reserve belongs to as a Member, is exploring numerous technological innovations (in, for example, its BIS Innovation Hub) to possibly accompany Central Bank Digital Currencies (CBDCs).[1] Among those explorations, for example, are "plans to experiment with embedding policy and regulatory measures in smart contracts." CBDCs with smart contracts embedded in them also open opportunities for central banks to design currencies with protocols allowing for, or preventing, certain transactions from being executed with a CBDC. Such opportunities are fraught with risks of politicized central banks utilizing a CBDC to block or allow transactions associated with normative and

political preferences of unelected central bank officials. Mr. Carstens also spoke of consideration of a "unified ledger" with "both assets and multiple regulated entities (commercial banks, payment service providers, asset registries etc.) in coordination with the central bank all on the ledger." Consideration could also be given to unified ledgers spanning multiple, or all, central banks. Risks again arise, given calls by certain politicized commentators for a "global wealth registry," necessary, according to those commentators, to track asset ownership around the globe under the guise of needing to protect against tax-base erosion; and given recent experiences (e.g., Canada) of potentially politicized shutdowns of private citizens' abilities to transact under the guise of emergency conditions.[2]

[1] See, for example, "Innovation and the future of the monetary system," Keynote speech by Mr. Carstens at the Monetary Authority of Singapore (MAS), Singapore, February 22, 2023, available at https://www.bis.org/speeches/sp230222.htm.

[2] See "Emergency Economic Measures Order: SOR/2022-22," Canada Gazette, Part II, Volume 156, Extra Number 1, available at https://www.gazette.gc.ca/rp-pr/p2/2022/2022-02-15-x1/html/sor-dors22-eng.html.

a. Has the Federal Reserve experimented with smart contracting capacities for a U.S. CBDC?

Federal Reserve Board and Reserve Bank staff conduct focused research and technical projects to provide insights into technical capabilities and risks associated with digital assets, including central bank digital currency (CBDC). Some of this research has involved distributed ledger technologies and "smart contract" capabilities, for example setting transactions to occur if certain conditions are met, such as sufficient account balances. The Federal Reserve is not researching ways to implement policy or regulatory measures through a CBDC.

b. Has the Federal Reserve participated in any exercises with any CBDC-related experimentations with the BIS, within or outside of the BIS Innovation Hub?

The Federal Reserve participates in a group of seven central banks (Bank of Canada, Bank of England, Bank of Japan, European Central Bank, Federal Reserve, Sveriges Riksbank and Swiss National Bank), and the BIS to explore general purpose CBDCs. This group has published papers on core principles, system design and interoperability, user needs and adoption, and financial stability implications. Additionally, the Federal Reserve Bank of New York (FRBNY) New York Innovation Center (NYIC) is a partnership between the FRBNY and the BIS Innovation Hub to facilitate collaboration on financial technology research.

c. Do you support Mr. Carsten's vision of having a unified ledger for the U.S., with a Federal Reserve CBDC on the ledger, potentially with other central banks?

This is not something the Federal Reserve is currently exploring.

29. In two 2020 research papers former Federal Reserve officials Julie Coronado and Simon Potter propose a "regulated system of [Fed-backed] digital currency accounts for consumers managed by digital payment providers and fully backed by reserves at the Fed."[3] Those accounts would, according to the proposal, be low fee accounts with no minimum balance requirements, in the interest of serving "unbanked or underbanked" individuals, seeded "with an initial grant of, say, $500 per resident 16 and over" which would "require a Fed balance sheet expansion of about $130 billion." The proposal also envisions use of the digital accounts as "a powerful new stabilization tool for both monetary <u>and fiscal policy</u>." (Emphasis added).[4] The vision is, following one simple vote by Congress to cede countercyclical fiscal policymaking to the central banks "to provide quantitative easing directly to consumers."

Chairman Powell, do you support any of the proposals put forward in the two papers cited above and, if so, which elements of the proposals do you support?

[3] See "Securing macroeconomic and monetary stability with a Federal Reserve-backed digital currency," Julia Coronado and Simon M. Potter, Policy Briefs 20-4, March, 2020, Peterson Institute for International Economics, available at https://www.piie.com/publications/policy-briefs/securing-macroeconomic-and-monetary-stability- federal-reserve-backed.

[4] See "Reviving the Potency of Monetary Policy with Recession Insurance Bonds," Julia Coronado and Simon M. Potter, Policy Briefs 20-5, April 2020, Peterson Institute for International Economics, available at https://www.piie.com/sites/default/files/documents/pb20-5.pdf.

The Federal Reserve has not made any decisions regarding the issuance of a U.S. CBDC or any related design choices. The Federal Reserve's 2022 discussion paper, "Money and Payments: The U.S. Dollar in the Age of Digital Transformation," notes that any potential U.S. CBDC would need to be privacy-protected, intermediated, transferable, and identity-verified. The Federal Reserve would not proceed with the issuance of a retail CBDC without support from the executive branch and from Congress in the form of an authorizing law.

30. In the Federal Open Market Committee's recently adopted Policy on External Communications of Fed System Staff, general principle number 6 states that "Staff will strive to ensure that their contacts with members of the public do not provide any profit-making person, firm, or organization with a prestige advantage over its competitors."

- **a. Why are profit-making individuals and entities singled out, when there are plenty of nonprofit groups who can gain prestige advantages and funding advantages from special contacts with Federal Reserve System staff (e.g., with respect to Federal Reserve climate- related activities or activities on other social issues)?**

b. By singling out profit-making individuals and entities, is the Federal Reserve focusing only on those who report profit on, say, a tax form or in regulatory filings and that those with IRS section 501(c) nonprofit status are exempt from the Fed's policy on external communications, including activist and "advocate" groups, labor unions, and other 501(c) entities?

This principle, which is unchanged since its adoption in 2011, is part of a set of general principles which are not intended to be an exhaustive list of rules. Although not all circumstances are spelled out in the policy, the expectation regarding the principle of not conferring prestige advantage is that staff members will use good judgment in applying that principle in the full set of circumstances they encounter.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Scott Fitzgerald
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed is my response to the question you submitted following the March 3, 2023,[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 14, 2023.

<u>Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Scott Fitzgerald:</u>

1. **The Insurance Capital Standard (ICS) applies to internationally active insurance groups (IAIGs). The ICS is part of the broader Framework for the Supervision of Internationally Active Insurance Groups as part of a package of reforms completed by the International Association of Insurance Supervisors (IAIS) in response to the 2008 Financial Crisis. Currently, large, global insurance groups are subjected to different capital standards that make it difficult to compare their solvency positions. The ultimate goal of the ICS is to establish a single ICS that includes a common methodology that achieves comparable outcomes across jurisdictions.**

   The National Association of Insurance Commissioners (NAIC) issued a statement this month asserting that the criteria to assess whether the Aggregation Method provides comparable outcomes to the ICS. The Aggregation Method is the U.S.-based methodology for determining group capital levels of insurance groups. The ICS is a consolidated group level capital requirement, whereas the AM aggregates the capital requirements of all the legal entities within the group – regardless of where they're based around the world – in coming up with an overall group capital assessment.

   Chairman Powell, do you agree with NAIC's recent interpretation of the final comparability criteria, specifically that the criteria provide a viable path forward for the aggregation method, which is what works best for our long-established and successful state-based system of insurance regulation? Further, will you continue to advocate for recognition of the aggregation method as equivalent throughout the comparability process?

The Federal Reserve is committed to supporting approaches that are appropriate for U.S. insurance companies. I agree that the final comparability criteria provide a viable path forward for the Aggregation Method (AM) to be deemed comparable to the Insurance Capital Standard (ICS) and be used as the U.S. implementation of the ICS. The Federal Reserve will continue to advocate for the AM, alongside the National Association of Insurance Supervisors and the Federal Insurance Office of the U.S. Treasury Department.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Mike Flood
House of Representatives
Washington, D.C. 20515

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[1] Questions for the record related to this hearing were received on April 14, 2023.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Mike Flood:

1. **Chair Powell, during the March 8th House Financial Services Committee hearing, in responding to a question regarding whether you would push for aggregation method to be deemed equivalent during ongoing negotiations about an International Capital Standard taking place at the International Association of Insurance Supervisors, you noted you were "a little rusty on the details of the capital requirements". To clarify, Chair Powell, do you commit to defending the use of the aggregation method as an alternative approach to the Insurance Capital Standard, the ICS, proposed by the IAIS, with the final comparability criteria recently finalized? I would note that the aggregation method recognizes the unique nature of our successful state-based system of insurance regulation and state regulators like those in my home state of Nebraska. This policyholder-focused system of regulation that has led to the most competitive insurance market in the world has been relied on by folks in Nebraska for more than 150 years and ensures that promises made by insurers to consumers are kept.**

The Federal Reserve is committed to supporting approaches that are appropriate for U.S. insurance companies. We continue to advocate for the Aggregation Method (AM), alongside the National Association of Insurance Supervisors and the Federal Insurance Office of the U.S. Treasury Department.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Barry Loudermilk
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the March 3, 2023,[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 14, 2023.

<u>Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Barry Loudermilk:</u>

1. **The RTP Network, the private sector instant payments system that has been operational for years, can now reach about 65% of all U.S. deposit accounts. The Treasury Department does not currently use RTP to ensure government payments such as Social Security, Tax Refunds, or COVID relief funds reach individuals quickly. They [the Department of Treasury] have indicated that they are looking to use the FedNow system, once it is launched, in order to facilitate instant government payments. So, I have a two-part question for you:**

    a. **First, on the day FedNow launches, will it have the same reach as the existing RTP network? If not, how long will it take to get there?**

The Federal Reserve's overarching policy goal for the FedNow Service is to provide equal access to instant payments infrastructure to a broad range of depository institutions across the country. We continue to work to ensure that a large percentage of deposit accounts have access to the service as soon as possible. As we have stated previously a particular objective is to ensure that the FedNow Service is available to small- and medium-sized banks and credit unions. To that end, we are working closely with a number of small- and medium-sized banks and credit unions in the FedNow pilot program to provide technical assistance as they onboard to the service and conduct testing. In addition, we are encouraging the service providers who provide access to Federal Reserve payment services for thousands of community institutions across the country to accelerate access to the FedNow Service for these institutions.

In terms of timing, at the July launch of the FedNow Service a limited number of depository institutions—including large banks, community banks, and credit unions—will be ready to send and receive customer payments. We expect this number to grow in the months following the launch as more institutions complete readiness activities and onboard to the service. We recognize that attaining broad reach for the FedNow Service across the thousands of depository institutions in this country will be a gradual process. We are committed to maintaining our strong level of industry engagement in the coming years to support these institutions, and the service providers that enable their use of our services, in transitioning to a round-the-clock operating environment.

    b. **Second, do you believe that using private real-time payment networks for government payments in conjunction with FedNow would be beneficial to consumers and to the federal government. If so, would you commit to working with Treasury toward that end?**

The FedNow Service is intended to be a flexible, neutral platform that supports a broad variety of instant payments and upon which the private sector can innovate. Use cases for instant payments include situations where rapid access to funds is important for recipients, such as insurance or benefit payments after an accident or natural disaster and expedited payroll for gig-economy workers. Instant payments are also beneficial for helping senders manage cash flows such as last-minute bill payments or small business payments for supplies upon delivery.

Because instant payments are flexible and use-case agnostic, we expect that over time, various government agencies will find it beneficial to leverage instant payments for a variety of needs.

The U.S. Department of the Treasury's Bureau of the Fiscal Service is a participant in the FedNow pilot program and is actively testing instant payment disbursements and collections. We look forward to continued collaboration with the Treasury Department as it prepares to join the launch of the service in July.

2. **As you know, the European Union Commission is considering a regulation that could mandate the availability of instant payments to consumers at every financial institution. Would you be concerned with a similar regulation in the United States?**

The structure of the financial services industry in the Euro area is quite different than in the United States, yet the experience with adoption of instant payments is informative as we work toward the launch of the FedNow Service. Unlike in the European Union, the Federal Reserve does not have plenary regulatory or supervisory authority over the U.S. payment system. Given the strong industry demand across a diverse set of stakeholders, we do expect instant payments to become ubiquitous in the coming years. Responding to strong industry demand—across a diverse set of stakeholders —for nationwide faster payments infrastructure was a key consideration in the Federal Reserve's decision to build the FedNow Service. We know from our research that consumers and businesses are demanding faster payments, and banks/innovators are responding by preparing to offer new instant payment services.

3. **FedNow will feature immediate settlement of payments. What remedy would consumers have if they enter an unintentional transaction settled over the FedNow settlement system?**

Banks have procedures in place today that enable customers to report transactions made unintentionally. We would expect the same to be true for instant payments. In addition, at launch, the FedNow Service will provide features and rules that might be helpful for institutions that need to conduct an investigation or provide refunds in connection with unauthorized transfers or other payments identified by sending banks as errors or fraudulent. These include the ability to request or send a payment return for a payment sent in error, and service terms that require participants to use reasonable efforts to investigate inquiries from its customers and other participants and assist other participants in their investigations of fraud and errors.

4. **Pivoting to another issue we've spoken about in these hearings and privately: As you know, six of the largest banks are now making affordable small dollar consumer loans. Do you believe that more access to bank-led small dollar loans is a positive development? Will you commit to working with other bank regulators to ensure that banks have the necessary regulatory clarity to make these loans?**

The Federal Reserve has long encouraged banks to respond to customers' small-dollar credit needs in a responsible manner. These loans can play an important role in helping customers meet unexpected expenses or shortfalls during periods of economic stress. Furthermore, responsible small-dollar loans can facilitate inclusion and the opportunity for improved access to

credit. In recent years we have seen innovation by financial services providers to help lower costs and address supervisory concerns with this product. For example, monitoring of this product reveals an increase in the number of banks that have recently established small-dollar loan products with more competitive pricing. Innovations in underwriting technology have also enabled the use of cash flow data, rather than only credit scores, which may have the impact of increasing access to this type of credit.

To support innovation in this product area, the agencies have collaborated to help support lenders in designing responsive, compliant small dollar credit products. In March 2020, the Federal Reserve, with the Consumer Financial Protection Bureau, Federal Deposit Insurance Corporation (FDIC), National Credit Union Administration (NCUA), and Office of the Comptroller of the Currency (OCC), issued a statement encouraging banks, savings associations, and credit unions to offer responsible small-dollar loans to consumers and small businesses affected by COVID-19.[1] Subsequent to that in May 2020, the Federal Reserve, FDIC, NCUA, and OCC published a more in-depth document, the *Interagency Lending Principles for Offering Responsible Small-Dollar Loans* (Principles).[2] The purpose of the Principles is to support and encourage small-dollar lending activities by financial institutions, and to give financial institutions flexibility to structure their programs in a manner that is safe and sound, fair to borrowers, and consistent with all applicable laws and regulations.

Among other key points, the Principles note that small-dollar loan products may be implemented through effectively managed third-party relationships. Technological innovations and fintech partnerships may make these products less expensive (for both consumers and banks), and consequently, banks may be more likely to offer them. To support supervisory clarity, the recent Interagency Guidance on Third-Party Relationships may help provide support for smaller banks to work with third-parties to safely offer small-dollar loans.[3]

The Federal Reserve, on its own and with its interagency partners, has issued various publications to support banks in effectively managing such innovations and partnerships. For example, the Federal Reserve joined an interagency statement on the use of alternative data in consumer credit underwriting.[4] The Federal Reserve also issued a publication[5] and guidance[6] to support banks' compliance program development.

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[1] SR 20-7/CA 20-5: Joint Statement Encouraging Responsible Small-Dollar Lending in Response to COVID-19 (March 30, 2020), available at: https://www.federalreserve.gov/supervisionreg/srletters/SR2007.htm.

[2] SR 20-14 / CA 20-8: *Interagency Lending Principles for Making Responsible Small-Dollar Loans* (May 20, 2020), *available at*: https://www.federalreserve.gov/supervisionreg/srletters/SR2014.htm.

[3] SR 23-4: *Interagency Guidance on Third-Party Relationships: Risk Management* (June 7, 2023), *available at* https://www.federalreserve.gov/supervisionreg/srletters/SR2304.htm.

[4] CA 19-11: *Interagency Statement on the Use of Alternative Data in Credit Underwriting* (Dec. 11, 2019), *available at*: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20191203b.htm.

[5] SR 21-15/CA 21-11: *Guide for Community Banking Organizations Conducting Due Diligence on Financial Technology Companies* (Aug. 27, 2021), *available at*: https://www.federalreserve.gov/supervisionreg/srletters/sr2115.htm.

[6] SR 21-16 / CA 21-13: *Community Bank Access to Innovation through Partnerships* (Sept. 9, 2021), *available at*: https://www.federalreserve.gov/supervisionreg/srletters/SR2116.htm.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Frank D. Lucas
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed is my response to the question you submitted following the March 3, 2023,[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 14, 2023.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Frank D. Lucas:

1. **The proposed Credit Valuation Adjustment (CVA) would directly impact end user costs. The EU has long recognized the impact of CVA on end-users and has since January 2014 exempted banks from applying CVA capital charges to end users.[1] With CVA capital set to increase significantly under Basel III, the EU is proposing to continue to apply this exemption.[2] How will the Federal Reserve ensure that if it implements the Basel III Revisions and CVA that end users will not face increased costs? Please provide your analysis that demonstrates that any implementation of these proposals would not increase end user costs.**

   [1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R0575 See Article 382 (4)

   [2] https://data.consilium.europa.eu/doc/document/ST-13772-2022-INIT/en/pdf

The revised Basel III framework is intended to produce more robust and internationally consistent capital requirements for the largest firms, building on improvements made to the capital framework following the 2007-2009 financial crisis. The federal banking agencies plan to issue a joint proposed rule for public comment soon. The Federal Reserve Board will consider the benefits and costs of the proposal broadly, including for credit valuation adjustment (CVA), as we seek to ensure we have a strong framework that supports the strength and resilience of our financial system through the economic cycle—today and in the future.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Gregory W. Meeks
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the March 3, 2023,[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 14, 2023.

<u>Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Gregory W. Meeks:</u>

1. **The Chairman Powell, it comes as no surprise that we all remain concerned about inflation and its impact on our economy and our constituents. I have previously raised my growing concern that high inflation will eventually lead to rising unemployment. You have indicated recently that the Federal Reserve's fight against inflation is "very likely" to come at some cost to the labor market.**

    a. **Could you speak to what the Fed has seen during the last few years with respect to the relationship between unemployment and inflation – isn't it possible that we can continue to have a strong labor market while also curbing inflation? If not, what has changed?**

Our mandates from Congress are to pursue maximum employment and stable prices. In the long run, the labor market will best serve workers if inflation is low and their wages are not consumed by inflation. Currently, the labor market is very strong, but inflation is too high. In our assessment this is because there are large imbalances between supply and demand. For example, in April there were 10.1 million job openings and 6.1 million people looking for work and so the demand for workers exceeds the supply of workers by approximately 4 million, an unprecedented situation outside of the last two years. Our goal is to bring demand and supply back closer into balance. Some of that adjustment may come from greater supply. Indeed, we have seen an increase in labor force participation. Some of it will have to come from less labor demand, but that does not necessarily mean a significant increase in unemployment. For example, a moderate slowing in labor demand could lead to a reduction in job openings without a substantial increase in layoffs, as firms may be hesitant to let go of employees given their challenges in hiring over the past two years.

   b. **What approaches do you recommend Congress take to preserve the continued strong job growth, while the Fed tries to cool inflation?**

Fiscal policy matters are the responsibility of elected officials, not the Federal Reserve. It would not be appropriate for me to weigh in on this matter.

2. **As someone who worked to help pass Dodd-Frank, I recognize that the strength and stability of our financial system is critical. It's because of Dodd-Frank that our financial institutions remained resilient throughout the pandemic and are as strong as they are today. I understand the Federal Reserve is conducting a holistic review of the capital framework, which I support, and that there is a possibility that it might lead to higher capital requirements for our banks.**

    a. **During my time in Congress, I have pushed institutions to be more intentional about providing products and services to underbanked and underserved communities. One of the critiques of higher capital requirements is that it will disproportionately harm those communities because it will weigh on the banks' ability to lend to individuals and small businesses, and restrict investments in**

CFDIs and MDIs across the country. Are these valid concerns? Can you elaborate on how these communities would be impacted?

b. You've said in the past that you believe "there is sufficient capital in the banking system." Do you still believe banks are well-capitalized today? And how much capital is enough for our biggest institutions?

Robust capital requirements are fundamental to the strength and stability of our financial system. Capital helps ensure the resilience of firms and our banking system to losses and stress.

Without adequate capital, banks cannot lend. And, while poorly capitalized banks may be forced to shrink during bad times, better capitalized banks have the capacity to support the economy by continuing to lend to households and businesses through stressful conditions.

Of course, we must be mindful of the tradeoffs associated with adjusting capital levels. Requiring banks to fund more of their activities with equity, instead of debt, could raise the private costs of funding to the bank, reducing the availability of credit or causing banks to pass those higher costs of credit to consumers. These considerations must be balanced against the public benefits of higher capital.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Wiley Nickel
House of Representatives
Washington, D.C. 20510

Dear Congressman:

Enclosed are my responses to the questions you submitted following the March 3, 2023,[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 14, 2023.

<u>Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Wiley Nickel:</u>

1. **The Basel 3 Endgame rule expected later this year will materially increase the capital requirements of the largest banks. This has the potential to limit these banks' ability to lend into the economy and support capital formation in markets. Have you considered the impact that higher capital requirements might have on minority-owned business who already face significant barriers to accessing capital? Studies show that business owners of color are more likely to be disadvantaged when it comes to obtaining start-up funding, growth funding, and capital with affordable interest rates. When we consider these structural barriers for minority entrepreneurs, the rising rate environment, and inflation, is this the right time to raise capital in the system?**

Robust capital requirements are fundamental to the strength and stability of our financial system. Capital helps ensure the resilience of firms and our banking system to losses and stress.

Without adequate capital, banks cannot lend. And, while poorly capitalized banks may be forced to shrink during bad times, better capitalized banks have the capacity to support the economy by continuing to lend to households and businesses through stressful conditions.

Of course, we must be mindful of the tradeoffs associated with adjusting capital levels. Requiring banks to fund more of their activities with equity, instead of debt, could raise the private costs of funding to the bank, and cause banks to reduce the availability of credit or to pass higher costs of credit to consumers. These considerations must be balanced against the public benefits of higher capital.

2. **What do you believe is the optimal level of capital? How do you balance the need to promote the safety and soundness of the system with supporting the capacity of banks to finance economic activity?**

As we consider the overall calibration of capital requirements, a goal is to ensure we have a robust capital framework that supports the strength and resilience of our financial system through the economic cycle. We seek to balance the fact that banks need adequate capital to lend (especially in times of stress) with the fact that requiring banks to fund more of their activities with equity, instead of debt, could raise the private costs of funding to the bank, and cause banks to reduce the availability of credit or to pass higher costs of credit to consumers.

3. **If the US defaults on its debt, how would you expect this to impact our economy and capital markets?**

Fiscal policy matters, including the debt ceiling, are the responsibility of Congress and the Administration. A failure of the U.S. government to pay all of its bills when they are due would be unprecedented, and the consequences for the U.S. economy could be extraordinarily adverse. Treasury securities are the risk-free asset that underpins world capital markets, and the knock-on effects for the global economy would be substantial.

4. **Housing is a primary driver of core inflation, and one the Fed has been warned about repeatedly. Mortgage rates rose over 7 percent last year. People are being priced out of home ownership, and that means more people go into rental markets already facing inflationary pressures. Now the Fed's rate hikes might make matters worse by further constraining housing construction and supply. Are you concerned that the Fed's rate hikes might worsen rather than alleviate a key driver of inflation, housing costs, when what we need is significantly more investment to address the critical affordable housing crisis facing the nation?**

Mortgage rates for newly-purchased homes increased significantly last year and they are currently around levels not seen since the mid-2000s. This increase was accompanied by a large drop in single-family home sales and construction. Meanwhile, however, multifamily construction has remained at historically high levels, likely related to strong rental demand. This additional supply may have contributed to the rapid deceleration in the growth rate of market rents seen over the past six months. The decreases in the affordability of purchasing a home and new single-family construction are among the unfortunate costs of reducing inflation. However, a failure to restore price stability would mean far greater challenges for all Americans, including for those households looking to purchase their first home.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Zach Nunn
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the March 3, 2023,[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 14, 2023.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Zach Nunn:

1. **As the Fed begins to rethink and tailor categories for the CCAR, do you agree that individual investment vehicles such as SBICs should be reviewed as their own entity to ensure the loss rates are properly calculated in separate line items in lieu of including all debt and investments in the same category?**

The Federal Reserve Board's (Board) treatment of all positions in the regulatory capital framework and the supervisory stress test is based on careful analysis and regular review. Staff have been actively engaged with banks and the Small Business Administration to determine if any adjustments are appropriate for the treatment of bank exposures to Small Business Investment Companies in both the regulatory capital framework and the supervisory stress test.

2. **Chairman Powell, as you may know, the Office of the Comptroller of the Currency, as part of their annual congressional justification for their budget, includes a breakdown of their "Supervise Resources and Measures," which includes a total of Full-Time Equivalents (FTEs) that are engaged with supervision and examination efforts at the agency. To the best of our knowledge, no such public disclosure is available about such resources for the Federal Reserve.**

   Can you please provide the number of FTEs that currently conduct supervision and examination as part of the entire Federal Reserve System, including the 12 regional Federal Reserve Banks? Can you also please share any records of the number of FTEs in supervision and examination roles that have served in the Federal Reserve System for each of the past (10?) years?

FTEs by category were not publicly disclosed in the 2022 Federal Reserve Bank Budget report due to a change in methodology that makes the data less comparable to prior periods. Prior to July 2021, the Federal Reserve System used the average number of personnel (ANP) method for calculating personnel statistics. The ANP for Supervision in 2021 was 4,086.[2] The annual reports containing ANP figures for previous years can be found on our website.[3]

3. **Can you please describe any circumstances or context, including technology, remote work, etc., that has either positively or negatively affected the overall number of FTEs needed for supervision and examination recently and how you anticipate the number of FTEs needed going forward?**

While the use of technology has a positive impact on our ability to conduct more examination work offsite (which was critically important during the pandemic), it has not had a material impact on our number of FTEs. Supervision uses a principle-based strategy that leverages data-driven analytics to inform decisions that optimize resource allocation across our legal entities, our portfolios, and our programs. This process allows us to identify efficiencies and tradeoffs to

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[2] *See* "2021 Federal Reserve Bank Budgets Addendum, pg. 17" at https://www.federalreserve.gov/foia/files/2021ReserveBankBudgets.pdf.

[3] *See* https://www.federalreserve.gov/foia/federal-reserve-bank-budgets.htm.

invest in our highest priorities. Supervision's ANP/FTE has been relatively flat over the prior 10-year period due to these efforts.

4. **The stated purpose of the Community Reinvestment Act statute is to encourage banks "to help meet the credit needs of the local communities in which they are chartered consistent with the safe and sound operation of such institutions." Yet, the proposal would create new Retail Lending Assessment Areas (RLAAs) where a bank makes 100 mortgages or 250 small business loans. These RLAAs could span very large geographies – often thousands of square miles. What's more, the RLAA triggers would be immaterial relative to the lending volume of some banks. How does this aspect of the proposal not exceed the agencies' statutory mandate to focus on local communities?**

An important aspect of the interagency proposal is that it sought to adapt to the expanded role of mobile and online banking by updating the approach for where banks are evaluated for their CRA performance, consistent with the statutory requirement to assess an institution's record of meeting the credit needs of its entire community. While maintaining a focus on bank branches, the proposal asked for feedback on evaluating large bank performance in areas where they have a concentration of mortgage or small business lending outside of where they have branches.

The agencies included information in the proposal on the potential effects of different retail lending thresholds on large banks. The agencies asked for feedback on a number of aspects of the retail lending assessment area proposal, including whether a bank should be evaluated for all of its major product lines in each retail lending assessment area and whether there are alternative methods that the agencies should consider for evaluating outside lending that would preserve a bank's obligation to meet the needs of its local communities.

The agencies are in the process of carefully considering the comments received on the proposal.

5. **According to the agencies' own analysis of historical data, 34% of "large" banks (banks over $2B in assets) would fail their Community Reinvestment Act exam in their new Retail Lending Assessment Areas under the proposed rule. Moreover, the proposal's performance benchmarks are pegged to the CRA performance of other banks operating in that assessment area, thereby making it mathematically impossible that all banks would perform at the satisfactory level on their CRA exams. How does this not raise safety and soundness concerns? Shouldn't regulatory expectations be achievable for all banks?**

I agree that regulatory expectations should be clear, transparent, and achievable for banks. The CRA proposal sought to provide greater clarity, consistency, and transparency regarding how a bank's retail lending performance translates into CRA conclusions and ratings. To that end, the agencies proposed numerical thresholds intended to set performance expectations for the different Retail Lending Test conclusions. The agencies sought feedback on whether the proposed retail lending metrics and thresholds were appropriate and were set at the appropriate levels.

The agencies are in the process of carefully considering the comments received on the proposal.

6. Community Reinvestment Act modernization is likely to involve significant complexity, lengthy regulations, and a relatively short implementation period. This spells difficulty in implementing the regulators' expectations and is particularly difficult for smaller banks that lack resources internally and for external consultants. In the past, the agencies have been willing to make presentations about new rules, but I am concerned about the highly scripted nature of recent agency efforts where staff read their presentations verbatim and do not allow bankers an opportunity to ask questions or where speakers decline to answer questions. This approach is not conducive to banks' understanding of regulatory expectations, and regulators should be concerned about that. What preparations is the Federal Reserve making to provide high-quality implementation support to bankers? Do you plan to provide useful examples, case studies, and an opportunity to ask questions and get answers? Given the proposal's very short implementation period of one year, are you prepared to roll out this assistance contemporaneously with the new rule?

The comments submitted in response to the proposal included perspectives on the appropriate implementation period for a CRA final rule, including some views recommending a longer implementation period. The agencies are in the process of carefully considering these comments.

On the question of whether the agencies plan to answer questions and provide other materials to support implementation of any final rule, we expect that there will be broad outreach to all stakeholders to explain the final rule. This outreach would begin upon release of any final rule.

7. When looking at the text of the Community Reinvestment Act, Congress was clear that banks should be evaluated on the basis of where they have branch offices. Certainly, banking has changed considerably since the original passage of the CRA, but do you think that banking regulators should be able to vastly expand the evaluation area of banks without the approval of Congress and in contravention of the law?

The statute requires the agencies to assess an institution's record of meeting the credit needs of its entire community. As noted previously, the agencies asked for feedback on whether large banks should be assessed outside of branch-based assessment areas in areas where they have a concentration of mortgage or small business lending. My colleagues and I are committed to carefully reviewing any concerns expressed by commenters and considering ways to address these issues in any final rule while staying true to the statutory authority granted by Congress.

8. Chairman Powell, the three banking regulators, are still in the process of updating the Community Reinvestment Act. I think we all agree that the CRA is an incredibly important tool to serve LMI communities and that the rule needs to be updated. However, I believe that it should be done in a way that is in line with the CRA statute and Congressional intent. I have heard concerns that the creation of retail lending assessment areas under the proposed rule may actually be counterproductive to the goals of CRA and result in changes to bank strategy so as to not trigger new regulatory requirements in areas where loan volumes are immaterial to a bank's overall business.

Are you concerned by this potential outcome should the proposed rule be finalized with very few changes?

As noted previously, the agencies are carefully reviewing any concerns expressed by commenters, including on potential unintended consequences of the retail lending assessment area proposal.

9. **With the departure of Fed Vice Chair Brainard, do you have an update on the timing of the release of the Community Reinvestment Act final rule and how long banks would have to come into compliance with the rule? Given the complexity of the proposal, it seems to me that banks should have plenty of time to establish the systems needed to be in compliance. Who within the Federal Reserve is taking over the responsibility of the CRA with the recent departure of Ms. Brainard?**

Vice Chair for Supervision Barr is leading the CRA rulemaking effort for the Board.

As previously noted, the Board and the other agencies are still in the process of carefully considering the comments received on the proposal.

As to how long banks would have to come into compliance with the rule, the agencies continue to review the comments and discuss potential alternatives to the proposal.

10. **The Fed recently launched a pilot project for Climate Scenario Analysis (CSA) "to learn about large banking organizations' climate risk-management practices and challenges and to enhance the ability of both large banking organizations and supervisors to identify, measure, monitor, and manage climate-related financial risks." The scenarios are based on those developed by the Network for Greening the Financial System (NGFS), of which the Federal Reserve is a member. The NGFS scenarios are based on a goal to reduce emissions – the net zero goal. How will the Fed and the other bank regulators ensure that, whether through these exercises or via other supervisory efforts, they are not influencing banks' decisions to lend to specific customers and the pricing of these transactions?**

The Federal Reserve's mandate with respect to climate change is important but narrow, focused on our supervisory responsibilities and our role in promoting a safe and stable financial system. The Federal Reserve does not dictate banking organizations' business decisions to lend or not lend to specific firms or sectors on any particular terms. Those business decisions should be made by the banking organizations themselves.

The climate scenarios used in the Federal Reserve's pilot climate scenario analysis exercise with six of the largest banking organizations are neither forecasts nor policy prescriptions and do not necessarily represent the most likely future outcomes. Rather, they represent a range of plausible future outcomes that can help build understanding of how certain climate-related financial risks could manifest for large banking organizations and how these risks may differ from the past. The Federal Reserve anticipates publishing insights gained from this pilot exercise at an aggregate level, reflecting what has been learned about climate-related financial risk

management practices. No firm-specific information will be released in connection with this pilot exercise, and the pilot exercise will not have direct capital or supervisory implications.

11. Once finalized, the internationally developed *Principles for Climate-related Financial Risk for Large Banks* may alter the provision of financial services to certain industries and communities in the United States. The economic effects of this will be felt by all banks, which will need to adapt to the resulting market changes and ensure that financial services to vulnerable communities and customers are preserved. How is the Federal Reserve weighing these costs when considering US implementation? How is the Federal Reserve ensuring that international rulemakings are transparent and that the development and implementation of international standards align with the Administrative Procedures Act?

The Federal Reserve's mandate with respect to climate change is important but narrow, focused on our supervisory responsibilities and our role in promoting a safe and stable financial system. In light of the cross-border and cross-sectoral nature of climate-related financial risks, the Federal Reserve has been engaging with a wide range of domestic and international stakeholders, including foreign supervisors and international bodies, to better understand the potential impacts of climate-related financial risks on supervised institutions and financial stability. The Federal Reserve approaches these engagements through the lens of our existing mandates and authorities, particularly those relating to the regulation and supervision of financial institutions and the stability of the broader financial system. We recognize the benefit of engaging with other regulatory agencies, central banks, and international bodies on these issues while taking into account the important differences across jurisdictions and our own domestic mandates.

The Federal Reserve intends to work closely with the Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC) to issue final principles for climate-related financial risk management for large banking organizations. In December 2022, the Federal Reserve requested comment on draft principles; similar draft principles were published for comment by the OCC and the FDIC in December 2021 and April 2022, respectively. The Federal Reserve's intention is for the principles to be issued as supervisory guidance, and, consistent with the Federal Reserve's rule on guidance, the principles would neither have the force and effect of law nor impose any new requirements on supervised institutions. As such, the principles would not be subject to the notice-and-comment requirements of the Administrative Procedure Act.[4] Nevertheless, the Federal Reserve proposed the draft principles for public comment and the Federal Reserve is considering all comments received in developing any final principles.

12. As the Federal reserve looks at "transition risk" how will you ensure that political or other non-prudential agendas do not become entangled in your work? As an example, transition risks under the Biden Administration may look significantly different than they did under the Trump Administration. How does the Fed plan to account for changes in policy which can occur in a shorter time frame than those that you may be considering? Or is transition risk analysis necessarily limited to shorter time frames because of the potential for changes in policy direction?

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[4] *See* 5 U.S.C. § 553(b).

The Federal Reserve's mandate with respect to climate change is important but narrow, focused on our supervisory responsibilities and our role in promoting a safe and stable financial system. The Federal Reserve is working to understand how climate-related financial risks may pose risks to individual banking organizations and the financial system. Scenario analysis can be a helpful risk management tool for both firms and regulators to better understand the resilience of supervised institutions to a range of plausible but uncertain climate outcomes. The Federal Reserve is currently conducting a pilot climate scenario analysis exercise with six of the largest banking organizations to evaluate the potential impact of climate-related financial risks on select portfolios across multiple scenarios. This pilot exercise is intended to deepen understanding of risk management practices and to build capacity of large banking organizations and supervisors to identify, measure, monitor and manage climate-related financial risks.

The pilot exercise includes physical and transition risk scenarios. Transition risks refer to stresses to certain institutions, sectors, or regions arising from the shifts in policy, consumer and business sentiment, or technologies associated with the changes that would be part of a transition to a lower carbon economy. The transition risk scenarios used in the pilot climate scenario analysis reflect different combinations of economic, technological, and policy assumptions that generate projections for economic and financial variables like GDP growth and carbon prices, but they do not represent forecasts or policy recommendations. Instead, these scenarios serve as useful reference points to consider how economic and financial variables might evolve under different sets of plausible conditions. The scenarios used in this pilot climate scenario analysis exercise are neither forecasts nor policy prescriptions and do not necessarily represent the most likely future outcomes. Rather, they represent a range of plausible future outcomes that can help build understanding of how certain climate-related financial risks could manifest for large banking organizations and how these risks may differ from the past.

In the transition risk module of the pilot exercise, participating institutions will estimate relevant risk parameters over a 10-year projection horizon on an annual basis. While transition risks are anticipated to manifest over a longer time horizon than is typically considered for large banking organizations' risk management and strategic planning, transition risks could manifest sooner than anticipated and in a disorderly manner. Longer time horizons incorporate a greater degree of uncertainty given embedded assumptions about consumer or investor behavior, the pace of technological change, and policy developments. The pilot exercise's 10-year horizon is intended to balance the potential longer-term nature of transition risks, projection uncertainty, and desire for the pilot exercise to result in decision-useful information.

13. A coalition of community banks and credit unions wrote to the Board of Governors on February 13, asking for a delay in the implementation of the new debit card routing rule. These small financial institutions were only given 8 months to comply despite high costs and concerns about how this rule could increase fraud in the payments system. The argument for an extension is that this will give them the time to do this right and do it safely. Has the Board taken up this reasonable request for regulatory flexibility?

In October 2022, the Board adopted a final rule that amended Regulation II to specify that, consistent with the Durbin Amendment to the Dodd-Frank Wall Street Reform and Consumer Protection Act, the existing requirement that each debit card transaction must be able to be processed on at least two unaffiliated networks applies to online payments and other card-not-present debit card transactions. The final rule will become effective on July 1, 2023, approximately nine months after it was published in the *Federal Register*.

The Board subsequently received requests from bank trade associations and others for additional time to comply with the final rule. Banks should expect the July 1 effective date to remain in place. The Board's decision to adopt a July 1 effective date was informed by numerous comments on the proposed revisions that discussed the effective date extensively; importantly, several commenters indicated that most community bank debit card issuers have already enabled two unaffiliated networks to process card-not-present transactions.

14. Are you aware of a kind of debit card transaction called "Pin-less?" It's a kind of debit card transaction that small financial institutions say they're being forced to accept under the Durbin Amendment. Banks and credit unions have sent several letters to the Fed saying that these transactions are much riskier than regular debit transactions, but they've received no response. These small institutions argue that there's nothing in the law that actually requires these transactions and feel that the Durbin Amendment is being manipulated to disadvantage them. Is this something you will look into?

Like the Durbin Amendment, Regulation II does not require debit card issuers or networks to use or support any particular method of cardholder authentication, such as signature, PIN, or no cardholder verification method (e.g., "PIN-less"), for debit card transactions. In practice, a debit card issuer that is not already compliant with the October 2022 final rule may need to enable a network that has traditionally employed PIN authentication for card-present transactions to process card-not-present transactions. While some stakeholders have expressed concerns that card-not-present transactions processed by these "PIN networks" may have higher rates of fraud, data collected by the Board suggest that these networks have fraud-prevention capabilities that are comparable to networks that have traditionally employed signature authentication for card-present transactions. Furthermore, under the final rule, debit card issuers can choose which debit card networks to enable on their cards to process card-not-present transactions from the many available networks, and in doing so, can consider such networks' fraud-prevention capabilities.

15. The Under Secretary of the Treasury, Nellie Liang, recently spoke at the Atlantic Council that a consortium of government agencies will meet regularly in the coming months to discuss whether to adopt a central bank digital currency or CBDC. Can you elaborate on the timing of this plan to further explore a CBDC, and whether you would need Congressional approval for both a retail and wholesale CBDC.

The Federal Reserve is not a member of the Treasury Department's Central Bank Digital Currency (CBDC) Working Group. That said, one of the key tasks for the CBDC Working Group is to complement the Federal Reserve's work by considering the implications of a U.S. CBDC for policy objectives for which a broader Administration perspective is helpful.

The Federal Reserve would not proceed with the issuance of a retail CBDC without support from the executive branch and from Congress in the form of an authorizing law. The Federal Reserve's legal authority to issue a wholesale CBDC would depend on the specific details of the wholesale CBDC structure.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable Pete Sessions
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed are my responses to the questions you submitted following the March 3, 2023,[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 14, 2023.

Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Pete Sessions

1. **In some circumstances, such as the capital treatment of high-quality collateral on certain transactions by banks reporting under the standardized approach, US capital rules deviate from the Basel framework and, as a result, have placed some banks operating under US regulation at a competitive disadvantage. If the Fed identifies such discrepancies in its capital review, are you willing to make appropriate adjustments to level the playing field and align with other global regulators?**

Through international forums such as the Basel Committee on Banking Supervision, the United States seeks to promote strong and consistent banking regulations across jurisdictions. The Board monitors and evaluates the approaches other jurisdictions take regarding matters such as capital regulation, including with respect to the treatment of collateralized transactions. At times, U.S. regulations may differ, for example, to account for U.S.-market specific factors.

Vice Chair for Supervision Michael Barr is conducting a holistic review of capital requirements to ensure we have a strong framework that supports the strength and resilience of our financial system through the economic cycle—both today and in the future. The review is taking a comprehensive approach, looking at the entirety of the capital framework.

2. **Can you please succinctly describe the actions you are taking to shrink your balance sheet, raise interest rates, and get supply and demand back into alignment?**

In accordance with the Federal Open Market Committee's (FOMC) "Plans for Reducing the Size of the Federal Reserve's Balance Sheet," which were released in May 2022, we are continuing the process of significantly reducing the size of our balance sheet through capped monthly redemptions of maturing securities. The specified caps on the runoff of our holdings of Treasury securities and agency mortgage-backed securities (MBS)-currently set at \$60 billion per month for Treasury securities and \$35 billion per month for agency MBS-ensure that the balance sheet reduction proceeds in a predictable manner. We expect the size of the balance sheet to continue to decrease until our securities holdings reach amounts that the FOMC judges appropriate to implement monetary policy efficiently and effectively in its ample reserves regime. We are prepared to adjust any of the details of our approach to reducing the size of the balance sheet in light of economic and financial developments.

Since March 2022, we have raised the target range for the federal funds rate by 500 basis points, bringing the target range to 5 to 5¼ percent as of the June FOMC meeting. In determining the extent of additional policy firming that may be appropriate to return inflation to 2 percent over time, the Committee will take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments.

The steps we are taking should moderate demand so that supply and demand come into better alignment. We remain committed to bringing inflation back down to our 2 percent goal and to

keep longer-term inflation expectations well-anchored. Restoring price stability is essential to set the stage for achieving maximum employment and stable prices over the longer run.

3. As you know, I sent you a letter, on January 4, voicing concerns regarding the New York Fed's perceived endorsement of a specific project looking at the use of blockchain technology to transmit digital commercial bank money. While I don't mind the Fed advising or working with these types of projects, I don't think the Fed should be in the business of picking winners and losers - especially when community banks in Texas and elsewhere stand to lose. Is it fair to assume that the Federal Reserve would like to see Regional Fed Banks not discriminate against other private blockchain-based payment networks, including networks that include regional, mid-sized, and community banks?

As I noted in my response to your letter on May 12, 2023, I believe that meeting the diverse financial services needs of the U.S. economy will continue to require a range of financial institutions—including small- and mid-size banks—offering different sets of services and pursuing various business models. In light of this expectation, the Federal Reserve is focused on continuing to provide payment services in a manner that supports access of all banks, including smaller institutions, to the U.S. payment system on broadly equitable terms.

4. How does the Federal Reserve Bank consider divergences in the Consumer Price Index (CPI) and the Personal Consumption Expenditures (PCE)? I know the Fed watches the PCE more closely, but is the Board worried about a potential disconnect with the public if they see the CPI showing signs of easing yet the Fed still moving ahead with rate hikes?

Whether measured by the Consumer Price Index (CPI) or the Personal Consumption Expenditures Price Index (PCE PI), inflation remains elevated and well above the FOMC's inflation objective. In addition, while discrepancies between CPI and PCE inflation of a percentage point or more have occurred in the past, these large discrepancies have generally not persisted for long, and I expect this will also be true going forward.

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

JEROME H. POWELL
CHAIR

June 16, 2023

The Honorable William R. Timmons IV
House of Representatives
Washington, D.C. 20515

Dear Congressman:

Enclosed is my response to the question you submitted following the March 3, 2023,[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,

Enclosure

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<u>Questions for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative William R. Timmons IV:</u>

1. **Thank you for your written response to my question from our last hearing regarding increased fraud in remote deposit capture of checks (Nov. 4, 2022 letter). While I appreciate the response, I remain concerned that the Fed has not sufficiently prioritized steps that can be taken to decrease fraud related to electronic check presentment. I'd like your commitment that you will work with me to make available fraud data related to remote deposit, as well as concrete steps and innovative real-time solutions that the Board can offer to decrease fraud throughout the whole ecosystem.**

   As you referenced in your response, the FedDetect service is available to check processing organizations. However, industry participants have complained that the utilization is a very manual process which makes it inefficient for scalable use. Have you heard similar concerns? Are there any other technology solutions under consideration to ensure a check has not already been cashed or deposited?

   Additionally, please provide updated information regarding the amount of fraud the Federal Reserve attributes to remote deposit capture. I asked for this data in my letter and it has not been delivered.

The Federal Reserve take issues associated with consumer fraud seriously, and we are committed to advancing the safety of payment services broadly. The FedDetect[SM] Duplicate Treasury Check Notifier Service offers secured email to all Check 21 customers. Secured email is the most expedient option available to provide necessary information, including check images, to investigate for duplicate U.S. Treasury checks. The Federal Reserve recognizes that reviewing these secure emails for fraudulent activity may be a manual process for FedDetect[SM] customers. The Federal Reserve is exploring whether FedDetect[SM] could be extended to cover checks that can be deposited through remote deposit capture and whether other features could be developed to assist customers. In all cases, however, such services place the responsibility of identifying fraud on the financial institution, which is in the best position to know its customer and take appropriate action, if any.

The Federal Reserve is not aware of any other dedicated technology solutions that ensure a deposited check has not already been paid by the payors' financial institutions. Some financial institutions have developed in-house solutions to identify potential duplicate checks across only their internal channels.

The Federal Reserve does not collect fraud data specific to remote deposit capture. While certain financial institutions may include or require some additional form of remote deposit capture endorsement on the rear of a check, the Federal Reserve is unable to capture this level of detail to perform data analysis. We are not aware of any other source for this information at this time.