MONETARY POLICY AND THE STATE OF THE ECONOMY

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MONETARY POLICY AND THE STATE OF THE ECONOMY

Thursday, June 23, 2022

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

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

Members present: Representatives Waters, Sherman, Meeks, Green, Perlmutter, Himes, Beatty, Vargas, Gottheimer, Gonzalez of Texas, Lawson, Axne, Casten, Pressley, Torres, Adams, Dean, Ocasio-Cortez, Adams, Garcia of Texas, Williams of Georgia, Auchincloss; McHenry, Lucas, Posey, Luetkemeyer, Huizenga, Wagner, Barr, Williams of Texas, Hill, Emmer, Loudermilk, Mooney, Davidson, Budd, Hollingsworth, Rose, Steil, Timmons, Sessions, and Norman.

Chairwoman WATERS. Good morning. Before we get started with today's hearing, I would like to ask unanimous request to adopt this resolution that was made available to all Members that names our newest committee member, Mr. Norman, to his subcommittee assignments.

Without objection, it is so ordered.

Today's hearing is entitled, "Monetary Policy and the State of the Economy."

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

Welcome back, Chair Powell, and congratulations on your confirmation as Chair of the Federal Reserve. Since you last came before the committee, Americans continue to struggle to make ends meet as the prices of housing, gas, and groceries have skyrocketed. While it is important for the Fed to fight inflation, I would caution against any approach that ignores the Fed's maximum employment mandate, and results in a recession, with millions of people losing their homes and jobs.

I hope that you have noted that last week the House passed my bill, H.R. 2543, the Financial Services Racial Equity, Inclusion, and Economic Justice Act, which directs the Federal Reserve to consider the impact of all of its decisions, including setting interest rates on communities of color and underserved communities. Congress has a role in fighting inflation also.

Housing is one of the largest contributors to inflation, and the housing shortage has allowed corporate landlords to hike the rent, forcing families to make difficult cuts elsewhere in their budgets.

The Fed's interest rate hikes will make borrowing more expensive and, thereby, could help reduce the out-of-control housing crisis. But without action by Congress, inflationary pressures will remain, because there is simply not enough affordable housing being built, and there won't be until Congress makes the necessary investments. That is why it is so important that we pass the housing title of the Build Back Better Act, which provides over $150 billion towards new housing construction, modernizing existing structures for the long term, and providing support so that people can be stably housed.

We are also facing corporate consolidation and greed. Without healthy competition to drive down prices, megacorporations, driven by profit, are exploiting their economic power to squeeze Americans to the breaking point. Democrats in Congress put forth solutions to tackle inflation, but my colleagues across the aisle have consistently voted against every solution.

Let me go over some examples. Democrats passed a bill with $28 million in funding to address the baby formula shortage, but Republicans voted, "no." We passed legislation to crack down on price gouging from oil and gas companies, and Republicans voted, "no." Last week, Democrats passed my Financial Services Racial Equity, Inclusion, and Economic Justice Act, and you guessed it: Republicans voted, "no." Republicans can talk about problems, but they have zero solutions.

Let's also not forget that the Federal Reserve has more duties beyond monetary policy. Bank mergers and banking deserts are affecting access to credit for low-income consumers and communities of color, and working families who turn to cryptocurrency to generate wealth are now seeing their hard-earned savings disappear. Now more than ever, the Federal Reserve must work with other regulators to properly oversee the cryptocurrency market and provide guidance on a more stable alternative to volatile cryptocurrencies.

Lastly, the confirmations of Lisa Cook, Susan Collins, and Philip Jefferson are historic, but more must be done to ensure diversity at the Federal Reserve.

So, Chair Powell, I look forward to hearing your testimony this morning.

I now recognize the ranking member of the committee, the gentleman from North Carolina, Mr. McHenry, for 4 minutes to give an opening statement.

Mr. MCHENRY. Thank you, Madam Chairwoman, and thank you, Chairman Powell, for being here with us again.

A year ago, President Biden tried to buy support by signing into law a $2-trillion stimulus bill. What he did was sell ordinary Americans, who are now repaying all of that, "free money." Inflation is the worst it has been in 40 years. American families are rethinking their long-awaited summer vacations because they can't afford a $5-a-gallon price at the pumps. Costs are spiraling out of control for everything from housing and food to airfare, cars, medical care, and clothing. Democrats are still on the hunt for the scapegoat. They blamed oil companies, the war in Ukraine, and supply chain issues in Asia, but let's be clear: It is the Democrats' trillions in wasteful spending that resulted in higher grocery bills and soaring gas prices.

President Biden continues to deny that the so-called American Rescue Plan contributed to inflation, recently calling that idea, "bizarre." Well, economists across the ideological spectrum, from former Clinton Treasury Secretary Larry Summers, to Jason Furman, to Michael Strain, don't think it is bizarre. Even the left-leaning San Francisco Fed found that the American Rescue Plan contributed to price increases. And now, millions of Americans need to be rescued from the Democrat's American Rescue Plan.

I am confident that Chair Powell is taking this emergency seriously, and as I have said many times before, I think he is the right man for the job, and he is. But how the Fed manages the next few months will be as critical as any other period during the last 4 decades. No one at the Central Bank was prepared for prices rising at a clip of 8 percent, with even core inflation rising and running at 6 percent now. Republicans have long warned about the size of the Fed's balance sheet, but it grew by nearly a trillion dollars over the last 12 months alone. And now it seems the previous predictions by the Federal Open Market Committee (FOMC) about economic projections are wrong, and they are altering their course. Simply put, the Fed has its work cut out for it.

Lastly, I want to address the left's ongoing efforts to expand the Fed's dual mandate. Republicans have been on the record opposing this, and I hope that the skyrocketing inflation unleashed under the Biden Administration puts an end to these discussions. The Fed should be focused on price stability. That should be their single-minded focus at this moment in time. It is out of touch for Democrats to keep pushing mission creep at the Fed when American families are struggling to feed themselves and to get to work. The Fed is a serious place with serious business to attend to. It needs to focus on the middle-class, not the chirping political class. This was true before inflation broke out, and it is all the more obvious today.

I hope that Chair Powell will deliver that message to his colleagues throughout the institution, and, again, I want to thank Chair Powell for his testimony today, for his willingness to engage with policymakers on the Hill, and for his openness in what has been a more closed-off institution. We have a massive cleanup, and we know that you are taking your job seriously. And I am glad you are taking your job seriously.

And with that, Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you, Ranking Member McHenry. I now recognize the gentleman from Connecticut, Mr. Himes, who is also the Chair of our Subcommittee on National Security, International Development and Monetary Policy, for 1 minute to give an opening statement.

Mr. HIMES. Thank you, Madam Chairwoman, and welcome, Chairman Powell. Congratulations on your confirmation.

I don't remember a moment as consequential as this one for the Federal Reserve or as potentially testing of its leadership. I think I have to go back to the end of 2008 and the first quarter of 2009 to think of a moment that was quite as important, as Americans watched the economy collapse around their ears and their jobs and assets being lost. There is a very real possibility that Americans will be caught in a vise, an economic vise not of their own making, between inflation, which makes their everyday lives unaffordable, and the possibility much contemplated by economists of a recession. Simply put, as one of the last Members of Congress to get out of the Chamber when it was under attack on January 6, 2021, I don't believe that our democracy can sustain either runaway inflation or another recession, and despite the rhetoric you will hear all day today here, there is not a lot that we can or will do. Much of this rests on your shoulders.

Chairman Powell, I just ask that as you make your decisions, you think not just of the numbers and the economics, but of the importance of sustaining this nation's democracy.

Chairwoman WATERS. Thank you, Mr. Himes. I now recognize the ranking member of the Subcommittee on National Security, International Development and Monetary Policy, the gentleman from Kentucky, Mr. Barr, for 1 minute to give an opening statement.

Mr. BARR. As we face the worst inflation the country has seen in 4 decades, I am encouraged to have Mr. Powell leading our Central Bank, and I am hopeful that the Fed will rise to the occasion. At the same time, it is important to remember the following. Just last year, Democrats were ignoring inflation warnings to pass a $2-trillion stimulus bill. They were pushing the Fed to solve climate change and social ills, and they flirted with unconventional monetary tools like yield curve control. Today, as gas prices top $5 a gallon, these left-wing ideas seem like a fever dream from an alternate universe, but many Democrats fell for them at the time, and they will likely pursue them again if inflation subsides.

The lesson for the Fed is clear: It needs to focus on doing a limited number of jobs well and not get distracted by those who want it to be all things to all people. Specifically, the Fed should be laser-focused on its price stability mandate. And even as you acknowledge the risk of recession, and as everyone desires a soft landing, I encourage the Fed to have the fortitude to prioritize defeating this inflation scourge. Chair Powell, I hope you are hammering this message home with the Fed, as ordinary Americans see their paychecks eaten away under Democrat mismanagement of our economy.

Chairwoman WATERS. And now, I want to welcome today's distinguished witness, the Honorable Jerome Powell, Chair of the Board of Governors of the Federal Reserve System.

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

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

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

Mr. POWELL. Chairwoman Waters, Ranking Member McHenry, and members of the committee, I appreciate the opportunity to present the Federal Reserve's Semiannual Monetary Policy Report.

I will begin with one overarching message. At the Fed, we understand the hardship that high inflation is causing. We are strongly committed to bringing inflation back down, and we are moving expeditiously to do so. We have both the tools we need and the resolve it will take to restore price stability on behalf of American families and businesses. It is essential that we bring inflation down if we are to have a sustained period of strong labor market conditions that benefit all. I will review the current economic situation before turning to monetary policy.

Inflation remains well above our longer-run goal of 2 percent over the 12 months ending in April. Total Personal Consumption Expenditures (PCE) prices rose 6.3 percent. Excluding the volatile food and energy categories, core PCE prices rose 4.9 percent. The available data for May suggests that the core measure likely held at that pace or eased slightly last month. Aggregate demand is strong, supply constraints have been larger and longer-lasting than anticipated, and price pressures have spread to a broad range of goods and services. The surge in prices of crude oil and other commodities that resulted from Russia's invasion of Ukraine is boosting prices for gasoline and fuel and is creating additional upward pressure on inflation. And COVID-19-related lockdowns in China are likely to exacerbate ongoing supply chain disruptions. Over the past year, inflation has also increased rapidly in many foreign economies, as discussed in a box in the June Monetary Policy Report.

Overall economic activity edged down in the first quarter, as unusually sharp swings in inventories and net exports more than offset continued strong underlying demand. Recent indicators suggest that real GDP growth has picked up this quarter with consumption spending remaining strong. In contrast, growth in business fixed investment appears to be slowing, and activity in the housing sector looks to be softening, in part reflecting higher mortgage rates. The tightening in financial conditions that we have seen in recent months should continue to temper growth and help bring demand into better balance with supply.

The labor market has remained extremely tight, with the unemployment rate near a 50-year low, job vacancies at historic highs, and wage growth elevated. Over the past 3 months, employment rose by an average of 408,000 jobs per month, down from the average pace seen earlier in the year, but still robust. Improvements in labor market conditions have been widespread, including for workers at the lower end of the wage distribution, as well as for African Americans and Hispanics. A box in the June Monetary Policy Report discusses developments in employment and earnings across all major demographic groups. Labor demand is very strong, while labor supply remains subdued, with the labor force participation rate little changed since January.

The Fed's monetary policy actions are guided by our mandate to promote maximum employment and price stability for the American people. My colleagues and I are acutely aware that high inflation imposes significant hardship, especially on those least able to meet the higher costs of essentials like food, housing, and transportation. We are highly attentive to the risks that high inflation poses to both sides of our mandate, and are strongly committed to returning inflation to our 2-percent objective.

Against the backdrop of the rapidly-evolving economic environment, our policy has been adapting, and it will continue to do so. With inflation well above our longer-run goal of 2 percent, and an extremely tight labor market, we raised the target range for the Federal funds rate at each of our past three meetings, resulting in a 1½ percentage point increase in the target range so far this year. The committee reiterated that it anticipates that ongoing increases in the target range will be appropriate. In May, we announced plans for reducing the size of our balance sheet and shortly thereafter began the process of significantly reducing our securities holdings. Financial conditions have been tightening since last fall and have now tightened significantly, reflecting both policy actions that we have already taken and anticipated actions.

Over the coming months, we will be looking for compelling evidence that inflation is moving down, consistent with inflation returning to 2 percent. We anticipate that ongoing rate increases will be appropriate. The pace of those changes will continue to depend on the incoming data and the evolving outlook for the economy. We will make our decisions meeting by meeting, and we will continue to communicate our thinking as clearly as possible. 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.

Making appropriate monetary policy in this uncertain environment requires a recognition that the economy often evolves in unexpected ways. Inflation has obviously surprised to the upside over the past year, and further surprises could be in store. We, therefore, will need to be nimble in responding to incoming data and the evolving outlook, and we will strive to avoid adding uncertainty in what is already an extraordinarily challenging and uncertain time. We are highly attentive to inflation risks and are determined to take the measures necessary to restore price stability. The American economy is very strong and well-positioned to handle tighter monetary policy.

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 Fed will do everything we can to achieve our maximum employment and price stability goals. Thank you, and I look forward to your questions.

[The prepared statement of Chairman Powell can be found on page 58 of the appendix.]

Chairwoman WATERS. Thank you very much. Chair Powell, at your Senate confirmation hearing, you were asked about the possibility that inflation is being driven by corporations and concentrated sectors of the economy. You said, "That could be right. It could also just be, though, that demand is incredibly strong and that they are raising prices because they can."

We are all seeing and feeling the effects of inflation on consumer pocketbooks, but corporate profit margins are not hurting. In 2021, the profit margins of the S&P 500 Index surpassed 12 percent, the highest profit margin on record, and it is expected to be even higher in 2022. Corporate greed and consolidation are driving higher and higher prices for consumers above and beyond any inflationary pressures.

Just last quarter, Tyson Foods, which sells 1 out of every 5 pounds of meat sold in the United States, claimed that their higher prices are due to rising labor and freight costs, yet they still managed to net an additional half-a-billion dollars in quarterly profits.

When it comes to rents, a corporate landlord recently remarked, "We have an unprecedented opportunity to really press rent on renewals because the country is highly-occupied. And so, where are people going to go? They can't go anywhere. We have a tremendous opportunity to press both on renewing leases for citizen residents, and to reset market rates, which we have reset numerous times, even this year."

This kind of blatant profiteering on the backs of hardworking families is simply outrageous. Could you elaborate on the role that corporations play in setting prices and how that is affecting inflationary pressures today? Would you also elaborate on what you meant when you said that perhaps corporations are raising prices, "because they can?"

Mr. POWELL. Sure. Matters of concentration in the economy represent a series of interesting questions that are largely not settled. For one thing, it is clear that our economy has become more concentrated, largely due to lower levels of formation of smaller businesses; that has happened. It is not at all clear that there is a connection between a more-concentrated economy and, for example, inflation. And, of course, matters of corporate concentration are outside the jurisdiction of the Fed. Those are for the competition authorities and really not for us to discuss.

In terms of why prices are going up, I think a lot of the places where prices have gone up quite a bit have been situations where supply is constrained and demand is very strong. Take cars, for example. Demand for cars went up a great deal. During the pandemic, people wanted to ride in cars rather than public transportation, and they wanted to move to the suburbs and things like that. Rates were low. The economy was stronger than people expected. But the companies couldn't really make more cars, because they couldn't raise their output, because of the lack of semiconductors. So when demand hits fixed supply, what happens is that prices go up, and margins went up. And I think as the economy returns to normal, we would expect those profit margins to return to more normal levels.

Chairwoman WATERS. Chairman Powell, the example that I gave of Tyson Foods and the fact that they said that their prices were rising due to labor and freight costs, yet they managed to net an additional half-a-billion dollars in quarterly profits, how do you explain that?

Mr. POWELL. I am not familiar with their profit and loss statement, but I will say, and, again, there may be particular industries where there are competition issues. I don't know that. It is really not our focus or our authority.

Chairwoman WATERS. Do you have the opportunity to look at rising costs and identify corporations where they are gaining substantial profits, yet they keep raising their prices? Do you have a way of examining that?

Mr. POWELL. I think we can see that, but I think our job is to keep maximum employment and price stability. We are not in the business of regulating individual companies or determining whether their actions, for example, are anticompetitive or that sort of thing. That is more for elected people and also for the competition authorities. We do look at that, and, again, I think a great deal of the price increases that you saw were a matter of supply being unable to meet demand, and the result was prices moving up. In many cases, that was the story.

Chairwoman WATERS. Thank you very much. The gentleman from North Carolina, Mr. McHenry, who is the ranking member of the committee, is now recognized for 5 minutes.

Mr. MCHENRY. Thank you, Madam Chairwoman. On this debate about corporate profits, I would commend to the committee Secretary Yellen's statement, where she rejects the idea that corporate greed is to blame for inflation, and I concur. We have a complex set of issues. The fiscal house was certainly different than monetary policy. And the extraordinary nature of the partisan American Rescue Plan, $2 trillion injected into a recovering economy and Democrat policies to keep people out of the workforce for longer than the rest of the western world also contributed to inflation. That is a political debate here on Capitol Hill, Chairman Powell, and that is on the political side.

What I want to ask you about are the policy tools that you are using. Now, certainly, you as Chair of the Fed and the Federal Open Market Committee, took extraordinary measures in the midst of the pandemic to ensure that we didn't have further contagion, including extraordinary lending facilities, purchasing securities, and keeping the Federal Funds Rate at zero. These were the right tools at the right time. On the fiscal side, you have to partner with bipartisan bills to keep our economy afloat during government shutdowns, but like all good firefighting measures, we should put them away when times change. I want to ask you, as you put these measures away, how do you expect the economy to respond? Let's start here. What is your level of commitment to fight inflation?

Mr. POWELL. It is unconditional, our commitment is, and the reason is, in a particular situation, we have a labor market that is sort of unsustainably hot, and we are very far from our inflation target. We really need to restore price stability, and get inflation back down to 2 percent, because without that, we are not going to be able to have a sustained period of maximum employment where the benefits are spread very widely and where people's wages aren't being eaten up by inflation. Really, it is something that we need to do, that we must do. In order to have that kind of a labor market, we will need to do it.

Mr. MCHENRY. As you pull back these emergency measures from COVID, and you normalize rates to what they look like sort of in the long run, how do you expect the economy to respond?

Mr. POWELL. When we raise interest rates and also, to a lesser extent, when the balance sheet shrinks, what happens is rates go up across the economy, and financial conditions generally tighten. And you can think of it as in interest-sensitive spending is an important place that will be affected, and that is things like automobiles and other durable goods. If rates are higher, then demand for cars will moderate, will decline a bit. The second channel would be asset prices generally. We don't target any particular asset prices, but higher interest rates tend to bring them down broadly. That tends to mean a little bit less spending because people's wealth has perhaps declined a little bit. And the third channel can be the exchange rate where that also has disinflation effects. So overall, we have these effects on the economy.

Our intent, of course, is to bring inflation down to 2 percent while preserving a strong labor market. As I have mentioned, that has become significantly more challenging with the events of the past few months, particularly the war, which is driving gas prices up, and raising energy prices and also food prices, and disrupting supply chains further.

Mr. MCHENRY. At the same time you have a massive balance sheet. First, begin with mortgage-backed securities. As we have a roll off of the Fed's balance sheet of mortgage-backed securities, what are your expectations for how that affects housing?

Mr. POWELL. I think what will affect housing is the rate—the housing industry and market are slowing down from a very, very hot pace, and that is partially because of higher mortgage rates. The effects of shrinking the balance sheet will be marginal compared to the effects that we are seeing and expect to continue to see from rates rising and rising mortgage rates.

Mr. MCHENRY. But what are your expectations? Can we expect further announcements on the assets you hold and the securities you hold? Are there going to be balance sheet announcements in the coming weeks?

Mr. POWELL. No. I would say this. We have a plan. We have articulated it. The markets are forward-looking. They see it, and the markets are in a good place, I think, of understanding what we are going to do. And that is, we are going to be allowing these securities to mature and run off our balance sheet at a pace that we have set, and it will be $90 million or $95 billion, I guess, by September. Now, it is about half of that. So, that is what we have done. The idea is that will just be on an ongoing basis in the background, and we think the markets can handle that. Treasury issuance is way down, so we think there will be demand for these securities, and Treasury will then reissue them in whatever form they think is appropriate when it relates to Treasuries.

Mr. MCHENRY. Thank you.

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

Mr. MEEKS. Thank you, Madam Chairwoman. Chair Powell, it is good to see you. And I know you will probably hear a lot of political stuff going back and forth, but the American public is trying to understand the language of which we are talking today so that we can really understand what inflation is.

I was just recently over in Europe. There is inflation in Europe, just like there is inflation here, although as I talked to Christine Lagarde and others, they say the cause of the inflation may be different. So, the causes are different. They said that it may be demand here, but it's not a case of demand there to resolve inflation in Europe. For example, I was in Moldova, with a 30-percent inflation rate, and gas at $15 a gallon; and Turkey, with an 18-percent inflation rate, and gas at $13 a gallon. And I could name places in

Europe and from Europe to the United States. Is it that we had, whether it was the supply chains, the China shutdown, complete shutdown, the zero COVID policy, Russia's war in Ukraine, COVID period, isn't just a massive storm of everything what contributes to inflation and causes it all over the world?

Mr. POWELL. Pretty much. Yes, I think that is a pretty good—

Mr. MEEKS. It is a little bit of everything, right? So if I am talking to my constituents, trying to explain to them what inflation is and what causes it, I would not single out any one thing. I would probably have to talk about the conglomerate of things, because if you take away two or three of those, we might not be in the situation here, all of it unprecedented, all of it really out of the control of anyone, out of the control of the Democrats, out of the control of the Republicans, out of the control of the President, out of the control of other governments, isn't that correct?

Mr. POWELL. Some of it is out of our control, for example, the price of oil and most of the price of food. And to your point, for Europe, it is much more about energy and food prices, very difficult problems. And also, of course, the European Central Bank (ECB) has different countries, and so they have to worry about the spreads between different countries, and that is a different challenge that we don't have here. The difference here for us is we actually have a very strong economy and well-recovered economy, so more of our inflation is from demand, and we do have tools to deal with demand. That is the place where we actually can work, and that is where we are using our tools.

Mr. MEEKS. And some of that was because during the crisis that we had, we had to do certain things, the stimulus and other things, to make sure that we kept our economy stable. Without doing those things, we would have been in trouble. So the things that we did, going through COVID with the stimulus, trying to make sure people kept their jobs, kept money coming in at the time, was what we had to do. Otherwise, we would have been in worse shape or not have a strong economy as we have now compared to other countries, isn't that correct?

Mr. POWELL. Yes, I would say it this way, that our inflation is a consequence of very strong demand, in part driven by supply by what Congress did to support activity, in part driven by what we did, but also—

Mr. MEEKS. But that helped stabilize our economy at that time, right?

Mr. POWELL. It did.

Mr. MEEKS. And if we did not do those things, our economy may not be as strong as it is right now.

Mr. POWELL. I think that is right.

Mr. MEEKS. That is correct.

Mr. POWELL. Our economy is strong.

Mr. MEEKS. And let me jump to something else really quickly, because the one other thing—I know you testified before the Senate yesterday, and what concerns a number of my constituents that I talk to was the question about, can we resolve inflation without increasing unemployment, because our folks are concerned about losing their jobs. It would be worse if they were unemployed. My question to you is, can you speak to what the Fed has seen during the last few years with respect to the relationship between unemployment and inflation, and is it possible that we can continue to have a strong labor market while also curbing inflation?

Mr. POWELL. It is certainly possible that we can, and there is a relationship between unemployment and inflation. The challenge now is that inflation is at a 4-decade high, and we can deal with some of it. Some of it is really going to be dealt with on global markets—the price of oil and that kind of thing—and we can't affect those. But the challenge is we are tightening monetary policy, and that is designed to drive growth down to a level that is more sustainable and lower, give the supply side a chance to catch up, and give inflation a chance to come down and bring inflation down. That is what we are trying to do.

We don't have precision tools. We raise and lower interest rates that affects the whole economy through many channels. And there is a risk that unemployment would move up from what is an historically-low level. A labor market with 4.1 percent or 4.3 percent unemployment is still a very strong labor market. Today's rate is 3.6 percent, and there are two vacancies for every unemployed person, so that is the labor market that is kind of overheated.

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

Mrs. WAGNER. Thank you, Madam Chairwoman. Chair Powell, thank you for joining us again today. I just want to start by saying how sick and tired I am of the President's inflation blame game. One day its Putin's fault, another it is the oil companies, or the meat packers, or perhaps it is corporate greed. Now, we are blaming other countries like Estonia, and Turkey. I give you my avid assurance that no one in Missouri's 2nd Congressional District gives a rip about the price of gas and groceries in Europe. They care about what they are at the corner of Manchester Road and Weidman. No one in this Administration is willing to accept responsibility for the dismal economic situation America is in today. Inflation, sir, more than tripled in 2021, from 1.4 to 7 percent. And from June to the end of September 2021, inflation hovered, I think, around 5.4 percent, and then began a steady increase until reaching an historic 8.6 percent that is now crippling American's spending power today.

Chair Powell, when inflation remained steady at 5.4 percent, during that period in 2021, what factors played into the Fed's decision to keep rates at nearly zero during each FOMC meeting in June, in July, and in September of 2021, sir?

Mr. POWELL. During the summer of 2021, just giving us hindsight, inflation was coming down month by month. If you look at monthly readings for the Consumer Price Index (CPI), or Personal Consumption Expenditures (PCE), they were coming down month on month on month through September. And so that, I think, told us that our thesis that this was going to be a passing inflation shock was at least plausible. I think that the data turned pretty hard in October and November, and we very much changed our position and since then have tightened financial conditions quite significantly. So, it was a matter of a few months when we were really looking at this and thinking it is going to be passing. Most macroeconomists thought that it would be a passing thing. It turned out to not have been so far, and—

Mrs. WAGNER. But we saw it move from 1.4 percent to 5.4 percent. We did have a steady period of time where, I wouldn't say that it was declining, but I am just surprised that we weren't moving more quickly at the Fed. I want to be honest, sir, that the Fed, I think, underestimated actual inflation. What do you think you missed?

Mr. POWELL. We did underestimate it, and with the benefit of hindsight, clearly, we did. It comes down to this judgment that we had to make. It really has nothing to do with our framework or anything like that, and every central bank had to make the same judgment, which was looking at the supply chain problems and the shock to labor force participation, with millions of people out of the labor force. We had to decide whether that was going to be a lasting thing or whether it would kind of turn around quickly. We had very high levels of labor force participation. Suddenly, they are much lower. The thought was that people will come back as soon as COVID is over. We have these new vaccines. Every American is going to get vaccinated. We will be done with COVID by the end of the year. Basically, these supply-side issues, broadly speaking, just didn't get better. There were recurring waves, and that was the judgment we had to make. We knew it could be wrong. And I think when it was starting to look pretty wrong, we moved, we pivoted pretty hard—

Mrs. WAGNER. Now, President Biden continues—

Mr. POWELL —like 7 months ago.

Mrs. WAGNER. President Biden continues to say that a recession is not inevitable, as he, his government agencies, and Democrats, and Congress continue to spend billions and trillions of taxpayer dollars, burdening businesses with costly rules and regulations, and on top of it, the President refuses to unleash American energy independence. The President's policies continue to take inflation-taming options, I think, off the table and hamstring the Fed's ability to focus on price stability. President Biden not only limits the energy production here in America, and spends trillions of our taxpayers' money, but he also threatens tax increases and promises to cancel billions in debt. How can you still say, sir, that the Fed has a pathway to a soft landing for the economy?

Mr. POWELL. Our intention is to achieve inflation getting back to 2 percent and—

Mrs. WAGNER. With all I have laid out?

Mr. POWELL. —with a strong labor market. I'm sorry?

Mrs. WAGNER. With all I have laid out, and the increases you are going to have to take?

Mr. POWELL. As I mentioned, I think that path has gotten more and more challenging, thanks to the effects on oil prices and food prices really and also the supply chains from the war in Ukraine. We never said it was going to be—

Mrs. WAGNER. Not just the war in Ukraine, sir.

Mr. POWELL. It is the rise in energy prices, which began in the latest rise from February.

Mrs. WAGNER. The latest rise—this has been going on for a year-and-a-half. I appreciate the Chair's indulgence. I will yield back the balance of my time. Thank you, Chairman Powell.

Chairwoman WATERS. The gentleman from Texas, Mr. Green, who is also the Chair of our Subcommittee on Oversight and Investigations, is now recognized for 5 minutes.

Mr. GREEN. Thank you, Madam Chairwoman. And thank you for being here, Chair Powell. I greatly appreciate the opportunity to share a few thoughts with you. In February of 2021, you indicated that millions of people were out of the labor force, which is what you have said today. Millions. And with millions of people out of the labor force, the Biden Administration and persons on my side of the aisle sought to do something about that, to help those who are unemployed. The inflation that my colleagues speak of has to do with unemployment, the help that we gave people who were unemployed at the time. Persons who are unemployed, Mr. Chairman, need help. They can't feed their families. Small businesses were screaming for help.

We helped small businesses get through a turbulent time. This was a pandemic. The vaccines had to be distributed and developed. That is a part of that inflation that they are speaking of. People needed rental assistance. People were literally going to be evicted by the millions, but for the assistance from the Biden Administration and Congress. We wanted people to go to work. We provided some childcare. If you want people to go to work, and schools are closed, you have to help people through these turbulent times. They never talk about what the inflationary costs that they speak of really did, how it benefited American people who are suffering. They overlooked that. They weren't going to help, and now, since they didn't help, they are going to say everything that they can to demean the help that was given.

They didn't vote for it. They didn't extend the hand of friendship to people in times of need. So when they don't do that, they have to find a way to denounce the help that was given. It is really shameful, it is painful, and it is sinful to hear people use the term, "inflation," to indicate that people who were unemployed shouldn't have received help. The small businesses that were begging for help shouldn't have been helped. Vaccines shouldn't have been distributed. People shouldn't have gotten rental assistance. They shouldn't get childcare.

Now, I would respect them if they would say that these are things that they opposed, but they are not going to do that. They use one word—inflation—and, unfortunately, our messaging to all of the American people has been somewhat lacking. But I want the people that I serve, who pay attention to the supermarket more so than the stock market, to know that when they had needed this help, we were there for them. And, Mr. Powell, you indicated that there were millions of people out of work in February of last year, just prior to this help accorded people. I welcome your commentary.

Mr. POWELL. Oh, you welcome my commentary. Sorry, I didn't catch the last part. Our job is maximum employment and price stability. We did what we did during the pandemic acute phase and response, and you did what you did, and now we are where we are. So, we have a job to do, and it is very important that we do it, not least because of the people that you talk about. The people you talk about are really suffering from inflation now at the grocery store. And the only way we can get back to a place where inflation is low again, get inflation back down to 2 percent and help those people, is by trying to get demand and supply back in balance.

Mr. GREEN. Let me intercede and say this. You said something that I find favor with. You said that we did what we had to do. We were the adults in the room who did what had to be done. Others who declined to do so can now be critical. I yield back.

Chairwoman WATERS. Thank you very much. The gentleman from Minnesota, Mr. Emmer, is now recognized for 5 minutes.

Mr. EMMER. Thank you, Chairwoman Waters. Thank you for holding this hearing, and thank you, Chair Powell, for your testimony and your time here today.

Financial freedom is American freedom, and, frankly, Americans do not have the financial and economic freedom they need to invest in themselves, their businesses, and their families. Unfortunately, Americans are too busy making ends meet to focus on anything else. Inflation is running rampant across the United States with consumer prices rising 8.6 percent in the past year, the largest price increase since 1981. From fuel, to meat, to housing, my constituents and all Americans are suffering at the hands of this hidden tax, except it is not so hidden anymore. It is punching Americans in the face as my friend, Mr. Steil, put it yesterday.

How did we get here? It is pretty simple. We gave up American energy independence, we locked down our citizens and businesses for nearly 2 years, pumped the economy with well over $5 trillion in what is called stimulus funds. And now, as we recover from the pandemic, we simply do not have the energy resources necessary to meet the increased consumer demand. There is a history of Democrat policies we can point to that put us in this position from refusing to adopt an all-of-the-above energy strategy to recklessly passing $2 trillion in partisan spending through the American Rescue Plan, despite the fact that nearly $1 trillion of bipartisan relief was unspent. But the bottom line is we need solutions now because inflation is beating up the American people. We have to wake up and realize that we cannot continue these spend-your-way-to-prosperity policies. Everyday inflation threatens the financial security of American families, of our constituents. We need solutions.

Let me just return to my point about the spending. In December 2020, we had authorized nearly $4 trillion in bipartisan COVID relief. Yet, just 3 months later, Democrats pushed through another $1.9 trillion with hardly any oversight mechanism included, even though a quarter—a quarter—of all COVID relief remained unspent. When President Biden was recently asked if the $1.9 trillion spending bill caused inflation, he said he didn't think the bill had even a minor impact, and called the idea, "bizarre."

Chair Powell, do you agree with the President's conclusion that the $1.9 trillion that was included in the American so-called Rescue Plan had not even a minor impact on the inflation we are seeing today?

Mr. POWELL. I'm sorry. I wouldn't comment on what any elected official said, and it is really not up to us to score fiscal interventions.

Mr. EMMER. Again, sir, if you would—respectfully. I am not asking you to comment on what the President said. I am asking you, personally, do you believe that the $1.9-trillion American Rescue Plan did not even have a minor impact on the inflation we are seeing today?

Mr. POWELL. We didn't comment on the Tax Cuts and Jobs Act. We didn't comment on the CARES Act. And we won't comment on that act from that—

Mr. EMMER. It is interesting, sir, that you won't comment on this, but you were more than willing a year ago to talk about inflation as some transitory something that everyone has acknowledged now is going to be here for a while. Even though it seems like the President's Build Back Better package, this massive spending package, is dead on arrival, certain elements might not be dead. Chair Powell, do you have any concerns that if Congress injects a new round of stimulus into the current economy, it could and, in fact, will add to the inflation we are seeing today?

Mr. POWELL. Again, it is really not our role to give you advice on what to do. We report to Congress, not the other way around. We are sticking to our mandate and our mission, and we have a lot of work to do on that front and not really giving you advice on what you should be doing. We take fiscal policy as something that comes to us, and we deal with it as part of everything else.

Mr. EMMER. I am very disappointed, sir. You are supposed to be in charge of the monetary policy of this country. You are now embarking on raising interest rates because that is the only tool you think you have left. This is not just a dog chasing its tail anymore, sir. This is a dog that has started to devour its tail and its back end because of the debt that we are carrying.

I want to thank you. You acknowledged we are in a bad spot. We are knowingly walking toward an even worse inflation, a recession and, God forbid, food shortages, yet we are relying on old monetary policy tools to keep us from falling off a cliff. Sure, we can raise interest rates over and over, but the only way to curb in a disaster this bad is to raise the interest rates to a catastrophic level, or, as Larry Summers suggested, we allow unemployment to go to historical highs.

It is not feasible. We need to put ourselves on a strict spending diet, and we have to have strict oversight on the funds that Congress has already allocated and make sure not even one single dollar is going to waste. And we need to put control back in the hands of small businesses on Main Street. Thank you.

Chairwoman WATERS. The gentleman from Connecticut, Mr. Himes, who is also the Chair of our Subcommittee on National Security, International Development and Monetary Policy, is now recognized for 5 minutes.

Mr. HIMES. Thank you, Madam Chairwoman, and Chairman Powell, if you will indulge me for a minute, it is important for the American people to understand what is being said here today because it is being said in other rooms in this building. What the American people are seeing today is something that my Republican Party friends have given over to recently all too often, and that is rank dishonesty in the service of acquiring and retaining power. A party without any resilient or discernible principle has stumbled upon inflation. There is inflation all over the world: Germany, Japan, Africa, South America, the United Kingdom. There is inflation all over the world, but the Republican Party has decided that inflation is Joe Biden's fault or the American Recovery Plan's fault.

I have read the Monetary Policy Report from start to finish. It mentions the Russian invasion of Ukraine, supply chain bottlenecks, high fuel costs, and high wage growth. It does not mention Joe Biden or the American Recovery Plan. By the way, the American Recovery Plan is a particularly rank piece of dishonesty. Set aside the fact that it cut childhood poverty in half, as Mr. Green pointed out, if that isn't something to celebrate, and to perhaps have the slightest bit of humility as you attack it, I don't know what I can do for you.

The American Recovery Plan, as Mr. Emmer pointed out, was about a third to a quarter of the fiscal efforts that this Congress made on a largely bipartisan effort to lift our economy to the point where it is today. The chairman said strong and well-recovered unemployment at 3.6 percent, so many jobs out there that many of them are going unfilled. Did we overshoot? Maybe we did, but the American Recovery Plan, this thing that cut childhood poverty in this country in half, was about a quarter to a third of the fiscal efforts. The other money was supported by President Trump, but, by the way, it is not those dollars that are still sitting in Americans' bank accounts. It is not CARES Act dollars. No, that was supported by the Republican Party. It is only those dollars in the American Recovery Plan that cut childhood poverty in half. Energy prices—I read the Monetary Policy Report, and I will quote it: "Because of the Russian invasion of Ukraine, oil prices rose sharply." I have been around here long enough to know that putting facts and truth out is like spitting into a hurricane, but it is important for the American people to understand that.

Okay. Mr. Powell, I released yesterday, and I hope you got a copy, a White Paper on a central bank digital currency (CBDC). It is offered with humility, because we have a lot of issues to work out, but I hope you have had a chance to take at least a quick look at it. I wonder if you have any reflections, or, importantly, what are the next steps now that you have gotten commentary from lots of people? What are the next steps with respect to the Federal Reserve thinking about a CBDC?

Mr. POWELL. I printed it out, and I have it here. I have not had a chance to read it carefully, obviously, given all that is going on. But I think generally, we are doing a great deal of work. The President signed an Executive Order and parts of the Administration are working on this. I think it is something we really need to explore as a country. It should not be a partisan thing. It is a very important potential financial innovation that will affect all Americans.

And our plan is to work on both the policy side and the technological side in the coming years and come to Congress with a recommendation at some point, and we don't prejudge what that would be. I know your views are very positive on it, but I think one thing I did see in your report was the beginnings of thinking about how Congress might authorize it. And I do think that is a very,

very important aspect of this, and it is great to have Congress starting to think about that.

Mr. HIMES. Thank you. I think I agree with that, and I think that has bipartisan support. In my remaining minute, I am going to ask you a question I ask you a lot, Mr. Chairman. We are obviously seeing pretty dramatic swings in the financial markets. Money is no longer free. We are seeing that in the stock market, the high yield market, the equity markets, and cryptocurrency. In my very short remaining time, Mr. Chairman, what should we be focused on? What is concerning you with respect to systemic risk that may develop in the face of rising rates and rising inflation?

Mr. POWELL. Basically, the financial markets have been functioning well, and the banking system, in particular, is very strong and well-capitalized, with lots of liquidity and a better understanding and management of its risks. The place where there have been issues, and we don't see them elevated at this point, has been illiquidity in some markets relative to where it had been historically.

Mr. HIMES. Any markets in particular where you worry about illiquidity?

Mr. POWELL. No, I wouldn't say that we are seeing anything that is particularly concerning. But I think sort of systemically, liquidity in the Treasury market has come down from where it was, and we have been looking for some time at ways to address that, but the markets are clearly functioning reasonably well.

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

Chairwoman WATERS. Thank you. The gentleman from North Carolina, Mr. Budd, is now recognized for 5 minutes.

Mr. BUDD. I thank the Chair. Chairman Powell, thank you again for being here. According to the Congressional Budget Office, the Federal Government will spend an average of $545 billion per year, which was the estimate before rates went up, and this is on interest payments on the $31 trillion of national debt. That $545 billion is more than we spend on the Department of Veterans Affairs. So, given that the national debt is currently at about 125 percent of GDP, would the Fed's commitment to tackle inflation be limited by rising interest rates, making the servicing of the national debt even more expensive?

Mr. POWELL. No, absolutely not.

Mr. BUDD. Can you explain that?

Mr. POWELL. We are not in a situation where we need to consider fiscal questions like that. The U.S. is on an unsustainable fiscal path, meaning the debt is growing faster than the economy, but it is not in an unsustainable position. We can service our debt, and the markets understand that, and we can conduct our policy without thinking about questions of fiscal sustainability, and we do.

Mr. BUDD. When your colleague, Secretary Yellen, was before this committee, and I asked her about Federal debt, which was then about 105 percent of GDP, she said, "That is not a number that I think is fiscally irresponsible." She also went on to say, "If interest rates are zero, we could substantially have a higher debt burden." And in the formula in the following questions, she alluded to Japan and the fact that it could be about double of where we are now, meaning about $60 trillion of debt if you use her math.

Do you agree with Secretary Yellen that having a national debt of over 100 percent of GDP is fiscally responsible, given that interest rates can change and that historically low-interest rates can't always be expected?

Mr. POWELL. I guess I would say it this way. We are not on a sustainable path, and we haven't been for some time, and that means simply that debt is growing faster than the economy, which by definition, is unsustainable. There will be a point at which it becomes a problem of servicing the debt, buy we are not at that point. We are not close to that point, but we will need to get back to where revenues and spending are better aligned. We don't need to pay the debt down. We just need to have the economy growing as fast or faster than the debt over a long period of time, and we must do that. I wouldn't say any particular level. There is no level that I can point to where there is a lot of science behind it being a problem, but we know that the path is not sustainable.

Mr. BUDD. It is interesting that you alluded to growth being part of the solution. I want to talk about regulation for a minute, particularly since the Biden Administration delayed oil and gas lease sales again this week due to environmental protests. So if we pursued policies to increase American energy production by approving more leases and building more pipelines to transfer that energy, and cut down on regulatory barriers to make it easier for folks to produce energy and produce anything, wouldn't that make a real impact on energy prices, and inflation in general, without us needing to use the Fed to slow the economy with monetary policy to deal with inflation?

Mr. POWELL. The whole set of questions around energy are really questions for elected people. We don't have a mandate there. Obviously, the more supply there is, the price of something can go down, but these are tradeoffs that you really have to weigh as elected officials rather than—

Mr. BUDD. I will narrow it for just a minute. Do you believe that the vast amount of regulation is an impediment to economic growth?

Mr. POWELL. I will say this. We try hard at the Fed to weigh the costs and benefits of regulation, and we do think it is important to think about it that way because there are benefits to regulation. But there are costs, and we don't want the costs to be any higher than they need to be because that does weigh on economic activity, yes.

Mr. BUDD. You talk about somebody trying to buy a home, and now they are questioning it because of the rise in mortgage rates, and I have heard for years that the 25 percent of the cost of a new home is due to regulation at some level. The point I am trying to make is that we need to be very cost-cautious with our regulations because it is constraining our growth and the growth, ultimately, which solves this fiscal problem. The point I am trying to make is that we have much better tools, like deregulation, which can free up supply rather than just monetary policy. And freeing up supply could largely solve the inflation problem for hardworking Americans and not send us into a recession. Again, I thank you for being here, and, Madam Chairwoman, I yield back.

Chairwoman WATERS. Thank you. The gentlewoman from Iowa, Mrs. Axne, who is also the Vice Chair of our Subcommittee on Housing, Community Development, and Insurance, is now recognized for 5 minutes.

Mrs. AXNE. Thank you, Madam Chairwoman, and thank you, Chair Powell, for being here. It is good to see you. We have been talking inflation. Of course, we know it is hurting Iowa families and families across the country, and all of us here have an absolute responsibility to address this. And I appreciate the comments of my colleague, Representative Himes, because I have sure heard a lot of talk about how bad inflation is from my colleagues over there on the other side of the aisle, but I sort of haven't heard much about the solutions that they want to provide. So I am here to work on those solutions, and I am glad to have you here to talk with us about that. We actually need to reduce inflation, and we have to figure out what is driving it.

The San Francisco Federal Reserve Bank just put out some research yesterday looking at how much inflation was driven by supply versus demand. What they found was that supply factors are responsible for more than half of the current level of inflation. And, of course, I don't need to tell you that while prices increasing are hurting people across a heck of a lot of sectors, gas prices have really been driven up over the last few months. Chair Powell, on gas prices, could you talk about some of the supply constraints that have pushed gas and energy prices higher recently?

Mr. POWELL. Sure. Two big things would be: one, the price of oil is set globally, and we just take that price; and two, the spread that refiners earn. So, if a refinery is at capacity and spreads are high, then you have a high spread there. And we know that the price of oil went up quite a bit, started going up early in the year, and it has now come down a little bit in the last week or so. But those are the two things that have contributed to the spike in gas prices that we saw. We did see gas prices moving up, but they really moved up quite sharply beginning in the early parts of this year as the war came into focus.

Mrs. AXNE. Thank you. You talked about a couple of pieces where folks are making more money, and you talked about the refining process in that crack spread, and I think they are around $60 right now. So basically, what is happening is they are making more money because supply is down. Would you agree that increasing the supply of gas could meaningfully lower prices?

Mr. POWELL. I would say it is hard to argue with that, sure.

Mrs. AXNE. Okay. Well, the U.S. hasn't built a major refinery since 1977, so, of course, as we know, this isn't a recent issue. It is a long-term lack of investment with so many parts of our economy, and you actually touched on that earlier. Now, here is the question I would like to ask you. Will raising interest rates help increase supply here with fuel, and are there other economic tools to do that?

Mr. POWELL. No. Really, we can't have any effect on the price of oil or certainly the supply of energy. And the tools are not in our hands.

Mrs. AXNE. Okay. Thank you for pointing that out. I know that the Fed absolutely wants to play a role in bringing inflation down, but I want to make sure that we are looking at those solutions and trying to understand what better tools we have. Are there better options out there that you could suggest right here?

Mr. POWELL. Honestly, we are an agency with a narrow, but important, mandate and a set of tools, and our focus is on using our tools. We think there is a job to do on demand, and I don't see us giving advice to Congress or other agencies on how they might use their tools.

Mrs. AXNE. Okay. I appreciate that, and hopefully, at some other time, we can talk a little bit further about that.

I want to move on to housing. In the 2010s, we saw less homes built than in each of the previous 4 decades, and we are more than 5 million homes short of where we should be. Boy, do I see that all over Iowa, in small towns, in particular. I have talked to businesses that want to expand, but they can't do so because there are not enough houses there, and so housing is one of the most sensitive areas relative to interest rates. I want to ask the same thing here: Will raising interest rates help supply there, and are there other tools that we should be looking at to do that?

Mr. POWELL. I would agree with you there is a problem with longer-term housing supply and the difficulty of creating adequate housing. What our tools can do is, in the near-term and medium-term, they can restore a better balance between demand and supply in the housing market. You have had extraordinarily-high housing price increases really across the country over the last couple of years, and that is because of a lot of demand and very low rates. And you are seeing the housing sector slow down to some extent because of higher mortgage rates now.

Mrs. AXNE. Do you have anything that should be on our radar or that we could be looking to do to assist with this?

Mr. POWELL. I do think that these are issues for Congress around housing supply. If you talk to builders—and we do talk to builders; we had a group in last week—they will talk about the longer-term issues such as lack of supply, lack of workers, lack of appropriate zoning, and things like that. These are national issues.

Mrs. AXNE. Thank you so much.

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

Mr. HOLLINGSWORTH. Good morning. It is a pleasure to speak with you again. Before we get started on my questions, I just wanted to comment on Representative Axne's testimony, or conversation, or questions. I love the fact that she is beginning to recognize how heavy the regulatory burden has been in the refining space that has led to an underinvestment, and the Biden war on energy, especially on American-produced energy, continues to bear the fruit that they expected, and that is a deep concern for Americans who are paying more at the pump.

We collectively find ourselves in the present situation because we failed to anticipate the future, even if that future is inherently uncertain and probabilistic. You said a few moments ago that we have a job to do on demand. I like that. And in the recent past and present, I feel like the policy signals have been unambiguous for the Fed. Inflation is at a 40-year high, the labor market is robust, unemployment is bouncing along at multi-decade lows, and economic growth has been very high, but I worry that that lucidity is a luxury that is fleeting. I believe the future will be more ambiguous as we head into a time where economic growth seems to be approximately zero, and labor market weakness is beginning to emerge.

I think those policy signals will be less clear going forward. Economic growth in Q1 was negative, albeit for reasons I think you called technical in nature, but still negative, nonetheless. Q2 economic growth is currently projected to be approximately zero according to the GDPNow tracker and many economists. Weakness in the labor market, while nascent, is beginning to emerge. Still, inflation as a lagging indicator remains, as you put it earlier this week, very, very high. I have certainly praised the Fed's tardy, yet sudden, total focus on price stability, which will come, as you said, at the cost of aggregate demand reduction. Technical reasons or not, America will feel aggregate demand reduction where GDP growth is already zero as a recession.

I am curious to hear your thought process in an environment where inflation is steadying and/or coming down, but still at multiples of your target, and unemployment is escalating quickly, and economic growth is negative. Tell me a little bit about how you will think about that environment and approach that from a policy and rate-setting perspective?

Mr. POWELL. I guess I would start by saying that is not the environment we see or expect. We actually do think that growth this year, in the second half of this year, should still be fairly strong. It is coming down from the very high reopening levels of last year, but the first quarter was somewhat anomalous. Private spending was actually very healthy—

Mr. HOLLINGSWORTH. Tell me about how you think about that environment? I assume that you could be correct, but there is a chance you could be incorrect about that soft landing prediction.

Mr. POWELL. The way our tools work, what we are trying to achieve is to have a moderation in demand so that supply can catch up, which will take pressure off of resource utilization, and inflation can come down. That is what we are trying to achieve.

Mr. HOLLINGSWORTH. But if inflation were to come down after that fact, demand will come down first, inflation will lag after that where inflation remains—

Mr. POWELL. That is right.

Mr. HOLLINGSWORTH. —multiples of your target, but unemployment, because of that sagging demand, goes up. Economic growth is depressed because of that sagging demand. Tell me how you will think about that environment?

Mr. POWELL. The way we think about it from a policy standpoint is, of course, we raise interest rates and shrink the balance sheet. That affects broad financial conditions and that affects the economy. The question we will be asking is, is our policy rate—that is the thing we control—at the right level so that it is affecting financial conditions in the economy in the way that we need and intend?

Mr. HOLLINGSWORTH. I want to know how you intend to affect then where unemployment is going up and economic growth is negative, but inflation remains high?

Mr. POWELL. In that hypothetical situation, I think you would say that would be a setting in which inflation could be expected to come down. As I have said, we would like to see inflation coming down as well. So, you have choices.

Mr. HOLLINGSWORTH. So you could move rates down or steady rate escalations in advance of inflation hitting your target as long as you saw it beginning to come down, if economic conditions or your other mandate for employment begin to show weakness?

Mr. POWELL. As one of my colleagues used to say at every meeting, it is the same question: Do you raise rates, leave them the same, or bring them down? I think we would have to see what is happening. We will try to make good judgments in real time, but the main thing is we can't fail on this. We really have to get inflation down to 2 percent. We are going to want to see evidence that it really is coming down before we declare any kind of victory, so I think we would be reluctant to cut.

Mr. HOLLINGSWORTH. This will have real cost to Americans, so I want to make sure that we are forward-thinking about what is going on in the real economy, not just watching a lagging indicator that is inflation. And with that, I will yield back.

Chairwoman WATERS. Thank you. The gentleman from New Jersey, Mr. Gottheimer, who is also the Vice Chair of our Subcommittee on National Security, International Development and Monetary Policy, is now recognized for 5 minutes.

Mr. GOTTHEIMER. Thank you, Madam Chairwoman. Mr. Chairman, the most recent Consumer Price Index (CPI) report indicated that the largest component of the CPI, shelter, both owned and rented, has increased 5.5 percent since last year. Estimates I have seen show apartment rental cost of 15 percent or more over the last year. Do you believe the CPI measure of shelter costs understates the actual increase in housing costs? And do you have any suggestions for actions Congress can take to lower housing costs for Americans in the short- and long-term?

Mr. POWELL. There is some sense in which it might understate costs because it is not capturing leases that haven't turned over yet, right? So, it is really looking at leases that are turning over.

Mr. GOTTHEIMER. So, it is probably a higher rate?

Mr. POWELL. Overall, we think it is a decent measure. And also, remember that in the CPI, housing services has a weight that is doubled in the measure that we look at Personal Consumption Expenditure inflation. We think that is a better, more-sophisticated representation of the inflation that is actually happening in people's lives, so we would tend to look at that.

Mr. GOTTHEIMER. Thank you, Mr. Chairman. I do want to shift to another issue that is covered in your June report. I have been engaged in discussions on cryptocurrency policy and have long warned that a run on stablecoins has the potential to destabilize financial markets. My concerns were realized in part last month when the so-called stablecoin, Terra, collapsed. Your report highlighted the danger of that event and called for congressional action to protect consumers and financial markets. My draft legislation, the Stablecoin Innovation and Protection Act, would establish a definition and requirements for a qualified stablecoin, defined as cryptocurrencies redeemable 1-to-1 for U.S. dollars. This legislation would reduce financial instability in the markets, protect consumers, and support innovation and fintech. It would also create a pathway for banks and nonbanks to acquire qualified status for the stablecoins they issue.

With Federal oversight, do you believe non-bank entities can be reliable issuers of qualified stablecoins if they can prove they are fully backed by cash or cash equivalents?

Mr. POWELL. As you know, we have recommended that Congress look at this, and there are many, many approaches, including yours. The President's Working Group (PWG) did recommend that stablecoins be issued by insured depository institutions. I think it is great that Congress is looking at different approaches and evaluating those questions. What you really want, though, is you want to be sure that those entities are appropriately regulated, and in our view, in some sense, at the Federal level. I think it is going to be a question for Congress, what the PWG came up with, but I think there are different approaches.

Mr. GOTTHEIMER. Do you have any views on whom the primary regulator should be at all? I think that is all up to Congress. Like with the OCC, they can pose a problem with the OCC being a primary regulator.

Mr. POWELL. For national bank charters, yes. But stablecoins are used now principally in the capital markets, as you know, around the platforms, the digital finance platforms, and that is more in the bailiwick of the SEC. If they were going to be payments stablecoins, we should be involved, and if it is going to be about banks getting involved, it will be the banking regulators. I think we're going to be really blessed by a plethora of regulatory agencies in the financial sector, so that will need to be sorted out.

Mr. GOTTHEIMER. Do they have something, given the challenges we have had in the last months, that is something we have to move quickly on? Are you concerned with how long it is taking Congress to actually act there?

Mr. POWELL. I think it is very important. It is no different than any other big technological innovation, airplanes, for example. There comes a point at which a new regulatory framework is needed to protect the public and preserve innovation and competition, foster support, all of that. But that is coming for digital finance, and I think I am encouraged that there are now a bunch of bills and proposals and that Congress is working on this. I think it is important that it get done quickly, because as we have seen, these companies can grow really quickly, and we have also seen that they can have reverses as well.

Mr. GOTTHEIMER. And you think, overall, the ideal role of the Fed in overseeing stablecoins is what? Ultimately, long-term, what is the role of the Fed?

Mr. POWELL. One question is around CBDCs. Do we want a private stablecoin to wind up being the digital dollar? And I think the answer is no. If we are going to have a digital dollar, it should be done by us. We don't know that we need a digital dollar as such yet, but I think that it should be government-guaranteed money, not private money, that is really created for the benefit of the private issuer, so that is one thing. I think also, we are very important in payments, so anything to do with payments that the public is involved in, we should be involved in that, too.

Mr. GOTTHEIMER. Thank you so much. I yield back. Thank you.

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

Mr. ROSE. Thank you, Chairwoman Waters and Ranking Member McHenry, for holding the hearing today, and thank you, Chair Powell, for being here with us. A few moments ago, Mr. Himes noted that the American Recovery Plan—I think he meant the American Rescue Plan—is not mentioned in the Monetary Policy Report. Chair Powell, is it Federal Reserve practice to comment on bills passed by Congress in the Monetary Policy Report?

Mr. POWELL. No.

Mr. ROSE. Turning to something that we have obviously talked a lot about already today, inflation and rising prices on things like food and fuel are having a devastating impact on people all across Middle Tennessee, and indeed, across the country. You have told us that you will not comment on fiscal policy, but you have also previously urged Congress to support fiscal spending, some of which caused this inflation, in my view. Democrats are still pushing a reckless spending proposal, although reports are that it will be smaller than the one they tried to ram through Congress late last year.

Chair Powell, will you commit to pushing back as strongly against reckless spending proposals that would exacerbate the current inflation as much as you pushed Congress to support more fiscal spending during the pandemic?

Mr. POWELL. I didn't support any particular bill, but I did say that there was more to be done. And by the way, I completely ended that practice at the end of 2020 or 2021. Anyway, 2020, I stopped. I completely stopped talking about that publicly at all, and the reason I did it before was, first of all, I was being encouraged by leadership on both sides of the Hill in both parties. They were asking me for ideas—don't you think we need to do something more, can you help us, and that kind of thing. But that is all done, that is over with, and the Fed should not play or seek to play a role in fiscal policy. We have our own mandate. We sure need to stick to that now.

Mr. ROSE. In light of that statement, would you agree with this statement that the analysis that the Fed had through March of last year, and that the Administration, to some extent, continues to advance with respect to inflation, and the policy prescriptions have proven to be far more transitory than the inflation itself?

Mr. POWELL. If I understand your question, we did think that these were going to be passing forces. We thought that the shocks that were hitting, supply side shocks, we thought they would be like oil shocks have been, where they come and go, and other supply side shocks, commodity shocks of various kinds. As the course of 2021 went on, it became increasingly clear, particularly in the fall, that that wasn't going to be the case. We weren't going to see that kind of progress, and we pivoted, 7 months ago now, to address this with our policy tools.

I think our judgment in real time proved to be incorrect, but it was not an irrational judgment, and it was one that was very widely held at the time by other central banks and economists generally, but it wasn't about economics. It was, how long is this going to last? Are these things that are happening to our economy, which were unprecedented, going to get better, for example, millions of people dropping out of the labor force, or the problems we have with the global supply chains? There was no model of that. We can't look at the last 20 times it happened. So for sure, in hindsight, it was not transitory.

Mr. ROSE. Thank you. The Committee for a Responsible Federal Budget estimated that canceling Federal student loan debt held by Americans could increase the inflation rate as much as a half a percentage point, and would add $1.6 trillion to the national debt. This estimate notably also did not incorporate the possible effect that student debt cancellation would have on increased college tuition prices.

Chair Powell, has the Fed done any analysis on the inflationary impact of these proposals to forgive student loans being actively considered by Congressional Democrats and the Administration?

Mr. POWELL. Not that I know of. We would look to the Congressional Budget Office (CBO) and legislation. We tend to start to put it in our models of the economy when we think there is really, really likely going to be legislation.

Mr. ROSE. Generally, though, would you expect forgiving $1.6 trillion in debt, whether it is student loan debt or credit card debt, to have an inflationary impact?

Mr. POWELL. Again, I am going to leave that to CBO to score and also the Office of Management and Budget (OMB). We do not routinely score congressional proposals. It would get us involved in political things, and would we be independent then? To be independent, we need to be out of these very difficult fiscal issues, which are really your job.

Mr. ROSE. Thank you, Mr. Powell. I yield back.

Chairwoman WATERS. Thank you. The gentlewoman from Massachusetts, Ms. Pressley, is now recognized for 5 minutes.

Ms. PRESSLEY. Thank you, Madam Chairwoman. Chairman Powell, without question, the Fed has a role to play in healing our economy, but as with any treatment, the wrong medication can cause even more harm and make the patient more ill.

Chairman Powell, at your latest press conference, you stated, "Wages are not principally responsible for the inflation we are seeing." I certainly agree with that assessment, as do many economists. Considering that wages are not driving inflation, why is the Fed addressing inflation with tools which primarily impact wages, such as interest rates?

Mr. POWELL. Our tools principally impact inflation, not necessarily wage inflation, so our job is price inflation. But I will say on wage inflation, the issue is that over time, wages, over time, looking forward, are very important, particularly for service companies, where most of the costs are really in wages. And we all love to see big wage increases, but with these increases that we have been having, some of them are just substantially bigger than would be consistent with 2-percent inflation.

Ms. PRESSLEY. Thank you. Throughout today's hearing, to that point, you have indicated that the Fed doesn't have more precise tools at your disposal. Chairman Powell, the root causes of the inflation we are seeing are supply chain disruptions outside of the Fed's control, whether it is COVID-19 lockdowns in China, or the Russia-Ukraine War, which is why this knee-jerk response to raise interest rates is so alarming. The Fed cannot control the factors causing inflation, but this policy choice would plunge millions of people back into unemployment, dampen wage growth, and tip the economy into a recession.

There is an old adage, Chairman Powell, "If all you have is a hammer, everything looks like a nail." You have recently said the Fed's tools, like interest rates and the balance sheet, are famously blunt and lack precision. In that case, do you agree that the Fed needs new tools that are more precise to better fulfill its statutory mandate of price stability and maximum employment?

Mr. POWELL. No, I don't think we are looking for new tools. I would just say that a big part of the inflation that is happening is really not going to be affected by tools, but a big part of it is going to be affected by our tools, and that is the part that is related to demand.

Ms. PRESSLEY. But Mr. Chairman, but by your own account, you stated on the record that the Fed's current tools are ill-suited to deal with the inflation we are seeing. Perhaps now is the time to expand the Fed's toolkit to meet the unique moment that we find ourselves in. For example, one tool that could help the Fed tailor a more precise response to inflation is direct credit regulation. This would allow the Fed to regulate the availability of credit in the specific sectors of the economy experiencing high inflation without impacting other sectors. Would you support Congress passing legislation to give the Fed more precise tools to tackle inflation such as this idea?

Mr. POWELL. That is not something we would seek. Of course, it is up to Congress to make those decisions.

Ms. PRESSLEY. But it is your own admission that your tools are too blunt and not precise enough. What additional tools do you believe the Fed needs to respond more precisely to inflation?

Mr. POWELL. Again, our tools are blunt, but they are the right tools to deal with broad aggregate demand, and that is a more important determiner of inflation than energy and food prices, as painful as energy and food prices are. The bigger piece of it is related to demand. We can't help with energy and food prices, to your point, but we can help with aggregate demand, and we do that through the tools we have. We are not seeking a deeper involvement in the economy like you are talking about, but, again, that is a question for Congress. Congress can change our toolkit or our mandate.

Ms. PRESSLEY. In this moment of overlapping crises from supply chain disruptions to high inflation, I do believe we need precise policies that respond to the needs of the American people. The Fed knows that raising interest rates will not address the root causes of rising prices, but they will just keep doing so even at the cost of millions of working-class people's livelihoods. We need a more sophisticated toolkit for the era we are in to truly heal our economy and tackle inflation responsibly. Thank you. I yield back.

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

Mr. STEIL. Thank you, Madam Chairwoman. And thank you for being here, Mr. Powell. I appreciate it. Just a point of clarification, you noted that you ended your public statements in support of fiscal stimulus by the end of 2020. Is that correct?

Mr. POWELL. Yes.

Mr. STEIL. And so it would be after that, that the Democrats, under one-party control, passed $1.9 trillion of additional fiscal stimulus after you had already stopped making public statements in support of additional fiscal stimulus. Do I have the timeline correct?

Mr. POWELL. Yes.

Mr. STEIL. I am not asking you to opine. I just wanted to make sure I had the timeline correct.

Mr. POWELL. I took no position publicly or privately, and neither should the Fed Chair do so.

Mr. STEIL. Understood, but your public statements in support of additional fiscal stimulus ended in 2020. Democrats, under one-party control, passed $1.9 trillion of fiscal stimulus after that period of time. I just want to make sure of the timeline. I understand. Let me be cognizant of the time we have, and you have noted that you think the Fed should not play a role in fiscal policy. I have grave concerns about the fiscal policy that we have seen playing out in Washington. I am not asking you to opine on that. Looking at 2021, we saw real GDP growth above 5.6 percent in that year. Is that correct?

Mr. POWELL. Yes.

Mr. STEIL. Over 5 percent, a reasonably-robust rate, and at that period of time, in the year 2021, we saw the Fed's balance sheet increase by about $1.5 trillion. Is that correct?

Mr. POWELL. That sounds about right.

Mr. STEIL. So in that period of time, where we were seeing reasonably-robust economic growth, the Federal Reserve was continuing to build its balance sheet to a tune of $1.5 trillion. So, during the year 2021, the Federal Reserve ultimately purchased about 54 percent of all Federal debt issued by the Treasury. Is that accurate?

Mr. POWELL. I don't know that. If you have the number in front of you—

Mr. STEIL. I have the number in front of me. I think it is worthwhile. Roughly half of the Federal debt that was issued in 2021 was acquired by the Federal Reserve and placed on the Federal Reserve's balance sheet. My concern is that it hid the real cost of borrowing, borrowing that was being driven by the Biden Administration at that time. And my concern is that the Federal Reserve, by increasing their balance sheet by $1.5 trillion in a period of time when Democrats put forward a gigantic stimulus package, after you had stopped your public calls for requesting additional fiscal stimulus, that is all part of the problem. It is both the fiscal policy and the monetary policy coming together. But let me keep going here for a moment. We paid, and we, the Federal Government, paid in debt payments last year, $580 billion. Is that correct?

Mr. POWELL. I don't know.

Mr. STEIL. That is the number I have. It is about 5.8 percent of our budget fiscal side, and the projections of CBO, interest over the next decade, one of the CBO projects, it will triple to $1.2 trillion, but that is assuming Federal debt remains in a range of 2.4 percent to 3.8 percent. That is the CBO's projections to get to debt payments increasing to $1.2 trillion by the end of the decade. We are sitting here at a period of time when the 10-year Treasury yield has crossed 3 percent, 3.16 percent, I believe, as of yesterday. A year ago, it was 1.48 percent. So, we are already approaching the high-interest-rate threshold that CBO has for interest on the debt to triple.

Do you project that interest payments on the debt, the interest payment number that is impacted by the interest rate set by the Fed, will remain in a range of 2.4 to 3.8 percent, or do you believe that it will be dramatically above that?

Mr. POWELL. We don't publish projections on Treasury rates.

Mr. STEIL. So as interest rates are moving, as you are doing, I think appropriately so, to address the inflation environment that we are in, the Federal Reserve doesn't project the cost on the debt moving forward?

Mr. POWELL. Internally, we don't publish, this is what I said, but internally, of course we have a path for the 10-year, for example, and for many, many years, it has always showed rates returning to levels even where we are or even higher. That is what goes into our models because we assume over time, for example, that we are going to be shrinking our balance sheet in the range of a trillion dollars a year in the coming years, so that will put more supply out. That should put some upward pressure on rates. It is not our business to project this publicly, but our assumption is that rates will return to levels that are somewhat higher.

Mr. STEIL. Let me, for the record, state that I am very concerned that we are going to see interest rates remain high. The Committee for a Responsible Federal Budget notes that 50 basis points is $143 billion of year-end debt. I am concerned that we are on a path that is very unstable. I appreciate you being here.

Madam Chairwoman, I yield back.

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

Ms. OCASIO-CORTEZ. Thank you so much, Madam Chairwoman, and thank you, Chairman Powell, for coming in to speak with us today.

Chair Powell, in the summer of 2019, which admittedly was a different world, during a Financial Services Committee hearing, you related to me that, "I would look at today's unemployment as well within the range of plausible estimates of what the natural rate of unemployment is." Do you recall what the unemployment rate was around that time in 2019?

Mr. POWELL. I want to say 3.5 percent.

Ms. OCASIO-CORTEZ. Yes, it was 3.5 percent. And what is the current unemployment rate today?

Mr. POWELL. 3.6 percent.

Ms. OCASIO-CORTEZ. 3.6 percent. You also said that when unemployment went way up, you didn't see inflation go way down. So, you don't see inflation reacting to unemployment the way it does because inflation seems very anchored. Again, that was at that time.

Chair Powell, briefly, yes or no, would you say that some of the contributing factors to today's inflation include ongoing supply chain issues, including volatility of commodity prices as a result of the ongoing conflict in Ukraine, and companies also raising prices because they can?

Mr. POWELL. I would say on supply side issues, for sure those are playing an important role.

Ms. OCASIO-CORTEZ. And am I correct that American workers' wage gains have actually trailed inflation? In other words, while the cost of goods went up by 8.6 percent, on average, wages did not increase by that much?

Mr. POWELL. It depends. Some people at the lower end of the spectrum actually have been getting positive real-wage gains. For most people, though, inflation has been higher than their wage increases.

Ms. OCASIO-CORTEZ. So on average, we have a wage growth at about 6.1 percent, so average wages are trailing inflation. It does seem that American workers are not primarily responsible for the inflationary issues that we are seeing today. But despite this, we are seeing some comments from individuals, like former U.S. Treasury Secretary Lawrence Summers, who earlier this year said that in order to contain inflation, the U.S. needs 5 years of unemployment above 5 percent, or 1 year of 10-percent unemployment. Do you agree with that assessment?

Mr. POWELL. I understand how that number can be arrived at or derived, but I think there is so much uncertainty and, in particular, the answer is going to depend to a significant extent on what happens on the supply side. If we do get these supply side problems worked out, which I think is certainly going to happen in time, then you wouldn't see anything like that. But it is a highly-uncertain time, and our intention, of course, is to bring down inflation while keeping the labor market strong.

Ms. OCASIO-CORTEZ. I think it is important to drive home what 10-percent sustained unemployment would look like in this country. For context, we didn't even reach 10 percent during the Great Recession. We did experience 10-percent unemployment in 1982 following the Volcker shock. But in this market, to get to 10-percent unemployment would require about 10.5 million additional people out of work, and historically, we know that Black unemployment is usually double that of White unemployment, correct?

Mr. POWELL. Yes, it tends to move at twice the speed, both up and down, but certainly moving up.

Ms. OCASIO-CORTEZ. So when the former Treasury Secretary says he wants 10-percent unemployment overall, he is also saying that we need Black unemployment of nearly 20 percent or implies that. But, Chair Powell, I do think that despite the tools that you don't have, Congress does have tools as well. Would you say that the following actions granted in the scope of Congress could be deployed to impact inflation using antitrust laws against companies that are raising prices using their market power?

Mr. POWELL. Sorry. I didn't hear the last part.

Ms. OCASIO-CORTEZ. Would using antitrust laws against companies that are raising their prices have an impact on anti-trust?

Mr. POWELL. Sorry, anti-what laws?

Ms. OCASIO-CORTEZ. Antitrust.

Mr. POWELL. Antitrust laws, okay. Sorry.

Ms. OCASIO-CORTEZ. No worries.

Mr. POWELL. The acoustics in here are difficult.

Ms. OCASIO-CORTEZ. No worries. Would that have an inflationary impact?

Mr. POWELL. It is really hard to say.

Ms. OCASIO-CORTEZ. Would subjecting those companies to a windfall profits tax have a potential impact on inflation?

Mr. POWELL. Again, I don't—

Ms. OCASIO-CORTEZ. And would requiring government contractors to keep a lid on their pricing have certain impacts on inflation?

Mr. POWELL. There is a long history of price controls when inflation has been high, and it was not a successful one. Really, it comes down to getting demand and supply in alignment.

Ms. OCASIO-CORTEZ. And if the Fed's tools mostly impact demand, but most of those inflationary issues could be potentially impacted by supply, how high do you think the Fed would have to drive unemployment to actually have an impact?

Mr. POWELL. That is going to depend on a lot of things, and ideally, we can raise rates, and it is very important that we get inflation back down, particularly for people in the margins of society who are suffering the most from inflation. That may be a longer conversation, again.

Ms. OCASIO-CORTEZ. Thank you.

Chairwoman WATERS. Thank you very much. The gentleman from South Carolina, Mr. Timmons, is now recognized for 5 minutes.

Mr. TIMMONS. Thank you, Madam Chairwoman, and thank you, Chairman Powell, for being with us today. Congratulations on being confirmed to your second term as Chair. You have some rocky times ahead. I wish you luck.

The last time you were here, we discussed how rising interest rates really inflate debt servicing costs for the Federal Government. And I know what you are going to say, that is a concern for fiscal policymakers, the Congress, to take into account, not the Fed, and that is mostly true. But I still think it is worth everyone being fully aware of just how costly servicing our debt will be now that interest rates are returning to historically-normal levels.

According to CBO, interest payments on the debt are the fastest-growing part of the Federal budget. CBO projects that servicing our debt will cost taxpayers $8.1 trillion of the tenure budget window—$8.1 trillion. And their inflation assumptions projecting interest rates are lower than current levels, and quite a bit lower than where rates are likely headed to get inflation under control.

And I thank you for your efforts to get inflation under control, but for every half-percentage point rate hike, that is an estimated $133 billion of annual increases. I am going to say that again: a $133 billion in annual increase in debt servicing costs. That is just a staggering amount of money.

So we, Congress, must get our fiscal house in order. We have to. There is no other option. The dollar's position in the world as the global reserve currency is solid, and there are no immediate signs of that changing, but if we continue on our current trajectory, that will not always be a given. My question is, are you worried that if our current fiscal path continues—which I should note with each rate hike, looks worse and worse—that the dollar's position in the world could be challenged in the long term? Is that a concern?

Mr. POWELL. Certainly, in the long term, the dollar is the reserve currency, and I don't see it as particularly under threat at the moment given the advantages that we have, which are many. But you are right that the U.S. Federal budget is on an unsustainable path, and we will have to deal with it, and the sooner, the better. Unsustainable just means that the debt is growing faster than the economy, which, by definition, over time, can't be sustained.

Mr. TIMMONS. Thank you. For the record, I also want to follow up—you stated the following as Congress considered the Biden stimulus, "In addition, workers and households who struggled to find their place in the post-pandemic economy are likely to need continued support. The same is true for many small businesses that are likely to prosper again once the pandemic is behind us." That was from your speech on February 10, 2021. I just wanted to add that in for the record.

One final question. During a meeting last week at the International Association of Insurance Supervisors (IAIS), the IAIS issued a consultation paper on comparability criteria, looking at the use of the International Capital Standard (ICS) versus the aggregation method. As you know, the U.S. has committed to using an aggregation-like approach here in the U.S. through the National Association of Insurance Commissioner's (NAIC's) group capita calculation and the Fed's proposed building-block approach. Moreover, the EU and the U.K., through their covered agreements with the U.S., recognize these approaches to group capital. Nevertheless, Insurance Europe, a federation of European insurers representing more than 95 percent of the European market, takes the view that there cannot be two versions of an International Capital Standard.

My question is this: Will you continue to advocate and support the aggregation method as an alternative to the International Capital Standard?

Mr. POWELL. I am a little rusty on that, but I will say this: I know that we are strongly committed to capital standards that work for U.S. insurance companies.

Mr. TIMMONS. I get that, but I guess what I am getting at is we have a different way of regulating insurance here in the United States. We all know that, and it works for us, and we do not need to let these international bodies change our way of doing things. We need you to stand up for the American way of doing things and for American businesses. Can you commit to doing that?

Mr. POWELL. I think that is what we are doing, so yes.

Mr. TIMMONS. Okay. Thank you. Madam Chairwoman, I yield back.

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

Mr. AUCHINCLOSS. Thank you, Madam Chairwoman. And welcome, Chairman Powell. I want to start by asking you about inflation expectations, which, as you obviously know, can be very difficult to dislodge once they are anchored in the mindset of consumers, and what the Fed can do both to address inflation, but also to convince Americans that inflation is going to be lowering in the medium term, and thereby prevent inflation expectations from getting anchored?

Mr. POWELL. If you look at inflation expectations, and of course we measure professional forecasters, households, market-based break-evens, and things like that, a broad range of things, you do see that people expect inflation to be high in the very near term, but they expect it to come down fairly quickly and get back to normal. So as a general matter, the evidence is clear that people do expect inflation to come back down to levels that are consistent with our price stability mandate, but we haven't had a test like this. I would say we haven't had an extended period of high inflation for a long time, so it is not a comfortable place to be. Short-term inflation expectations are higher, and it adds to our desire to move expeditiously and with force to get rates up and then ultimately to get inflation down.

Mr. AUCHINCLOSS. Building on that one degree removed, the only thing more painful than expected high inflation is unexpected high inflation. And it makes the degree to which businesses and consumers do not have confidence in the Fed's ability to control inflation or the U.S. Government at large, makes it harder for them to make capital investments in the long term, makes it harder to do wage negotiations. Is there a measure of the degree of confidence that both business and consumers have in the ability of inflation to remain low that you are tracking so that we can try to measure the degree of confidence people have in not having to see unexpected inflation in the future?

Mr. POWELL. First, I agree with it. Ultimately, the point is that if the public retains confidence that inflation will come down, their expectations remain anchored, then it will come down. We think that is how it works.

Mr. AUCHINCLOSS. Self-fulfilling?

Mr. POWELL. Right. By many, many measures, and we track them all. We put them all in one big measure called the Index of Common Inflation Expectations. We do that, and we publish it at various times.

Mr. AUCHINCLOSS. It strikes me that—

Mr. POWELL. And we basically send the message that essentially, yes, inflation expectations are anchored, but as I said, that is good, but it is not enough. We need to get inflation down because inevitably, over time, these expectations are going to be under pressure.

Mr. AUCHINCLOSS. It seems like you also want to track volatility within that Index of Common Inflation Expectations to see how much confidence people have that they are not going to see unexpected inflation.

Mr. POWELL. Yes. We look at the distribution, and if there are some small signs, concerning signs, then we just can't allow that. Ultimately, our whole framework is about keeping inflation expectations well and truly anchored so that inflation will return to that anchor.

Mr. AUCHINCLOSS. And your credibility, and that is autocatalytic in inflation expectations, so I think it is critical that the businesses and consumers have that confidence.

Mr. POWELL. Absolutely.

Mr. AUCHINCLOSS. Can you explain how quantitative tightening, I guess we would call it now, is going to play into that unrolling, the quantitative easing of the last 10 years?

Mr. POWELL. Sure. It is quantitative easing in reverse. And what quantitative easing does is, it reduces the supply of risk-free, longer-term assets, and that tends to drive rates down as people want those. So when we shrink our balance sheet, what happens is the public will be holding more of that paper, and we won't be holding it, and that should have some upward pressure over time. Markets are forward-looking, so they are already pricing this in.

Mr. AUCHINCLOSS. And you don't project any changes in how are you going to do QT?

Mr. POWELL. We put out a plan. We thought very carefully about it. We have announced it. Markets have seen it, and it is sort of priced in and I think we would intend to keep to that plan. Of course, one of our principles is that we are always going to be flexible if that is warranted.

Mr. AUCHINCLOSS. Last question for you in my final 30 seconds here, Chairman Powell. Can you give us an update on FedNow and your plans for access both to established banks as well as to financial technology companies?

Mr. POWELL. FedNow is supposed to go live next year. We believe we are on track to do that. We have people working really hard on it. I didn't catch the last part of the question.

Mr. AUCHINCLOSS. How are you going to make access available? Is it going to be just for certain types of banks? Is it going to be for financial technology companies? How are you going to adjudicate access?

Mr. POWELL. That is something we are looking at. Mainly, it is for the broad sweep of banks, and we will have to look at going beyond that.

Mr. AUCHINCLOSS. I yield back.

Chairwoman WATERS. Thank you. The gentleman from South Carolina, Mr. Norman, is now recognized for 5 minutes.

Mr. NORMAN. Thank you, Chairwoman Waters. Chairman Powell, welcome. Would you agree that housing is a leading economic indicator on the health of the economy or on the direction the economy is going?

Mr. POWELL. It is certainly an important indicator.

Mr. NORMAN. Because it affects so many different facets of the economy.

Mr. POWELL. Sorry?

Mr. NORMAN. Because it affects so many facets of the economy, is that right?

Mr. POWELL. I'm sorry. I am having a hard time hearing you.

Mr. NORMAN. Because it affects so many facets of the economy. In other words, when you are housing, whether it is commercial, residential, you buy a lot of products that are across the spectrum.

Mr. POWELL. It is a very important sector of the economy for the reasons you point out.

Mr. NORMAN. And one of the reasons that most economists are predicting a severe recession is housing as a leading economic indicator. I have done that. That is where I have made my living. Do you realize it is very simple to solve, to get the housing to a point that it was under the previous Administration? I am from South Carolina. People move there. You realize in the last probably 4 months, there has been a severe cutback, despite the fact that people are coming in and need it, and it is because of this Administration's war on energy and natural gas. The Fed can't regulate that. Putin can't regulate that. It is a direct result of policies of this Administration, and one of the reasons that it is basically going to come to a standstill, the war on energy, and you can't afford gas for your product. So, the war on the workforce this Administration has waged, when you pay people not to work, it is kind of a disincentive to go to work.

Supply chain has been mentioned, and the call I got 4 days ago from a leading producer of chicken who cannot get corn to feed the young chickens is kind of a problem. Interest rates, which are at your disposal, are going to severely affect the housing industry. When you are paying a 6-percent long-term mortgage rate along with every other cost increase directly caused by the policies of this Administration, the housing is going to come to a stopping point, as it is now likely to have. Regulations have been mentioned to you. We now face on simple projects a regulation, and I would point out many of them needless, to be 35 percent, 38 percent. That is, when you combine all of these things, housing is going to take a tremendous drop. That will affect the economy. What do you say?

Mr. POWELL. I think all of those things are affecting the economy.

Mr. NORMAN. Is greed, which has been mentioned here, a leading cause of inflation?

Mr. POWELL. I think it is a macroeconomic phenomenon that is caused by the things we have been talking about.

Mr. NORMAN. Was greed not a factor 4 years ago?

Mr. POWELL. No.

Mr. NORMAN. Maybe, it is a factor now. Were they just less greedy in 2016 through 2020?

Mr. POWELL. It is hard to see why they would have been.

Mr. NORMAN. Okay. And was Putin responsible for the low gas prices that we experienced from 2016 to 2020?

Mr. POWELL. Not as far as I know.

Mr. NORMAN. I don't think he had much impact. If he did, it would be a sad state for the United States. I think one of the Members mentioned the debt relief for college students that has been proposed by the current Administration. How will that have an effect on the economy? And I think the number that has been talked about, to forgive $50,000 per student, will that affect the inflation in the economy?

Mr. POWELL. As I mentioned, we don't score these bills from an inflation standpoint.

Mr. NORMAN. It wouldn't be positive though, would it?

Mr. POWELL. Sorry?

Mr. NORMAN. I doubt it would be positive, would it?

Mr. POWELL. I don't know. That is for elected folks.

Mr. NORMAN. And on the central bank digital currency, would you have to have approval from Congress before the Federal Reserve got involved?

Mr. POWELL. I can't imagine that we would move forward without authorizing legislation.

Mr. NORMAN. So, you would have to have the approval of Congress?

Mr. POWELL. Yes.

Mr. NORMAN. Thank you for what you are doing. You are using the tools that you have at your disposal. Most of this could be eliminated if we had a policy now that was pro-business, and pro-growth. But thanks for what you are doing, and congratulations on being reappointed as Chair.

Mr. POWELL. Thank you.

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

Mr. VARGAS. Thank you very much, Chairwoman Waters and Ranking Member McHenry. And Chairman Powell, thank you very much for being here, and congratulations, I think—I am not sure. You are running into a pretty heavy lift here going forward, but I very much appreciate you being here today.

I believe that inflation is real, obviously, and it is hurting a lot of people. It is the causes, I think, that are being manipulated, and, frankly, lied about. And there is one big criticism that I make of you, and also especially, I guess, Secretary Yellen, which is that you haven't explained inflation within the context of the world environment, what is happening globally.

My good friends on the other side of the aisle love to blame inflation singularly on President Biden and his policies. I didn't get a chance to ask Secretary Yellen any questions when she was here last time; I'm kind of low on the totem pole here. But I wanted to scream, because every time, she led with her chin, as opposed to explaining that this inflation is global, and now that I have you here, I get to ask you some questions. What is the inflation rate in the European Union, overall?

Mr. POWELL. I wouldn't—

Mr. VARGAS. It is 8.8 percent according to Statista. Did they receive any money from the American Rescue Plan?

Mr. POWELL. Not to my knowledge.

Mr. VARGAS. What is the inflation rate in Estonia?

Mr. POWELL. In Estonia, I don't know. They are roughly comparable to ours.

Mr. VARGAS. It is 20.1 percent. It is not very comparable to ours. It is over 3 times higher than ours.

Mr. POWELL. I think the European democracy is similar to us.

Mr. VARGAS. Estonia. Did they receive any money from the American Rescue Plan?

Mr. POWELL. Not to my knowledge.

Mr. VARGAS. How about Latvia? What is the inflation rate in Latvia?

Mr. POWELL. I have no idea.

Mr. VARGAS. It is 16.8 percent. Did they receive any money from Biden or the American Rescue Plan?

Mr. POWELL. Not as far as I know.

Mr. VARGAS. How about Bulgaria? 13.4 percent.

Mr. POWELL. I knew that one.

Mr. VARGAS. Poland. What, you knew that one?

Mr. POWELL. Yes.

Mr. VARGAS. I apologize. I will let you try with Poland. How about that? They are a friendly nation, 12.8 percent. Did they receive any money from the American Rescue Plan? And if they didn't, why do they have inflation that is so high?

Mr. POWELL. Not as far as I know.

Mr. VARGAS. Why is their inflation rate so high?

Mr. POWELL. In Europe, the inflation that they are seeing is principally due, I believe, to energy prices and food prices. It is due to the war, and it is due to the situation with Russia being their principal energy supplier.

Mr. VARGAS. They didn't receive any money, though, from the American Rescue Plan?

Mr. POWELL. Not as far as I know.

Mr. VARGAS. Okay. Let's keep going. Romania 12.4, Slovakia 11.8, Hungary 10.8, Croatia 10.7, Greece 10.5, the Netherlands—come on, you have to know the Netherlands.

Mr. POWELL. Since we are going down, it would be lower.

Mr. VARGAS. 10.2 percent.

Mr. POWELL. See?

Mr. VARGAS. But you do see that, I am glad, at this point. Let's skip to Germany. They are very similar to us.

Mr. POWELL. I am not going to guess.

Mr. VARGAS. 8.7 percent. And the reason I wanted to go through the litany of these things is that I keep hearing from my good friends on the other side of the aisle that inflation somehow magically exists because of Biden's policies, because of the American Rescue Plan. Well, if that is true, then there shouldn't be this other inflation in other countries. It is a global phenomenon. As Clinton used to say, "It is the economy stupid." Here, it is the pandemic, obviously, and things that happened.

We have a situation around the whole world, yet you don't explain it globally. And I shouldn't, because I really like you a lot, and I really do think you are doing a good job, trying very hard, but I did want to yell at Secretary Yellen because she didn't explain anything globally. Don't you think you have a responsibility to the American people? I know in my district, most people believe that inflation is only happening here, because of the rhetoric that they hear from the other side. And you guys, I think, have the opportunity and the responsibility to give them the full picture, not this limited picture, and I hope you do so.

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

Ms. GARCIA OF TEXAS. [presiding]. The gentleman yields back. The gentleman from Oklahoma, Mr. Lucas, is now recognized for 5 minutes.

Mr. LUCAS. Thank you, Madam Chairwoman, and actually, I think my timing for my question is perfect. Chairman Powell, I would like to discuss with you today an issue that is of significant concern to me and many of my colleagues. The SEC's regulatory agenda has more than 50 significant proposals that are currently underway or approaching a final vote. These rules cut across every asset class under the the Securities and Exchange Commission's (SEC's) jurisdiction. The sheer complexity and volume of these overlapping rulemakings could negatively impact markets and the public that depends on them.

SEC Commissioner Hester Peirce warned that the speed and character of these rulemakings could create dangerous conditions in our capital markets. Now, this is against the backdrop of the U.S. economy facing significant challenges. We have discussed that all morning: inflation at more than a 40-year high with substantial increases in the cost of food, housing, and gas prices, record prices. Also, supply chain backlogs and labor shortages continue to weigh on the economy with consumer and business confidence plummeting. And, of course, we are still studying the impact of the global pandemic and the consequences of the ongoing Russian invasion of the Ukraine.

In Oklahoma, small businesses, farmers, and ranchers are navigating through surging energy prices and volatile agricultural markets for inputs like grain and fertilizer. Poor crop conditions and high commodity prices are expected to worsen the situation throughout the summer and into the rest of the year.

In uncertain times like this, market participants need to seek to protect their retirement savings, to hedge risk, and to safeguard their livelihoods. A top priority should be supporting liquid markets to protect the U.S. economy from the face of the substantial headwinds. I know you don't comment on other entities within the Federal Government, and I know these regulations that are going to have such a tremendous impact are not coming from your area. But unfortunately, I am concerned that the magnitude and the significance of rulemaking proposals coming out of the SEC in such a short amount of time runs counter to the goal. We know that regulatory uncertainty creates an adverse market environment for economic growth and market stability.

Chairman Powell, I will not ask you to comment on the SEC, but could you speak to the importance of market liquidity during periods of economic uncertainty?

Mr. POWELL. Yes. One of the things they do is process information and consider the implications of it, and it is critical that markets be liquid enough to do that. And if that happens, then financial conditions can adjust, and equity prices of various kinds can adjust. And one of their big functions is to do that and to absorb news, sometimes very difficult news, in a way that preserves stability.

Mr. LUCAS. I think Congress and the public should have the opportunity to fully grasp the impact of the SEC's sweeping proposals. If we really want to tame inflation, we should begin by not making the current situation worse. The SEC's approach will rattle markets during a time when strong capital markets are essential to our economic growth and our constituents back home. After all, you are working hard on the demand side of the equation. But we in Congress and the Administration should help with the supply side of the equation by not making it more difficult to invest in and create more goods and services in this country.

That said, Chairman Powell, as you have acknowledged, the Fed's monetary policy tools can do very little to mitigate rising gas prices. However, the increased cost of gas has an oversized impact on consumer inflation expectations. Folks see the price at the pump going up and experience the price-per-gallon at an all-time high. Could you discuss how the Fed envisions its ability to rein in inflation expectations driven in large part by gas prices, or to put it another way, if gas prices remain at record levels, is an aggressive response from the Fed all but guaranteed?

Mr. POWELL. If gas prices remain at the current levels they are at, it means inflation continuing to go up. So, it isn't so much the level as the rate of change, as you know. I think we are mindful that even though these things are outside of our control, the gas prices and food prices for the most part, that adds a little bit of urgency in our wanting to get our rates into a place where we are addressing inflation directly because the public reacts to all kinds of inflation, not just core inflation. Our tools tend to generally go to core inflation, and we don't think we can use our tools to change energy prices, but we do think that they add to our desire to get expeditiously to the appropriate levels.

Mr. LUCAS. And clearly, Congress and the Administration, and the Majority has a responsibility to increase supplies of resources, not discourage that.

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

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

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

Mrs. BEATTY. Thank you so much, Madam Chairwoman, and thank you, Chair Powell, for being here as you are navigating through all of these Federal issues during this difficult economic time.

Chair Powell, after our hearing concludes, this committee will be voting on a few pieces of legislation, so I am going to take advantage of having you here to shed some light on a few of the things that we will be considering. I can't think of a better person to give us some insight on these issues.

The first question is, we will be voting on an amendment that would delay the SEC's small business advocate from conducting outreach to underserved business owners until after gas prices drop to the pre-COVID level. Chair Powell, in your opinion, will delaying the SEC's outreach to minority business owners affect gas prices in any way?

Mr. POWELL. With all respect, I am reluctant to comment on proposed legislation.

Mrs. BEATTY. Let me ask you this. Let's say if it is not legislation, is there a correlation between what gas prices would be in relation to what they were pre-COVID with inflation?

Mr. POWELL. Again, I would be expressing an opinion on someone's amendment. If I start down that road, I don't know where it stops. These are matters for elected people.

Mrs. BEATTY. Would you say that the global markets and inflation across the country, that we are seeing this everywhere?

Mr. POWELL. Yes, inflation is happening everywhere now.

Mrs. BEATTY. I am dealing with a lot of fair housing issues in my district, and I have a long history of working with public housing and relocating people. And as we look at issues with housing, do you think housing is any way tied to inflation?

Mr. POWELL. I'm sorry. I didn't catch the question. I apologize.

Mrs. BEATTY. Do you think what is happening in our housing market is tied to inflation in any way?

Mr. POWELL. Yes. Yes, it is. Housing costs are about a third of the CPI. We call them housing services. The way it works is, in effect, an owner of a house is charging something called owner's equivalent rent or paying something called owner's equivalent rent. So yes, it is an important factor in inflation.

Mrs. BEATTY. Okay. Can you tell us, in your opinion, in light of Congressman Vargas' question, as he was giving us an idea of how some of our colleagues are trying to tie things to the American Rescue Plan, they are trying to tie it to us taking care of the least of us. If it is tied to inflation, why in other areas or countries, and they don't have the American Rescue Plan, and how do you answer more about Mr. Vargas' question? I know he gave you a litany. I am not trying to put you on the spot with quizzing you on what their inflation rate is in comparison to ours, but I think you got where he was going with this. Is there anything else you would like to elaborate on in relationship to where he was going?

Mr. POWELL. Sure. I will just say that even though we have a very similar inflation rate as a lot of the large European democracies now, pretty close, there are differences between countries. And the difference with the U.S. compared to the European countries is that ours is more about demand. We have areas in our economy where demand is substantially in excess of supply. It is not mainly a feature of the European economies where they are really feeling very, very high inflation because of energy prices and also food prices now. That is part of our story, too. We are also feeling energy and food prices, but we have this other part that is more core inflation, which is more susceptible to being managed by our tools and is really the object of our tools.

Mrs. BEATTY. My time is already up. But in light of your response to my first question, I just need to say for the record, I can't conceive of a single connection between gas prices set by global markets and giving advice to small businesses. At the same time, I have a hard time coming up with a theory of how allowing discriminatory housing will help stem inflation. and I think my time is up, so I yield back.

Ms. GARCIA OF TEXAS. The gentlewoman's time has expired.

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

Mr. SESSIONS. Thank you very much, Madam Chairwoman. Chairman Powell, thank you very much for taking the time to be with us today. This is important to the American people who hear our questions. This is important for us as we weigh, and measure, and gauge your input, which we believe is exceptional. I have stated to you in the past that I believe that we need to have confidence in what you are doing.

Today, I would like to, if I can, without dissecting your thinking, use some of the words that you have provided for us today to see your thinking. You had stated that as it relates to the Fed, “We don’t give advice to agencies.” Now, this is a quote from you today, “We don’t give advice to agencies.” Do you think that advice is different, which I do, than the tools which you have to do your job? But I consider part of what you do best, perhaps the Fed, is advice. Can you help me to understand, “We don’t give advice to agencies?”

Mr. POWELL. Particularly on fiscal matters, fiscal matters affect people’s lives. It affects industries, and people, and tax levels, and spending. That, in our system, is the province of elected people, and for someone who is an appointed person, who hasn’t stood for election, and has a very narrow mandate, I just think that is not appropriate. If we are going to wander into those kinds of things, then what would be the case for our independence? If we are going to be involved in every political issue that isn’t directly connected to our work, then why would we be independent? We should just be another agency, but we have this independence, and I think to preserve it, we need to stick to what we do and resist the temptation to work on every problem, even the ones that are not assigned to us.

Mr. SESSIONS. Let me thank you for the answer. You do know, however, as we were talking about student loans, it is a rather large amount, about $1.2 trillion that is out there, and you stated that you believe that would likely be dealt with in legislation. Now, that is what you said, likely to be dealt with in legislation, student debt. I think even private advice, not within your tool structure, but this advice that we are trying to land on would be really important because it will be, the way I see it, the next large hit to inflation. And this is why Republicans, or at least this Republican, says that I believe that this Administration, and the Democratic Party, are making friends with inflation. They are using the toolbox that they have of politics and money and spending policies to make friends with inflation. My point would be to you, I sure hope that someone could send a memo to someone saying that, if you have an opinion on that.

Next point: We have had some discussions about unemployment. How is unemployment calculated?

Mr. POWELL. You have to be actively looking for work within the last month and not have a job to be considered unemployed. If you are not looking, then you are out of the labor force, so you are not participating in the labor force. Those are the factors.

Mr. SESSIONS. What we want to do—some members of this committee have wanted to look back and to say, well, perhaps under President Trump, it was 3.5 percent, now we are 3.6 percent, so not a big difference, and yet the huge number of jobs that are available is really the factor. When there were no jobs, that is a problem, but to simply say, well, Trump was 3.5, now we are 3.6, everything is fair. It is all done. I think the other advice I would love to have from the Fed is about getting people back to work, because today, the government has given zero instructions for Federal workers to return to work. And I think that it is causing a mindset among many that we don't need to go to work, thus reflected in 3.6 percent unemployment and millions of available jobs.

Mr. Chairman, thank you for taking the time to be here. It is my hope that you would find in your toolkit advice that becomes perhaps more important than that. Thank you, sir.

Mr. POWELL. Thank you.

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

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

Mr. LAWSON. Thank you. I want to thank Mr. Powell and welcome him back to the committee.

Mr. Powell, I think earlier, there might have been something that came from one of my colleagues, and it was a rising interest rate to combat inflation does come with a rising unemployment rate and [inaudible] contributing to economic recession. While White unemployment rates have dropped to pre-pandemic levels of 3 percent and QI on 2022, the national Black unemployment rate remains still at 6.5 percent. And I know some things you can't say, but what suggestion can you offer to help prevent Black and other minority communities from facing future economic inequities as the Federal Reserve considers continuing to raise rates in the near future?

Mr. POWELL. If I heard your question correctly, it was whether we are considering additional future interest rate increases, sir?

Mr. LAWSON. That is correct.

Mr. POWELL. Yes. I think just last week, my colleagues and I wrote down our forecast for this year, and we anticipate ongoing rate increases over the course of this year. Yes, additional rate increases.

Mr. LAWSON. Mr. Powell, do you believe that the Fed's current inflation projection for 2022 and 2023 remains a good benchmark to consider, even with these vulnerability potentials growing in the upcoming months?

Mr. POWELL. I think that the latest projections that individual FOMC participants submitted were submitted last Wednesday, so I think they are still fresh. And there is a range of expectations of people on the committee, but I think they are a reasonable set of projections, yes.

Mr. LAWSON. Okay. Mr. Powell, several of my colleagues on the other side of the aisle, in debating about the Biden policy and so forth, which I know you can't comment on, but there is a concern where we were kind of caught off guard with the war in Ukraine, and then, at the same time, our vulnerability of all of the things that we depend on for other countries. In your deliberation, when you all are working with the situation that has arrived that came from the Russia-Ukraine war, and other real estate, and other stress in China spilling over into the United State, does the Fed give a recommendation back to the Administration on how we should proceed in the future, because we have done a lot of things with other countries and we depend on a lot of countries for resources and so forth, and it looks like we are becoming very, very vulnerable—well, it doesn't just look like it; we are becoming very vulnerable to this dependence. Do you all make a recommendation back to the Administration on how we should proceed in the future?

Mr. POWELL. No. No, sir, we do not.

Mr. LAWSON. Okay. Early on, you said it is paramount that policy position should be considered by the legislature or the Administration. Am I correct?

Mr. POWELL. I'm sorry. I lost track of what you said there. I apologize.

Mr. LAWSON. I think you stated to some of my colleagues that those policies should be left up to the Congress or to the Administration. You all don't really deal with that aspect of it. Am I correct?

Mr. POWELL. Which aspect of it?

Mr. LAWSON. About what recommendations could be made for all of these things that we have all showed that we depend on from other countries. And I might not be really clear, but for example, the gas situation with Russia, and things with Ukraine.

Mr. POWELL. No, we are not in those discussions. Those are really discussions that happen inside the Administration: the Treasury Department; the White House; and the other agencies.

Mr. LAWSON. Okay. With that, Madam Chairwoman, I yield back.

Ms. GARCIA OF TEXAS. The gentleman yields back.

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

Mr. LUETKEMEYER. Thank you, Madam Chairwoman, and welcome, Chairman Powell. It has been a long morning for you, and afternoon.

I have a question for you with regards to a quote that on March 17th, the Consumer Financial Protection Bureau (CFPB) put out in a blog on rising interest rates, in which they said, "The CFPB is the arm of the Federal Reserve System that is fully focused on consumers, ensuring that markets are fair, transparent, and competitive." Do you believe that the CFPB is an arm of the Federal Reserve, and do you have any control over their actions?

Mr. POWELL. They are an independent agency. We have no control whatsoever over their actions. They are actually legally a bureau. The law makes them a bureau. And our profits that we make off of our balance sheet, we give all of them to the Treasury Department, except the part that we give to pay for the CFPB.

Mr. LUETKEMEYER. Does that make them an arm of the Fed?

Mr. POWELL. For all practical purposes, they are fully independent in all of their—

Mr. LUETKEMEYER. They are not an arm of the Federal Reserve then. I wouldn't consider that an arm. They have a relationship, but they are not an arm.

Mr. POWELL. Technically, they are a bureau, but—

Mr. LUETKEMEYER. They are not under you, so—

Mr. POWELL. No.

Mr. LUETKEMEYER. —how they can be an arm?

Mr. POWELL. Yes, we have no supervision of them. We collaborate with them, we coordinate with them, we talk to them.

Mr. LUETKEMEYER. This is an overreach by the Director. I just want to make sure that everybody is on the same page. This is a bunch of nonsense and needs to be put in its place.

Chairman Powell, you have your hands full right now. And in this Wall Street Journal article from Tuesday, the economists say that recessions are likely down here, which said, “Stocks are not bottoming very soon.” So, we have some concerns. I know yesterday, you were in the Senate, and there was a lengthy discussion on inflation, which there has been here this morning as well. In my mind, there are four root causes of inflation, and we had economists in your chair a few weeks ago, and I had one in my Small Business Committee a couple of weeks before that, and I asked the same question. And I said, it looks to me like there are four causes of inflation—monetary supply, rules and regulations, energy and supply chain, and job problems that we have with workers in the economy today—and they agreed that is basically your four problems that are underpinning inflation. I asked them to give me a percentage of each one of them. They said roughly 40 percent for money supply, 20–20–20.

I guess my concern is that if you look at those four causes, you are trying to help fight inflation, which is one of your mandates, and you are really under money supply as the only thing you have any ability to do something with. And even then, it is probably only half of it, because Congress has control over how many dollars are put into the system with additional bills, like the trillion-dollar stimulus package last year, taxes, and things like that. So, it looks like you have a minimal amount of impact on those four things.

It looks to me, quite oftentimes, that whenever you are trying to control the inflationary stuff with the interest rate, it is kind of over here trying to do a little, and something went over there. There is all sorts of stuff going on, and the Administration seems to be at a contradiction to some of the things you are trying to accomplish over here. Do you ever feel like that? Do you believe that is maybe a position that you are in right now?

Mr. POWELL. We are very focused on the part of the job that we can do and using our tools to do it.

Mr. LUETKEMEYER. I understand that, Mr. Chairman. It would seem all of these other factors fall outside your purview here. And for you to try and manipulate it and everybody rely on you to solve the inflation problem by tinkering with the interest rate over here, it looks like that is a little overhyping the situation. But one of the things that is very concerning is the regulatory cost.

In my discussion with an economist, he said, look, this is the Administration’s own figures, last year administration cost of compliance with new regulations was $201 billion. That is astronomical. That is a huge cost that has to be built into all of the small businesses and other businesses whenever they produce products and services for sale to customers. They have to build an additional $200 billion in costs every year. Would you agree that is a huge driver of inflation?

Mr. POWELL. It sounds like a big number, yes, and as you know, we try at the Fed to weigh costs and benefits and take that into consideration.

Mr. LUETKEMEYER. Would you agree that those are the four things that I said are underpinning inflation? Would you agree that those probably are the four major problems?

Mr. POWELL. Yes. Overwhelmingly, most economists would not think of it in terms of money supply, but would think of it in terms of supply and demand. And although there may be a role for money supply, they would think in terms of supply and demand being out of balance, and that is how I think about it.

Mr. LUETKEMEYER. The definition of inflation I have always heard was too many chasing too few goods and services. If you throw more money in, you have more money to supply—

Mr. POWELL. There are 40-plus years of history, and actually, Milton Friedman, at the end, came back and said, that is not really working anymore.

Mr. LUETKEMEYER. Mr. Chairman, I just have one more—

Mr. POWELL. Maybe working again, though, is the—

Mr. LUETKEMEYER. —quick comment for you with regards to this. It looks to me like whenever you are modeling—

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

Mr. LUETKEMEYER. —when you are trying to model and you use it for—

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

Mr. LUETKEMEYER. —different things, I hope that your models are including these things—

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

Mr. LUETKEMEYER. —in your modeling. I would appreciate just 13 seconds to be able to finish my question.

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

Mr. LUETKEMEYER. Thank you, Madam Chairwoman.

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

Mr. SHERMAN. Chairman Powell, I want to thank you for bringing to the attention of this committee over the last several years the systemic risk posed by tough legacy London Interbank Offered Rate (LIBOR), some $16 trillion of instruments where we would not know the interest rate that the debtor is supposed to pay the creditor, and $16 trillion is a big problem. We passed the relevant bill back in March, and for those who think Congress can't possibly deal with a problem until after the last minute, we passed it a year-and-a-half before the LIBOR hit the fan. That bill requires rulemaking by the Fed, and the rulemaking is supposed to be done by mid-September. And that is the final step in making sure that these LIBOR instruments are not a subject of uncertainty, because even one basis point, the thousandth of a percentage point of risk or uncertainty turns out to be significant when you are dealing with $16 trillion.

Chairman Powell, can we count on the Fed getting these regulations out by mid-September?

Mr. POWELL. Yes. By the way, thank you for all of your efforts on this technical problem, which have really helped move it along. And in terms of the rule, yes, we know the deadline. We know it is a tight deadline, and I am assured that people are working very hard to meet that deadline.

Mr. SHERMAN. Thank you. You are shrinking your balance sheet, and there's a lot of focus on how much you are shrinking your balance sheet, but what also matters is the content of the balance sheet. You can invest in Treasuries, or you can invest in mortgage-backed securities. If you go to an all-Treasury portfolio and sell off your mortgage-backed securities, that will probably raise mortgage rates, and we are trying to deal with housing inflation and housing affordability. So, whether it is the mortgage on an apartment building that might be built or whether it is a home mortgage, keeping mortgage rates low, I would think, would help inflation.

Is there any possibility that you would take a look at that and perhaps keep in your portfolio some of your mortgage-backed securities and perhaps have a mix of mortgage-backed securities and Treasuries on your balance sheet?

Mr. POWELL. We are committed to having a mostly Treasury, not all, but mostly Treasury balance sheet, and we don't have that now. And Treasuries are going to start to roll off mortgages much less. So, we have not decided to start selling mortgage-backed securities, but we have said that we will look at that again when this process is further along. And if we do, I don't actually think that the things we would do would have much of an effect on mortgage rates compared to the effects that we have already had.

Mr. SHERMAN. We have obviously faced a recession risk. President Biden says that a recession is not inevitable. Do you agree?

Mr. POWELL. I don't think that a recession is inevitable.

Mr. SHERMAN. Thank you. There seems to be a great debate in this committee as to whether inflation is the result of COVID and the effects of the Ukraine war, which affects the entire globe, or whether they are the result of Biden and his policies, which, believe it or not, are not applicable to Germany, Britain, or Canada as much as we in America like to think we are the entire world. And then, we look at inflation rates, and we see higher month-to-month inflation rates in Canada and Germany than here in the United States, higher year-on-year in Germany, and in the U.K.

We are in a situation where only if you believe that Biden is responsible for German inflation can you reach the conclusion that it is Biden's policies that have caused inflation in the United States, which is pretty much on a par with what we see in other developed countries, particularly Europe. A part of this is the idea that if Biden just gives a speech saying we would like to see a fossil-free future, that somehow impairs the amount of oil that is produced in the United States and somehow then affects worldwide oil prices.

I ask unanimous to submit for the record an article from Forbes entitled, "U.S. Oil Companies Have Increased Drilling by 60 percent in One Year." And without objection, I hope that could be done.

Ms. GARCIA OF TEXAS. Without objection, it is so ordered

Mr. SHERMAN. And I would point out that we had higher oil production in this country in the first year of Biden than in the last year of Trump. Then, we had higher oil production in 2022 than 2021, and in 2023 we will have the highest oil production in the

United States in our history. Unfortunately, that will probably not be the lowest gas prices in our history. So, whether it is good or bad, we have discovered that making speeches does not suppress oil production.

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

Mr. SHERMAN. I yield back.

Ms. GARCIA OF TEXAS. The gentleman from Michigan, Mr. Huizenga, is now recognized for 5 minutes.

Mr. HUIZENGA. Thank you, Madam Chairwoman, and it is just so ironic that my colleague is talking about oil and pumping. I literally just left my office with a group of folks from Alberta. There is an alliance of six energy companies up there that are going to get, by the way, to net zero on their carbon emissions by 2050, but Canada supplies 62 percent of all of the oil that is imported here in the United States, or they did. But they can't pump it here, or they can pump it, but they can't pipe it here because the Keystone Pipeline, which was bought by the Canadian Government, was cancelled by this Administration.

So, yes, we can blame the Biden Administration for some of this inflation. And yes, they are directly responsible for gas prices and what we are seeing here. You are trying to spread it around that it is Putin's fault, that it is everybody else's fault. Meanwhile, this President is flying to Saudi Arabia, and won't go to Alberta, and won't pick up the phone and talk to Justin Trudeau about getting Canadian North American oil here. That is security. Let's not stop going to our adversaries and go to our allies.

Okay. I need to take a breath here for a moment and, Mr. Powell, I am glad you are here. And I do believe that you attempt to be less political than maybe some of your other predecessors. But I do want to briefly point out something that Mr. Steil and Mr. Timmons raised earlier regarding your comments in February 2021, as Congress was debating the Biden stimulus. Mr. Timmons cited those comments earlier. In fact, your quote is still highlighted on the website of the House Budget Committee, the Majority's House Budget Committee, under the headline, "Experts and Leaders Agree the Country Needs the American Rescue Plan Now."

Your words are listed alongside quotes from the Minneapolis Reserve Bank president, and the president of the Federal Reserve Bank of Atlanta, and, again, this is from 2021. And I just wanted the hearing record to reflect this timeline, first of all, and ask you, do you think that maybe your quote should be taken down from that website, knowing what we know today?

Mr. POWELL. It is not up to me whether people take down the quote.

Mr. HUIZENGA. Let me tell you, though, if you are trying to be apolitical, that and allowing those words to stand with this mess that has been created in the economy doesn't stand. I guess that is up to you, but if you are going to strive for that, I would suggest at least have some of those folks sitting behind you—they might want to make a phone call.

Okay. We discussed during your last visit that I have long advocated for a rules-based approach to monetary policy. We talked about the Taylor Rule. I have suggested the Yellen Rule. Now with your reappointment, it could become the Powell Rule. I don't care what it is called, but I am very concerned that we are not looking at those guideposts and having those guideposts. I am glad to see that in the Fed's most recent report, you did once again include a section on monetary policy rules, which had been omitted from the previous version, and you and I had discussed that.

I want to read a quote from the June report and then get your thoughts, "Although simple rules cannot capture complexities of monetary policy and many practical considerations, it makes it undesirable for the FOMC to adhere strictly to the prescriptions of a specific rule. Some principles of good monetary policy can be illustrated by these policy rules." My question is, what principles do you believe are important when the FOMC is making decisions on monetary policy?

Mr. POWELL. What principles are important?

Mr. HUIZENGA. And we have a minute with the quick gavel.

Mr. POWELL. I think, to try to think systematically about monetary policy and not be, fully discretionary, to try to have a frame of reference, what are we trying to do? The Taylor Rules, what they do is they embody the dual mandate. What you are looking at in the standard Taylor Rule and all of the spin-offs is, how far are you from your price stability mandate? How far are you from your employment mandate? And that tells you it is a frame of reference, and I think that is a useful thing to have.

Mr. HUIZENGA. Okay. I have 30 seconds left, and obviously, what I am trying to push for is more transparency from the Fed. I also want to very quickly revisit your interaction with Mr. Gottheimer, where you spoke about the importance of preserving innovation and competition in the digital asset marketplace, which I agree with 100 percent. In fact, Republicans on this committee included that as part of their working principles last year. Let's talk about that light touch when it comes to legislation, however, one of my colleagues also noted that regulators right now are being very heavy-handed, which I am—

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

Mr. HUIZENGA. —about as well, and I will follow up with you in writing on that, but we need to be here on how heavy-handed the regulators are. Thank you. I yield back.

Ms. GARCIA OF TEXAS. The gentleman from Illinois, Mr. Casten, is now recognized for 5 minutes.

Mr. CASTEN. It's nice to see you, Chair Powell. I want to just start by thanking you for your service over these last couple of years. I know you and I have talked before about how your rhetoric, your language, making it clear to all of us and to the nation that we needed a balanced fiscal and monetary policy in response to the downturn, created the political space for us to do what we did. I don't think we could have done that without your voice, and the fact that we had as not only as rapid a recovery, but as equitable a recovery as we did was because we had that space. And I think history will show that we owe you more gratitude than we have given you, and I thank you for that. The fact that wages grew fastest for the bottom quintile did not happen but for that fiscal policy that complemented what you were doing.

And yet we find ourselves today with people talking about the fear of a recession. And I would submit to you that the fear of a recession is not because our economy is weak, but because our democracy is weak. If we were to use our tool on this side of the dais to say, what should we do to address labor markets, we would reform our immigration system. What should we do to reduce people's exposure to high-price volatile fossil fuels? We would make massive investments in cleaner, cheaper energy. What should we do in response to housing supply constraints? We would invest in housing. I could go on and on. Everything on that list is deeply, deeply partisan because the markets are looking at the United States and saying, do people in this line of work, those 537 of us who have the privilege to hold federally-elected office, do we see human pain and suffering as a problem to be solved or as a frailty to be exploited for our political ends?

They look at my colleagues, who 2 years ago thought it was harder to stand up to Vladimir Putin and support Ukraine, and say they are going to do the same thing again. They look at the talking points that all of you get every Monday which say, talk about Biden's energy crisis, say, "border crisis." I admire your obedience. Do you have an ounce of leadership in your bodies?

And now, we are left here in this moment, and I am not going to ask you to opine on policies. I understand you can't do that. But you were so eloquent 2 years ago in saying if we don't balance fiscal and monetary policies, we are going to be looking at a recovery that looks much more like the Great Depression or the 2008 recession, where it was a long, slow recovery. What concerns do you have right now if the only tool we use to respond in this moment is monetary policy?

Mr. POWELL. Honestly, as you can imagine, I am very focused on monetary policy. And the thing that I assume you are hearing about from your constituents at home is inflation, and that is our assignment. It is not that we control all of it.

Mr. CASTEN. I guess, and I am sorry to interrupt, but we are. But when I talked to the CFO of a manufacturing company a month ago, he said, "My business school teacher taught me to do just-in-time inventory, and now I am trying to manage to just-in-case inventory, and that requires capital." We talk to chip manufacturers who are saying, "I need money to build, but I need a labor force to grow there, and I don't know how to do that unless I have access to capital." Raising rates is great at curtailing demand. It is also great at curtailing supply. What concerns do you have if all we do is raise rates?

Mr. POWELL. You are right. There would be supply effects as well, for example, look at housing, if housing starts will slow down, and I get that. But ultimately, we have a job to do, which is to restore price stability so that the economy can function well. It is really the bedrock of the economy, and it is most important for the people at the lower end of the spectrum who are now seeing their wages and savings eaten up by inflation. We need to do that.

There are lots of other things that need to be done in the economy and that aren't the business of the Fed, but we have that job. And that really is our focus along with, of course, preserving a strong labor market, the two mandates are equal. In the current situation, the labor market is very strong. It is extremely strong: two vacancies for every unemployed person; 3.6 percent unemployment; and wages moving up. It really is a question of getting inflation under control, and that has to be our focus.

Mr. CASTEN. I would just ask you to use your voice as eloquently as you have over the last 2 years. I am not asking you to tell us how to do our job, but the supply pieces matter. And when the market is baking in a recession, I cannot justify that logic if the only tools we use are the tools under your purview.

Thank you. I yield back.

Ms. GARCIA OF TEXAS. The gentleman yields back. The gentleman from Kentucky, Mr. Barr, is now recognized for 5 minutes.

Mr. BARR. Mr. Chairman, I visited with farmers in Fleming County, Kentucky, last Friday. My constituent, Charlie Masters, asked me to emphasize the extreme pain he and other hardworking Americans are experiencing as a result of this inflation crisis, and specifically told me that he couldn't afford the skyrocketing cost of diesel fuel for his tractor. He added that, "I don't know how the government says the inflation rate is 8.6 percent, because for those of us in the real economy, it feels more like twice or three times that rate."

That is how painful this is, Mr. Chairman. I appreciate your humility in acknowledging that both the Biden Administration and the Fed were wrong last year when they assessed inflation to be transitory. Clearly, the failure to more urgently tighten monetary policy was a serious mistake. So while far too late, I appreciate the current commitment to aggressive tightening, including the recent 75 basis point rate hike. But on behalf of Mr. Masters and my other constituents who are suffering with these price hikes, I encourage the Fed to exercise fortitude in restoring price stability and staying focused even in the face of financial market volatility, staying focused on fixing the supply/demand mismatch in our economy.

I have a question about the demand side and one on the supply side. On the demand side, clearly within the influence of monetary policy, the Fed has stated that its inflation target rate is 2 percent. The inflation rate last month was 8.6 percent, and as my constituent pointed out, it feels even worse. Given the chasm between where we are and where we need to be, do you anticipate any effort within the FOMC to increase its inflation target to 3 or even 4 percent? And will you commit to resist any efforts to change the inflation target that would make it even more difficult to anchor inflation expectations?

Mr. POWELL. No, that is just not something we would do. We were shooting for 2 percent.

Mr. BARR. Great. And will the FOMC consider reversing the adjustment to the inflation targeting framework that it made in around August of 2020, to get back to a target of 2 percent?

Mr. POWELL. We will revisit that in a couple of years. I will say that is really not the story behind why inflation is so high right now.

Mr. BARR. I acknowledge that, but given the work you all have to do, I would offer that as a consideration for the FOMC. What is the end point for your balance sheet reduction efforts?

Mr. POWELL. It really is when the balance sheet is at a size that we can conduct monetary policy, roughly in the range of $2.5 trillion or $3 trillion smaller than it is now.

Mr. BARR. Okay. And we were at $4 trillion. Now, we are at $9 trillion, or a little less than $9 trillion, so you are saying $2 trillion or $3 trillion?

Mr. POWELL. No. Sorry to interrupt.

Mr. BARR. Okay.

Mr. POWELL. We look at it as a percent of GDP really, and so we are trying to get back to roughly the level of GDP we were at.

Mr. BARR. I see. On the supply side, you testified earlier that supply chain issues and the price of oil are out of your control. I respectfully disagree in part, and certainly the Fed does not and should not implement fiscal or energy policy. But in light of the impending confirmation of Michael Barr as Vice Chairman of Supervision, I am concerned that the Fed's regulatory framework could exacerbate supply constraints, specifically, forcing banks to sideline capital that institutions could deploy to spur business investment, gold plating U.S. bank's capital requirements seen recently with the Basel Committee's modification to the G-SIB surcharge in the EU, which reduces our domestic competitiveness, and especially the climate finance agenda and climate stress testing that would redirect capital away from fossil energy precisely at the wrong time when we need more, not less, investment in fossil energy, and when a gallon of gas is $5 nationally and rising.

Do you acknowledge the role of the Fed related to business investment regulation as further potentially constraining supply?

Mr. POWELL. We certainly do not want to be and are not in the business of allocating credit either to or away from any particular industry. We want those decisions to be made in the private sector.

Mr. BARR. On the regulatory supervision side of the house, there is a supply side impact and excessive regulation, especially in the climate finance area, where we need more investment in energy, and that could have an impact on your inflation fight.

Finally, a question about Fed independence. Last week, my Democrat colleagues passed a bill out of the House that would add to the Federal Reserve's mandate by tasking the Board with the additional responsibility of addressing racial and socioeconomic disparities rather than remaining focused on price stability.

My question is, when inflation hurts minority and low-income populations the most, do you believe giving the Fed new responsibilities that fall outside of its core competency would politicize the Fed and compromise your independence precisely when you should be focused on combating inflation?

Ms. GARCIA OF TEXAS. The gentleman's time has expired.

Mr. BARR. We would love an answer to that question, Madam Chairwoman.

Ms. GARCIA OF TEXAS. I think Mr. Powell can submit that in writing and forward it to you.

Mr. POWELL. Then, I will just say, I think the public—

Ms. GARCIA OF TEXAS. Just very quickly then, because we have people waiting, and you have a hard stop at 1:00.

Mr. POWELL. I was just going to say that the public has been well-served by the dual mandate, and I would be concerned with any statutory requirement that sets us up to be accountable for achieving things that we can't achieve with our tools. And I do think that is a concern.

Ms. GARCIA OF TEXAS. Thank you.

Mr. BARR. Thank you. I yield back.

Ms. GARCIA OF TEXAS. The gentleman from New York, Mr. Torres, is now recognized for 5 minutes.

Mr. TORRES. Thank you, Madam Chairwoman, and thank you, Chair Powell. As you know, one of the dominant drivers of inflation is housing. The affordability crisis is one of supply and demand. The demand for affordable housing far exceeds the supply. Do you believe, as I do, that public investments in an expanding housing supply would bring us closer to addressing the housing affordability and housing inflation crisis?

Mr. POWELL. I would agree that housing is in short supply, and there is an issue there, but the question of how to address that is one for you.

Mr. TORRES. Okay. But if public investment had the effect of expanding the housing supply, that would have an impact on reducing inflation in the long run. Is that a fair assessment?

Mr. POWELL. Again, I am reluctant to be drawn into supporting—

Mr. TORRES. Just an objective description of the impact; I am not asking for you to express support.

Mr. POWELL. More supply generally means that—

Mr. TORRES. Lower prices, right?

Mr. POWELL. —prices will be lower.

Mr. TORRES. Okay. Even if you raise interest rates, prices might nonetheless remain high because of supply chain disruptions. Catastrophic climate change will over time open a Pandora's box of supply chain disruptions. Is it fair to say that catastrophic climate change, if left unchecked, will likely lead to more inflation and not less and will likely render the Fed less effective at reducing inflation?

Mr. POWELL. Would climate change do that?

Mr. TORRES. Yes.

Mr. POWELL. Over a very long period of time, I think it would be very hard to say, and it will depend on what is the governmental response. It will depend on what is the private sector response. It certainly has the potential. I think some people think that dealing with climate change will put upward pressure on inflation, though.

Mr. TORRES. But in the long run, if climate change disrupts the supply chain, that will obviously lead to higher inflation, and that is the kind of inflation that the Fed would have the most trouble reducing. Is that fair to say?

Mr. POWELL. Yes, but, again, we are not climate policymakers. We don't have to weigh these decisions that you do. It is really a question for elected officials.

Mr. TORRES. Regarding the President, how much higher could the interest rate go? What does the worst-case scenario look like?

Mr. POWELL. How much higher could the interest rate go?

Mr. TORRES. Yes.

Mr. POWELL. No higher than it needs to go, but we think—

Mr. TORRES. But what is the worst-case scenario?

Mr. POWELL. I wouldn't say worst case, but I will tell you what I think. First of all, financial conditions have tightened very broadly, but the Federal Funds Rate, our own policy rate, is still quite low, so we want to get it up to neutral pretty quickly. And then after that, we think it needs to be in a place where it is moderately restrictive, meaning above the neutral rate, and that is only appropriate because we have inflation at a 4-decade high. My colleagues and I wrote down sort of a range of 3 to 3.5 percent by the end of this year, and then maybe 3.5 to 4 percent, and that is all highly conditional based on many, many assumptions. I think we will do what makes sense as we go, but those are rough estimates, I think, of what we think might turn out to be appropriate.

Mr. TORRES. And then, if the Fed has a target of 2 percent, how long will it take you to reach the target?

Mr. POWELL. In forecasts, I would say generally, my colleagues and I expect that inflation will move down over the course of the next 2 years, much closer to the target.

Mr. TORRES. My understanding is that one of your projections is that headline and core inflation will subside in 2023 to 2.6 and 2.7 percent, respectively. Is there any historical precedent for reducing inflation as rapidly as the Fed is projecting?

Mr. POWELL. Well, yes. Unfortunately, Paul Volcker had to do something very much like this, on a much larger scale. And, yes, core PCE inflation has actually tracked down a little bit from the very hot levels of late last year and is closer to 4 percent. So, I think it is plausible that using our tools and ideally the supply side healing, that we could get inflation down to those levels next year.

Mr. TORRES. As I understand that, there are two models of CBDCs, intermediated and disintermediated. The Fed can either operate through the commercial banking system or it can enable consumers to have direct accounts with the Fed. Which approach are you inclined to favor?

Mr. POWELL. Intermediated.

Mr. TORRES. Intermediated.

Mr. POWELL. We actually don't have legal authority to provide accounts to anyone but depository.

Mr. TORRES. The Fed has said it does not intend to proceed with the issuance of a CBDC without clear support from the Executive Branch and Congress. Do you see congressional authorization as a policy preference or as a precondition for creating a CBDC?

Mr. POWELL. I think we will need to have an authorizing law, and I think we haven't decided whether we think this is in the public's interest. If we do, we will come to you.

Mr. TORRES. But as a matter of law, is that a policy preference? What is your view?

Mr. POWELL. It is a matter of law.

Mr. TORRES. As a matter of law.

Mr. POWELL. Yes.

Mr. TORRES. I see my time has expired, so I yield back.

Ms. GARCIA OF TEXAS. The gentleman from Arkansas, Mr. Hill, is now recognized for 5 minutes.

Mr. HILL. Thank you, Madam Chairwoman. Mr. Chairman, thank you for being on the Hill this week. We greatly appreciate it, and I wanted to change subjects. You have had a lot of good interaction today, and I wanted to talk a little bit about a rising interest rate environment and the impact on the Fed itself.

The New York Fed released projections for the Fed's balance sheet as a part of its annual overview of its 2021 open market activities. And they announced to the public that the Fed portfolio could run a projected loss of about $300 billion through 2024 as interest rates continue to rise, since you have an enormous Vegas in the world, I guess, fixed income portfolio. The Fed's most recent financial statements for the first quarter show an unrealized capital loss of $450 billion during the quarter.

My first question is, does the Fed need a positive capital cushion in order to carry out its mission as our central bank?

Mr. POWELL. No, we don't.

Mr. HILL. Can you explain to people, why not?

Mr. POWELL. Sure. What we do is, our liabilities—our currency, for example, is a liability to us, and we don't pay any interest on it, but we own the countrary asset, which is Treasury bills, so we actually have substantial earnings. And we give those to the Treasury Department by law over the course of the year, and we have given a trillion dollars' worth of those earnings to the Treasury Department over the years, so we don't retain it as capital because we don't need it. It is literally not required for us to conduct the operations and do monetary policy. We don't. We have a very thin sliver of capital, but it is sort of symbolic. We are not a private institution.

Mr. HILL. So as interest rates increase and you have to pay out interest on reserves, and you have about $9 billion, I think, of operating expenses, there is a point in this interest rate increase where potentially you would be at an operating loss, I would take it, and that you would not be having a profit to distribute to the Treasury. Is that possible?

Mr. POWELL. Yes, that can happen, but, again, it will have no effect whatsoever on our ability to conduct policy, and it is not something we would consider in setting policy.

Mr. HILL. Right, and you just would treat that as a deferred asset. Is that right? This is money you owe back to the Treasury when you start making a profit. You would write that deferred asset off, right?

Mr. POWELL. Exactly right, and we will pay it back down to zero.

Mr. HILL. Since the Congress has imposed on the Fed an obligation to pay for the Consumer Financial Protection Bureau, all their operating expenses, they just send you a memo and ask you to pay for that when you don't have cash, is that added into that deferred account assets?

Mr. POWELL. Yes, as a practical matter, it would be. It would be very small.

Mr. HILL. It is not small compared to your overall operation, but it is one of those errors that I think Congress made honestly by imposing on our independent central bank an obligation to, in theory, fund budget operations. In retrospect, over the last 10 years, do you agree philosophically, that ideally, the Fed earnings wouldn't be earmarked for a particular budget operation?

Mr. POWELL. In a perfect world, we would fund agencies through different means. Many of them are self-funding. They get funding.

Mr. HILL. Yes, I agree with you. I think it ought to be on appropriations. I have always felt that way. I think it puts the Fed in an unusual position here as rates rise and your earnings may go negative as you pay out more earnings than you obtain in unrealized losses. This just puts that in mind.

Let me thank you. The last time we were together and you were before the committee, we noted in the review that the rules regarding potential monetary policy rules had not been included in the report to Congress, so thank you for putting those back in to the Congress. And I heard you talk to Senator Tillis yesterday about the importance of rules. Can you tell us again how you use rules like the Taylor Rule to help guide you in an interest rate policy?

Mr. POWELL. They are just embedded in the work that we do, deeply embedded, and basically any time you make a forecast, you have to make an assumption about monetary policy. So, what you do is you use some form of a Taylor Rule, and there are many different iterations at this point. But more fundamentally than that, we do try to be systematic in monetary policy and rules. You can consult rules and help.

Mr. HILL. In the few seconds remaining, the Taylor Rule indicates, I think, that short-term rates might be in the range of 6 percent. You are not there yet, obviously, to fight inflation. How do you get there and over what period of time?

Mr. POWELL. The real test is that financial conditions need to be in a place where they are causing the desired outcome in the economy. There has been so much tightening that isn't reflected in the overnight rate yet, so, really, we have done a whole lot more than the changes in the overnight.

Mr. HILL. I thank the chairwoman, and I yield back.

Chairwoman WATERS. Thank you. Thank you very much, and I thank the gentleman.

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

Ms. ADAMS. Thank you. Thank you, Madam Chairwoman, and Chair Powell. It's good to see you again. I am happy that we can now congratulate you on your confirmation as you continue to serve as Chair. Also, I am delighted that Dr. Lisa Cook, an HBCU graduate and the first Black woman on the Fed Board, and Dr. Philip Jefferson, the 4th Black man, and someone who teaches in my district at Davidson, have joined you as well.

We have discussed before how concerned I am about the housing market, and according to your February Monetary Policy Report, our housing shortage has been intensified by the growing cost of construction materials. Chair Powell, how do you think the Fed's interest rate increase will impact the cost of construction?

Mr. POWELL. I think it is leading to a slowdown in the housing market. You are seeing fewer buyers. You are seeing housing starts move back. The housing market is going to be cooling off. It has been very, very hot. Price increases have been extraordinarily high, and one of the channels through which monetary policy works is interest sensitive spending in particular. So, I do think it doesn't directly affect construction costs, to your question, but many housing builders, many home builders do work on borrowed money, and it will certainly affect their profits and their activities.

Ms. ADAMS. Thank you. I have heard firsthand from construction firms from affordable housing providers in my city and my county, and many others, about the increase in construction costs, and how seriously hampered these groups are in building more affordable housing. So yes, I think we need to really pay a lot of attention to it, and it is really of concern. Thank you very much, and knowing that I am out of time, you probably are as well.

Thank you, Madam Chairwoman. I yield back.

Chairwoman WATERS. Thank you so very much. I would like to thank Chair Powell for his testimony today.

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

This hearing is adjourned.

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

A P P E N D I X

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Statement by

Jerome H. Powell

Chair

Board of Governors of the Federal Reserve System

before the

Committee on Financial Services

U.S. House of Representatives

June 23, 2022

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

I will begin with one overarching message. At the Fed, we understand the hardship high inflation is causing. We are strongly committed to bringing inflation back down, and we are moving expeditiously to do so. We have both the tools we need and the resolve it will take to restore price stability on behalf of American families and businesses. It is essential that we bring inflation down if we are to have a sustained period of strong labor market conditions that benefit all.

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

Current Economic Situation and Outlook

Inflation remains well above our longer-run goal of 2 percent. Over the 12 months ending in April, total PCE (personal consumption expenditures) prices rose 6.3 percent; excluding the volatile food and energy categories, core PCE prices rose 4.9 percent. The available data for May suggest the core measure likely held at that pace or eased slightly last month. Aggregate demand is strong, supply constraints have been larger and longer lasting than anticipated, and price pressures have spread to a broad range of goods and services. The surge in prices of crude oil and other commodities that resulted from Russia's invasion of Ukraine is boosting prices for gasoline and fuel and is creating additional upward pressure on inflation. And COVID-19-related lockdowns in China are likely to exacerbate ongoing supply chain disruptions. Over the past year, inflation also increased rapidly in many foreign economies, as discussed in a box in the June *Monetary Policy Report.*

Overall economic activity edged down in the first quarter, as unusually sharp swings in inventories and net exports more than offset continued strong underlying demand. Recent indicators suggest that real gross domestic product growth has picked up this quarter, with consumption spending remaining strong. In contrast, growth in business fixed investment appears to be slowing, and activity in the housing sector looks to be softening, in part reflecting higher mortgage rates. The tightening in financial conditions that we have seen in recent months should continue to temper growth and help bring demand into better balance with supply.

The labor market has remained extremely tight, with the unemployment rate near a 50-year low, job vacancies at historical highs, and wage growth elevated. Over the past three months, employment rose by an average of 408,000 jobs per month, down from the average pace seen earlier in the year but still robust. Improvements in labor market conditions have been widespread, including for workers at the lower end of the wage distribution as well as for African Americans and Hispanics. A box in the June *Monetary Policy Report* discusses developments in employment and earnings across all major demographic groups. Labor demand is very strong, while labor supply remains subdued, with the labor force participation rate little changed since January.

Monetary Policy

The Fed's monetary policy actions are guided by our mandate to promote maximum employment and stable prices for the American people. My colleagues and I are acutely aware that high inflation imposes significant hardship, especially on those least able to meet the higher costs of essentials like food, housing, and transportation. We are highly attentive to the risks high inflation poses to both sides of our mandate, and we are strongly committed to returning inflation to our 2 percent objective.

Against the backdrop of the rapidly evolving economic environment, our policy has been adapting, and it will continue to do so. With inflation well above our longer-run goal of 2 percent and an extremely tight labor market, we raised the target range for the federal funds rate at each of our past three meetings, resulting in a 1-1/2 percentage point increase in the target range so far this year. The Committee reiterated that it anticipates that ongoing increases in the target range will be appropriate. In May, we announced plans for reducing the size of our balance sheet and, shortly thereafter, began the process of significantly reducing our securities holdings. Financial conditions have been tightening since last fall and have now tightened significantly, reflecting both policy actions that we have already taken and anticipated actions.

Over coming months, we will be looking for compelling evidence that inflation is moving down, consistent with inflation returning to 2 percent. We anticipate that ongoing rate increases will be appropriate; the pace of those changes will continue to depend on the incoming data and the evolving outlook for the economy. We will make our decisions meeting by meeting, and we will continue to communicate our thinking as clearly as possible. 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.

Making appropriate monetary policy in this uncertain environment requires a recognition that the economy often evolves in unexpected ways. Inflation has obviously surprised to the upside over the past year, and further surprises could be in store. We therefore will need to be nimble in responding to incoming data and the evolving outlook. And we will strive to avoid adding uncertainty in what is already an extraordinarily challenging and uncertain time. We are highly attentive to inflation risks and determined to take the measures necessary to restore price stability. The American economy is very strong and well positioned to handle tighter monetary policy.

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 Fed will do everything we can to achieve our maximum-employment and price-stability goals.

Thank you. I am happy to take your questions.

Who Owns Federal Reserve Losses and How Will They Impact Monetary Policy

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AEI Economics Working Paper 2022-06
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Who owns Federal Reserve losses and how will they impact monetary policy?

by Paul H. Kupiec and Alex J. Pollock

June 17, 2022

ABSTRACT

For the first time in its 108-year history, the Federal Reserve System faces massive and growing mark-to-market losses and is projected to post large operating losses in the near future. In a 2011 policy statement, the Federal Reserve Board outlined its plan to monetize system operating losses notwithstanding the (apparently) little-known fact that the Federal Reserve Act requires Federal Reserve member banks (the stockholders who own the Federal Reserve district banks) to share at least a portion of district reserve bank operating losses. Contrary to opinions expressed by Federal Reserve system officials, should the Fed abide by the legal requirements in the current version of the Federal Reserve Act, operating losses could impact monetary policy. If the Fed chooses to ignore the law and monetize operating losses, member banks will be in the enviable (if difficult to justify) position of directly benefiting from the current inflation. Because they are now paid interest on their reserve balances and receive guaranteed dividends on their Federal Reserve stock, member banks will monetarily benefit from the Fed's policy to fight inflation while the public bears Federal Reserve system losses. Meanwhile, the public at large will also face the costs of higher interest rates, reduced growth and employment and losses in their investment and retirement account balances. Should the public recognize the implications of the Fed's plan to monetize its operating losses, the Fed could face an embarrassing "communication problem".

Who owns Federal Reserve losses and how will they impact monetary policy?

by Paul H. Kupiec and Alex J. Pollock[1]

I. Introduction

Among Federal Reserve officials and many economists, it is fashionable to argue that any losses the Federal Reserve should suffer, no matter how large, will have no operational consequence. Is this true? If so, how does the Fed account for its losses and stay solvent? And who ends up paying for these losses? As the Fed executes its strategy to reign in run-away inflation, the answers to these questions take center stage as the Fed has already experienced mark-to-market losses of epic proportions and will soon post large operating losses, something it has never faced in its 108-year history.

We estimate that, between December 31, 2021 and the end of May 31, 2022, the Federal Reserve lost $540 billion in market value on its huge portfolio of investments in Treasury bonds and mortgage securities. To put this loss in perspective, $540 billion is equivalent to 60 percent of the value of the Federal Reserve System's entire asset holdings on September 1, 2008, just prior to the onset of the financial crisis. $540 billion is more than 13 times the Federal Reserve System's recently reported consolidated capital of $41 billion meaning that the market value of the Fed's outstanding liabilities—primarily member bank reserves and Federal Reserve notes—exceed the market value of the assets the Fed owns by about half a trillion dollars. As interest rates go higher, this loss increases. Moreover, if the Fed's inflation-fighting campaign eventually requires short-term interest rates to rise above 2.7 percent, we project the Federal Reserve will experience net operating losses, in addition to its mark-to-market losses.

Unlike banks and other financial institutions, no matter how big the losses it may face and how negative its true capital position, the Federal Reserve will not fail. But if losses, however large, can't end the Fed, who pays for these losses? Will the Fed's shareholders be hit in some fashion or will the losses be monetized and contribute to spiraling inflation? Should member banks be paid interest when the interest payments cause Federal Reserve losses? In recent years, questions like these have been irrelevant because the Fed has made very large profits. But this year is different.

Federal Reserve officials try to downplay the gravity of these issues. For example, at a recent Federal Reserve Bank of Atlanta Financial Markets Conference, Federal Reserve Bank of Cleveland president Loretta Mester said that losses would have no impact on the Fed's ability to conduct monetary policy, but admitted they could raise "communication challenges" for the system. This rather cavalier treatment of massive Federal Reserve losses is curious since it is potentially at odds with the way Federal Reserve losses should be treated according to the Federal Reserve Act. Moreover, given the large interest income banks earn on their reserve balances, the issue of burden

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sharing of Federal Reserve System losses may become much more contentious as the Fed executes its inflation-fighting policies in the coming months.

The real story of how the Fed accounts for losses, how the losses impact monetary policy, and who ultimately pays for these losses is a complicated one. The details are in some little-known provisions of the Federal Reserve Act of 1913, in more recent Federal Reserve Board policy decisions regarding the Fed's accounting standards, in legislation changing its dividend and capital surplus policies, and in its post-financial crisis decision to pay interest on banks' reserve accounts.

The Federal Reserve Act stipulates that Federal Reserve shareholders—the member banks-- should bear at least some Federal Reserve System losses, but to date, this has never happened. "Innovations" in accounting policies adopted by the Federal Reserve Board in 2011 suggest that the Board intends to ignore the law and monetize Federal Reserve losses, thereby transferring them indirectly through inflation to anyone holding Federal Reserve notes, dollar denominated cash balances and fixed-rate assets.

II. Federal Reserve System Current and Prospective Losses

In the Federal Reserve System's most recent financial statements for the quarter ending March 31, 2022, the fair value note to the statements shows a total unrealized capital loss of $458 billion during the quarter on the Fed's $8.8 trillion book value of the Fed's System Open Market Account (SOMA) securities holdings. This loss took the fair value of the portfolio from a mark-to-market gain of $128 billion on December 31, 2021, to a mark-to-market loss of $330 billion on March 31.

With interest rates continuing to increase, we estimate that the Fed's unrealized capital loss grew by an additional $210 billion, bringing the Fed's total unrecognized capital loss to an estimated $540 billion as of May 31, 2022. Losses continued to grow through mid-June and should the Fed maintain its plan to continue raising interest rates to fight inflation, these losses will only increase. If the Fed was a bank or other regulated financial institution, it would be closed because it is already deeply economically insolvent.

In addition to the deleterious impact of rising interest rates on the market value of its SOMA portfolio, rising interest rates will sharply reduce the Fed's net interest income. In the first quarter of 2022, the Fed reported net interest earnings of $35 billion which, when netted against expenses, yielded a reported operating income of $32 billion, a figure that excludes the mark-to-market loss on its securities portfolio.

As interest rates continue to increase, the Fed net interest revenue and operating income will decline as the Fed pays higher interest rates on $3.3 trillion in member bank reserve balances and its nearly $2.3 trillion (as of June 1) in reverse repurchase agreements while it earns interest on the largely fixed-rate securities its SOMA portfolio. According to our estimates, if short-term interest rates were to reach 2.7 percent, the Fed's net interest income would no longer be sufficient to cover its approximately $9 billion in annual operating costs, and the Fed would post an annual operating loss. This fact is especially relevant given that the FOMC forecast has the federal funds rate at 3.4 percent by year-end 2022.

With annual inflation currently running at 8.6 percent, 3.4 percent may not be a high enough short-term interest rate to tame inflationary pressures. Federal Funds futures and several bank economists project that policy rates will need to rise to 4 percent or higher in 2023. Ignoring market-to-market losses on its SOMA portfolio, and absent any realized losses from SOMA asset sales, we project that the Fed will post an annual operating loss of $62 billion if short-term rates rise to 4 percent. A $62 billion loss is 150 percent of the Federal Reserve system's current capital.

This unenviable financial situation in which the Fed has placed itself—huge mark-to-market investment losses and declining, and eventually negative operating income—is the predictable consequence of the balance sheet it has created when the stance of Fed monetary policy transitions to fighting inflation. The balance sheet now combines paying rising rates of interest on bank reserves and reverse repurchase transactions after more than a decade of Fed quantitative easing and zero interest rate policies that stuffed the Fed's balance sheet with low-yielding long-term fixed rate securities. In short, the Fed's earning dynamics now resemble those of a typical failing 1980s savings and loan.

III. Does the Federal Reserve need a Positive Capital Cushion?

In 1913, the members of the 63rd Congress which passed the Federal Reserve Act, decreed that the Federal Reserve's 12 district banks should be capitalized by their member banks. The Act also specifies that member banks must absorb the first tranche of losses should Fed revenues fail to cover expenses. Indeed, as discussed below, Section 2.4 of the Act specifically says that member banks are liable for an amount up to double the value of their subscribed stock to cover Federal Reserve district bank losses.

The Federal Reserve system comprises a Board of Governors and the Federal Open Market Committee in Washington DC, and 12 district Federal Reserve banks. All the financial assets and liabilities of the Federal Reserve are held by the district banks. Each district bank is owned by the commercial and mutual savings banks of that district that applied for, and were granted, Federal Reserve membership.

District banks issue equity shares with a par value of $100. Member banks must subscribe to the shares issued by their district bank in a dollar value equal to 6 percent of a member institution's paid in capital and surplus. Member banks only pay in half the subscribed share value "while the remaining half of the subscription shall be subject to call by the Board." Each member bank must true up its district bank stock subscription annually to reflect changes in the member bank's capital and surplus.

The 1913 Federal Reserve Act required that district banks have positive capital. In particular, the 1913 Act stated that, "no Federal Reserve bank shall commence business with a subscribed capital less than $4 million." $4 million in capital was the minimum amount needed to open a district reserve bank, but those organizing each district bank could require a higher initial capital threshold should prudence dictate.

If a district bank failed to generate the capital needed to commence operations from member bank contributions, the Act authorized the sales of district bank shares to the public, and should public subscriptions prove insufficient, sales of shares to the U.S. Treasury. Clearly, Congress placed a high priority on ensuring that each district reserve bank had adequate capital before commencing operations. A reasonable interpretation of this legislative language is that Congress established $4 million as the minimum required capitalization of a Federal Reserve district bank. Accounting for inflation, the minimum capital needed operate a Federal Reserve district bank would exceed $110 million today.

Member banks earn dividends on their Federal Reserve district bank stock holdings and the Federal Reserve system dividend policy impacts the Fed's capital surplus account, which according to the GAO (p.9) is "intended to cushion against the possibility that total Reserve Bank capital would be depleted by losses incurred through Federal Reserve operations."

In return for providing the district bank's capital base, all member banks were initially entitled to receive a generous 6 percent dividend on the par value of their paid-in shares. The dividend was cumulative in the event a district bank had insufficient operating revenues to cover expenses and dividends in any given year. More recently, the dividend rate was reduced for large banks, currently defined to be banks with assets in excess of $11.2 billion. The annual dividend rate for these banks is the lesser of, "the high yield of the 10-year Treasury note auctioned at the last auction held prior to the payment of such dividend, or 6 percent." Since the change, large bank dividends have been less than, sometimes substantially less than, half of the 6 percent rate promised in the original Federal Reserve Act.

Federal Reserve Board policies concerning member bank dividends and Federal Reserve System capital surplus confirm the view that district reserve banks need to maintain positive capital. In a 1922 memorandum, the General Counsel of the Federal Reserve Board clarified the cumulative nature of the dividend on bank share subscriptions and established a target value for the Federal Reserve System's capital surplus account:

> "[T]he earnings of the Federal reserve banks shall be used for the following purposes in the order named:
>
> (1) For the payment of or provision for expenses.
>
> (2) For the payment to stockholders (who are member banks exclusively) of cumulative dividends at the rate of six percent per annum on paid-in capital.
>
> (3) For creating and adding to a surplus fund until such fund equals 100 percent of subscribed capital.
>
> (4) The balance to be paid 90 percent to the United States as a franchise tax and 10 percent into surplus.
>
> …No payment can be made into the surplus fund unless the earnings for the current year are sufficient to pay in full the dividends for that year and any dividends for past years that may remain unpaid.

Effective January 1, 2021, revisions to the Federal Reserve Act limit the aggregate Federal Reserve system surplus account to $6.785 billion. Federal Reserve district banks now remit earnings to the

U.S. Treasury to the extent that these earnings exceed member bank dividend commitments and any contributions necessary to maintain the Federal Reserve system's surplus at $6.785 billion.

The original Federal Reserve Act, revisions to the Act, and subsequent Federal Reserve Board policy statements regarding dividends and the Federal Reserve system surplus account all suggest that the Federal Reserve system faces a minimum capitalization requirement codified in law and in the Federal Reserve Board policies that govern member bank dividend payments. But in the remaining sections will we explain how the Fed's accounting policies belie its Congressional mandate and Federal Reserve Board policies designed to ensure that the Fed maintains a positive capital cushion.

IV. Unrealized Losses, Realized Losses and Operating Losses

Unlike other financial institutions that must comply with GAAP accounting standards, the Federal Reserve Board decides on the accounting standards it uses to report the Federal Reserve system's income and balance sheet positions. Under the Fed's accounting rules, the implications of a Federal Reserve system loss depend on how the loss is generated. The Fed's accounting standards distinguish among three types of losses: unrealized losses, realized losses, and operating losses.

Today, the Fed's SOMA portfolio includes $8.8 trillion in interest-bearing assets, $7.8 trillion of which have a maturity of over 1 year. The Fed accounts for its SOMA securities using held-to-maturity accounting conventions. Securities are valued at par value with amortization of any price premium paid, or price discount received, at the time the Fed purchased the security. Premiums or discounts are amortized over the remaining life of the security.

The SOMA portfolio's assets are fixed-rate instruments with market values that depend on the current interest rate environment. In general, the book value of the Fed's securities holdings will not equal the current market value of the portfolio. The Fed does not recognize mark-to-market gains or losses on its SOMA securities portfolio when it calculates its earnings or losses. The Fed only recognizes *realized* gains or losses on these securities. If the Fed sells a security from the SOMA portfolio for greater (lower) than its amortized cost, it records a realized gain (loss) in income. Realized gains or losses are included in the Fed's reported operating earnings but, as we explain below, under the Federal Reserve Board's current accounting policies, negative earnings will not negatively impact the Fed's reported capital or surplus accounts.

The third category of income (losses) important for Federal Reserve System account statements are total reserve bank income (losses) from operations [a.k.a. operating income (losses)]. Operating income (losses) are defined as: (1) net interest income (interest earnings less interest expense); plus (2) other income (loss) items that include realized losses on SOMA securities, foreign exchange translation gains (losses) and income from services provided, including those reimbursed by the government and other income; (3) less Federal Reserve district bank operating expenses; less (4) Federal Reserve Board operating expenses and currency printing costs; less (5) the assessment to pay the expenses of the Bureau of Consumer Financial Protection.

V. The Federal Reserve Act and Federal Reserve System Operating Losses

The authors of the 1913 Federal Reserve Act never envisioned that Federal Reserve district banks would suffer large capital losses on their investments since Section 14 of the Act restricts their asset holdings to gold, gold coins, gold certificates, short-term banker's acceptances, real bills eligible for rediscount, US government notes and bonds, and short-term tax anticipation notes or revenue bonds issued by eligible state and local governments. Unlike the Fed's current portfolio, the market value of district bank asset holdings was not sensitive to changes in market interest rates because most Fed assets matured very quickly, or in the case of gold-based assets, had values that were fixed by the international gold standard. Further, member bank reserves which are deposit liabilities of the Fed district banks, did not pay interest.

According to the 1913 Federal Reserve Act, should there be a need to fortify any Federal Reserve district bank's resources because of operating losses, member banks were subject to call on the second half of the par value of their equity subscription. Moreover, the Act includes the little-known requirement that member banks contribute additional funds to cover district reserve bank operating losses up to an amount equal to the par value of their membership subscription. In other words, member banks were to be assessed for district bank annual losses in an amount up to twice the par value of their Federal Reserve district bank stock subscription. Note especially the use of the term "shall" and not "may" in the original 1913 Federal Reserve Act language:

> "The shareholders of every Federal reserve bank ***shall*** be held individually responsible, equally and ratably, and not one for another, for all contracts, debts, and engagements of such bank to the extent of the amount subscriptions to such stock at the par value thereof in addition to the amount subscribed, whether such subscriptions have been paid up in whole or in part under the provisions of this Act." (bold italics added)

Despite Congressional revisions to the Act over more than a century, the Federal Reserve Act still contains this exact passage—this provision of the law has never been changed.

VI. Has the Federal Reserve System Ever had an Operating Loss?

In the early years after the Fed was organized, district reserve banks operated fairly independently. Member banks had a strong voice in appointing the officials who managed the operations of their district banks. District banks earned revenue primarily from discounting bills of exchange with a small amount of revenue from interest on government bond holdings. Gold and other eligible reserve assets did not generate revenue. Bills of exchange were discounted at a penalty rate by design, a feature not conducive to generating district bank revenues.

In 1915, the district reserve banks had combined *negative* earnings before dividends of $141,000. At a September 1915 meeting, the Board of Governors voted[2] to approve assessing member bank stockholders to cover district bank operating losses. The district reserve banks, however, never made the assessment, reasonably fearing that an assessment would discourage state chartered banks from applying for system membership.

[2] Allan Meltzer, History of the Federal Reserve Volume I: 1913-1951, p. 29.

In the wake of the 1915 experience, district banks focused on generating revenue. Facing weak discount revenues, district banks bought tax anticipation notes and Federal government notes and bonds[3] to generate interest income. According to Meltzer (p. 77):

> "[Open market operations were combined] to avoid any effects of competitive purchases on market rates. Although effects on the market were recognized, purchases were made principally to increase the earning of reserve banks and were allocated to the individual banks in part based on their need for earnings. Reserve banks retained the right to purchase independently. Some claimed that New York did not buy enough so their earnings were held down."

The pressure to generate revenues eased as district banks began doing a brisk business discounting the Liberty Bonds issued to finance World War I.

VII. Modern Federal Reserve Board Policy Regarding Federal Reserve System Losses

Today, the Federal Reserve official position regarding gains and losses in the market value of it SOMA portfolio is,

> [T]he fair value of the Federal Reserve's portfolio as well as its earnings, gains, or losses do not affect the ability to carry out its responsibilities as the nation's central bank, which is to conduct monetary policy to achieve its statutory goals of maximum employment and stable prices.

Regarding realized losses on its SOMA portfolio, the Fed's official position is,

> [I]n the unlikely scenario in which realized losses were sufficiently large enough to result in an overall net income loss for the Reserve Banks, the Federal Reserve would still meet its financial obligations to cover operating expenses. In that case, remittances to the Treasury would be suspended and a deferred asset would be recorded on the Federal Reserve's balance sheet, representing a claim on future net earnings that the Reserve Banks would need to realize before remittances to the Treasury would resume.

Today, the Federal Reserve Board's official position is that, should it face operating losses, it would not reduce its book capital surplus, but instead would just create the money needed to meet operating expenses and offset the newly printed money by creating an imaginary "deferred asset" (Section 11.96) on its balance sheet. Subsequently, sometime in the future when reserve banks start making positive operating earnings, after paying dividends, district reserve banks will apply any remaining income to reduce the deferred asset balance to zero before resuming their remittance payments to the U.S. Treasury.

By accounting for losses in this manner, the Federal Reserve's reported capital and surplus account balances are not depleted by system operating losses. According to the Financial Accounting Manual for Federal Reserve Banks (p. 201), bank dividend payments will continue to be paid as long

[3] As authorized by the Section 14 of the Federal Reserve Act.

as a reserve bank has a positive surplus account. Under this policy and the rules that have been proposed to account for operating losses, it would appear that member banks dividends will be paid regardless of Fed operating losses.

VIII. Could Federal Reserve Losses Impact Monetary Policy?

The current Federal Reserve Board plan to manage losses is: (1) ignore any mark-to-market losses on its SOMA portfolio; (2) recognize realized losses on securities sales, if any; (3) monetize any operating losses and offset the liability on the Fed's balance sheet by creating or increasing a deferred asset account. The Board has adopted this accounting policy notwithstanding an explicit Federal Reserve Act requirement that member banks be held liable for district reserve banks' operating losses—a requirement still codified in law.

The issue of maintaining a positive Federal Reserve system capital cushion, once a necessity to maintain public confidence in convertibility under the international gold standard—and still a requirement in the current version of the Federal Reserve Act—is no longer an issue of practical importance. Federal Reserve notes and member bank reserve bank balances have not been convertible into gold in the US for more than 90 years and there has been no required gold backing for Federal Reserve notes for more than 50 years. The pure fiat currency the Federal Reserve issues today has no commodity backing and there is no longer any constraint on the amount the Fed can issue. Given the Fed's stated intention to monetize operating losses and back any newly created currency with an imaginary "deferred asset", the Federal Reserve Board has demonstrated it no longer has a concern in maintaining the value of loss true absorbing assets backing the Federal Reserve system's capital and surplus accounts.

The Federal Reserve Board's proposed treatment of system operating losses is wildly inconsistent with the treatment prescribed by the Federal Reserve Act. In all likelihood, operating losses, should they occur, will in large part be a consequence of the interest payments made to member banks for reserve balances held at Fed district banks. It is impossible to imagine that the authors of the Federal Reserve Act would have approved of allowing the Fed to create an imaginary "deferred asset" as a mechanism to hide the fact that the Fed is depleting its cushion of loss-absorbing assets while paying banks interest on their reserve balances when the Act itself makes member banks liable for Federal Reserve district bank operating losses. Under the international gold standard, before and after the founding of the Federal Reserve system, banks earned nothing on their gold reserves, so today's arrangements where the Fed pays interest on bank reserves would have never been considered at the time the Fed was founded.

If the Federal Reserve were to comply with the language in the Federal Reserve Act and exercise its right to assess member bank resources to cover operating losses, monetary policy could be significantly impacted in a number of ways. As short-term interest rates rise and the interest expense needed to fund reverse repurchase agreements and member bank reserve balances consumes more of the interest earnings on its SOMA portfolio, the Fed's willingness to shrink its balance sheet by liquidating SOMA assets at a loss could become constrained to member bank assessments to cover Fed operating losses. Just as it did in 1915, the issue of operating losses would focus the attention of the district bank presidents who vote on Federal Open Market Committee monetary policies.

The prospect of passing on the Federal Reserve system's operating losses to member banks could also create pressure to attenuate these losses by lowering the interest rate paid to member banks. Should this occur, it would directly impact Fed operations by constraining the short-term interest rate increases the Fed uses to constrain inflationary pressures.

Under its post-crisis monetary operating policies, as the Fed raises rates, banks will earn larger interest payments on the reserve balances held at the Fed district banks while continuing to accrue dividends on their Federal Reserve district bank shares. Meanwhile, the Fed's actions, though necessary, will impose higher interest rates on the public at large, losses in the value of the public's bonds and stocks in their savings and retirement accounts, reduced growth, and likely cause a significant increase in unemployment before the Fed successfully arrests inflationary pressures. If Fed policies lead to operating losses, and the Fed follows its plan to monetarize these losses, the losses will only contribute to the inflationary pressures the Fed seeks to control. Should the public understand the implications of these policies, the Fed could well face a contentious "communication problem."

IX. Conclusion

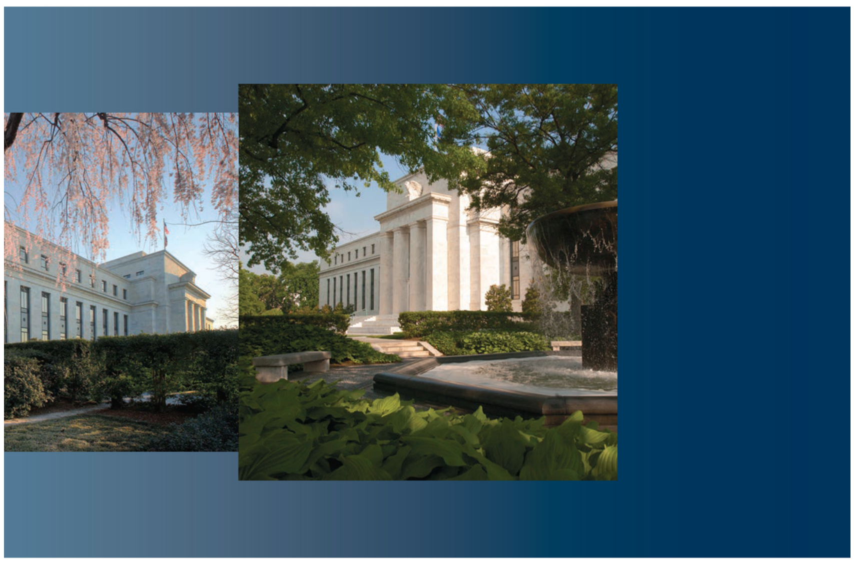
For only the second time in its history, the Federal Reserve system is facing the prospect of losses, only this time the losses are massive. The Fed already has huge market-value losses on its SOMA portfolio that it chooses not to recognize in its formal financial accounting statements. Any financial institution other than the Fed faced with market-value losses greater than 13 times its capital would have already lost public confidence and probably be in receivership. And soon the Federal Reserve will face large operating losses, losses which it must recognize on its financial statements.

While the Federal Reserve Act explicitly requires that Federal Reserve member banks be assessed to cover operating losses, the Federal Reserve Board's stated plan is to monetize these losses and still report a positive capital and surplus position through the use of "creative accounting" entries not seen since the 1980s savings and loan crisis. Those that recall that historical period know that relying on "regulatory accounting standards" to create phantom capital cushions did not turn out well. In the Fed's case, failure is not an issue because the Fed can literally print as much money as needed to pay its expenses and member bank dividends. Monetizing operating losses will however enrich the Fed member banks that are supposed to be bearing the loss, while the public at large will face higher interest rates, higher unemployment, reduced growth, and the inflationary consequences of the new money printed to cover Fed losses. The Fed seems to be hoping that nobody notices.

For use at 11:00 a.m. EDT
June 17, 2022

Monetary Policy Report

June 17, 2022



Board of Governors of the Federal Reserve System

Letter of Transmittal

Board of Governors of the
Federal Reserve System

Washington, D.C., June 17, 2022

The President of the Senate
The Speaker of the House of Representatives

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

Sincerely,

Jerome H. Powell, Chair

Statement on Longer-Run Goals and Monetary Policy Strategy

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

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

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

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

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

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

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

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

Contents

Note: This report reflects information that was publicly available as of 4 p.m. EDT on June 15, 2022. Unless otherwise stated, the time series in the figures extend through, for daily data, June 14, 2022; for monthly data, May 2022; and, for quarterly data, 2022:Q1. In bar charts, except as noted, the change for a given period is measured to its final quarter from the final quarter of the preceding period.

Summary

In the first part of the year, inflation remained well above the Federal Open Market Committee's (FOMC) longer-run objective of 2 percent, with some inflation measures rising to their highest levels in more than 40 years. These price pressures reflect supply and demand imbalances, higher energy and food prices, and broader price pressures, including those resulting from an extremely tight labor market. In the labor market, demand has remained strong, and supply has increased only modestly. As a result, the unemployment rate fell noticeably below the median of FOMC participants' estimates of its longer-run normal level, and nominal wages continued to rise rapidly. Although overall economic activity edged down in the first quarter, household spending and business fixed investment remained strong. The most recent indicators suggest that private fixed investment may be moderating, but consumer spending remains strong.

In response to sustained inflationary pressures and a strong labor market, the FOMC has been adjusting its policies and communications since last fall. At its March meeting, the FOMC raised the target range for the federal funds rate off the effective lower bound to ¼ to ½ percent. The Committee continued to raise the target range in May and June, bringing it to 1½ to 1¾ percent following the June meeting, and indicated that ongoing increases are likely to be appropriate. The Committee ceased net asset purchases in early March and began reducing its securities holdings in June.

The Committee is acutely aware that high inflation imposes significant hardship, especially on those least able to meet the higher costs of essentials. The Committee's commitment to restoring price stability—which is necessary for sustaining a strong labor market—is unconditional.

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), rose from 5.8 percent in December 2021 to 6.3 percent in April, its highest level since the early 1980s and well above the FOMC's objective of 2 percent. This increase was driven by an acceleration of retail food and energy prices, reflecting further increases in commodity prices due to Russia's invasion of Ukraine. The 12-month measure of inflation that excludes the volatile food and energy categories (so-called core inflation) rose initially and then fell back to 4.9 percent in April, unchanged from last December. Three-month measures of core inflation have softened since December but remain far above levels consistent with price stability. Measures of near-term inflation expectations continued to rise markedly, while longer-term expectations moved up by less.

The labor market. Demand for labor continued to outstrip available supply across many parts of the economy, and nominal wages continued to increase at a robust pace. While labor demand remained very strong, labor supply increased only modestly. As a result, the labor market tightened further between December and May, with job gains averaging 488,000 per month and the unemployment rate falling from 3.9 percent to 3.6 percent—just above the bottom of its range over the past 50 years.

Economic activity. Real gross domestic product (GDP) is reported to have surged at a 6.9 percent annual rate in the fourth quarter of 2021 and then to have declined at a 1.5 percent annual rate in the first quarter. The large swings in growth rates reflected fluctuations in the volatile expenditure categories of net exports and inventory investment. Abstracting from these volatile components, growth in private domestic final demand (consumer spending plus residential and business fixed investment—a measure that tends to be more stable and better reflects the strength of overall economic activity) was strong in the first quarter, supported by some unwinding of supply bottlenecks and a further reopening of the economy. The most recent indicators suggest that private fixed investment may be moderating, but consumer spending remains strong. As a result, real GDP appears on track to rise moderately in the second quarter.

Financial conditions. Financial conditions have tightened significantly this year. The expected path of the federal funds rate over the next few years shifted up substantially, and yields on nominal Treasury securities across maturities have risen considerably since late February amid sustained inflationary pressures and associated expectations for further monetary policy tightening. Equity prices were volatile and declined sharply, on net, while corporate bond yields increased substantially and spreads increased notably, partly reflecting some concerns about the future corporate credit outlook. Mortgage rates also rose sharply. In turn, tighter financial conditions may have begun to weigh on some financing activity. On the business side, nonfinancial corporate bond issuance was solid in the first quarter but slowed somewhat in April and May, with speculative-grade bond issuance being particularly weak. That said, the growth of bank loans to businesses picked up, and business credit quality has remained strong thus far. For households, mortgage originations declined materially. Nevertheless, mortgage credit remained broadly available for a wide range of potential borrowers. For other consumer loans (such as auto loans and credit cards), credit standards eased somewhat further or changed little, and credit outstanding grew briskly.

Financial stability. Despite experiencing a series of adverse shocks—higher-than-expected inflation, the ongoing supply disruptions related to COVID-19, and Russia's invasion of Ukraine—the financial system has been resilient, though portions of the commodities markets temporarily experienced elevated levels of stress. The drop in equity prices and rising bond spreads suggest that valuation pressures in corporate securities markets have eased some from their previously elevated levels, but real estate prices have risen further this year. While business and household debt has been growing solidly, the ratio of credit to GDP has decreased to near pre-pandemic levels and most indicators of credit quality remained robust, suggesting that vulnerabilities from nonfinancial leverage are moderate. Large bank capital ratios dipped in the first quarter, but overall leverage in the financial sector appears moderate and little changed this year. Recent strains experienced in markets for stablecoins—digital assets that aim to maintain a stable value relative to a national currency or other reference assets—and other digital assets have highlighted the structural fragilities in that rapidly growing sector. A few signs of funding pressures emerged amid the geopolitical tensions, particularly in commodities markets. However, broad funding markets proved resilient, and with direct exposures of U.S. financial institutions to Russia and Ukraine being small, financial spillovers have been limited to date.

International developments. Economic activity has continued to recover in many foreign economies, albeit with new significant headwinds from Russia's invasion of Ukraine and COVID lockdowns in China. These headwinds have, on net, pushed commodity prices higher, worsened supply disruptions, and lowered household and business confidence, thus damping the rebound in foreign economic activity. As in the United States, consumer price inflation abroad is high and has continued to rise in many economies, boosted by higher energy, food, and other commodity prices as well by supply chain constraints. In response, many foreign central banks have raised policy rates, and some have started to reduce the size of their balance sheets.

Foreign financial conditions have tightened notably since the beginning of the year, in part reflecting the tightening in foreign monetary policy and concerns about persistently high inflation. Sovereign bond yields in many advanced foreign economies rose. Foreign risky asset prices declined, also driven by downside risks to the growth outlook amid the lockdowns in China and Russia's invasion of Ukraine. The trade-weighted value of the dollar appreciated notably.

Monetary Policy

In response to significant ongoing inflation pressures and the tightening labor market, the Committee has been adjusting its policies and communications since last fall. The Committee wound down net purchases of securities and began reducing those securities holdings more rapidly than expected, and also initiated a swift increase in interest rates. 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. In March, after holding the federal funds rate near zero since the onset of the pandemic, the FOMC raised the target range for that rate to ¼ to ½ percent. The Committee raised the target range again in May and June, bringing it to the current range of 1½ to 1¾ percent, and conveyed its anticipation that ongoing increases in the target range will be appropriate.

Balance sheet policy. The Federal Reserve began reducing its monthly net asset purchases last November and accelerated the reductions in December, bringing net purchases to an end in early March. In January, the FOMC issued a set of principles regarding its planned approach for significantly reducing the size of the Federal Reserve's balance sheet. Consistent with those principles, the Committee announced in May its specific plans for significantly reducing its securities holdings and that these reductions would begin on June 1.[1]

The Committee acutely recognizes the significant hardship caused by elevated inflation, especially on those least able to meet the higher costs of essentials. The Committee is strongly committed to restoring price stability, which is necessary for sustaining a strong labor market.

Special Topics

Labor market disparities. The labor market recovery over the past year and a half has been robust and widespread as the labor market effects of the pandemic have eased, with particularly strong improvement among groups that had suffered the most. As a result, employment and earnings of nearly all major demographic groups are near or above their levels before the pandemic, and employment rates are again near multidecade highs. However, there remain notable differences in employment and earnings across groups that predate the pandemic.

Developments in global supply chains. Supply chain bottlenecks remain a major impediment for domestic and foreign firms. While U.S. manufacturers have been recording solid output growth for more than a year, order backlogs and delivery times remain high, and producer prices have risen rapidly. Further risks to global supply chains abound. In China, COVID-19 lockdowns drove the largest monthly declines in industrial production there since early 2020 while also disrupting internal and international freight transportation. In addition, the war in Ukraine continues to put

1. See the May 4, 2022, press release regarding the Plans for Reducing the Size of the Federal Reserve's Balance Sheet, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504b.htm.

upward pressure on energy and food prices and has raised the risk of disruption in the supply of inputs to some manufacturing industries.

Monetary policy rules. Simple monetary policy rules, which relate a policy interest rate to a small number of other economic variables, can provide useful guidance to policymakers. Many simple policy rules prescribed strongly negative values for the federal funds rate during the pandemic-driven recession. With inflation running well in excess of the Committee's 2 percent longer-run objective, a strong U.S. economy, and tight labor market conditions, the simple monetary policy rules considered here call for raising the target range for the federal funds rate significantly.

Global inflation. Inflation abroad rose rapidly over the past year, reflecting soaring food and commodity prices, pandemic-related supply disruptions, and demand imbalances between goods and services. The price pressures have been amplified by the war in Ukraine and COVID-19 lockdowns in China. Although the recent inflation surge was concentrated in volatile components, such as food and energy, price increases have broadened to core goods and services.

Global monetary policy. With inflation rising sharply across the globe, many central banks have tightened monetary policy. Policy tightening started last year as some emerging market central banks, particularly those in Latin America, were concerned that sharp increases in inflation could become entrenched in inflation expectations. Since fall 2021, many central banks in the advanced foreign economies have also started tightening monetary policy or are expected to do so soon, and several central banks that had expanded their balance sheets over the past two years are now allowing them to shrink.

Developments in the Federal Reserve's balance sheet. Following the conclusion of net asset purchases, the balance sheet remained stable at around $9 trillion. Alongside the removal of policy accommodation—through actual and expected increases in the policy rate—plans for shrinking the size of the balance sheet were announced in May and were initiated in June. Despite the size of the balance sheet remaining steady, reserve balances fell, in large part because of increasingly elevated take-up at the overnight reverse repurchase agreement (ON RRP) facility, which reached a record high of $2.2 trillion. In an environment of ample liquidity, limited Treasury bill supply, and low repurchase agreement rates, the ON RRP facility continued to serve its intended purpose of helping to provide a floor under short-term interest rates and to support effective implementation of monetary policy.

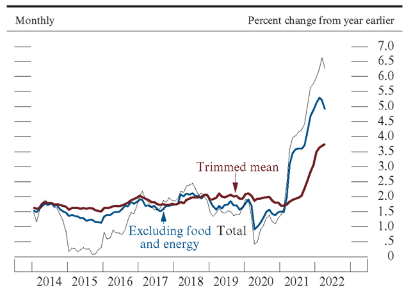
Part 1
Recent Economic and Financial Developments

Domestic Developments

Inflation continued to run high . . .

After surging 5.8 percent over 2021—the largest increase since 1981—the price index for personal consumption expenditures (PCE) continued to post notable increases so far this year, and the change over the 12 months ending in April stood at 6.3 percent (figure 1). This pace is well above the FOMC's longer-run objective of 2 percent.

1. Change in the price index for personal consumption expenditures



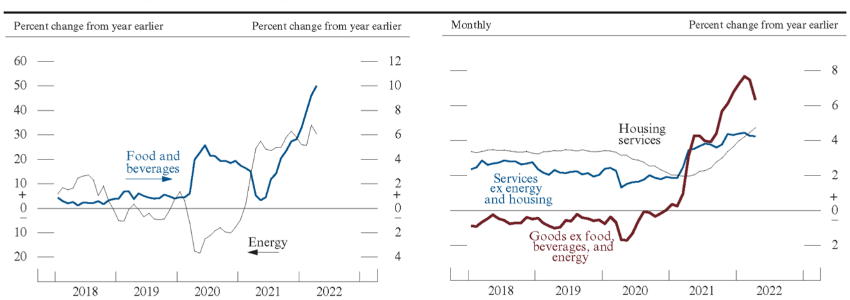
Note: The data extend through April 2022.
Source: For trimmed mean, Federal Reserve Bank of Dallas; for all else, Bureau of Economic Analysis; all via Haver Analytics.

. . . reflecting further large increases in food and energy prices . . .

Grocery prices increased at a very rapid pace of 10 percent over the 12 months ending in April, more than 4 percentage points faster than over the 12 months ending in December and the highest reading since 1981 (figure 2). Food commodity prices (such as wheat and corn), which had already increased last year, have risen further since Russia's invasion of Ukraine. At the same time, high fuel costs, supply chain bottlenecks, and high wage growth have also pushed up processing, packaging, and transportation costs for food.

The PCE price index for energy increased 30 percent over the 12 months ending in April,

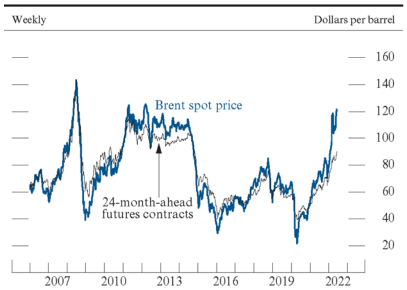
2. Personal consumption expenditures price indexes



Note: The data are monthly and extend through April 2022.
Source: Bureau of Economic Analysis via Haver Analytics.

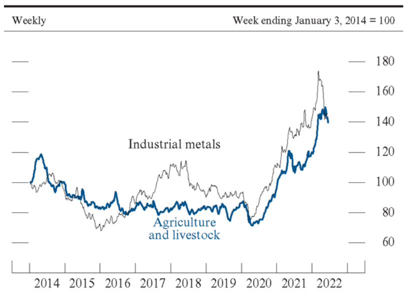
Note: The data extend through April 2022.
Source: Bureau of Economic Analysis via Haver Analytics.

3. Spot and futures prices for crude oil



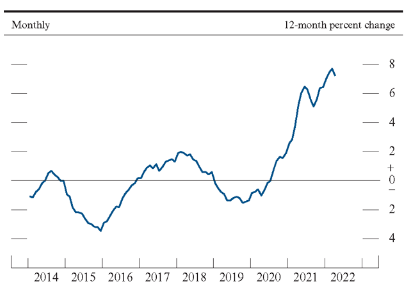
NOTE: The data are weekly averages of daily data and extend through June 10, 2022.
SOURCE: ICE Brent Futures via Bloomberg.

4. Spot prices for commodities



NOTE: The data are weekly averages of daily data and extend through June 10, 2022.
SOURCE: For industrial metals, S&P GSCI Industrial Metals Index Spot; for agriculture and livestock, S&P GSCI Agriculture & Livestock Spot Index; both via Haver Analytics.

5. Nonfuel import price index



NOTE: The data extend through April 2022.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

about the same pace as over the 12 months ending in December. Large increases in crude oil and natural gas commodity prices have boosted consumer prices for gasoline and natural gas.

. . . which, in turn, partly reflected rising prices of commodities and imports

Because of Russia's invasion of Ukraine, oil prices rose sharply in early March, reaching eight-year highs (figure 3). Prices remain elevated and volatile, boosted by a European Union embargo of Russian oil imports but weighed down at times by concerns about global economic growth. In addition, producers in other countries are struggling to ramp up oil production.

Nonfuel commodity prices also surged after the invasion, with large increases in the prices of both agricultural commodities and industrial metals (figure 4). Although the price of industrial metals has declined recently, agricultural prices remain elevated. Ukraine and Russia are notable exporters of wheat, Russia is a major exporter of fertilizer, and higher energy prices are spilling over into the agricultural sector. Export restrictions and unfavorable weather conditions in several countries have also boosted agricultural prices. (See the box "Developments in Global Supply Chains.")

With commodity prices surging and foreign goods prices on the rise, import prices increased significantly (figure 5).

Excluding food and energy prices, monthly inflation readings have softened since the turn of the year but remain far above levels consistent with price stability

Supply chain issues, hiring difficulties, and other capacity constraints have prevented the supply of products from rising quickly enough to satisfy continued strong demand, resulting in large price increases for many goods and services over the past year. After excluding consumer food and energy prices, the 12-month measure of core PCE inflation rose initially and then fell back to 4.9 percent in April, unchanged from December.

That said, monthly core inflation readings have softened noticeably since the start of the year, with the three-month measure of core PCE inflation falling from an annual rate of 6.0 percent last December to 4.0 percent in April. In particular, inflation stepped down for durable goods, likely reflecting some easing in supply constraints.

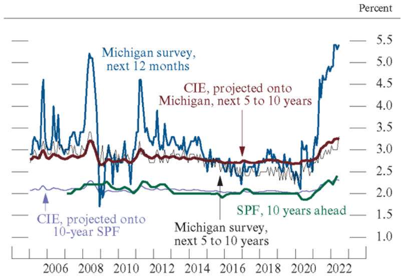
Nevertheless, the recent inflation readings have been mixed, remain far above levels consistent with price stability, and are far from conclusive evidence on the direction of inflation. Unlike durable goods price inflation, core services inflation has not declined significantly. Housing service prices continue to rise at a brisk pace, and increased demand for travel is markedly pushing up inflation rates for lodging and airfares. More generally, rapid growth of labor costs is putting upward pressure on the prices of all labor-intensive services.

Measures of near-term inflation expectations continued to rise markedly, while longer-term expectations moved up by less

The first half of 2022 saw further increases in expectations of inflation for the year ahead in surveys of both consumers and professional forecasters (figure 6). In the University of Michigan Surveys of Consumers, the median value for inflation expectations over the next year jumped to 5.4 percent in March, its highest level since November 1981, and has moved sideways since then. A portion of the upward movement so far this year likely reflects the war in Ukraine and the accompanying increases in the prices of commodities, especially those related to energy and food.

Longer-term expectations, which are more likely to influence actual inflation over time, moved up by less and remained above pre-pandemic levels. The Michigan survey's median inflation expectation for the next

6. Measures of inflation expectations



NOTE: The Survey of Professional Forecasters (SPF) data are quarterly, begin in 2007:Q1, and extend through 2022:Q2. The data for the Index of Common Inflation Expectations (CIE) and the Michigan survey are monthly and extend through June 2022; the June data for the Michigan survey and the CIE are preliminary.

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

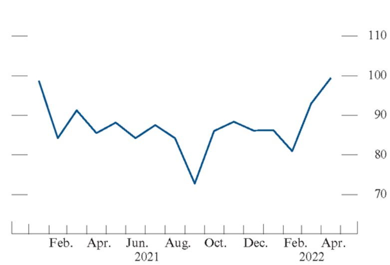
Developments in Global Supply Chains

Bottlenecks in global production and transportation remain a major impediment for both domestic and foreign firms. Russia's invasion of Ukraine and the widespread COVID-19 lockdowns in China have exacerbated strains in global supply networks and have led to greater uncertainty about the timing of improvement in supply conditions.

Despite this turbulence in the global supply network, U.S. manufacturers have been recording solid output growth for more than a year. There have been gains in domestic motor vehicle production, as the supply of semiconductors has recovered somewhat (figure A). In addition, survey results suggest shorter supplier delivery times and lower order backlogs relative to their late 2021 levels (figure B). Notwithstanding these improvements, backlogs and delivery times for the sector remain elevated, and light vehicle assemblies are still a bit below pre-pandemic levels, with low dealer inventories continuing to constrain sales. For some materials that had previously been in short supply—such as lumber and steel—prices have declined from notable highs. Even so, the overall producer price index for manufacturing in April was more than 18 percent above its year-earlier level (figure C). Progress has been similarly mixed for bottlenecks in the transportation of goods. The number of ships waiting for berths at West Coast ports has declined noticeably, as port throughput has remained high, although manufacturers continue to cite logistics and transportation constraints as reasons for lower output.

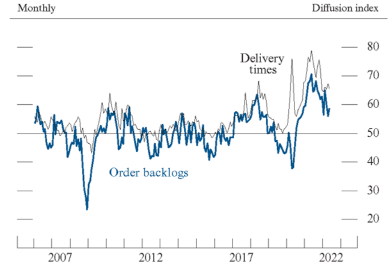
(continued)

A. U.S. light motor vehicle production



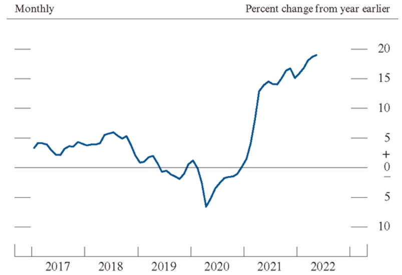
NOTE: The data extend through April 2022. The data are adjusted using Federal Reserve Board seasonal factors.
SOURCE: Ward's Automotive Group, AutoInfoBank and Intelligence Data Query; Chrysler Group LLC, North American Production Data; General Motors Corporation, GM Motor Vehicle Assembly Production Data.

B. Suppliers' delivery times and order backlogs



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

C. Producer price index for manufacturing



SOURCE: Bureau of Labor Statistics via Haver Analytics.

Risks to supply chain conditions abound, including those arising from COVID-19 lockdowns in China beginning in mid-March and the ongoing war in Ukraine.[1] Committed to their zero-COVID strategy, Chinese authorities ratcheted up restrictions quickly in the face of rising cases of the Omicron variant, which included a complete lockdown of Shanghai. The containment strategy managed to reduce case counts, allowing authorities to begin relaxing some citywide restrictions in late April. The lockdowns drove the largest monthly declines in Chinese activity since early 2020, with industrial production dropping about 13 percent between February and April (figure D) before recovering some in May. With severely disrupted domestic logistics, supplier delivery times increased sharply in April and continued increasing in May, but not as strongly (figure E). Chinese international trade was also hit, contracting in the three months before April (figure F). As Chinese production continues to recover, the associated rebound in trade flows may further strain international transportation networks.

1. The July 1 expiration of the contract between dockworkers and West Coast port operators poses an additional risk for shipping-related disruption.

The invasion of Ukraine by Russia is causing economic hardship. For instance, the conflict has disrupted global commodity markets in which Ukraine and Russia account for significant shares of global exports. Notably, energy prices have soared, as

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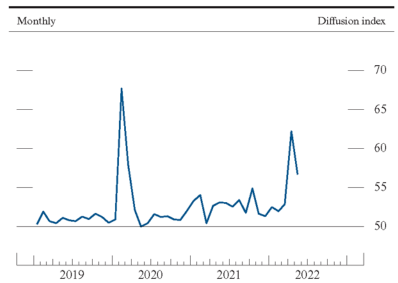
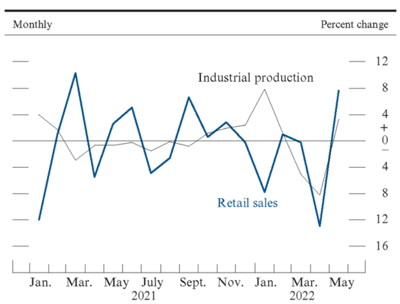
E. China's purchasing managers index: Supplier delivery times



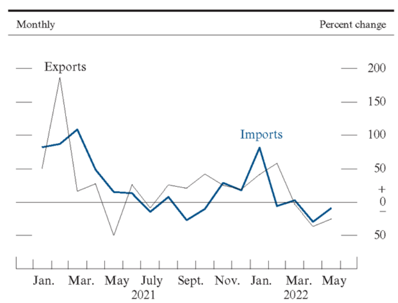
Note: The series is seasonally adjusted. Values greater than 50 indicate that more respondents reported longer delivery times relative to a month earlier than reported shorter delivery times.
Source: Caixin; S&P Global; both via Haver Analytics.

D. Chinese industrial production and retail sales



Note: Industrial production data are adjusted using Federal Reserve Board seasonal factors. Retail sales data are seasonally adjusted by the National Bureau of Statistics of China.
Source: National Bureau of Statistics of China via Haver Analytics; Federal Reserve Board staff calculations.

F. Nominal trade growth in China



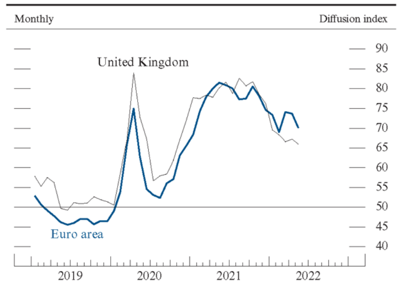
Note: All series are seasonally adjusted at an annual rate using Federal Reserve Board seasonal factors. The data are 3-month moving averages.
Source: General Administration of Customs, China, via Haver Analytics.

Developments in Global Supply Chains *(continued)*

increasing geopolitical tensions have put the supply of Russian oil and gas to Europe at risk. Indeed, Russian energy exports have already been falling amid embargos on Russian oil, self-sanctioning by some companies, transportation difficulties, and Russia's decision to halt gas deliveries to several European countries. The prices of several nonfuel commodities that are vital inputs to some manufacturing industries jumped in the early days of the conflict, including neon gas (an input in semiconductor chip production), palladium (an input in semiconductors and catalytic converters), nickel (an input in electric vehicles' batteries), and platinum. However, prices have since retreated to near pre-invasion levels as major disruptions have failed to materialize thus far. Finally, blocked shipping routes in the Black Sea have severed the region's agricultural exports, disrupting global food markets. As a result, prices of corn, wheat, sunflower oil, and fertilizer have climbed to record-high levels, raising concerns of food insecurity across the globe. Further aggravating the situation, a number of countries introduced export bans on some food commodities to contain rising domestic food prices.

Thus far, the war appears to have had more limited effects on other aspects of global supply chains. The effect on supplier delivery times across Europe has been muted, suggesting that the repercussions for manufacturers in the region have been relatively modest so far outside of the shifts in commodity prices (figure G). The global transportation system has also proved mostly resilient to the war, with signs of further strain in only a couple of sectors. Oil tanker charter rates spiked, boosted by a rise in demand as oil started to move to new markets, while truck transportation prices rose further, reflecting higher diesel fuel costs.

G. Purchasing managers index: Supplier delivery times



NOTE: The series are seasonally adjusted. Values greater than 50 indicate that more respondents reported longer delivery times relative to a month earlier than reported shorter delivery times.

SOURCE: For the United Kingdom, S&P Global and the Chartered Institute of Procurement & Supply; for the euro area, S&P Global; all via Haver Analytics.

5 to 10 years rose to 3.3 percent in the June preliminary reading. If confirmed, this reading would be near the top of the range from the past 25 years. Nevertheless, it remains well below the corresponding measure of 1-year-ahead inflation expectations. In the second-quarter Survey of Professional Forecasters, the median expectation for 10-year PCE inflation edged up to 2.4 percent, reflecting noticeable upward revisions to expected inflation this year and next but little change thereafter; the median expectation for 6 to 10 years ahead held steady at 2 percent.

Market-based measures of longer-term inflation compensation, which are based on financial instruments linked to inflation, are sending a similar message. A measure of consumer price index (CPI) inflation compensation 5 to 10 years ahead implied by Treasury Inflation-Protected Securities is little changed (on balance) since late 2021 and remains well below the corresponding measure of inflation compensation over the next 5 years (figure 7).

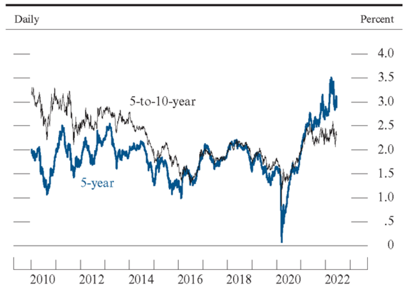
The Index of Common Inflation Expectations, which is produced by Federal Reserve Board staff and synthesizes information from a large range of near-term as well as longer-term expectation measures, edged up in the first half of this year and now stands at the high end of the range from the past 20 years.

The labor market continued to tighten

Payroll employment expanded an average of 488,000 per month in the first five months of the year (figure 8). Payroll gains so far this year have been broad based across industries, with the leisure and hospitality sector continuing to see the largest gains as people continued their return to activities that had been cut back by the pandemic.

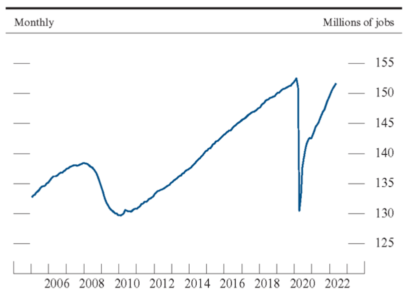
The increase in payrolls was accompanied by further declines in the unemployment rate, which fell 0.3 percentage point over the first five months of the year to 3.6 percent in May, just above the bottom of its range

7. Inflation compensation implied by Treasury Inflation-Protected Securities



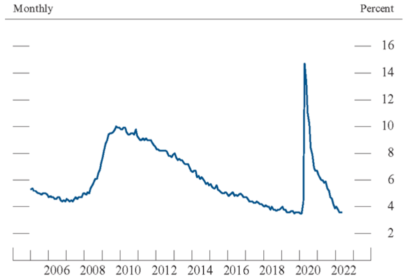
NOTE: The data are at a business-day frequency and are estimated from smoothed nominal and inflation-indexed Treasury yield curves.
SOURCE: Federal Reserve Bank of New York; Federal Reserve Board staff calculations.

8. Nonfarm payroll employment



SOURCE: Bureau of Labor Statistics via Haver Analytics.

9. Civilian unemployment rate



SOURCE: Bureau of Labor Statistics via Haver Analytics.

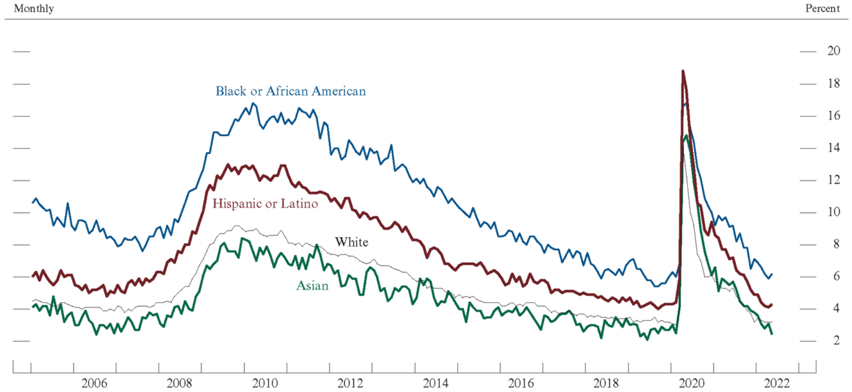
over the past 50 years (figure 9). The decline in the unemployment rate has been fairly broad based across age, educational attainment, gender, and ethnic and racial groups (figure 10). These declines have helped employment of nearly all major demographic groups recover to near or above their levels before the pandemic. (See the box "Developments in Employment and Earnings across Groups.")

While labor demand remained very strong, labor supply increased only modestly and stayed below pre-pandemic levels

Demand for labor continued to be very strong in the first half of the year. At the end of April, there were 11.4 million job openings—60 percent above pre-pandemic levels and down a bit from the all-time high recorded in March.

Meanwhile, the supply of labor rose only gradually and remained below pre-pandemic levels. The labor force participation rate (LFPR), which measures the share of people

10. Unemployment rate, by race and ethnicity



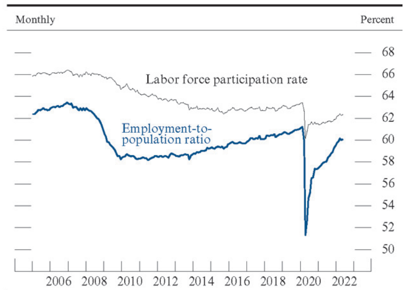
NOTE: Unemployment rate measures total unemployed as a percentage of the labor force. Persons whose ethnicity is identified as Hispanic or Latino may be of any race. Small sample sizes preclude reliable estimates for Native Americans and other groups for which monthly data are not reported by the Bureau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

either working or actively seeking work, edged up just 0.1 percentage point in the first five months of the year—following a 0.4 percentage point improvement last year—to 62.3 percent in May (figure 11).[2]

Despite these improvements, the LFPR remains 1.1 percentage points below its February 2020 level.[3] About one-half of this decline in the participation rate was to be expected even in the absence of the pandemic, as additional members of the large baby-boom generation have reached retirement age. In addition, several pandemic-related factors appear to be continuing to hold down the participation rate, including a pandemic-induced surge in retirements (beyond that implied by the aging of the baby boomers) and, to a diminishing extent, increased caregiving responsibilities and some continuing concerns about contracting COVID-19.

In addition to subdued participation, a second factor constraining the size of the labor force has been a marked slowing in population growth since the start of the pandemic. Over 2020 and 2021, the working-age (16 and over) population grew by 0.4 percent per year on average—notably less than the 0.9 percent

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



NOTE: The labor force participation rate and the employment-to-population ratio are percentages of the population aged 16 and over.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

2. The Bureau of Labor Statistics incorporated new population estimates beginning with the January 2022 employment report. This development resulted in a one-time jump in the estimate of the aggregate LFPR of about 0.3 percentage point due to a change in the age distribution of the population. Accordingly, the 0.4 percentage point increase in the published measure from December to May overstates the improvement in the LFPR by about 0.3 percentage point.

3. This shortfall in the LFPR corresponds to a shortfall in the labor force of about 2.8 million persons. (This calculation holds the LFPR constant at its February 2020 level and assumes population growth equal to the actual growth observed since February 2020.)

Developments in Employment and Earnings across Groups

Labor market gains have been robust over the past year and a half as the economy continues to recover from the effects of the pandemic. Historically, economic downturns have tended to exacerbate long-standing differences in employment and earnings across demographic groups, especially for minorities and for those with less education, and this pattern was especially true early on in the pandemic. However, as pandemic-related factors have eased and the labor market has recovered, groups with larger employment declines early in the pandemic have had especially large increases lately. Now employment and real earnings of nearly all major demographic groups are near or above their levels before the pandemic, and employment rates are again near multidecade highs.

Different age groups have had very different employment experiences over the course of the pandemic.[1] Early in the pandemic, the employment-to-population (EPOP) ratio for people aged 16 to 24 not only declined by much more than that for people of prime age (25 to 54) and those aged 55 to 64, but also recovered much more quickly (see figure A, upper-left panel).[2] Conversely, employment recovered more slowly for prime-age people throughout 2020 and nearly all of 2021. But in late 2021 and early 2022, the prime-age EPOP rose quickly, such that now all three of these age groups' EPOP ratios have essentially recovered to their pre-pandemic levels. The EPOP ratio for those aged 65 and over, however, remains about 1 percentage point below its pre-pandemic level—a level it has maintained through much of the pandemic. The lower EPOP ratio for that group is entirely attributable to a lower labor force participation rate, which in turn largely reflects an increase in retirements since the onset of the pandemic.

A closer look at the prime-age group shows that there has been considerable heterogeneity in the pace of the employment recovery across race and ethnicity, educational attainment, and parental status. Employment for Blacks and Hispanics not only declined by more than that for whites and Asians early in the pandemic, but also recovered more quickly since the end of last year (figure A, upper-right panel). In addition, men and women with high school degrees or less saw larger declines and a faster recovery (figure A, lower-left panel). Similarly, gaps in employment between prime-age mothers and non-mothers that widened through 2020 have essentially closed (figure A, lower-right panel). By April 2022, employment for all of those groups was near or above its pre-pandemic level.

These differences in the timing of the employment recovery across different demographic groups partly reflect the evolution of the pandemic's effect on the labor market. For instance, social-distancing restrictions and concerns about contracting or spreading COVID-19 had likely inhibited employment in in-person services. As these restrictions and concerns have waned, employment of groups more commonly employed in in-person services, such as those with less education and some minority groups, has recovered quickly.[3] Further, the closing of many schools and childcare facilities for the 2020–21 school year due to elevated levels of COVID cases likely held back the employment recovery of parents, as many families faced uncertainties about the consistent availability of in-person education for school-age children and childcare for younger children. The effects appear to have been particularly acute for mothers, especially Black and Hispanic mothers, as well as those with less

(continued)

1. The January 2022 employment report incorporates population controls that showed that the working-age population was both larger and younger over the past decade than the Census Bureau had previously estimated. Those population controls had meaningful effects on the aggregate EPOP ratio, but much smaller effects at the levels of disaggregation examined in this discussion.
2. This discussion defines the pre-pandemic baseline EPOP ratio for each group as that group's average EPOP ratio over 2019.

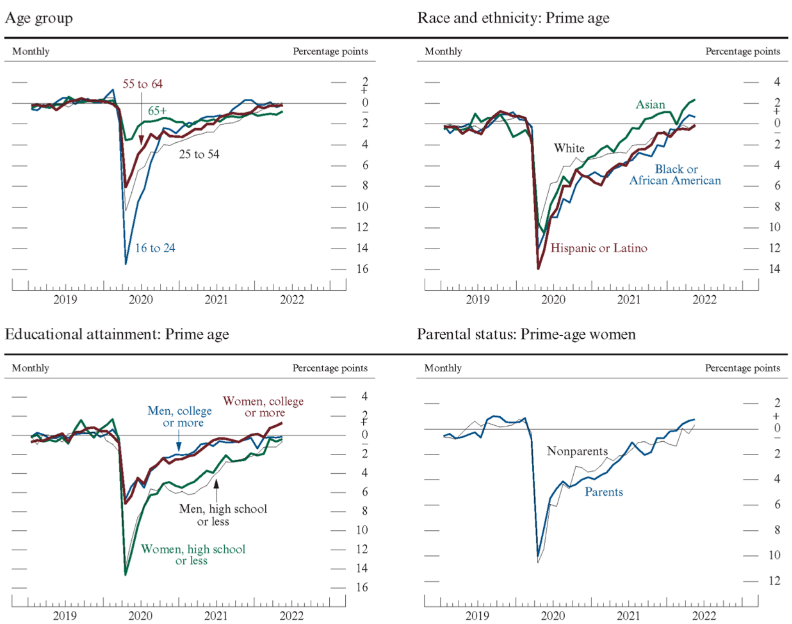
3. Before the pandemic, Blacks and Hispanics were less likely to be employed in jobs that could be performed remotely, and women and Blacks were more likely to be employed in occupations that involved greater face-to-face interactions; for example, see Laura Montenovo, Xuan Jiang, Felipe Lozano Rojas, Ian M. Schmutte, Kosali I. Simon, Bruce A. Weinberg, and Coady Wing (2020), "Determinants of Disparities in COVID-19 Job Losses," NBER Working Paper Series 27132 (Cambridge, Mass.: National Bureau of Economic Research, May; revised June 2021), https://www.nber.org/system/files/working_papers/w27132/w27132.pdf. Other research shows that even after accounting for workers' job characteristics, Hispanic and nonwhite workers experienced a higher rate of job loss relative to other workers; see Guido Matias Cortes and Eliza Forsythe (2021), "The Heterogeneous Labor Market Impacts of the Covid-19 Pandemic," unpublished paper, August, http://publish.illinois.edu/elizaforsythe/files/2021/08/Cortes_Forsythe_Covid-demo_revision_8_1_2021.pdf.

education.[4] However, with schools having generally provided in-person education for the 2021–22 school year, these childcare burdens likely eased, allowing many parents to reenter the workforce.

(continued on next page)

4. The increase in the share of mothers of school-age children who reported being out of the labor force due to caregiving closely tracked the degree to which schools were fully closed to in-person learning over the 2020–21 school year, and districts that serve more Blacks and Hispanics were less likely to provide fully in-person education during the 2020–21 school year, which may account for some of the larger and more persistent declines in labor force attachment for Black and Hispanic mothers over this period. 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.

A. Changes in employment-to-population ratio compared with the 2019 average ratio, by group



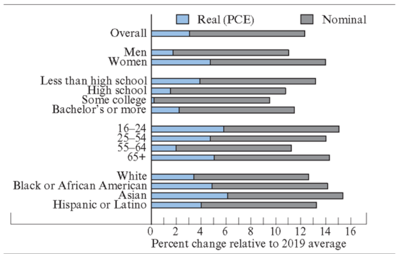
NOTE: Prime age is 25 to 54. The age groups 16 to 24 and prime age show seasonally adjusted data published by the Bureau of Labor Statistics, whereas all other groups' data are seasonally adjusted by the Federal Reserve Board staff.
SOURCE: Bureau of Labor Statistics; Federal Reserve Board staff calculations from Current Population Survey microdata.

Developments in Employment and Earnings across Groups *(continued)*

Although the gaps in employment outcomes across groups that widened during the pandemic have diminished, the considerable gaps that existed before the pandemic remain. For example, the EPOP ratio for whites of prime age remains more than 3 percentage points above those for prime-age Black and Hispanic people; the EPOP ratio of college-educated, prime-age people is about 15 percentage points higher than that of prime-age people with high school degrees or less; and the EPOP ratio for prime-age mothers is about 5 percentage points below that of non-mothers—all similar in size to the gaps that existed before the pandemic.

The broad-based nature of the labor market recovery is also apparent in workers' earnings, which have grown rapidly as employment surged in 2021 and early 2022. As of 2022:Q1, the median full-time worker's usual weekly earnings had grown 12.3 percent relative to pre-pandemic levels—implying real earnings growth of 3.1 percent (figure B).[5] Although this earnings growth has been widespread, it has been largest for women, minorities, young workers, and workers with less than a high school education. The growth in earnings for some demographic groups has been sufficiently robust to shrink some pre-pandemic disparities in real earnings between groups. For instance, the gap in median full-time real earnings for women versus men is slightly smaller in 2022:Q1 than it was in 2019, as is the gap in median real earnings between Black and white full-time workers.[6]

B. Growth in median full-time usual weekly earnings from 2019 to 2022:Q1



NOTE: The percent change as of 2022:Q1 is relative to the 2019 average of the median usual weekly earnings for full-time workers in each group. Real earnings growth deflates the nominal earnings growth by the average growth in the personal consumption expenditures (PCE) price index as of 2022:Q1 relative to its 2019 average level. The overall earnings, as well as those for men and women, use seasonally adjusted data, but the other groups' earnings are not seasonally adjusted. The key identifies bars in order from left to right.

SOURCE: For median usual weekly earnings, Bureau of Labor Statistics; for the PCE price index, Bureau of Economic Analysis.

5. Just as with the change in the EPOP ratio, each group's pre-pandemic baseline is defined as the group's average median usual weekly earnings in 2019. The reported growth in real usual weekly earnings deflates nominal earnings growth by total PCE (personal consumption expenditures) inflation. If, instead, the CPI were used to deflate nominal earnings, then reported real earnings growth since 2019 would be 2 percentage points lower—but even when using the CPI to deflate nominal earnings, real earnings have risen for most groups since 2019.

6. Some of a group's earnings growth relative to 2019 may reflect lingering pandemic-related compositional shifts in the group's full-time workers. Additionally, real earnings growth accounts for aggregate inflation, but some demographic groups may be disproportionately exposed to inflation due to differences in groups' consumption patterns—implying lower real earnings growth for groups with greater exposure to inflation.

average rate over the previous five years.[4] The slowing in population growth over 2020–21 was due to both a sharp decline in net immigration and a spike in COVID-related deaths.[5] Had the population increased over 2020–21 at the same rate as over the previous five years, the labor force would have been about 1¾ million larger as of the second quarter of this year.[6]

As a result, labor markets remained extremely tight . . .

Reflecting very strong demand for workers alongside still-subdued supply, a wide range of indicators have continued to point to an extremely tight labor market despite the fact that the level of payroll employment in May remained about 820,000 below the level in February 2020.[7] The number of total available jobs, measured by total employment plus posted job openings, continued to far exceed the number of available workers, measured by the size of the labor force.[8] The gap was

4. Population forecasts just before the onset of the pandemic also projected faster population growth for 2021–22 than has been realized. For example, the Congressional Budget Office projected 0.8 percent growth per year in 2021–22 in its January 2020 budget and economic projections; see Congressional Budget Office (2020), *The Budget and Economic Outlook: 2020 to 2030* (Washington: CBO, January), https://www.cbo.gov/publication/56020. Before 2015, population growth was even higher. For example, the average growth rate in the working-age population between 1980 and 2014 was 1.2 percent per year.

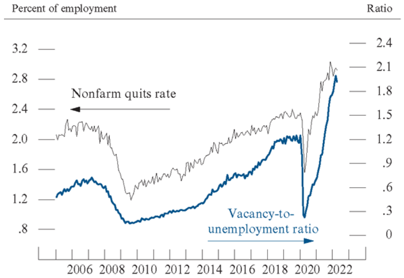
5. The effect of COVID-related deaths on the labor force, however, was relatively smaller, because these deaths have been concentrated among older individuals, who tend to have low LFPRs.

6. This calculation uses the actual LFPR in May 2022 and multiplies it by the level of the population that would have been realized in that month had population growth over 2020–21 been the same as the growth observed over 2015–19.

7. After adjusting for population growth since the beginning of the pandemic, the shortfall in payrolls relative to their pre-pandemic level was about 2.3 million in May.

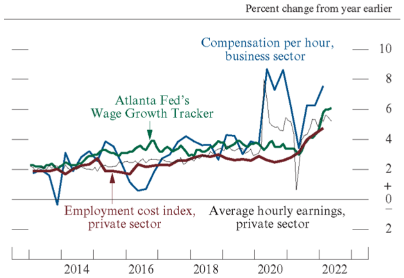
8. The labor force includes all people aged 16 and older who are classified as either employed or unemployed.

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



NOTE: The data are monthly and extend through April 2022. The vacancy-to-unemployment ratio data are the ratio of job openings to unemployed.
SOURCE: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey.

13. Measures of change in hourly compensation



NOTE: Business-sector compensation is on a 4-quarter percent change basis. For the private-sector employment cost index, change is over the 12 months ending in the last month of each quarter; for private-sector average hourly earnings, the data are 12-month percent changes; for the Atlanta Fed's Wage Growth Tracker, the data are shown as a 3-month moving average of the 12-month percent change.
SOURCE: Bureau of Labor Statistics; Federal Reserve Bank of Atlanta, Wage Growth Tracker; all via Haver Analytics.

about 5½ million at the end of April, near the highest level on record.[9] The share of workers quitting jobs each month, an indicator of the availability of attractive job prospects, was 2.9 percent at the end of April, near the all-time high reported in November (figure 12). Initial claims for unemployment benefits remain near the lowest levels observed in the past 50 years. Households' and small businesses' perceptions of labor market tightness were near or above the highest levels observed in the history of these series. And, finally, employers continued to report widespread hiring difficulties.

That said, some possible signs of modest easing of labor market tightness have recently appeared. For example, as noted in the next section, some measures of wage growth appear to have moderated. And in the June 2022 Beige Book, employers in some Federal Reserve Districts reported some signs of modest improvement in worker availability.

. . . and nominal wages continued to increase at a robust pace

Reflecting very tight labor market conditions, nominal wages continued to rise at historically rapid rates. For example, the employment cost index (ECI) of total compensation rose 4.8 percent over the 12 months ending in March, well above 2.8 percent from a year earlier (figure 13). The most recent readings include a surge in bonuses, which may reflect the challenges of retaining and hiring workers. In addition, wage growth as computed by the Federal Reserve Bank of Atlanta, which tracks the median 12-month wage growth of individuals responding to the Current Population Survey, picked up markedly this year and rose more than 6 percent in May, well above the 3 to 4 percent pace reported over the previous few years.

9. Another usual indicator of the gap between available jobs and available workers is the ratio of job openings to unemployment. At the end of April, this indicator showed that there were 1.9 job openings per unemployed person.

That said, there are some signs that nominal wage growth may be leveling off or moderating. The growth of wages and salaries as measured by the ECI moderated from 5.6 percent at an annual rate in the second half of last year to 5.2 percent early this year. And even as payroll employment continued to grow rapidly and the unemployment rate continued to fall, the three-month change in average hourly earnings declined from about 6 percent at an annual rate late last year to 4.5 percent in May, with the moderation in earnings growth particularly notable for employees in the sectors that experienced especially strong wage growth last year, such as leisure and hospitality.

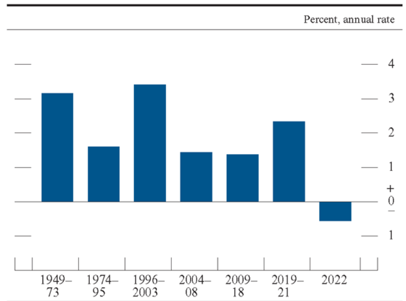
Following a period of solid growth, labor productivity softened

The extent to which sizable wage gains raise firms' unit costs and act as a source of inflation pressure depends importantly on the pace of productivity growth. Considerable uncertainty remains around the ultimate effects of the pandemic on productivity.

From 2019 through 2021, productivity growth in the business sector picked up (albeit by less than compensation growth), averaging about 2¼ percent at an annual rate—about 1 percentage point faster than the average pace of growth over the previous decade (figure 14). Some of this pickup in productivity growth might reflect persistent factors. For example, the pandemic resulted in a high rate of new business formation, the widespread adoption of remote work technology, and a wave of labor-saving investments.

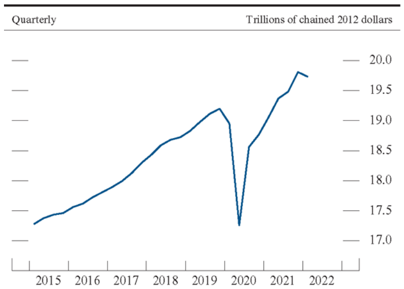
The latest reading, however, showed a decline in business-sector productivity in the first quarter of this year. While quarterly productivity data are notoriously volatile, this decline nevertheless highlights the possibility that some of the earlier productivity gains could prove transitory, perhaps reflecting worker effort initially surging in response to employment shortages and hiring difficulties

14. Change in business-sector output per hour



NOTE: Changes are measured from Q4 of the year immediately preceding the period through Q4 of the final year of the period, except 2022 changes, which are calculated from 2021:Q1 to 2022:Q1.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

15. Real gross domestic product



SOURCE: Bureau of Economic Analysis via Haver Analytics.

and then subsequently returning to more normal levels.[10] If the gap between wage growth and productivity growth remains comparably wide in the future, the result will be significant upward pressure on firms' labor costs.

Gross domestic product declined in the first quarter of 2022 after having surged in the fourth quarter of 2021 . . .

Real gross domestic product (GDP) is reported to have surged at a 6.9 percent annual rate in the fourth quarter of 2021—and then to have declined at a 1.5 percent annual rate in the first quarter—because of fluctuations in net exports and inventory investment (figure 15). These two categories of expenditures are volatile even in normal times, and they have been even more so in recent quarters. Some improvement in supply chain conditions late last year appears to have enabled firms to rebuild depleted inventories; inventory investment surged in the fourth quarter and then moderated to a still-elevated pace in the first quarter, thereby weighing on GDP growth. Other measures of activity, including employment, industrial production, and gross domestic income, indicate continued growth in the first quarter.

. . . while growth in consumer spending and business investment was solid in the first quarter

After abstracting from these volatile components, growth in private domestic final demand (consumer spending plus residential and business fixed investment—a measure that tends to be more stable and better reflects the strength of overall economic activity) was solid in the first quarter, supported by some unwinding of supply bottlenecks and a further reopening of the economy. The most recent spending data and other indicators suggest that private fixed investment may be

10. The November 2021 Beige Book reported that many employers were planning to increase hiring because of concerns that their current workforce was being overworked.

moderating, but consumer spending remains strong and drag from inventory investment and net exports may be dissipating. As a result, private domestic final demand and real GDP appear on track to rise moderately in the second quarter.

Real consumer spending growth remained strong . . .

Real consumer spending—that is, spending after adjusting for inflation—continued to grow briskly, supported by a partial unwinding of supply bottlenecks and continued normalization of spending patterns as the pandemic fades. For example, spending on motor vehicles grew markedly in the first quarter, reflecting improvements in both domestic and foreign production, and spending on services (especially at restaurants) grew briskly.

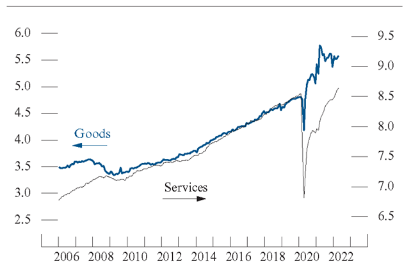
That said, consumer spending growth has moderated from its very rapid pace from early 2021 as fiscal support has declined from historical highs, some households have likely depleted excess savings accumulated during the pandemic, and inflation has eroded households' purchasing power.

The composition of spending remains more tilted toward goods and away from services than it was before the pandemic. Real goods spending is still well above its trend, while real spending on services remains below trend (figure 16). Nevertheless, the composition continued to shift back toward services. While goods spending was only modestly higher in April compared with its average from late last year, services spending rose significantly.

. . . supported by high levels of wealth

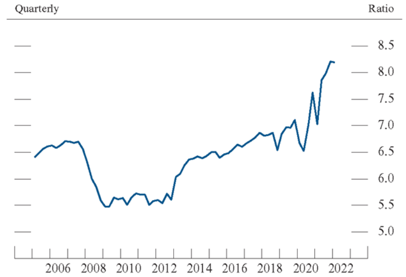
Household wealth grew by roughly $30 trillion between late 2019 and late 2021 because of rises in equity and house prices along with the elevated rate of saving in 2020 and 2021 (figures 17 and 18). Since the beginning of the year, wealth has declined because of the drop in equity prices. Nevertheless, wealth remains

16. Real personal consumption expenditures



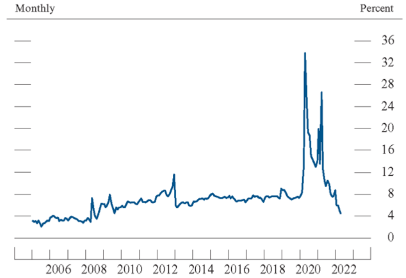
Note: The data are monthly and extend through April 2022.
Source: Bureau of Economic Analysis via Haver Analytics.

17. Wealth-to-income ratio



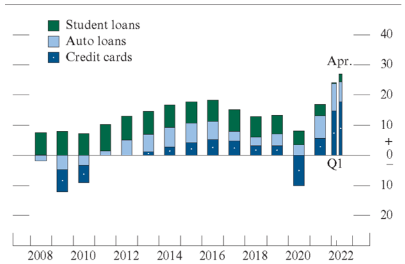
Note: The series is the ratio of household net worth to disposable personal income.
Source: For net worth, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; for income, Bureau of Economic Analysis via Haver Analytics.

18. Personal saving rate



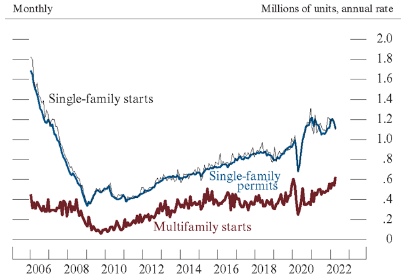
Note: The data extend through April 2022.
Source: Bureau of Economic Analysis via Haver Analytics.

19. Consumer credit flows



SOURCE: Federal Reserve Board, Statistical Release G.19, "Consumer Credit."

20. Private housing starts and permits



NOTE: The data extend through April 2022.
SOURCE: U.S. Census Bureau via Haver Analytics.

21. Mortgage rates

NOTE: The data are contract rates on 30-year, fixed-rate conventional home mortgage commitments and extend through June 9, 2022.
SOURCE: Freddie Mac Primary Mortgage Market Survey.

well above pre-pandemic levels, providing continuing support for consumer spending.

Consumer financing conditions were generally accommodative, especially for borrowers with stronger credit scores

Financing has been generally available to support consumer spending. Following a period of widespread reported easing last year, standards on credit card loans eased somewhat further in the first quarter, whereas those on auto and other consumer loans changed little. Partly reflecting higher credit card purchase volumes, credit card balances grew rapidly in recent months (figure 19). Even so, many credit card users still have ample unused credit. Auto loans grew briskly during the first quarter, consistent with the concurrent rebound in auto sales.

Meanwhile, borrowing costs rose. However, they remain below pre-pandemic levels for credit cards and auto loans, partly reflecting strong consumer credit quality. Indeed, delinquency rates on consumer loans remain low relative to historical averages despite some recent increases among nonprime borrowers.

Housing construction remained high but may be moderating . . .

New single-family construction has remained well above pre-pandemic levels. However, new construction may be softening, with single-family permits turning down some in March and April (figure 20). As in the past year, still-tight supplies of materials, labor, and other inputs may still be restraining new construction. Also, builders have become distinctly less optimistic about prospects for housing sales, perhaps owing to the sharp rise in mortgage rates (figure 21).

. . . while home sales fell amid low inventories and rising mortgage rates

Home sales stepped down substantially from the very high levels prevailing late last year and are now close to pre-pandemic levels (figure 22). Some of this decline may have reflected further reductions in inventories of existing homes to historically low levels early in the year. In addition, the sharp increases in mortgage rates may have begun to moderate housing demand. Even so, financing conditions in the residential mortgage market remained accommodative for borrowers who met standard loan criteria, and the terms of mortgage credit for households with lower credit scores continued to ease toward pre-pandemic levels. Listings, sales, and price data suggest that so far, demand remains strong relative to the pace at which homes are being made available for sale. For example, the share of homes off market within two weeks remains elevated, and as of April, several measures of national house prices were up about 20 percent from a year earlier, though less in real terms (figure 23).

Business fixed investment rose strongly in the first quarter but may now be moderating

Investment in equipment and intangibles surged at a 12½ percent annual rate in the first quarter (figure 24). Investment demand remained strong, as worker shortages and high-capacity utilization in manufacturing likely maintained strong incentives for firms to automate production and boost capital expenditures. In turn, strong investment demand continued to boost equipment prices in an environment of constrained supply, but there have been initial signs that supply constraints may have begun to ease. In particular, since late last year, shipments of capital goods have begun to catch up with orders. The most recent indicators suggest that the growth of investment in equipment and intangibles will slow significantly in the second quarter, possibly reflecting drag from tighter financial conditions.

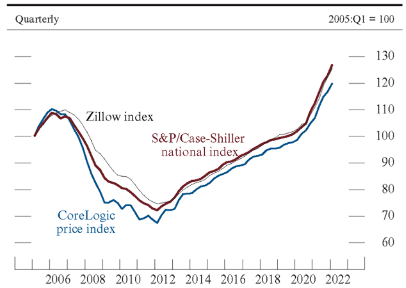
Investment in nonresidential structures declined moderately in the first quarter after falling more rapidly over the second half of

22. New and existing home sales

NOTE: The data are monthly and extend through April 2022. 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.

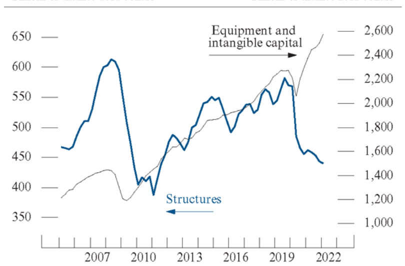
23. Real prices of existing single-family houses



NOTE: Series are deflated by the personal consumption expenditures price index.

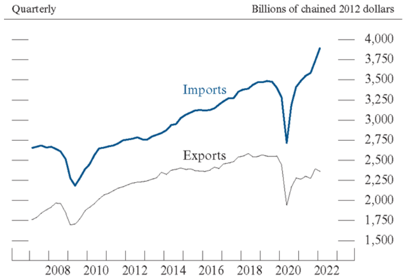
SOURCE: Bureau of Economic Analysis via Haver Analytics; CoreLogic Home Price Index; Zillow, Inc., Real Estate Data; S&P/Case-Shiller U.S. National Home Price Index. The S&P/Case-Shiller index is a product of S&P Dow Jones Indices LLC and/or its affiliates. (For Dow Jones Indices licensing information, see the note on the Contents page.)

24. Real business fixed investment



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

25. Real imports and exports of goods and services



SOURCE: Bureau of Economic Analysis via Haver Analytics.

2021, and it appears on track to decline again in the second quarter. Declines in spending on nondrilling structures have been only partly offset by rapid increases in drilling investment, which reflect the recent rise in energy prices.

Business financing conditions tightened somewhat but remained generally accommodative

Credit remained available to most nonfinancial corporations, but financing conditions tightened somewhat, especially for lower-rated firms. Gross nonfinancial corporate bond issuance was solid in the first quarter but slowed somewhat in April and May, with speculative-grade bond issuance particularly weak. Leveraged loan issuance also declined notably in May, partly reflecting weakening demand from retail investors. The growth of business loans at banks picked up from the subdued pace of last year, reflecting stronger loan originations as well as a moderation in loan forgiveness associated with the Paycheck Protection Program.

Credit also remained broadly available to small businesses. The share of small firms reporting that it was more difficult to obtain loans (compared with three months earlier) remained low by historical standards. Loan origination data through April were consistent with credit availability being comparable with pre-pandemic levels amid gradually recovering demand for small business credit. Most measures of loan performance remained largely stable; through April, default and delinquency rates remained below their pre-pandemic levels.

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

Driven by the continued strength in domestic economic activity, including still-strong demand for goods consumption, U.S. imports continued to grow at a rapid pace, surging well above their pre-pandemic trend (figure 25). High levels of imported goods have kept international logistics channels operating under high pressure, which has continued to impair the timely delivery of goods to U.S. customers. Real goods exports have only recovered to pre-pandemic levels. Real exports and imports of services remain subdued, reflecting a slow recovery of international travel. Given the recent strength of imports relative to the milder recovery in exports, the nominal trade deficit widened further as a share of GDP (figure 26).

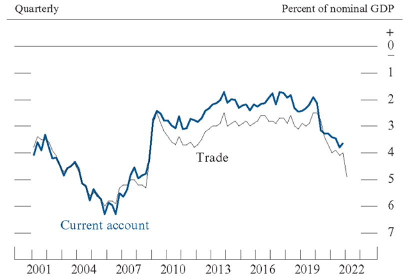
The support to economic activity provided by federal fiscal actions continued to diminish . . .

In response to the pandemic, the federal government enacted fiscal policies to address the economic consequences of the pandemic. Because the boost to spending from these policies ended last year, the effects on demand are likely waning this year and weighing on GDP growth.

. . . and, in turn, the budget deficit has fallen sharply from pandemic highs, and the growth of federal debt has moderated

The Congressional Budget Office estimates that fiscal policies enacted since the start of the pandemic will increase federal deficits roughly $5.4 trillion by the end of fiscal year 2030, with the largest deficit effects having occurred in fiscal 2020 and 2021.[11] These policies, combined with the effects of the automatic stabilizers—the reduction in tax receipts and increase in transfers that occur as a consequence of depressed economic

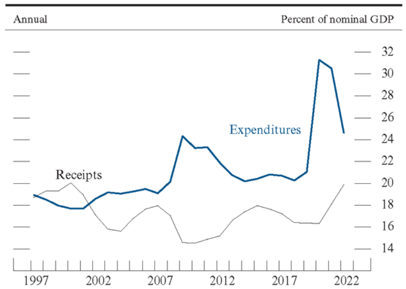
26. U.S. trade and current account balances



NOTE: GDP is gross domestic product. Current account balance data extend through 2021:Q4.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

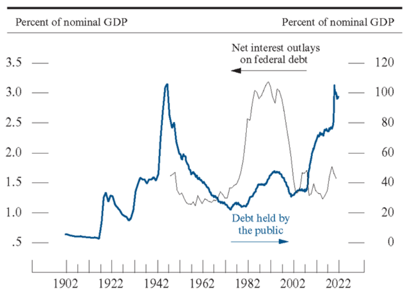
11. For more information, see Congressional Budget Office (2020), "The Budgetary Effects of Laws Enacted in Response to the 2020 Coronavirus Pandemic, March and April 2020," June, https://www.cbo.gov/system/files/2020-06/56403-CBO-covid-legislation.pdf; Congressional Budget Office (2021), "The Budgetary 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. Federal receipts and expenditures



NOTE: Through 2021, the receipts and expenditures data are on a unified-budget basis and are for fiscal years (October to September); gross domestic product (GDP) is for the 4 quarters ending in Q3. For 2022, receipts and expenditures are for the 12 months ending in May; GDP is the average of 2021:Q4 and 2022:Q1.
SOURCE: Department of the Treasury, Financial Management Service; Office of Management and Budget and Bureau of Economic Analysis via Haver Analytics.

28. Federal government debt and net interest outlays



NOTE: The data for net interest outlays are annual, begin in 1948, and extend through 2021. Net interest outlays are the cost of servicing the debt held by the public. Federal debt held by the public equals federal debt less Treasury securities held in federal employee defined-benefit retirement accounts, evaluated at the end of the quarter. The data for federal debt are annual from 1901 to 1951 and quarterly thereafter. GDP is gross domestic product.
SOURCE: For GDP, Bureau of Economic Analysis; for federal debt, Congressional Budget Office and Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

activity—caused the federal deficit to surge to 15 percent of nominal GDP in fiscal 2020 and remain elevated at 12½ percent in fiscal 2021. But with pandemic fiscal programs having largely ended and receipts surging, the deficit has fallen sharply thus far in fiscal 2022 relative to fiscal 2021 and, by the end of the fiscal year, is expected to be close to the deficits prevailing just before the pandemic (figure 27).

As a result of the fiscal support enacted during the pandemic, federal debt held by the public jumped to around 100 percent of nominal GDP in fiscal 2020—the highest debt-to-GDP ratio since 1947 (figure 28). But with deficits falling and economic growth having rebounded, the debt-to-GDP ratio has since receded slightly from its recent peak.

State and local government budget positions are remarkably strong . . .

Federal policymakers provided a historic level of fiscal support to state and local governments during the pandemic, with aid totaling about $1 trillion. This aid has more than covered pandemic-related budget shortfalls in the aggregate. Moreover, following the pandemic-induced slump, total state tax collections—pushed up by the economic expansion—rose appreciably in 2021 and continued to grow rapidly in early 2022 (figure 29). In turn, this recovery in revenues has led some state governments to enact or consider enacting tax cuts. At the local level, property taxes have continued to rise apace, and the typically long lags between changes in the market value of real estate and changes in tax collections suggest that property tax revenues will rise quite substantially going forward, given the rise in house prices.

. . . but hiring and construction outlays have continued to lag

Despite the return to in-person schooling and the strong fiscal position of state and local governments, state and local government payrolls continued to expand only modestly in the first half of 2022. Employment levels have regained about 60 percent of their sizable pandemic losses, falling well short of the recovery in private payrolls (figure 30). One reason for this disparity appears to be that public-sector wages have not kept pace with the rapid gains in the private sector, which may be inhibiting the ability of these governments to staff back up to pre-pandemic levels. Meanwhile, real construction outlays by state and local governments continued to decline in the first half of the year and are currently about 15 percent below pre-pandemic levels.

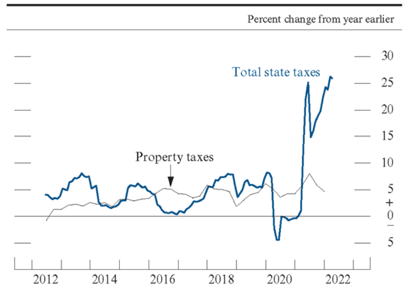
Financial Developments

The expected level of the federal funds rate over the next few years shifted up substantially

In March, May, and June, the FOMC raised the target range for the federal funds rate a total of 1½ percentage points. The expected path of the federal funds rate over the next few years also shifted up substantially since late February (figure 31). Economic data releases and FOMC communications were viewed by market participants as implying tighter monetary policy than previously expected. Market-based measures suggest that investors anticipate the federal funds rate to exceed 3.6 percent by the end of this year, which is about 2 percentage points higher than the level expected in late February. The same measures suggest that the federal funds rate is expected to peak at about 4 percent in mid-2023 before gradually declining to about 3.1 percent by the end of 2025, which is about 1.4 percentage points higher than the end-2025 rate expected in late February.

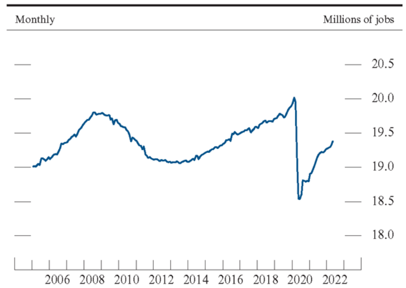
Similarly, according to the results of the Survey of Primary Dealers and the Survey of Market Participants, both conducted by the Federal Reserve Bank of New York in April, the median of respondents' projections for

29. State and local tax receipts



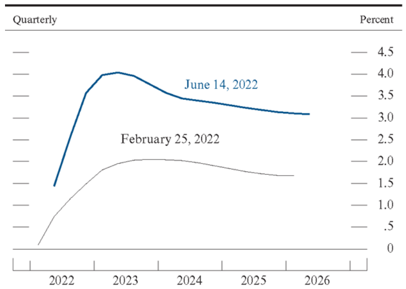
NOTE: State tax data are year-over-year percent changes of 12-month moving averages, begin in June 2012, extend through April 2022, and are aggregated over all states except Wyoming, for which data are not available. Revenues from Washington, D.C., are also excluded. Data are missing for March 2022 to April 2022 for New Mexico and Oregon and April 2022 for Nevada, as these states have longer reporting lags than others. Property tax data are year-over-year percent changes of 4-quarter moving averages, begin in 2012:Q2, extend through 2021:Q4, 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.

30. State and local government payroll employment



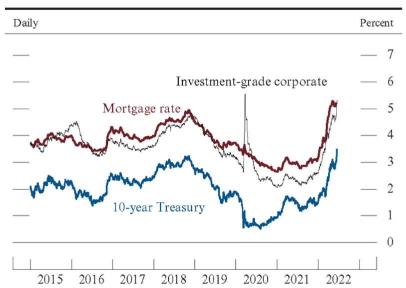
SOURCE: Bureau of Labor Statistics via Haver Analytics.

31. Market-implied federal funds rate path



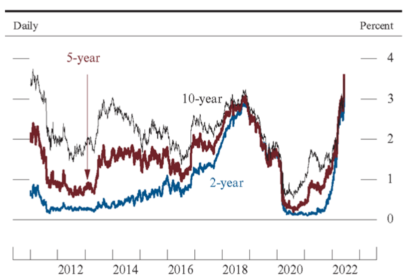
Note: The federal funds rate path is implied by quotes on overnight index swaps—a derivative contract tied to the effective federal funds rate. The implied path as of February 25, 2022, is compared with that as of June 14, 2022. The path is estimated with a spline approach, assuming a term premium of 0 basis points. The February 25, 2022, path extends through 2026:Q1 and the June 14, 2022, path through 2026:Q2.
Source: Bloomberg; Federal Reserve Board staff estimates.

32. Financial market indicators



Note: Investment-grade corporate reflects the effective yield of the ICE Bank of America Merrill Lynch triple-B U.S. Corporate Index (C0A4). The mortgage rate is contract rates on 30-year, fixed-rate conventional home mortgage commitments. Mortgage rate data extend through June 9, 2022.
Source: Department of the Treasury via Haver Analytics; Freddie Mac Primary Mortgage Market Survey; ICE Data Indices, LLC, used with permission.

33. Yields on nominal Treasury securities



Source: Department of the Treasury via Haver Analytics.

the most likely path of the federal funds rate shifted up significantly since January.[12]

Before late February, the expected path of the federal funds rate had started to increase notably in the third quarter of last year, in anticipation of increases in the target range. Consistent with the rise in the expected path of the federal funds rate, yields on Treasury securities and corporate bonds, as well as mortgage rates, all started to increase materially at a similar time. Meanwhile, broad equity price indexes have declined on net. Overall, these moves in asset prices suggest tightening of financial conditions even before the initial increase in the target range of the federal funds rate occurred in March (figure 32).

Yields on U.S. nominal Treasury securities also rose considerably

Yields on nominal Treasury securities across maturities have risen considerably since late February (figure 33). After a brief dip in late February, following Russia's invasion of Ukraine, yields rose steadily amid higher inflationary pressures and associated expectations for monetary policy tightening. The increases in nominal Treasury yields were primarily accounted for by rising real yields. Uncertainty about longer-term interest rates—as measured by the implied volatility embedded in the prices of near-term options on 10-year interest rate swaps—also increased significantly, reportedly reflecting, in part, an increase in uncertainty about the policy outlook.

Yields on other long-term debt increased substantially

Across credit categories, corporate bond yields have increased substantially and

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.

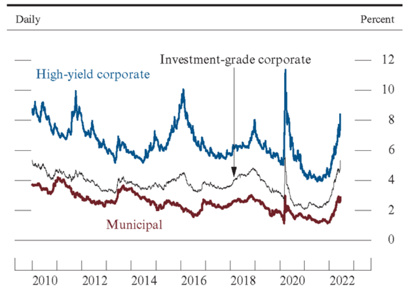
spreads over yields on comparable-maturity Treasury securities have increased notably since late February. Corporate bond yields and spreads are somewhat above the historical median values of their respective historical distributions since the mid-1990s (figure 34). Municipal bond yields also increased significantly while spreads increased somewhat since late February. Spreads on municipal bonds are now moderately above their historical medians. On net, corporate bond spreads are moderately above their pre-pandemic levels, and municipal bond spreads are near levels prevailing shortly before the pandemic. While the widening of corporate bond spreads since late February appears to partly reflect a deterioration in market expectations of future credit quality, corporate and municipal credit quality thus far in 2022 have remained strong. So far this year, defaults have been low, and upgrades of bond ratings have outpaced downgrades in both markets.

Since late February, yields on agency mortgage-backed securities (MBS)—an important pricing factor for home mortgage rates—increased significantly, as longer-term Treasury yields increased and spreads over comparable-maturity Treasury securities widened (figure 35). MBS spreads increased as market participants' expectations of a gradual reduction in the Federal Reserve's balance sheet shifted to a faster reduction.

Broad equity price indexes declined sharply, on net, amid substantial volatility

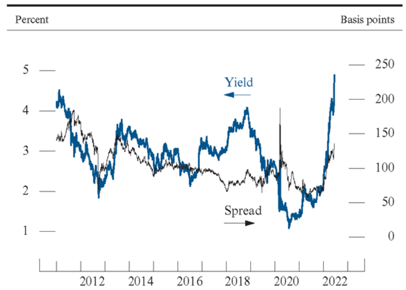
Broad equity price indexes were volatile and declined sharply, on net, amid sustained inflation pressures and expectations of monetary policy tightening, as well as heightened uncertainty regarding Russia's invasion of Ukraine and the economic outlook (figure 36). Bank stock prices also declined on net. One-month option-implied volatility on the S&P 500 index—the VIX—rose notably to elevated levels in the days following Russia's invasion of Ukraine. The VIX trended down for some time only to increase again and

34. Corporate bond yields, by securities rating, and municipal bond yield



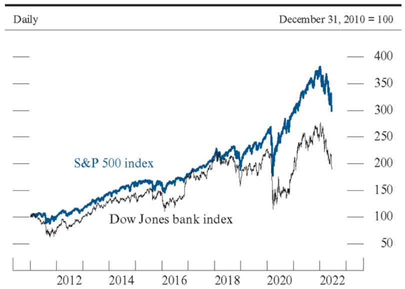
Note: Investment-grade corporate reflects the effective yield of the ICE Bank of America Merrill Lynch (BofAML) triple-B U.S. Corporate Index (C0A4). High-yield corporate reflects the effective yield of the ICE BofAML High Yield Index (H0A0). Municipal reflects the yield to worst of the ICE BofAML U.S. Municipal Securities Index (U0A0).
Source: ICE Data Indices, LLC, used with permission.

35. Yield and spread on agency mortgage-backed securities



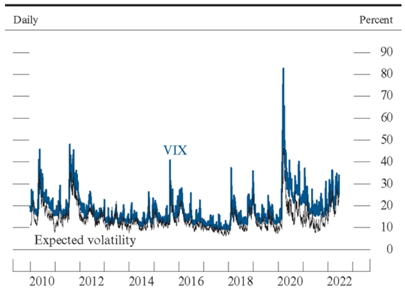
Note: The data are daily. Yield shown is for the uniform mortgage-backed securities 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value, for dates after May 31, 2019; for earlier dates, the yield shown is for the Fannie Mae 30-year current 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 2022.

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 a measure of implied volatility that represents the expected annualized change in the S&P 500 index over the following 30 days. The expected volatility series shows a forecast of 1-month realized volatility, using a heterogeneous autoregressive model based on 5-minute S&P 500 returns.

Source: Cboe Volatility Index® (VIX®) via Bloomberg; Refinitiv DataScope; Federal Reserve Board staff estimates.

remain elevated since late April amid a notable deterioration in risk sentiment (figure 37). (For a discussion of financial stability issues, see the box "Developments Related to Financial Stability.")

Markets for Treasury securities, mortgage-backed securities, corporate and municipal bonds, and equities generally functioned in an orderly way, but some measures of liquidity deteriorated

Liquidity conditions in the market for Treasury securities, which had deteriorated somewhat since late 2021, in part as a result of heightened interest rate risk, worsened further in late February following Russia's invasion of Ukraine. Market depth—a gauge of the ability to transact in large volumes at quotes posted by market makers—for Treasury securities fell and remains at historically low levels. Bid-ask spreads increased somewhat. However, trading volumes remained within normal ranges, suggesting that market functioning was not materially impaired. The decreases in depth were the greatest for bonds with shorter maturities because the prices of those securities are more sensitive to expectations for monetary policy over the near term. The market for MBS has functioned in an orderly way since late February, even as some measures of liquidity conditions deteriorated. Measures of market functioning in corporate and municipal bond markets indicated that the markets have remained liquid and trading conditions have stayed stable since late February without substantive disruptions around the time of Russia's invasion of Ukraine. Transaction costs in the corporate bond market and in the municipal bond market have both picked up somewhat since late February, and in the corporate bond market, bid-ask spreads are modestly above pre-pandemic levels. Transaction costs remain fairly low by historical standards.. Liquidity in equity markets has declined since late 2021 in part because of rising uncertainty about the outlook for monetary policy as well as Russia's invasion of Ukraine and has remained

Developments Related to Financial Stability

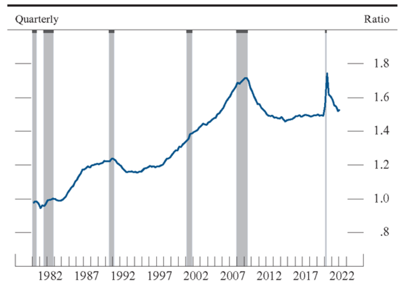
This discussion reviews vulnerabilities in the U.S. financial system. The framework used by the Federal Reserve Board for assessing the resilience of the U.S. financial system focuses on financial vulnerabilities in four broad areas: asset valuations, business and household debt, leverage in the financial sector, and funding risks. With inflation running higher than expected, the invasion of Ukraine, and the pandemic's continued effects on supply chains and consumer demand patterns, uncertainty about the economic outlook increased, and prices of some financial assets fluctuated widely. Treasury yields increased markedly, and valuation pressures in corporate securities markets eased, but real estate prices have risen further this year despite a rise in mortgage rates. While business and household debt has been growing solidly, the ratio of private nonfinancial credit to gross domestic product (GDP) decreased to near pre-pandemic levels and most indicators of credit quality remained robust. Large bank capital ratios dipped in the first quarter, but overall leverage in the financial sector appears moderate and little changed this year. A few signs of funding pressures emerged amid the escalation of geopolitical tensions. However, broad funding markets proved resilient, and with direct exposures of U.S. financial institutions to Russia and Ukraine being small, financial spillovers have been limited to date. Nevertheless, the effect of high inflation, supply chain disruptions, and the ongoing geopolitical tensions remain substantial sources of uncertainty with the potential to further stress the financial system.

Valuation measures based on current expectations of cash flows decreased in some markets but continued to be high relative to historical norms. Reflecting a less accommodative monetary policy stance associated with elevated inflation and a tight labor market, yields on Treasury securities increased markedly and reached somewhat above their pre-pandemic levels. Broad equity prices fluctuated widely and declined sharply. Prices relative to earnings forecasts declined from previously very elevated levels but were still above their historical median. Corporate-to-Treasury spreads widened but remained below their historical median. Spreads on leveraged loans were little changed, and leveraged loan issuance remained solid. House prices continued to rise at a rapid pace that further outstripped rent growth. Commercial real estate prices also rose further, with some price indexes surpassing their 2006 peaks.

The rapid growth of nominal GDP outpaced the growth of total debt of nonfinancial businesses and households. The ratio of the aggregate debt owed by the private nonfinancial sector to nominal GDP further declined to near pre-pandemic levels (figure A). Net leverage of large nonfinancial businesses held stable at

(continued on next page)

A. Private nonfinancial-sector credit-to-GDP ratio



NOTE: The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research: January 1980–July 1980, July 1981–November 1982, July 1990–March 1991, March 2001–November 2001, December 2007–June 2009, and February 2020–April 2020. 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.

Developments Related to Financial Stability *(continued)*

below pre-pandemic levels, supported by ample cash holdings. Fueled by strong earnings and low borrowing costs, the ratio of earnings to interest expenses for the median firm among public nonfinancial businesses rose to its highest level in two decades, indicating that large firms were better able to service debt. However, for firms in industries hit hardest by the pandemic, leverage remains elevated and interest coverage ratios are lower. The financial position of many households continued to improve. Household debt relative to nominal GDP as well as mortgage, auto, and credit card delinquencies were in the bottom range of the levels observed over the past 20 years. Household credit growth has been almost exclusively among prime-rated borrowers, including for residential mortgages. Nonetheless, some households remained financially strained and vulnerable to adverse shocks during this period of heightened uncertainty.

Vulnerabilities from financial-sector leverage are well within their historical range. Risk-based capital ratios at domestic bank holding companies declined some in the first quarter of 2022 but remained well above regulatory requirements. Banks increased loan loss provisions to reflect higher uncertainty about the economic outlook and continued to report that rising interest rates will support their profitability going forward. However, higher interest rates cause losses in the market value of banks' long-term fixed-rate assets. Leverage remained high at life insurance companies and was likely somewhat elevated at hedge funds, though the most comprehensive data for hedge funds are considerably lagged. Vulnerabilities of most U.S. financial institutions to the Russian invasion of Ukraine appear to be limited. Some nonbank financial intermediaries—such as commodity trading firms—have been directly affected by the Russia–Ukraine conflict, but loan exposures of large U.S. banks to these firms and borrowers in Ukraine and Russia are small. However, several indirect channels—heightened volatility in asset markets; new disruptions in payment, clearing, or settlement systems; and interconnections with large European banks—could adversely affect the U.S. economy and financial system.

Funding risks at domestic banks and broker-dealers are low, but structural vulnerabilities persist at some money market funds (MMFs), bond funds, and stablecoins. Banks relied only modestly on short-term wholesale funding, and the share of high-quality liquid assets at banks remained historically high. Assets under management at prime and tax-exempt MMFs have continued to decline, but these funds remain a structural vulnerability due to their susceptibility to runs. In December 2021, the Securities and Exchange Commission proposed reforms to MMFs, including the adoption of swing pricing for certain fund types, increased liquidity requirements, and other measures meant to make them more resilient to redemptions. The Russian invasion of Ukraine does not appear to have left a material imprint on broader short-term funding markets. Trading conditions in those markets have been stable, issuance continued, and spreads remained well below the levels reached in March 2020. Although depth in markets for Treasury securities and some commodity and equity derivatives has been low by historical standards, those markets have functioned normally after the initial shock to the nickel market. Elevated market volatility—particularly in commodity markets—caused central counterparties (CCPs) to make larger margin calls. To date, clearing members have

(continued)

been able to meet these margin calls, and, in general, CCPs effectively managed the increased risks and higher trading volumes.

The aggregate value of stablecoins—digital assets that aim to maintain a stable value relative to a national currency or other reference assets—grew rapidly over the past year to more than $180 billion in March 2022. The stablecoin sector remained highly concentrated, with the three largest stablecoin issuers—Tether, USD Coin, and Binance USD—constituting more than 80 percent of the total market value. The collapse in the value of certain stablecoins and recent strains experienced in markets for other digital assets demonstrate the fragility of such structures. More generally, stablecoins that are not backed by safe and sufficiently liquid assets and are not subject to appropriate regulatory standards create risks to investors and potentially to the financial system, including susceptibility to potentially destabilizing runs. These vulnerabilities may be exacerbated by a lack of transparency regarding the riskiness and liquidity of assets backing stablecoins. In addition, the increasing use of stablecoins to meet margin requirements for levered trading in other cryptocurrencies may amplify volatility in demand for stablecoins and heighten redemption risks. The President's Working Group on Financial Markets, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency have made recommendations to address prudential risks posed by stablecoins.

A routine survey of market contacts on salient shocks to financial stability highlights several important risks. Stresses in Europe related to Russia's invasion of Ukraine or in emerging markets could spill over to the United States. In addition, higher or more persistent inflation and greater-than-expected increases in interest rates could negatively affect domestic economic activity, asset prices, credit quality, and financial conditions more generally. As concerns over cyber risk have increased, U.S. government agencies and their private-sector partners have been stepping up their efforts to protect the financial system and other critical infrastructures. These risks, if realized, could interact with financial vulnerabilities and pose additional risks to the U.S. financial system.

Invasion of Ukraine and Commodity Markets

Russia's invasion of Ukraine and subsequent international sanctions disrupted global trade in commodities, leading to surging prices and heightened volatility in agriculture, energy, and metals markets. These markets include spot and forward markets for physical commodities as well as futures, options, and swaps markets that involve an array of financial intermediaries and infrastructures. Stresses in financial markets linked to commodities could disrupt the efficient production, processing, and transportation of commodities by interfering with the ability of commodity producers, consumers, and traders to hedge risks. Such stresses can also increase liquidity and credit risks for financial institutions that are active in commodity markets. To date, however, financial market stresses do not appear to have exacerbated the negative effects on broader economic activity or created substantial pressure on key financial intermediaries, including banks. Since the invasion, for most commodities, futures trading volumes and open interest—the number of contracts outstanding at the end of the day—have remained in normal ranges.

at low levels since then. Market depth based on the S&P 500 futures is below pre-pandemic levels and currently in the bottom decile of its historical distribution since 2018.

Short-term funding market conditions remained stable . . .

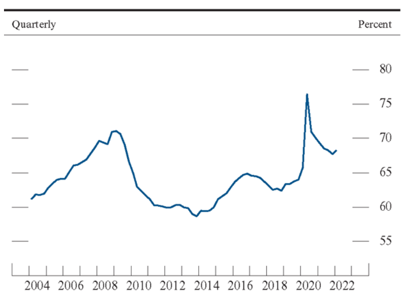
Conditions in money markets have been stable and orderly. Increases in the target range for the federal funds rate fully passed through to market overnight rates. The effective federal funds rate and other unsecured overnight rates have been a few basis points below the interest rate on reserve balances since late February. The Secured Overnight Financing Rate has been at or below the offering rate at the overnight reverse repurchase agreement (ON RRP) facility, given ample liquidity and a limited supply of Treasury bills. Softness in repurchase agreement rates contributed to ongoing increases in ON RRP take-up, which reached an average of around $2.1 trillion per day in June. Russia's invasion of Ukraine does not appear to have left a material imprint in the broad U.S. dollar funding markets to date. In late February and early March, spreads on some longer-tenor commercial paper and negotiable certificates of deposit increased notably amid uncertainties around monetary policy tightening and Russia's invasion of Ukraine. These spreads have broadly narrowed since mid-March.

Weighted average maturities for money market funds (MMFs) stand at low levels, as MMFs tend to adjust their portfolios toward shorter-tenor instruments to position for rising interest rates around monetary policy tightening cycles.

Bank credit expanded in the first quarter amid strong loan demand

Strong loan growth pushed the ratio of bank credit to GDP higher in the first quarter (figure 38). The acceleration in growth was broad based, with balance growth accelerating for most major loan categories. Growth was particularly strong for commercial and industrial and credit card loans, for which

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.

demand continued to strengthen in the first quarter according to the April 2022 Senior Loan Officer Opinion Survey on Bank Lending Practices. More recently, loan growth moderated somewhat in May amid higher rates and a more uncertain economic outlook but remained strong. Bank profitability also remained strong but fell somewhat in the first quarter, in part as a result of declines in investment banking revenue and the fading boost to profitability from the release in previous quarters of loan loss reserves accumulated in 2020 (figure 39). Nevertheless, higher interest rates and strong loan demand are expected to support bank profitability in the near term. Delinquency rates on bank loans remained low.

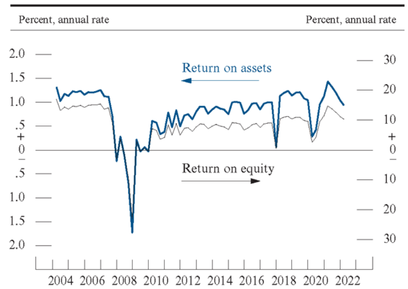
International Developments

Economic activity continued to recover abroad . . .

Economic activity continued to recover in many foreign economies in the first quarter, albeit at a slower pace than last year's strong performance. The still-robust growth in many foreign economies reflected the recovery in many parts of the world from previous pandemic shocks amid progress on vaccinations and a greater ability to cope with outbreaks without extensive lockdowns. Moreover, unemployment rates in many advanced foreign economies (AFEs) continued to decline and are now below their pre-pandemic levels (figure 40).

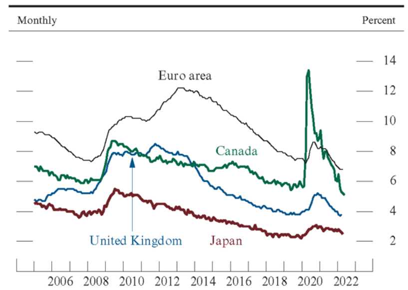
More recently, headwinds from the war in Ukraine and COVID-19 lockdowns in China weighed on the foreign recovery. The slowing of activity has been particularly sharp in China, with recent indicators plunging amid COVID-related mobility restrictions. In Europe, recent indicators also show a sharp slowing, reflecting lower real incomes, reduced confidence of households and businesses in the economy, and continued supply chain disruptions.

39. Profitability of bank holding companies



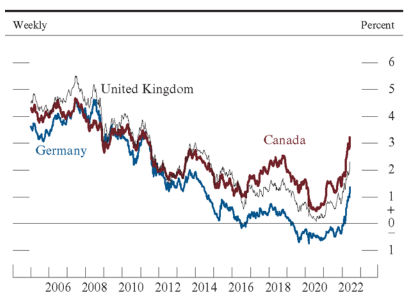
NOTE: The data are quarterly.
SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Holding Companies.

40. Unemployment rate in selected advanced foreign economies



NOTE: The data for the United Kingdom extend through March 2022 and are centered 3-month averages of monthly data. The data for the euro area and Japan extend through April 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.

41. Nominal 10-year government bond yields in selected advanced foreign economies



Note: The data are weekly averages of daily benchmark yields and extend through June 10, 2022.
Source: Bloomberg.

. . . while foreign inflation remained on the rise in most economies . . .

As in the United States, inflation in many foreign economies has continued to rise. Soaring energy prices have remained a major driver of higher inflation in AFEs, and rising food prices accounted for most of the increase in inflation in emerging market economies (EMEs). Food and energy price rises have made up the bulk of the increase, though supply chain disruptions have contributed as well, and inflationary pressures have broadened as elevated input costs are increasingly passed through to prices of goods and services. (See the box “Global Inflation.”)

. . . and many foreign central banks are tightening monetary policy

In response to elevated inflation and broadening price pressures, many AFE central banks increased policy rates, and some started to reduce the size of their balance sheets. Concerns over the persistence of inflationary pressures led several EME central banks, primarily those in Latin America, to raise their policy rates further. Several central banks in emerging Asia, where inflation had been more subdued but has recently begun to rise, also started to raise policy rates. (See the box “Monetary Policy in Foreign Economies.”)

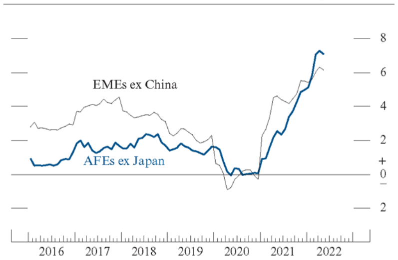
Financial conditions abroad tightened since the beginning of the year . . .

As central banks raised interest rates or signaled that they would do so soon, market-based policy expectations and sovereign bond yields rose significantly in many AFEs (figure 41). The rise in sovereign bond yields reflects increases in both real yields, arising from less accommodative central bank communications, and inflation compensation. Since the start of the year, short- and medium-term inflation compensation measures in the euro area rose more than in many other AFEs, reflecting the region’s larger exposure to the inflationary pressures stemming from Russia’s invasion of Ukraine. Sovereign bond

Global Inflation

Over the past year, inflation increased rapidly in many foreign economies, reflecting soaring commodity prices, pandemic-related supply disruptions, and imbalances between demand for goods and services (figure A). More recently, the war in Ukraine and the renewals of COVID-19 lockdowns in China have amplified inflationary pressures, particularly through higher food and energy prices.

A. 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 U.S. goods imports. The emerging market economy (EME) aggregate is the average of Brazil, Chile, Colombia, Hong Kong, India, Indonesia, Malaysia, Mexico, Philippines, Singapore, South Korea, Taiwan, and Thailand, weighted by U.S. goods imports. The inflation measure is the Harmonised Index of Consumer Prices for the euro area and the consumer price index for other economies.
Source: Haver Analytics.

The recent surge in foreign inflation was mainly concentrated in volatile components, such as food and energy prices, with these components contributing much more to inflation in recent months than in pre-pandemic years (figure B). In particular, energy prices accounted for almost half of the 12-month headline inflation rate for the advanced foreign economies (AFEs) in April. Meanwhile, food prices are driving inflation in emerging market economies, largely due to the war and its threat to already fragile food security in these economies.

Price pressures have recently broadened to core inflation, as elevated input costs have been increasingly passed through to prices of goods and services that have not been directly affected by supply disruptions and soaring commodity prices. This broadening of inflationary pressure is reflected in increases in the share of categories of core goods and services prices rising more than 3 percent in most major AFEs (figure C). Furthermore, the rebalancing of demand away from goods toward services—which would have reduced upward pressures on prices of goods—has been slower than expected so far, contributing to the persistence of inflation pressures.

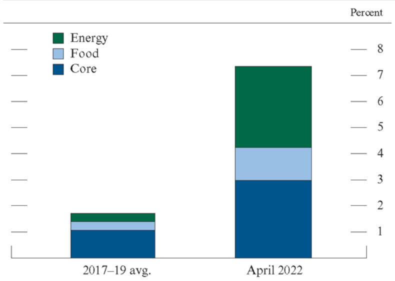
Persistent and widening price pressures are also evident in increases in market- and survey-based inflation expectations, although these expectations generally remain anchored in historical ranges (figure D). Even though such increases in inflation expectations might be a welcome development for economies such as Japan and the euro area that have experienced persistently below-target inflation in recent decades, many foreign central banks have been tightening monetary policy amid broadened price pressures and tight labor markets.

(continued on next page)

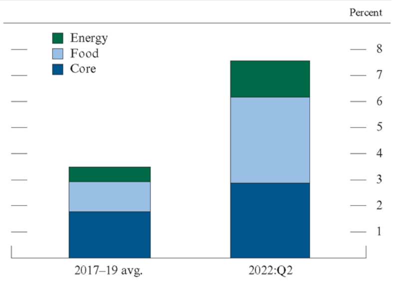
Global Inflation *(continued)*

B. Foreign consumer price inflation components

Advanced foreign economies ex Japan



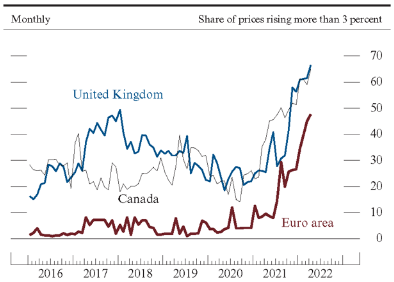
Emerging market economies ex China



Note: The advanced foreign economy (AFE) aggregate is the average of Canada, the euro area, and the United Kingdom, weighted by U.S. goods imports. The emerging market economy (EME) aggregate is the average of Argentina, Brazil, Chile, Colombia, Hong Kong, India, Israel, Mexico, Russia, Saudi Arabia, Singapore, South Korea, and the 5 original member countries of the Association of Southeast Asian Nations, weighted by U.S. goods imports. The inflation measure is the Harmonised Index of Consumer Prices for the euro area and the consumer price index for other economies. The key identifies bars in order from top to bottom. The data are 12-month percent changes for AFEs and 4-quarter percent changes for EMEs.

Source: Haver Analytics.

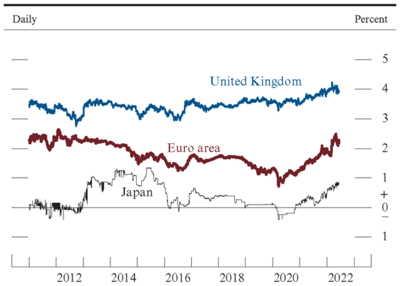
C. Diffusion index for foreign core prices



Note: The data use the 12-month rise in prices. The prices of items are weighted according to their usual weights in the consumer price index and the Harmonised Index of Consumer Prices. The data extend through April 2022.

Source: Haver Analytics; Federal Reserve Board staff calculations.

D. 5-to-10-year inflation swaps



Note: The euro-area and United Kingdom data have been adjusted using an interpolated price index to mitigate rollover jumps at month-ends. The United Kingdom's inflation swaps are based on the retail price index (RPI). RPI inflation is, on average, 75 to 100 basis points higher than consumer price index inflation. The data are at a business-day frequency.

Source: Bloomberg; Haver Analytics; Federal Reserve Board staff calculations.

Monetary Policy in Foreign Economies

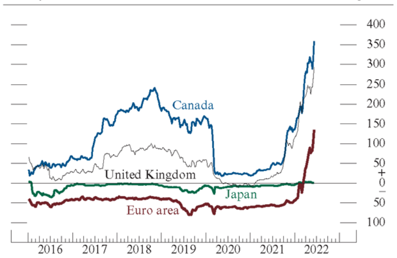
With inflation rising sharply across the globe, central banks have broadly shifted toward tighter monetary policy. Policy tightening started last year, as some emerging market central banks—particularly those in Latin America—increased policy rates out of concern that sharp increases in inflation could become entrenched in inflation expectations. Among the advanced foreign economies (AFEs), central banks of some smaller economies (New Zealand and Norway) with particularly strong recoveries were the first to hike their policy rates last autumn, while policy expectations for some major AFE central banks began to rise sharply (figure A).

Last December, the Bank of England (BOE) raised its policy rate from 0.1 percent to 0.25 percent, citing a strong labor market and rising inflation. This year, with U.K. inflation picking up more sharply, the BOE followed with additional rate hikes in subsequent meetings, taking its policy rate to 1 percent in May. The Bank of Canada (BOC) began raising its policy rate in March with a 25 basis point hike. In response to sharply higher inflation and the view that economic slack in the Canadian economy had been absorbed, the BOC followed with hikes of 50 basis points each in April and June, bringing the policy rate to 1.5 percent. As inflation concerns grew more widespread, the Reserve Bank of Australia (RBA) and the Swedish Riksbank pivoted sharply to hike rates in May, and the European Central Bank (ECB) recently stated that it intends to start raising its policy rate in July.

Supporting the overall thrust toward tighter global monetary policy, several AFE central banks that had expanded their balance sheets over the past two years are now allowing them to shrink. In recent months, the BOE, the BOC, the RBA, and the Swedish Riksbank have begun to shrink their balance sheets by stopping full reinvestments of maturing government bond holdings. The BOE has indicated that it will consider accelerating the pace of balance sheet reduction by selling U.K. government bonds; it will provide an update in August on a strategy for possible future bond sales. After tapering its purchases in recent months, the ECB announced it will end net asset purchases as of July 1.

Not all major foreign central banks have been tightening monetary policy. The Bank of Japan (BOJ) has maintained its overnight policy rate at negative 0.1 percent, given its outlook that Japanese inflation will remain subdued in the medium term. The BOJ also vowed to continue purchasing Japanese government bonds to defend its current yield curve control target band around 0 percent for the 10-year nominal yield. In addition, the People's Bank of China recently increased its monetary stimulus through reductions in reserve requirement ratios and some key benchmark interest rates amid a weakening of economic activity in China.

A. 12-month policy expectations for selected advanced foreign economies



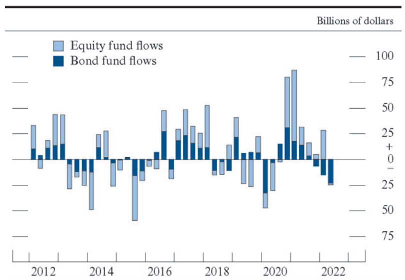
NOTE: The data are weekly averages of daily 12-month market-implied central bank policy rates. The 12-month policy rates are implied by quotes on overnight index swaps tied to the policy rates. The data extend through June 10, 2022.

SOURCE: Bloomberg; Federal Reserve Board staff estimations.

42. Equity indexes for selected foreign economies

Note: The data are weekly averages of daily data and extend through June 10, 2022.
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.)

43. Emerging market mutual fund flows



Note: The bond and equity fund flows data are quarterly sums of weekly data from December 29, 2011, to June 8, 2022. Weekly data span Thursday through Wednesday, and the quarterly values are sums over weekly data for weeks ending in that quarter. The fund flows data exclude funds located in China.
Source: EPFR Global.

spreads over German bund yields for euro-area peripheral countries recently widened significantly. These moves partially retraced following an unscheduled meeting of the European Central Bank (ECB) on June 15, where the ECB indicated that it would take action to address potential fragmentation in euro-area sovereign bond markets.

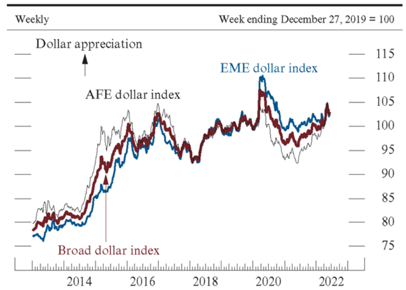
Concerns about persistently high inflation and associated monetary policy tightening across countries, as well as Russia's invasion of Ukraine and COVID lockdowns in China, weighed on foreign risky asset prices (figure 42). Equities in many AFEs have declined since the beginning of the year. Equity declines were particularly strong in the euro area, given the region's trade and financial linkages to Russia and concerns over the possibility of the conflict spreading to other parts of Europe. Euro-area corporate bond spreads have widened since the beginning of the year and are well above their pre-pandemic levels.

Financial conditions in EMEs have tightened since the beginning of the year but are not particularly tight relative to historical norms. EME-dedicated funds have experienced net outflows so far this quarter, reversing the inflows in the first quarter of this year (figure 43). Outflows have been concentrated in Asia, especially China. Since Russia's invasion of Ukraine, investment funds that focus on emerging Europe have experienced particularly rapid outflows. EME sovereign bond spreads widened considerably. European emerging market equities and Chinese equities declined significantly, the latter amid COVID-related lockdowns and related supply chain constraints as well as continued regulatory uncertainty. Latin American equities, supported in part by rising commodity prices, declined by less than other emerging markets.

. . . and the dollar appreciated notably

Since the beginning of the year, the broad dollar index—a measure of the trade-weighted value of the dollar against foreign currencies—has risen notably amid safe-haven flows and increases in U.S. yields (figure 44). The dollar appreciated more against AFE currencies than EME currencies, as rising commodity prices supported Latin American currencies. The Chinese renminbi depreciated against the dollar amid growth concerns related to the lockdowns in China and weaker-than-expected Chinese data releases. Among AFE currencies, the dollar appreciated particularly strongly against the Japanese yen, largely reflecting the widening U.S.–Japanese yield differential.

44. U.S. dollar exchange rate indexes



Note: The data, which are in foreign currency units per dollar, are weekly averages of daily values of the broad dollar index, advanced foreign economies (AFE) dollar index, and emerging market economies (EME) dollar index. The weekly data extend through June 10, 2022. As indicated by the leftmost arrow, increases in the data reflect U.S. dollar appreciation and decreases reflect U.S. dollar depreciation.

Source: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

Part 2
Monetary Policy

The Federal Open Market Committee has swiftly raised the target range for the federal funds rate and anticipates that ongoing increases in the target range will be appropriate

With inflation far too high, well above the Federal Open Market Committee's (FOMC) 2 percent objective, and with tight labor market conditions, the Committee raised the target range for the federal funds rate off the effective lower bound in March. The Committee continued to raise the target range in May and June, bringing it to 1½ to 1¾ percent following the June meeting (figure 45). The Committee has also indicated that it anticipates that ongoing increases in the target range will be appropriate.

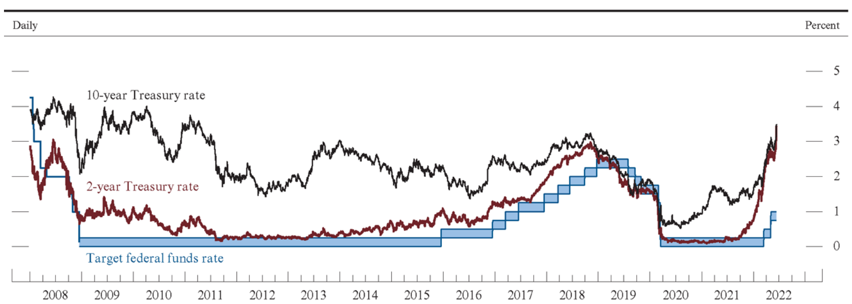
The Committee ceased net purchases of Treasury securities and agency mortgage-backed securities in early March and began the process of significantly reducing its securities holdings on June 1

Reflecting the need to firm the stance of monetary policy amid elevated inflation and tight labor market conditions, the Committee ended net asset purchases in early March and announced its plans for significantly reducing the size of the Federal Reserve's balance sheet in May.[13] Consistent with the Principles for Reducing the Size of the Federal Reserve's Balance Sheet that were issued in January, the May statement outlined the Committee's intention to reduce the Federal Reserve's securities holdings over time in a predictable manner primarily by adjusting the amounts reinvested of principal payments received from securities held in the System Open Market Account (SOMA).[14] Specifically, beginning in June, principal payments from securities held in the SOMA will be reinvested to the extent that they exceed monthly caps. For Treasury securities, the cap is initially set at $30 billion per month and after three months will increase

13. See the May 4, 2022, press release regarding the Plans for Reducing the Size of the Federal Reserve's Balance Sheet, available at https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504b.htm.

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

45. 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.

to $60 billion per month. For agency debt and agency mortgage-backed securities, the cap is initially set at $17.5 billion per month and after three months will increase to $35 billion per month.

Reductions in securities holdings will slow and then stop when reserve balances are somewhat above the level the Committee judges to be consistent with efficient implementation of policy in an ample-reserves regime. 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 in an ample regime, at which point reserve management purchases of securities would likely begin to maintain ample reserves. The Committee also noted that it is 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.

The FOMC will continue to monitor the implications of incoming information for the economic outlook

The Committee 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 inflation and inflation expectations, wages, other measures of labor market conditions, financial and international developments, and public health.

In addition to considering a wide range of economic and financial data and information gathered from business contacts and other informed parties around the country, such as participants in conversations held as part of the *Fed Listens* initiative, policymakers routinely consult prescriptions for the policy interest rate provided by various monetary policy rules. These rule prescriptions can provide useful benchmarks for the FOMC. Although simple rules cannot capture the complexities of monetary policy and many practical considerations make it undesirable for the FOMC to adhere strictly to the prescriptions of any specific rule, some principles of good monetary policy can be illustrated by these policy rules (see the box "Monetary Policy Rules in the Current Environment").

Changes to the policy rate were implemented smoothly, and the size of the Federal Reserve's balance sheet was roughly stable

As in the previous tightening cycle and consistent with the implementation of monetary policy in an ample-reserves regime, the Federal Reserve used its administered rates—the interest rate on reserve balances (IORB) and the offering rate at the overnight reverse repurchase agreement (ON RRP) facility—to implement increases to the target range for the policy rate. The administered rates were effective in raising the effective federal funds rate and other short-term interest rates with the Committee's target range.

The Federal Reserve's balance sheet was roughly stable at $9 trillion, or 36 percent of U.S. nominal GDP, from February through May, and the process to significantly reduce securities holdings began on June 1 (figure 46).[15] Reserve balances have fallen from their all-time highs of a little over $4 trillion to around $3.3 trillion because of increasing take-up at the ON RRP. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets.")

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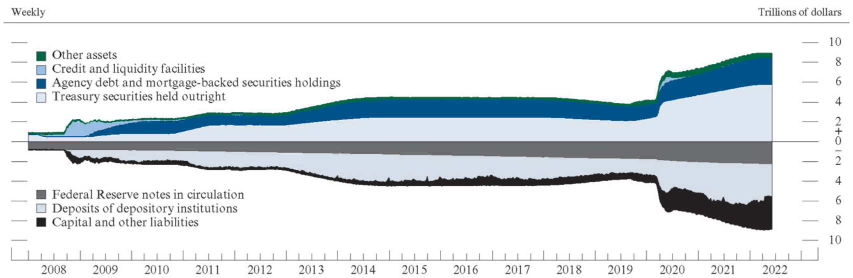
15. Although balance sheet reduction started on June 1, the actual reduction in securities holdings has been negligible thus far given the timing of principal payments.

All of the Federal Reserve's emergency credit and liquidity facilities are closed and balances have continued to decline as facilities' assets mature or prepay. A list of credit and liquidity facilities established by the Federal Reserve in response to COVID-19 is available on the Board's website at https://www.federalreserve.gov/funding-credit-liquidity-and-loan-facilities.htm.

46. 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 June 8, 2022.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

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.

Recently, inflation has run well above the Committee's 2 percent longer-run objective, the U.S. economy has been very strong, and labor market conditions have been very tight. Against this background, the simple monetary policy rules considered in this discussion have called for raising the federal funds rate significantly. Starting in March, the Federal Open Market Committee (FOMC) began raising the target range for the federal funds rate and indicated that it anticipates that ongoing increases in the target range will be appropriate. The FOMC also began the process of significantly reducing the size of the Federal Reserve's balance sheet.

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] In addition to these rules, figure A shows a "balanced-approach (shortfalls)" rule, which represents one simple way to illustrate the Committee's focus on shortfalls from maximum employment.[2] These rules 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. The FOMC's revised Statement on Longer-Run Goals and Monetary Policy Strategy, released in August 2020, refers 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 prescribing policy rates identical to those prescribed by the balanced-approach rule at times when the unemployment rate is above its estimated longer-run level. However, when the unemployment rate is below that level, the balanced-approach (shortfalls) rule is more accommodative than the balanced-approach rule because it does not call for the policy rate to rise as the unemployment rate drops further.

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 are 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 $t-1$, π_t is the 4-quarter price inflation for quarter t, u_t is the unemployment rate in quarter t, and r_t^{LR} is the level of the neutral real federal funds rate in the longer run that is expected to be consistent with sustaining maximum employment and inflation at the Federal Open Market Committee's 2 percent longer-run objective, represented by π^{LR}. In addition, u_t^{LR} is the rate of unemployment expected in the longer run. Z_t is the cumulative sum of past deviations of the federal funds rate from the prescriptions of the Taylor (1993) rule when that rule prescribes setting the federal funds rate below an effective lower bound (ELB) of 12.5 basis points.

The Taylor (1993) rule and other policy rules 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 personal consumption expenditures (PCE) inflation rather than to headline PCE inflation because current and near-term core inflation rates tend to outperform headline inflation rates as predictors of the medium-term behavior of headline inflation.

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.

Selected Policy Rules: Prescriptions

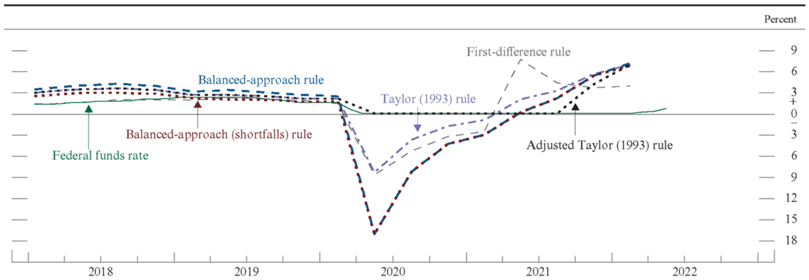
Figure B shows historical prescriptions for the federal funds rate under the five simple rules considered. For each quarterly period, the figure reports the policy rates prescribed by the rules, taking as given the prevailing economic conditions and survey-based estimates of u_t^{LR} and r_t^{LR} at the time. All of the rules considered called for a highly accommodative stance for monetary policy in response to the pandemic-driven recession. The recent elevated inflation readings imply that the prescriptions for the federal funds rate of simple policy rules in the first quarter of 2022 are well

(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}. 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)*

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 data 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.
SOURCE: Federal Reserve Bank of Philadelphia; Wolters Kluwer, Blue Chip Economic Indicators; Federal Reserve Board staff calculations.

above their pre-pandemic levels, at between 4 percent and 7 percent. Overall, the prescriptions of all simple rules have risen notably over the past few quarters as inflation readings climbed further above 2 percent.

Policy Rules: Limitations

Simple policy rules are also subject to important limitations. One important limitation is that simple policy rules do not take into account the other tools of monetary policy, such as large-scale asset purchases. A second important limitation is that simple 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 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 in the aftermath of the pandemic-driven recession, when the lower bound on the policy rate motivated the FOMC's other policy actions to support the economy. Finally, simple policy rules generally abstract from the risk-management considerations associated with uncertainty about economic relationships and the evolution of the economy. As a result, the usefulness of simple policy rules can be limited in unusual economic circumstances.[5]

5. For example, Taylor (1993) on page 197 noted that "there will be episodes where monetary policy will need to be adjusted to deal with special factors. The Fed would need more than a simple policy rule as a guide in such cases."

Developments in the Federal Reserve's Balance Sheet and Money Markets

With the Federal Reserve's net asset purchases concluding in March, the size of the balance sheet has been roughly stable at $9 trillion since February 2022 (figures A and B). At its May 2022 meeting, the FOMC announced plans for significantly reducing the size of the Federal Reserve's balance sheet starting June 1. Balance sheet reduction, along with increases in the target range for the federal funds rate, firms the stance of monetary policy.

Despite the roughly constant total size of the balance sheet, reserves—the largest liability on the Federal Reserve's balance sheet—have continued to fall significantly since February 2022, reflecting growth in take-up at the overnight reverse repurchase agreement (ON RRP) facility (figure C).[1] In addition, the Treasury General Account (TGA)—another volatile liability—rose considerably upon larger than expected tax receipts and peaked just short of $1 trillion on June 2 before retracing the movement.

Usage at the ON RRP facility has risen $496 billion since February 2022 to stand at a record $2.2 trillion at the time of this report. Low rates on repurchase agreements—reflecting abundant liquidity in the banking system and limited Treasury bill supply—have contributed to this increasingly elevated participation.

(continued on next page)

1. Reserves consist of deposits held at Federal Reserve Banks by depository institutions, such as commercial banks, savings banks, credit unions, thrift institutions, and U.S. branches and agencies of foreign banks. Reserve balances allow depository institutions to facilitate daily payment flows, both in ordinary times and in stress scenarios, without borrowing funds or selling assets.

A. Balance sheet comparison

Billions of dollars

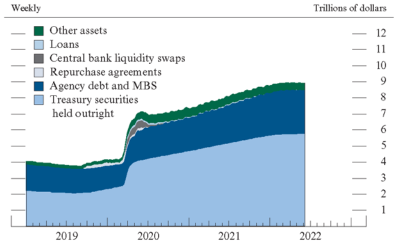
	June 8, 2022	February 16, 2022	Change
Assets			
Total securities			
Treasury securities	5,772	5,739	33
Agency debt and MBS	2,710	2,707	3
Net unamortized premiums	336	350	−14
Repurchase agreements	0	0	0
Loans and lending facilities			
PPPLF	19	28	−8
Other loans and lending facilities	37	40	−3
Central bank liquidity swaps	0	0	0
Other assets	47	48	−1
Total assets	**8,921**	**8,911**	**10**
Liabilities and capital			
Federal Reserve notes	2,227	2,185	42
Reserves held by depository institutions	3,317	3,797	−480
Reverse repurchase agreements			
Foreign official and international accounts	272	257	14
Others	2,163	1,644	519
U.S. Treasury General Account	627	709	−82
Other deposits	247	251	−5
Other liabilities and capital	69	67	1
Total liabilities and capital	**8,921**	**8,911**	**10**

Note: MBS is mortgage-backed securities. PPPLF is Paycheck Protection Program Liquidity Facility. Components may not sum to totals because of rounding.

Source: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

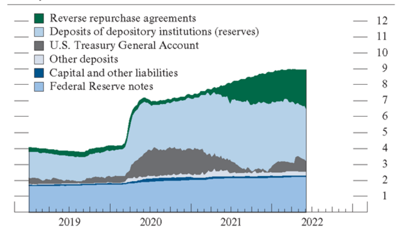
Developments in the Federal Reserve's Balance Sheet and Money Markets *(continued)*

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 June 8, 2022.
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 June 8, 2022
SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

In addition, uncertainty about the magnitude and pace of policy rate increases contributed to a preference for short-duration assets, like those provided by the ON RRP facility. 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 pre-announced offering rate. The facility continued to serve this intended purpose, and the set of administered rates—interest on reserve balances (IORB) and the ON RRP offering rate—was effective at raising and maintaining the effective federal funds rate within the target range during the policy rate adjustments that have taken place since March.

Going forward, the planned balance sheet decline will drain reserves from the banking system and add longer-duration assets, which will likely put upward pressure on short-term rates and reduce demand at the ON RRP facility. The Committee will monitor the evolution of reserves and other liabilities to ensure a smooth entry into efficient operation of monetary policy in an ample-reserves regime.

Part 3
Summary of Economic Projections

The following material was released after the conclusion of the June 14–15, 2022, meeting of the Federal Open Market Committee.

In conjunction with the Federal Open Market Committee (FOMC) meeting held on June 14–15, 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 2024 and over the longer run. Each participant's projections were based on information available at the time of the meeting, together with her or his assessment of appropriate monetary policy—including a path for the federal funds rate and its longer-run value—and assumptions about other factors likely to affect economic outcomes. The longer-run projections represent each participant's assessment of the value to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. "Appropriate monetary policy" is defined as the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her individual interpretation of the statutory mandate to promote maximum employment and price stability.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assumptions of projected appropriate monetary policy, June 2022

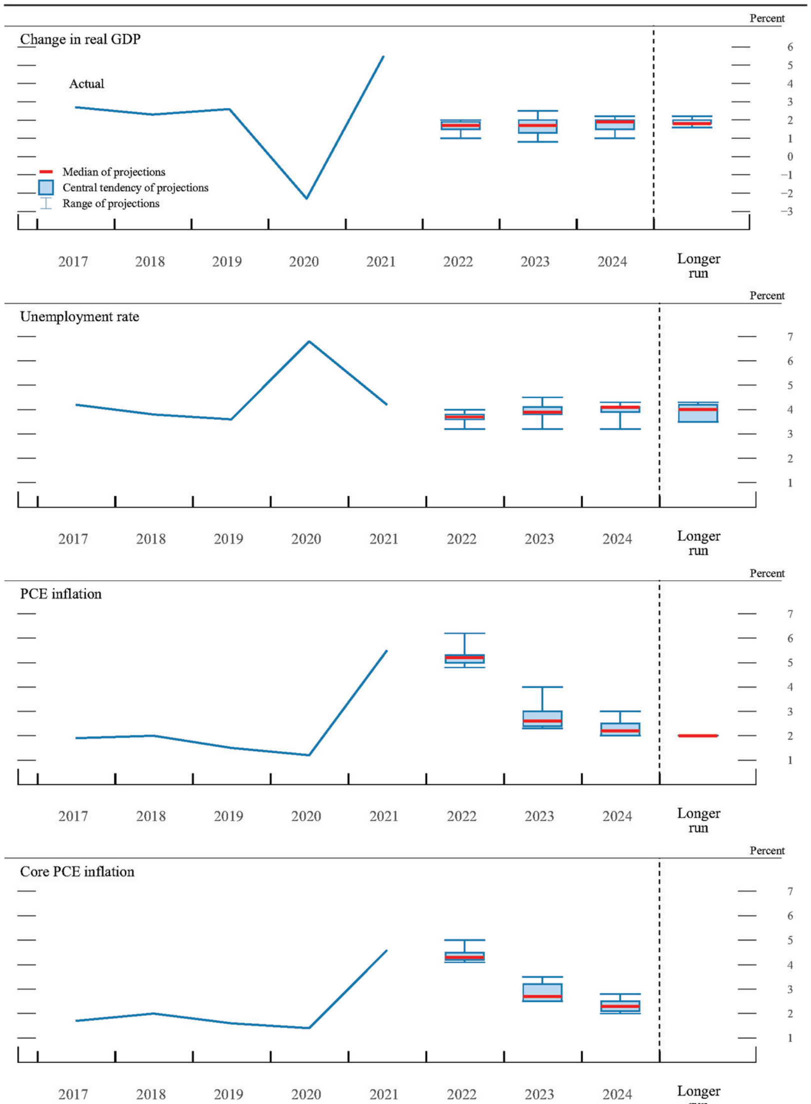
Percent

Variable	Median[1]				Central tendency[2]				Range[3]			
	2022	2023	2024	Longer run	2022	2023	2024	Longer run	2022	2023	2024	Longer run
Change in real GDP	1.7	1.7	1.9	1.8	1.5–1.9	1.3–2.0	1.5–2.0	1.8–2.0	1.0–2.0	0.8–2.5	1.0–2.2	1.6–2.2
March projection	2.8	2.2	2.0	1.8	2.5–3.0	2.1–2.5	1.8–2.0	1.8–2.0	2.1–3.3	2.0–2.9	1.5–2.5	1.6–2.2
Unemployment rate	3.7	3.9	4.1	4.0	3.6–3.8	3.8–4.1	3.9–4.1	3.5–4.2	3.2–4.0	3.2–4.5	3.2–4.3	3.5–4.3
March projection	3.5	3.5	3.6	4.0	3.4–3.6	3.3–3.6	3.2–3.7	3.5–4.2	3.1–4.0	3.1–4.0	3.1–4.0	3.5–4.3
PCE inflation	5.2	2.6	2.2	2.0	5.0–5.3	2.4–3.0	2.0–2.5	2.0	4.8–6.2	2.3–4.0	2.0–3.0	2.0
March projection	4.3	2.7	2.3	2.0	4.1–4.7	2.3–3.0	2.1–2.4	2.0	3.7–5.5	2.2–3.5	2.0–3.0	2.0
Core PCE inflation[4]	4.3	2.7	2.3		4.2–4.5	2.5–3.2	2.1–2.5		4.1–5.0	2.5–3.5	2.0–2.8	
March projection	4.1	2.6	2.3		3.9–4.4	2.4–3.0	2.1–2.4		3.6–4.5	2.1–3.5	2.0–3.0	
Memo: Projected appropriate policy path												
Federal funds rate	3.4	3.8	3.4	2.5	3.1–3.6	3.6–4.1	2.9–3.6	2.3–2.5	3.1–3.9	2.9–4.4	2.1–4.1	2.0–3.0
March projection	1.9	2.8	2.8	2.4	1.6–2.4	2.4–3.1	2.4–3.4	2.3–2.5	1.4–3.1	2.1–3.6	2.1–3.6	2.0–3.0

Note: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 15–16, 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 March 15–16, 2022, meeting, and one participant did not submit such projections in conjunction with the June 14–15, 2022, meeting.

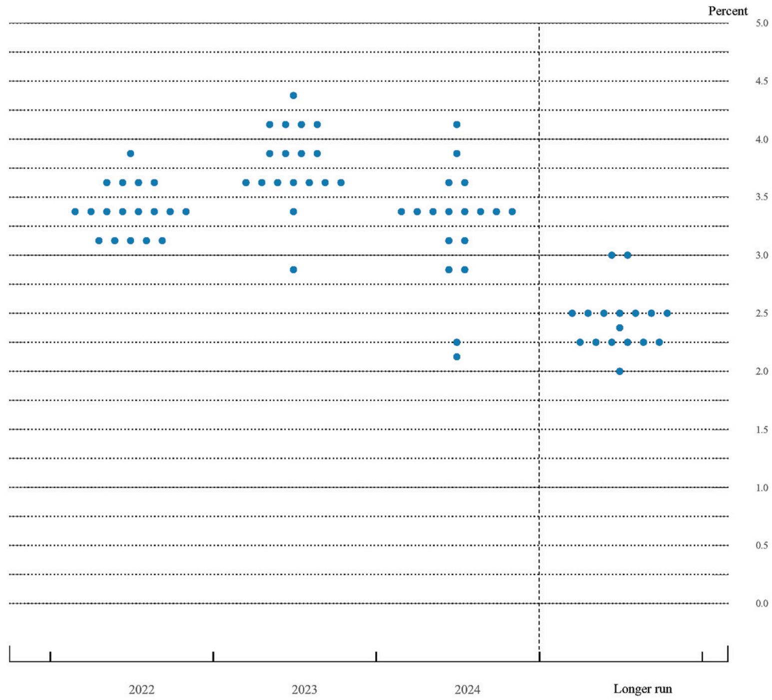
1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable 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, 2022–24 and over the longer run



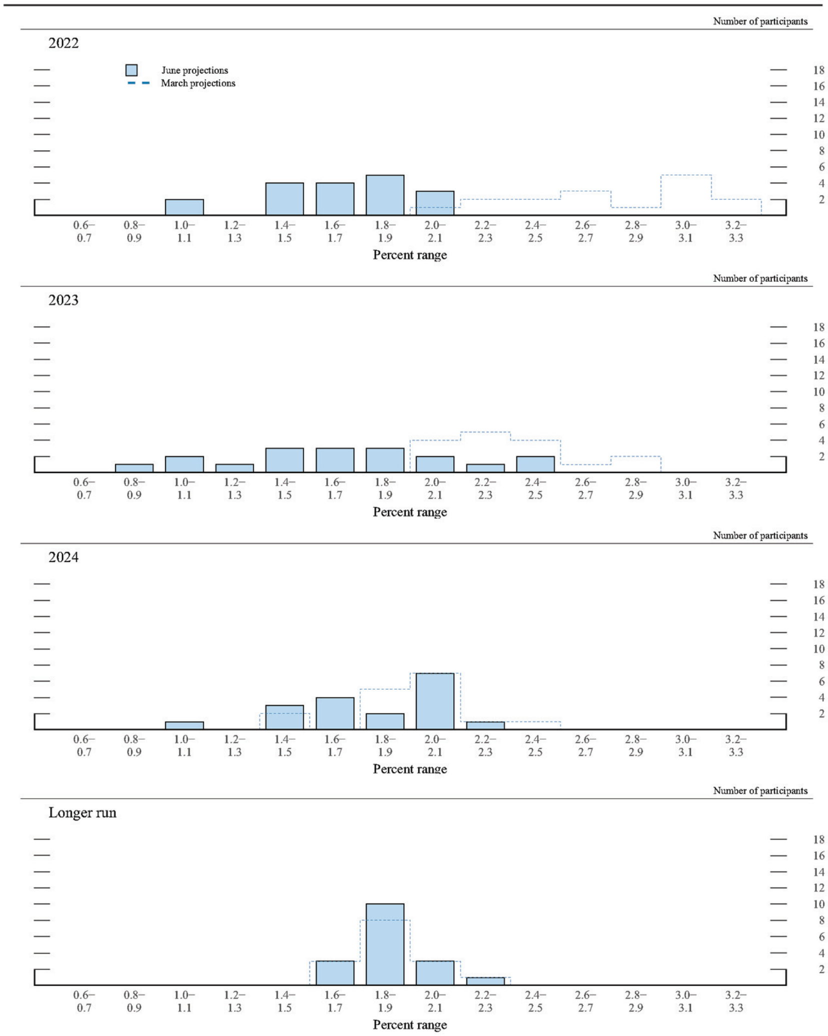
NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



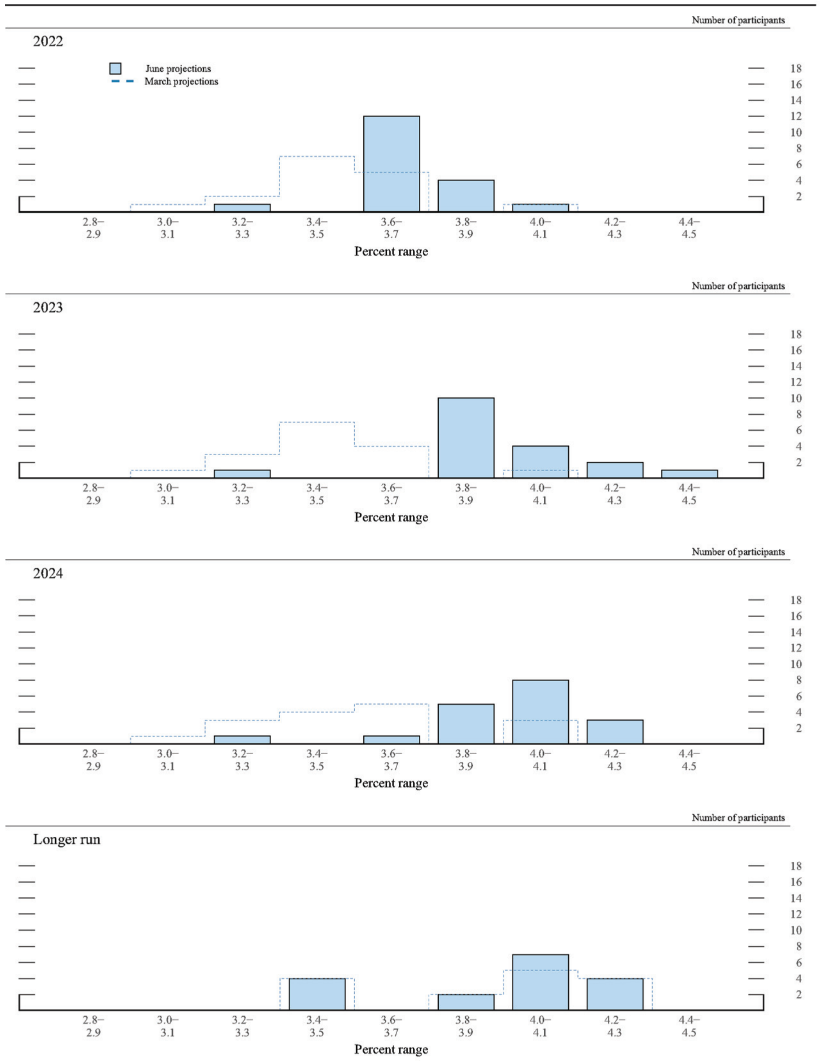
NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2022–24 and over the longer run



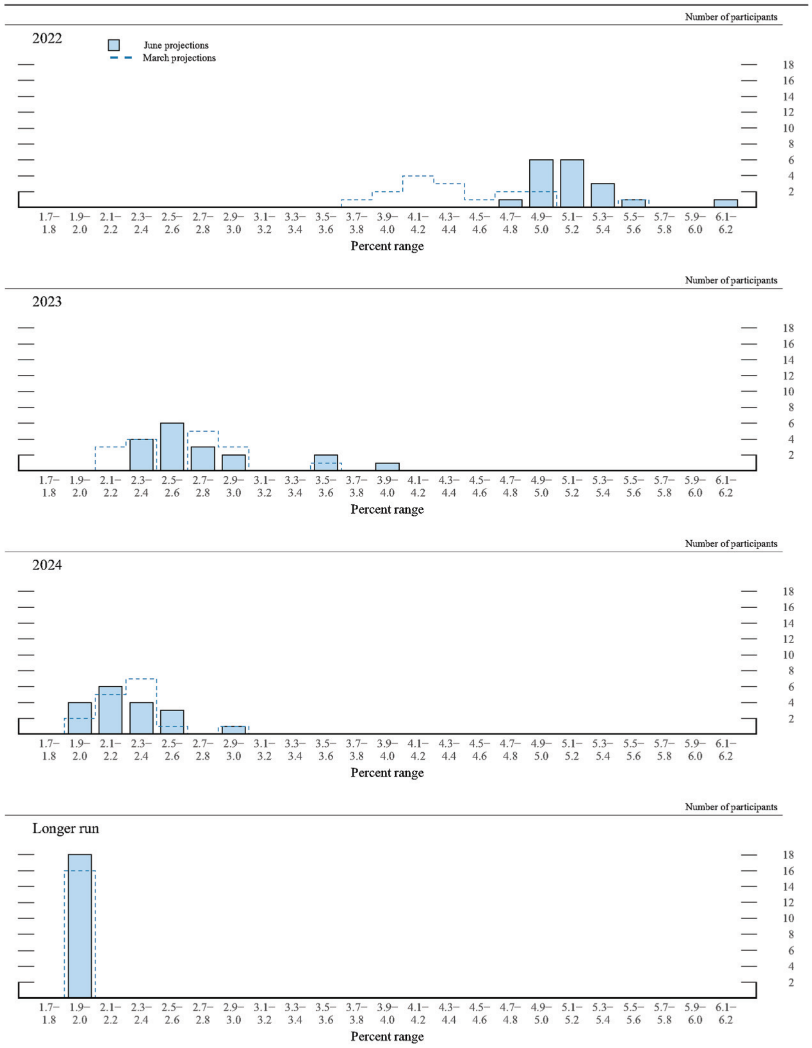
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2022–24 and over the longer run



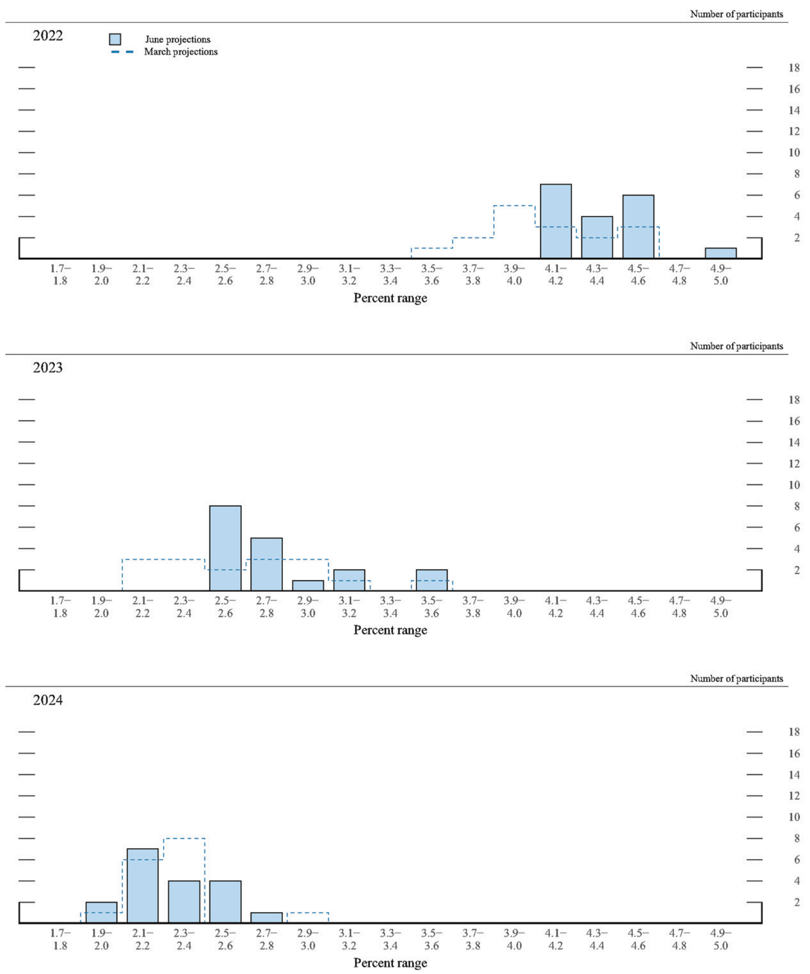
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2022–24 and over the longer run



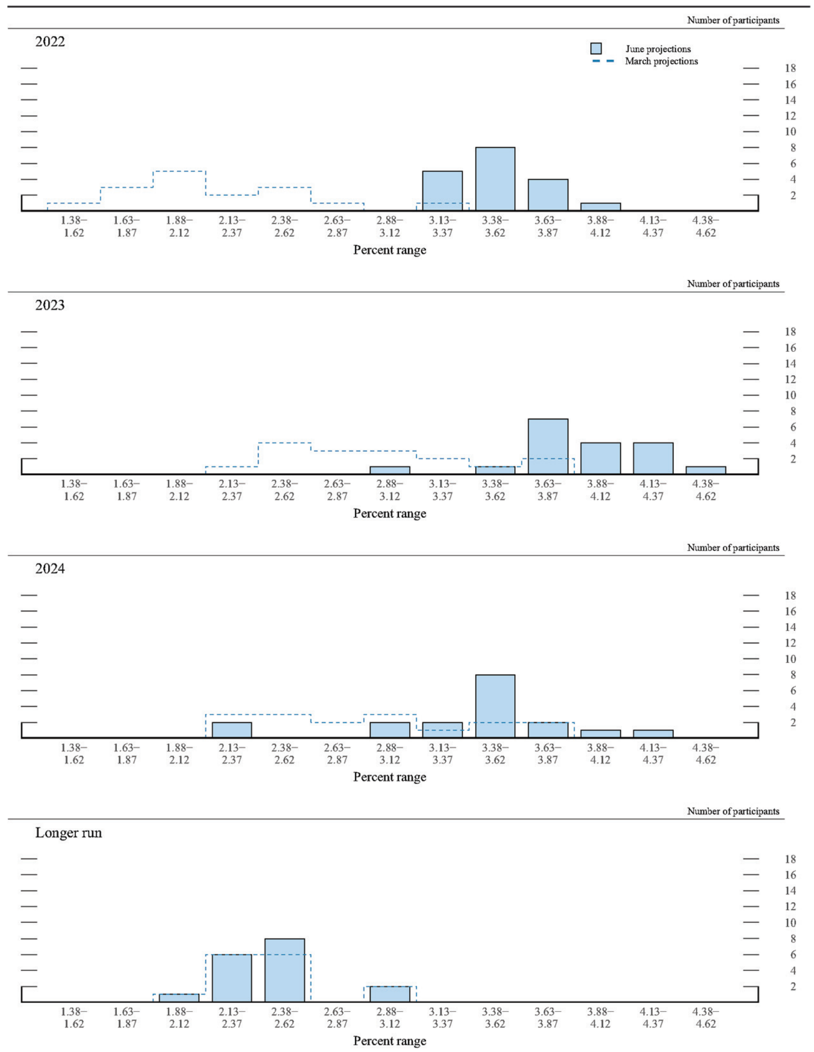
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2022–24



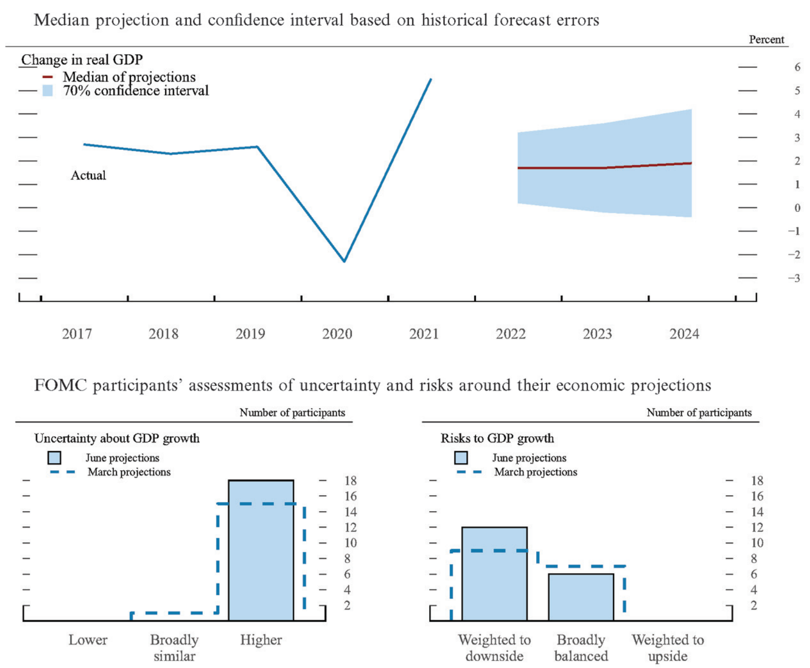
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.E. Distribution of participants' judgments of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate, 2022–24 and over the longer run



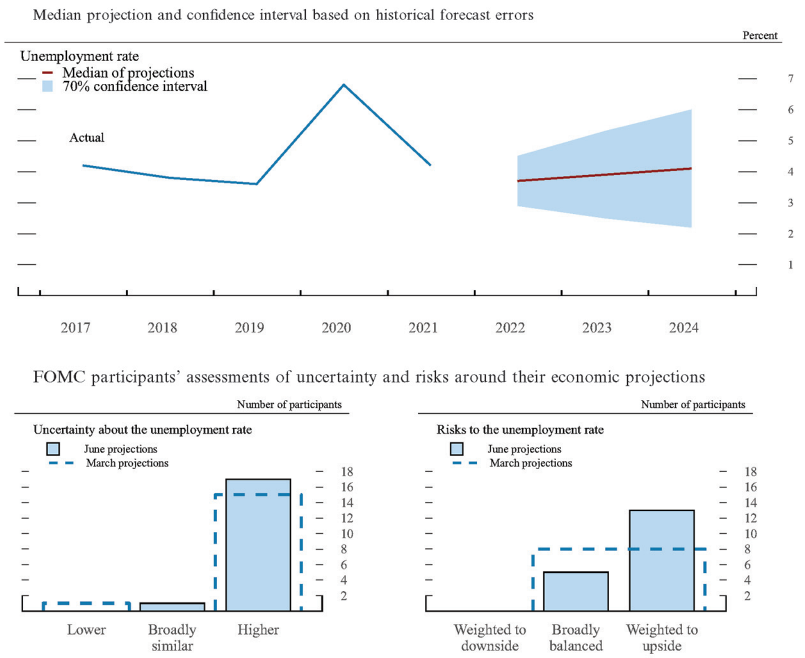
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 4.A. Uncertainty and risks in projections of GDP growth



NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in real gross domestic product (GDP) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

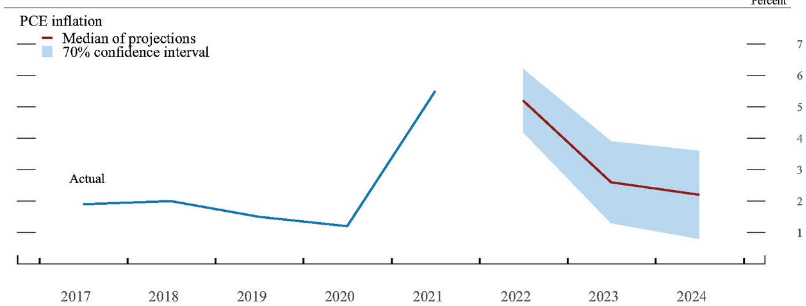
Figure 4.B. Uncertainty and risks in projections of the unemployment rate



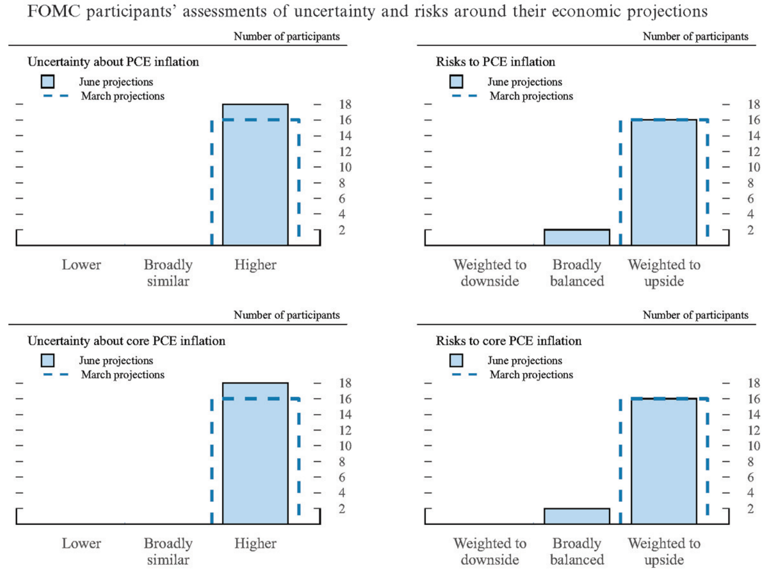
Note: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.C. Uncertainty and risks in projections of PCE inflation

Median projection and confidence interval based on historical forecast errors

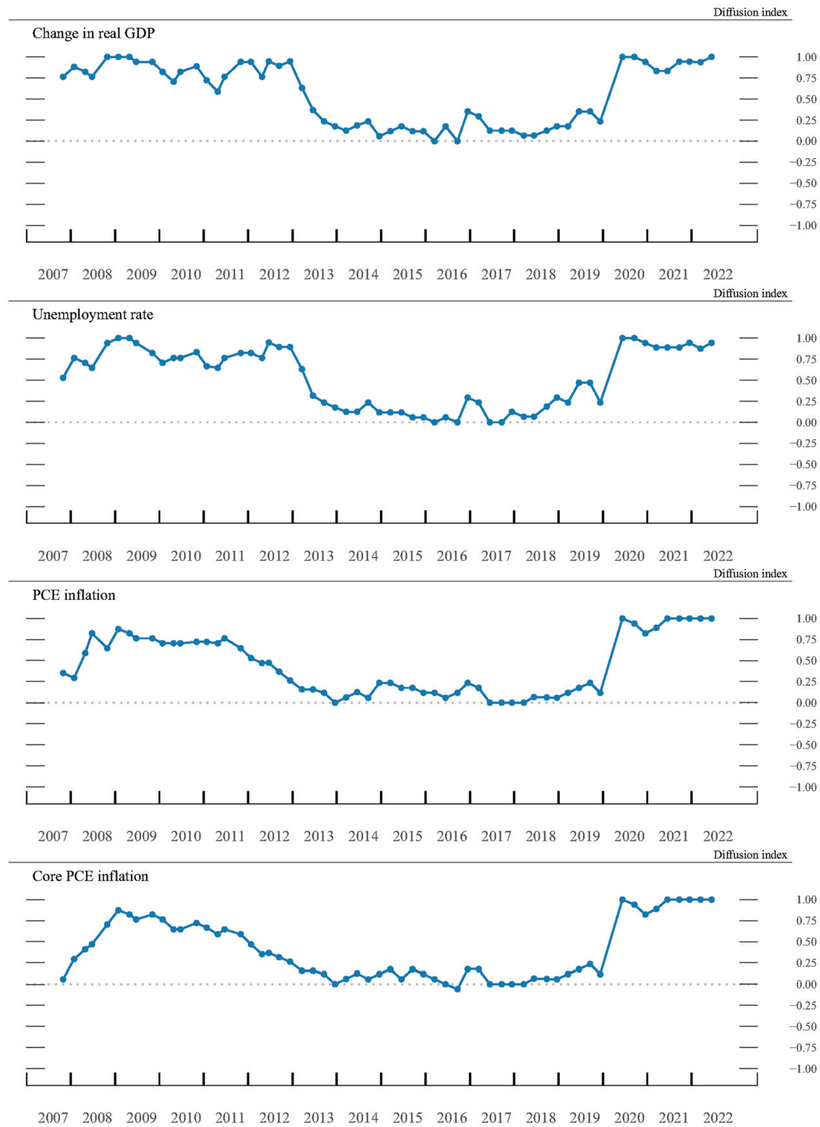


FOMC participants' assessments of uncertainty and risks around their economic projections



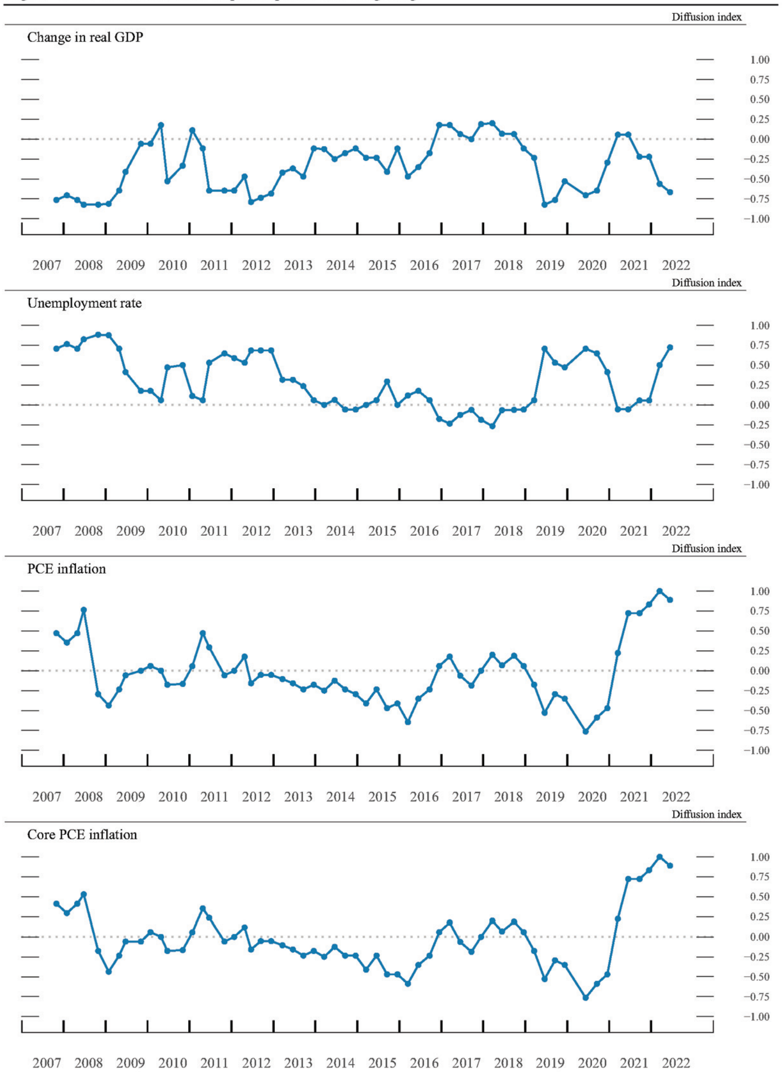
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in the price index for personal consumption expenditures (PCE) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root mean squared errors of various private and government forecasts made over the previous 20 years; more information about these data is available in table 2. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections; these current assessments are summarized in the lower panels. Generally speaking, participants who judge the uncertainty about their projections as "broadly similar" to the average levels of the past 20 years would view the width of the confidence interval shown in the historical fan chart as largely consistent with their assessments of the uncertainty about their projections. Likewise, participants who judge the risks to their projections as "broadly balanced" would view the confidence interval around their projections as approximately symmetric. For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty."

Figure 4.D. Diffusion indexes of participants' uncertainty assessments



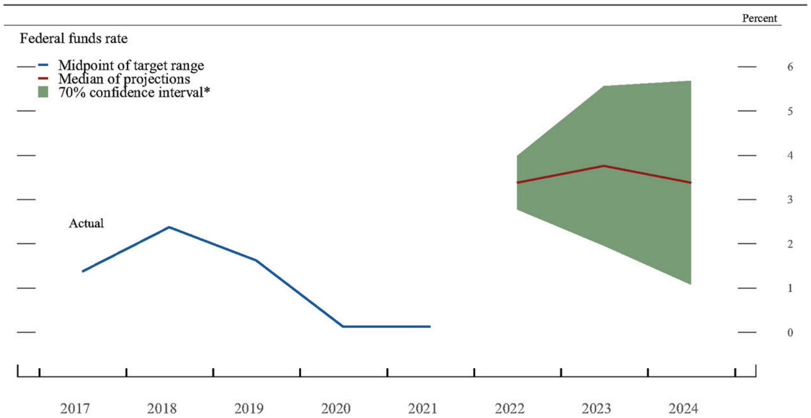
NOTE: For each SEP, participants provided responses to the question "Please indicate your judgment of the uncertainty attached to your projections relative to the levels of uncertainty over the past 20 years." Each point in the diffusion indexes represents the number of participants who responded "Higher" minus the number who responded "Lower," divided by the total number of participants. Figure excludes March 2020 when no projections were submitted.

Figure 4.E. Diffusion indexes of participants' risk weightings



Note: For each SEP, participants provided responses to the question "Please indicate your judgment of the risk weighting around your projections." Each point in the diffusion indexes represents the number of participants who responded "Weighted to the Upside" minus the number who responded "Weighted to the Downside," divided by the total number of participants. Figure excludes March 2020 when no projections were submitted.

Figure 5. Uncertainty and risks in projections of the federal funds rate



NOTE: The blue and red lines are based on actual values and median projected values, respectively, of the Committee's target for the federal funds rate at the end of the year indicated. The actual values are the midpoint of the target range; the median projected values are based on either the midpoint of the target range or the target level. The confidence interval around the median projected values is based on root mean squared errors of various private and government forecasts made over the previous 20 years. The confidence interval is not strictly consistent with the projections for the federal funds rate, primarily because these projections are not forecasts of the likeliest outcomes for the federal funds rate, but rather projections of participants' individual assessments of appropriate monetary policy. Still, historical forecast errors provide a broad sense of the uncertainty around the future path of the federal funds rate generated by the uncertainty about the macroeconomic variables as well as additional adjustments to monetary policy that may be appropriate to offset the effects of shocks to the economy.

The confidence interval is assumed to be symmetric except when it is truncated at zero - the bottom of the lowest target range for the federal funds rate that has been adopted in the past by the Committee. This truncation would not be intended to indicate the likelihood of the use of negative interest rates to provide additional monetary policy accommodation if doing so was judged appropriate. In such situations, the Committee could also employ other tools, including forward guidance and large-scale asset purchases, to provide additional accommodation. Because current conditions may differ from those that prevailed, on average, over the previous 20 years, the width and shape of the confidence interval estimated on the basis of the historical forecast errors may not reflect FOMC participants' current assessments of the uncertainty and risks around their projections.

* The confidence interval is derived from forecasts of the average level of short-term interest rates in the fourth quarter of the year indicated; more information about these data is available in table 2. The shaded area encompasses less than a 70 percent confidence interval if the confidence interval has been truncated at zero.

Table 2. Average historical projection error ranges
Percentage points

Variable	2022	2023	2024
Change in real GDP[1]	± 1.5	± 1.9	± 2.3
Unemployment rate[1]	± 0.8	± 1.4	± 1.9
Total consumer prices[2]	± 1.0	± 1.3	± 1.4
Short-term interest rates[3]	± 0.6	± 1.8	± 2.3

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 summer by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, consumer prices, and the federal funds rate will be in ranges implied by the average size of projection errors made in the past. For more information, see David 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 Report*s and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee (FOMC). The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.5 to 4.5 percent in the current year, 1.1 to 4.9 percent in the second year, and 0.7 to 5.3 percent in the third year. The corresponding 70 percent confidence intervals for overall inflation would be 1.0 to 3.0 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 year. Figures 4.A through 4.C illustrate these confidence bounds in "fan charts" that are symmetric and centered on the medians of FOMC participants' projections for GDP growth, the unemployment rate, and inflation. However, in some instances, the risks around the projections may not be symmetric. In particular, the unemployment rate cannot be negative; furthermore, the risks around a particular projection might be tilted to either the upside or the downside, in which case the corresponding fan chart would be asymmetrically positioned around the median projection.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each economic variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty seen in the past 20 years, as presented in table 2 and reflected in the widths of the confidence intervals shown in the top panels of figures 4.A through 4.C. Participants' current assessments of the uncertainty surrounding their projections are summarized in the bottom-left panels

(continued)

of those figures. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, while the symmetric historical fan charts shown in the top panels of figures 4.A through 4.C imply that the risks to participants' projections are balanced, participants may judge that there is a greater risk that a given variable will be above rather than below their projections. These judgments are summarized in the lower-right panels of figures 4.A through 4.C.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward. The final line in table 2 shows the error ranges for forecasts of short-term interest rates. They suggest that the historical confidence intervals associated with projections of the federal funds rate are quite wide. It should be noted, however, that these confidence intervals are not strictly consistent with the projections for the federal funds rate, as these projections are not forecasts of the most likely quarterly outcomes but rather are projections of participants' individual assessments of appropriate monetary policy and are on an end-of-year basis. However, the forecast errors should provide a sense of the uncertainty around the future path of the federal funds rate generated by the uncertainty about the macroeconomic variables as well as additional adjustments to monetary policy that would be appropriate to offset the effects of shocks to the economy.

If at some point in the future the confidence interval around the federal funds rate were to extend below zero, it would be truncated at zero for purposes of the fan chart shown in figure 5; zero is the bottom of the lowest target range for the federal funds rate that has been adopted by the Committee in the past. This approach to the construction of the federal funds rate fan chart would be merely a convention; it would not have any implications for possible future policy decisions regarding the use of negative interest rates to provide additional monetary policy accommodation if doing so were appropriate. In such situations, the Committee could also employ other tools, including forward guidance and asset purchases, to provide additional accommodation.

While figures 4.A through 4.C provide information on the uncertainty around the economic projections, figure 1 provides information on the range of views across FOMC participants. A comparison of figure 1 with figures 4.A through 4.C shows that the dispersion of the projections across participants is much smaller than the average forecast errors over the past 20 years.

Abbreviations

AFE	advanced foreign economy
BOC	Bank of Canada
BOE	Bank of England
BOJ	Bank of Japan
CCP	central counterparty
COVID-19	coronavirus disease 2019
CPI	consumer price index
ECB	European Central Bank
ECI	employment cost index
EME	emerging market economy
EPOP ratio	employment-to-population ratio
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
IORB	interest rate on reserve balances
LFPR	labor force participation rate
MBS	mortgage-backed securities
MMF	money market fund
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
repo	repurchase agreement
SOMA	System Open Market Account
S&P	Standard & Poor's
TGA	Treasury General Account
USD	U.S. dollar
VIX	implied volatility for the S&P 500 index

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

JEROME H. POWELL
CHAIR

November 4, 2022

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 June 23, 2022,[1] hearing before the Committee on Financial Services. A copy also has been forwarded to the Committee for inclusion in the hearing record.

Please let me know if I may be of further assistance.

Sincerely,

Jerome H. Powell

Enclosure

[1] Questions for the record related to this hearing were received on July 25, 2022.

<u>Question for The Honorable Jerome H. Powell, Chair, Board of Governors of the Federal Reserve System, from Representative Timmons:</u>

1. **I have seen anecdotal evidence that duplicate presentment of checks -- unique checks that are cashed more than once -- has risen, and continues to rise, given the advent and adoption of remote deposit capture. I am particularly concerned that incidents of fraud spike when direct government support is provided through checks, as in the case of some Economic Impact Payments. The American Banker identified this as a $500M problem in 2010, so one can only imagine the amount of fraud in 2022.**

   Fraud facilitated by remote deposit capture can be a problem for taxpayers and banks, and is certainly a problem for money-services businesses for whom the reps and warranties provided by the federal reserve to member banks do not apply.

   How much fraud does the Federal Reserve attribute to remote deposit capture? Has the Federal Reserve considered extending reps and warranties to money services businesses, and if not, has the Federal Reserve considered a technology-based solution whereby MSBs or banks presented with a paper check can ping a database to ensure the check has not already been cashed?

The Federal Reserve take issues associated with consumer fraud seriously, and we are committed to advancing the safety of payment services broadly.

To help combat check fraud, the Federal Reserve recently introduced the new FedDetect℠ Duplicate Treasury Check Notifier Service as part of our FedForward® suite of services. For Banks of First Deposit (BOFDs) that are FedForward® customers, this service offers daily reports of potential duplicate Treasury checks processed by the Federal Reserve Banks that were deposited by a FedForward® customer or by any other BOFD on the current day or previous 60 calendar days. These notifications are helpful in identifying potential duplicate deposits of federal benefit payments. The Federal Reserve Banks send the notifications directly to an institution's inbox via encrypted email, and the messages can help an institution supplement its own research or take appropriate action at its discretion.[1]

The Federal Reserve also offers the Check 21 Duplicate Notification Service,[2] which provides the opportunity for check processing organizations to more efficiently communicate and effectively resolve issues related to duplicate file events (e.g., duplicate presentment of checks). This service is an industry best practices approach for communicating among check image industry participants—providing expeditious notification of a duplicate event. The Federal Reserve Banks provide this service enhancement on a best-efforts basis and at no cost to financial institutions.

Regarding reps and warranties, the scope of the Board's authority over the payment system with respect to checks is generally limited by statute to depository institutions, such as with the Check 21 Act and the Expedited Funds Availability Act.

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[1] For more information about this service, see here: https://www.frbservices.org/financial-services/check/feddetect.

[2] *See* https://app.frbservices.org/financial-services/check/check21-duplicate-notification-service.html.