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THE SEMIANNUAL MONETARY POLICY REPORT TO THE CONGRESS

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

ONE HUNDRED SEVENTEENTH CONGRESS

SECOND SESSION

ON

OVERSIGHT ON THE MONETARY POLICY REPORT TO CONGRESS PURSUANT TO THE FULL EMPLOYMENT AND BALANCED GROWTH ACT OF 1978

JUNE 22, 2022

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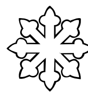

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C O N T E N T S

WEDNESDAY, JUNE 22, 2022

	Page
Opening statement of Chairman Brown	1
Prepared statement	47
Opening statements, comments, or prepared statements of:	
Senator Tillis	4

WITNESS

Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System	6
Prepared statement	48
Responses to written questions of:	
Chairman Brown	50
Senator Toomey	53
Senator Warren	62
Senator Van Hollen	65
Senator Rounds	66
Senator Tillis	67
Senator Moran	69
Senator Daines	71

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

Monetary Policy Report to the Congress dated June 17, 2022	75

THE SEMIANNUAL MONETARY POLICY REPORT TO CONGRESS

WEDNESDAY, JUNE 22, 2022

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Committee met at 9:30 a.m., via Webex and in room 216, Hart Senate Office Building, Hon. Sherrod Brown, Chairman of the Committee, presiding.

OPENING STATEMENT OF CHAIRMAN SHERROD BROWN

Chairman BROWN. The Senate Banking, Housing, and Urban Affairs Committee will come to order.

Today's hearing is in hybrid format. Our witness, of course, is in person, but Members have the option to appear either way.

We welcome the Chair of the Federal Reserve. He has recently been confirmed for a second term, and this is his first hearing since then.

Today we have seen the fastest job growth in decades, faster even than China's, and the lowest unemployment levels in 50 years. But when Americans see the price of gas and groceries and rent going up, week after week, available jobs and long-awaited wage gains do not mean as much and do not go as far.

American families have been through enough the past 2 years. But for most people, it is not just the past 2 years that have been tough. Our economy has not worked for most Americans for far too long.

Whether it is war or disease or financial crisis or, sweeping over all of it, the march of globalization, workers and their families always bear the biggest burden, whether it is in the form of higher prices or lost jobs or low wages or devastation to their community, or all of the above.

It is not inevitable. The economy is not physics. The ghost of Adam Smith would not recognize America today. There is no invisible hand of the market.

When prices go up, it is because someone made a choice to raise them.

In corporate board rooms, when supply chains slow down or input costs go up or resources become scarce, executives make decisions: Do we cut back on bonuses? Do we rethink our stock buyback plan? Do we forgo executive raises this year? Do we post quarterly profits that are still higher than last year, but maybe not quite as high as analysts thought they could be? Or do we raise

prices, and foist all the negative consequences of world events onto the people who can least afford them?

We know what, in this country, most corporations do. They make the same choice they have always made, no matter the economic conditions of the moment. Most of these executives, they are not bad people. They are just doing their jobs, they tell us.

It is the Wall Street system. These executives have to post profit increases for their shareholders, quarter after quarter after quarter, the consequences for everything else be damned, and everyone else be damned.

It is why, for decades, Wall Street has rewarded the companies that squeeze their workers the hardest, companies that cut wages and retirement benefits, and then cut corners on worker safety and on consumer protection, just to make their stock prices go up.

It is why too many companies failed to invest in their workers or their products.

It is why companies moved manufacturing overseas, and then neglected the supply chains that have been crippled during the pandemic, contributing mightily to inflation.

It is why big corporations—Amazon and Starbucks—why they bust unions.

It is why oil and gas companies would rather charge higher prices than increase supply to meet demand.

We are not witnessing traditional inflation. We are watching Russia and OPEC drive up prices and American energy companies engage in war-time profiteering.

At the root of the higher prices and the empty shelves is the same problem that has been shipping jobs overseas and keeping wages low for decades, from Nevada to Massachusetts to Ohio: corporate power and concentration reaching into every industry and market, into every corner of the economy. Our economy does not have to be a zero-sum game where Wall Street wins and everyone else loses. We can create an economy that reflects our values and works for everyone.

We passed the American Rescue Plan, including the Child Tax Credit, the biggest tax cut for working families ever. And despite what naysayers claim, of course it was not the cause of inflation. For the American families that I talk to, it empowered them to keep up with the cost of raising children.

We passed the bipartisan infrastructure bill, a long-term invest in economic growth that creates more jobs, strengthens our supply chains, and improves our bridges and roads and public transit.

Last week, President Biden signed the bipartisan Ocean Shipping Reform Act into law, bringing down ocean shipping supply chain costs.

We need to build on these successes to build an economy that rewards work, making things in America. We should pass our Supply Chain Resiliency Act and begin to bring manufacturing back to our country.

We should bring down the cost of prescription drugs and housing and childcare and elder care and other costs that have been rising for decades. We need to pass the Protecting the Right to Organize Act, to empower workers in their workplace and our economy so they actually get their fair share. And we need to crack down on

corporate concentration and consolidation. Fair competition is good for workers, consumers, and Main Street businesses, and it is a core American value.

That is how we bring costs down and ensure that workers do not always pay the price for powerful people's bad decisions, whether it is a dictator in Eastern Europe or a Wall Street executive.

In a truly fair economy, people do not have to choose between two bad options—low wages or high prices. No one likes inflation, and people also want good jobs that pay a living wage. Americans want to work, and they want to work with dignity. That is central to the functioning of our economy, and as Chair Powell knows, it is part of the Fed's mandate.

We must continue to empower workers and strengthen the labor market. Wages are clearly not responsible for inflation now.

We cannot forget that almost 6 million people are still looking for work, actual workers behind the numbers whose livelihoods are directly affected by the decisions the Fed makes. And as interest rates rise and financial stability risks increase, it is even more important to keep a close watch on the biggest banks, so that excessive risk-taking does not create even more problems.

Banks must have enough capital to withstand a crisis. They must serve their communities, not just enrich themselves with stock buybacks and exorbitant executive pay. And mergers must benefit the local community, not just shareholders.

We have seen too much evidence of big Wall Street banks behaving badly: shunning small businesses, still raking in billions in overdraft fees, discriminating all too often against Black and Brown borrowers.

Chair Powell, you must also ensure we have a strong payment system that works for Main Street banks and consumers, so that people do not feel like the only option is a risky and unregulated alternative financial system, backed by nothing but empty promises.

The thousands of proxy currencies, like stablecoins, and other digital assets, that promise transparency and democracy are missing one thing: they are not backed by the full faith and credit of the United States of America.

The Federal Reserve, our Nation's central bank, must use its authorities to protect consumers and the financial system from these risks. And you, Mr. Chair, must ensure that the Fed has the highest ethical standards. After former Fed officials profited off of their positions in last year's stock trading scandal, it is up to you to restore the American people's, and us, to restore the American people's trust in this institution that is critical for a healthy economy.

I was encouraged when you updated the Fed's policies, but we need rules that have the force of law. That is why we need to pass my Ban Conflicted Trading at the Fed Act.

As Chair of the Federal Reserve, you have an important role to play to make sure our economy works for everyone, not just those at the top. I urge you to remember the millions of working Americans who are counting on you.

I will turn to today's Ranking Member, Mr. Tillis, from North Carolina, and then Chair Powell. And the first questioner will be Senator Warren, who has another engagement, plus it is her birth-

day. So every time it is her birthday she gets to go first if she asks. And I have to introduce a judicial candidate in Judiciary so I may have to step out.

Senator KENNEDY. It is my birthday, too.

Senator WARREN. It is not.

Chairman BROWN. Is it your 80th birthday today, Senator Kennedy?

Senator Tillis.

OPENING STATEMENT OF SENATOR THOM TILLIS

Senator TILLIS. Thank you, Mr. Chairman, and welcome Chairman Powell. Congratulations on your confirmation. I was proud to support it.

When you testified before this Committee in March, inflation was at a 40-year high, and the Federal Reserve regional banks were stonewalling reasonable requests for information about their activities from Banking Republicans. Unfortunately, neither situation has improved.

Let us begin with inflation. Inflation is even higher now than when we saw you in March, with CPI up 8.6 percent per year, a new 40-year high. Getting inflation under control is critical because American families are being squeezed every day by rising prices and mounting costs.

Also critical to any discussion we have on inflation is an understanding of what served to turbo-charge it.

In March of 2021, the U.S. economy, as measured by a range of economic factors, was well on its way to recovery. Unemployment was at 6 percent, down from its pandemic worst of nearly 15 percent, and continuing to make steady monthly improvements toward a tighter labor market. In fact, 18 States already had unemployment rates below 5 percent, the often-cited threshold to identify a labor market that is almost at full capacity.

Likewise, consumer spending had recovered, and it was actually above prepandemic levels, at 4.5 percent. And the personal savings rate had return by 80 percent to its prepandemic state, indicating Americans were capable and willing to spend. Considering these factors, and many others, CBO projected the United States would return to pre-COVID economic levels and GDP output by mid-2021, just a couple months away.

At this same time, the Biden administration was aware of one major area of concern, the disruption of supply chains. In fact, President Biden issued a February 2021 Executive order to review U.S. supply chains, in part acknowledging they were already straining to meet rising consumer demand.

Yet despite these facts—a soon-to-be recovered economy, strong consumer spending, and known limitations on the supply side due to the documented supply chain issues—the Biden administration and congressional Democrats still somehow considered it responsible to ram through a partisan $1.9 trillion spending spree. It is little wonder how this catalyzed the inflation we see today.

And do not just take my word for it. Just last week, economists at Morgan Stanley blamed the 40-year high inflation on—this is a quote from their report—"excess fiscal stimulus . . . particularly the last $1.9 trillion package at the end of March 2021," adding

"this is what turbocharged consumption and drove inflation to 40-year highs."

Considering this damning assessment of the last reconciliation package, I can only add that any efforts to revive Democrats' currently stalled tax and spending legislation would no doubt worsen our economic condition.

Regarding the Fed specifically, though I am pleased you have begun taking the drastic action necessary to right the U.S. economy, these actions are long-overdue and monetary policy remains too loose. CPI inflation now stands at 8.6 percent per year, a new 40-year high, but the Fed funds rate sits at only 1.6 percent. According to the Fed's semiannual report, the rate should be over 6 percent under the Taylor rule.

This disparity indicates not only the lengths the Fed has yet to go to normalize monetary policy, but also the fact that the Fed has largely boxed itself into a menu of purely reactive policy measures. Unless the Fed works quickly to move away from their discretion-based monetary policy approach that has remained consistently well behind the curve, I am concerned the Fed will lose its credibility to effectively manage the national economic situation.

Regarding congressional oversight of the Fed, I remain concerned that the Fed and its regional banks continue a pattern of stonewalling reasonable requests for information. The latest example concerns the fairness, transparency, and consistency of Fed decisions to granting highly valuable Fed master accounts.

This is a significant public policy issue. Ranking Member Toomey, myself, Senator Lummis, and others have repeatedly requested information about this from the Fed and the Kansas City Fed, yet we still have few, if any, answers. Just this month, the Kansas City Fed refused to provide any information about its recent decision to revoke the master account of Reserve Trust, a nonbank fintech. This is significant given the controversy that arose in former Governor Raskin's nomination process when it was revealed that the Kansas City Fed reversed its denial of Reserve Trust's application for a Fed master account following a call from Ms. Raskin.

Now months after defending its decision to grant Reserve Trust a master account, the Kansas City Fed abruptly revoked the account without explanation. The Kansas City Fed will not give Banking Republicans information or even a briefing about this curious reversal.

And it is important to point out that Republicans are not the only ones who have found it difficult to conduct Fed oversight. Several of my Democratic colleagues, including Senators Warren and Menendez, have been vocal when they also found their oversight efforts met with resistance.

To address this unacceptable state of affairs, Congress should increase transparency at the Fed. Two simple steps that Republicans and Democrats can take together are subject regional Fed banks to FOIA, which they currently are not, and forbid the Fed from using FOIA exemptions to withhold info from any Member of Congress, not just committee chairmen. This second idea is a bipartisan proposal that has already passed the House and something Senator

Ossoff has mentioned in regard to various Federal agencies in the past.

Likewise, Congress should also explore making the presidents of the regional Fed banks Presidentially appointed and Senate-confirmed positions. This is another bipartisan idea, as Senator Reed previously proposed this requirement for the New York Fed president position, and in 2015, Chairman Brown himself raised this idea during a Banking Committee hearing on reforms to the Fed.

The time has come to revisit these sensible ideas, and others in order to the make the Fed more transparent and more accountable.

Thank you, Mr. Chairman, and I look forward to Chairman Powell's testimony.

Chairman BROWN. Thank you, Senator Tillis.

We will hear from the Chair of the Federal Reserve on monetary policy, the state of our economy. Congratulations again on your second term, second confirmation, to your second term. Thanks for your service and your testimony. Please proceed.

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

Mr. POWELL. Thank you, Chairman Brown, Senator Tillis, and other Members of the Committee. I appreciate the opportunity to present the Fed'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 PCE prices—that is 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 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 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 historical 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 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 that 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 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 as well as 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, and I look forward to your questions.

Senator REED [presiding]. Thank you very much, Mr. Chairman. Now let me, on behalf of Chairman Brown, recognize Senator Warren.

Senator WARREN. Thank you, Acting Chairman. I appreciate the help of the Chairman this morning. And thank you for being with us, Chair Powell.

Americans are struggling with rising costs and all eyes turn to the Fed. Last week, you announced that the Fed would raise rates by three-quarters of a percentage point, the biggest increase in nearly 30 years.

So let's talk about what the Fed is and is not doing when it raises interest rates to try to bring down inflation. Let's start with gas prices. The price of gas is up 40 percent since Russia invaded Ukraine in February.

Chair Powell, will gas prices go down as a result of your interest rate increase?

Mr. POWELL. I would not think so, no.

Senator WARREN. OK. And that matters because gas prices are one of the single biggest drivers of inflation. Energy prices overall dropped a third of the inflation last month, but the Fed's tools, as you say, have no impact here.

So let's look at another necessity, food. The price of groceries is up nearly 12 percent this year. Americans feel the pinch. No matter how much groceries cost people have still got to eat.

Chair Powell, will the Fed's interest rate increases bring food prices down for families?

Mr. POWELL. I would not say so, no.

Senator WARREN. OK. So a Fed increase will not bring down these prices, and why? Because rate hikes will not make Vladimir Putin turn his tanks around and leave Ukraine. Rate hikes will not break up monopolies. Rate hikes will not straighten out the supply chain or speed up ships or stop a virus that is still causing lockdowns in some parts of the world.

So let's talk about what interest rate increases can do. Chair Powell, you said last week that interest rate increases, quote, "moderate demand." Can you just explain a little more about what that means?

Mr. POWELL. Sure. So we think about interest rate increases as affecting financial conditions and then the economy through three broad channels, the first of which is interest-sensitive spending. So that is durable goods and automobiles and things like that. As interest rates go up, people's demand, as a result of higher interest

rates, will moderate or decline, so that supply and demand can get into better balance.

The second channel is just asset prices generally. Interest rates, as they go up, will cause asset prices to moderate across the economy, and people spend a little bit less out of their lower level of wealth.

The third channel is the exchange rate, which is really just another asset price, and that just basically, as the dollar strengthens—sorry—as rates go up the dollar would strengthen, which would tend to drive——

Senator WARREN. So I appreciate this, and I do. I appreciate the explanation. But let me just see if I can just put a little more plain vanilla explanation of what is going on here.

If I understand what you said, and what economists are saying across the board, is that when you raise interest rates there is going to be less money to invest, and that is it is going to dampen business investment. Is that a fair statement?

Mr. POWELL. I think the idea is to——

Senator WARREN. It makes it more expensive——

Mr. POWELL. ——moderate demand——

Senator WARREN. ——to invest.

Mr. POWELL. ——so that it can be in better balance with supply. In the current situation——

Senator WARREN. OK. So it is going to make it more——

Mr. POWELL. ——demand is well in excess of supply in some areas of our economy.

Senator WARREN. ——more expensive to invest, which, in turn, is going to throw workers out of work. And when they are out of work they have less money to spend.

So I get that rate increases stop companies from spending money to build new plants or to buy new trucks or to hire new people. Right, Chair Powell? When money is more expensive they are less inclined to do that. I think that is what you just said, on asset pricing, right?

Mr. POWELL. Well, in the labor market, as you know, you have a situation where there is a shortage of workers and there are two job vacancies for every person who is actively looking for work. So part of this is to get the labor market back into balance.

Senator WARREN. Well, I appreciate you call it back into balance. What I am trying to get at, though, is what does the tool of raising rates do? And part of what you just said is that it increases, in effect, the cost to invest, to buy those trucks or new plants or to hire new people.

The reason I raise this and the reason I am so concerned about this is rate increases make it more likely that companies will fire people and slash hours to shrink wage costs. Rate increases also make it more expensive for families to do things like borrow money for a house. So far, the cost this year of a mortgage has already doubled.

Inflation is like an illness, and the medicine needs to be tailored to the specific problem. Otherwise, you could make things a lot worse. And right now the Fed has no control over the main drivers of rising prices, but the Fed can slow demand by getting a lot of people fired and making families poorer.

And while President Biden is working to increase energy supplies and straighten out supply chain kinks and break up monopolies and bring down prices, you could actually tip this economy into recession.

So I just want to say, you know what is worse than high inflation and low unemployment? It is high inflation and a recession with millions of people out of work. And I hope you will reconsider that before you drive this economy off a cliff.

Thank you, Mr. Chairman.

Senator REED. Thank you, Senator Warren.

On behalf of Chairman Brown, Senator Tillis, please.

Senator TILLIS. Senator Reed, I am going to defer and allow Senator Shelby before me, and then I will follow in turn.

Senator REED. Quite all right, sir.

Senator SHELBY. Thank you. Thank you, Mr. Chairman.

Chair Powell, earlier this month, Secretary Yellen acknowledged she was wrong about the risk of inflation. Previously, you also acknowledged that the Fed got it wrong in thinking that inflation would be transitory. Yet myself and other Members of this Banking Committee here have been warning about inflation for over a year.

Last July, nearly 1 year ago, when you came before this Committee I raised my concerns about the risk of rising inflation, particularly following the enactment of a $2 trillion spending bill. At that time there was already evidence that inflation was affecting numerous areas of our economy. I discussed the year-to-year price increases on agricultural goods such as corn, wheat, and soybeans at that time. I pointed out the rising costs of metals, including copper and aluminum. I mentioned the increase in energy prices, used cars, and airline tickets.

As someone who remembers, and I do, from this Committee, encountering high inflation during the '70s, I warned that many of the same conditions present then, such as loose monetary policy and significant Government spending, were occurring again, among other things.

My main concern last year was that the Federal Reserve would fail to address rising inflation before it was too late. Eleven months later, this concern has come to fruition. And as we sit here today, inflation, as you have already pointed out, is at a 40-year high, the average gas price is over $5 a gallon, and we are currently in the midst of 12 consecutive months of inflation above 5 percent, including spiking to 8.6 last month.

Ultimately, Mr. Chairman, as inflation continues to run rampant I believe the Federal Reserve and this Administration failed the American people by not heeding these warnings a year ago and by not acting sooner to address it.

We are where we are today. I know that. The consequences of being wrong on inflation are now being felt, as has been pointed out here today, by American families and workers across the country. And despite the recent decision to raise interest rates, the Federal Reserve still has a long way to go to get inflation under control.

What can we expect in the future from the Federal Reserve? And I know you do not have total control over inflation, but you have

a lot of sticks there, and what will you use to bring this under control?

Mr. POWELL. Thank you, Senator. So financial conditions, of course, have tightened and have priced in a string of additional rate increases, and that is appropriate. As you pointed out, and as Senator Tillis pointed out as well, our policy rate is only at 1.6 percent, but all out the curve the market is pricing in increases. So financial conditions already reflect—have already priced in—additional rate increases.

But we need to go ahead and have them, and I think that the most recent inflation indicators of various kinds suggest to us that we needed to accelerate the pace at which we get up to a level that is neutral, that is close to the longer-run neutral level, and then we can make an assessment of how much further and faster to go.

And so that is what we are doing. I think you can see from the moves we are making now that we do understand the full scope of the problem, and we are using our tools to address it pretty vigorously now.

Senator SHELBY. Mr. Chairman, explain to us again how important—one of your mandates is price stability—how important price stability is to all Americans?

Mr. POWELL. So price stability is really the bedrock of the economy in this sense, in the sense that you really cannot have a sustained period of maximum employment, our other co-equal goal. You cannot have that without price stability. And so we must—must—restore price stability, and we will. We have the tools and the resolve and hopefully the judgment to accomplish that task. It is essential that we do.

Senator SHELBY. What is your next step?

Mr. POWELL. Well, if you look, the market has been, I think, reading our reaction function reasonably well, and I think what you will see is continued progress, expeditious progress, toward higher rates. I will say this. The Committee, the center of the Committee wrote down that rates would be between 3 and 3.5 percent by the end of this year, as of a few weeks ago, as of 1 week ago.

Senator SHELBY. Is this Federal Reserve Board of Governors under your leadership committed, as Dr. Volcker was some 40 years ago, to bringing inflation under control, no matter what?

Mr. POWELL. I would never want to try to compare myself to Paul Volcker in any way, but I will say that we are strongly, strongly committed to restoring price stability. We do understand that it is the thing that we need so that we can get back to the kind of labor market that we all want.

Senator SHELBY. But reading the standard that Volcker left at the Fed would be a high reach but one that anybody there should try to get there, would it not?

Mr. POWELL. Yes.

Senator SHELBY. Thank you, Mr. Chairman.

Senator REED. Thank you, Senator Shelby. I will exercise my time now.

Mr. Chairman, you pointed out in your testimony that the core personal consumption expenditures minus gas, food, and rent, is 4.9 percent, and even slightly declined from the previous report. So

that leaves the real culprits—gas, food, and rent. First, the issue of gas price inflation is a global phenomenon. Is that correct?

Mr. POWELL. Yes. Gas prices are a function of oil prices, to a significant extent, and then the refining spread as well.

Senator REED. And that has been exacerbated by the Ukraine invasion. We have deliberately, and the Europeans have deliberately cutoff accessing Russian supplies, and that has added to inflation.

And the other problem, also with hydrocarbons, it is a cartel that sets the price. Is that accurate?

Mr. POWELL. Sorry. What is a cartel?

Senator REED. The cartel that sets the price of oil.

Mr. POWELL. Yes. Globally, that cartel has a very major impact on the price of oil.

Senator REED. And they have decided that further production is not as lucrative to them as just sitting back and making money, or it appears like.

With respect to food, there are multiple factors there also. One is climate. We have seen loss of arable land. We have seen a lot of factors. All of this is outside the purview of the Federal Reserve, but I think it is helpful to understand what are driving forces in these price increases.

Transportation issues, with respect to food, that is a function of higher diesel costs, a function of lack of drivers. Again, the Ukraine, a significant amount of what is not being exported from Ukraine, or from Russia, as well as fertilizers. That is driving the price up.

And then the affordable housing issue, that has been a crisis since I became a Congressman in 1990. I recall marching in Washington for affordable housing in 1990. We just do not have enough, and that, I think, is a factor too.

Are those the major causes for these increases in prices?

Mr. POWELL. Those are some of the major ones. You know, you could also point to some parts of the goods economy, which have been at restrained capacity, and you are actually seeing significant price increases in some of the service economy as it really reopens fully now, and that would be the travel and leisure sector.

Senator REED. There is another issue too. We talked about the cartels that dominate hydrocarbons, but we have found, for example, during the pandemic, that there are really just four major meat processors in the United States, and with four rather than a multiple of that, there is the ability to indirectly restrain supply and increase prices. In fact, some of my colleagues, particularly in the House, have been talking about the antitrust aspects of some of these price increases. Is that a plausible ingredient to the problem too?

Mr. POWELL. So I think that is really a matter for the competition authorities, not for us, but sure. I think broadly speaking our economy is very competitive. There will be some industries where that is less the case.

Senator REED. So you have to take action, and basically your tool is interest rates and going in and out of buying public securities. But we have a lot of work to do too, which is to try to resolve some of these issues, and we have to do it in order to assist your efforts, the fiscal policy and other policy.

I was very pleased to see the President sign legislation with respect to shipping reform. That is a step. But we have to do much more too. Is that accurate?

Mr. POWELL. I think that is really a question for you. We are very focused on sticking to our knitting and carrying out the task that we have been assigned.

Senator REED. No, I appreciate that, and the independence of the Fed is something that has to be protected by everyone, including, particularly, yourself.

A final sort of issue that I am thinking of, we are at a tremendous, I think, turning point in our economy. Factors that 10, 15 years ago were not active, things like social media, et cetera. But one other factor with respect to hydrocarbons is perhaps the companies that are either unconsciously or consciously limiting investment because they are anticipating an electrified power supply, electric cars, electric everything.

Is that something that the Fed is looking at?

Mr. POWELL. I think that is certainly, if you pick up the annual report of any of the big oil companies you will see that that is something that is happening, and it is a rational economic response to expectations about where future policy is headed.

Senator REED. No, again I think there are so many factors here, but I think it is good to get some of them on the table. Thank you very much, Mr. Chairman.

With that let me recognize Senator Tillis.

Senator TILLIS. Thank you, Senator Reed. Again, Chair Powell, thank you for being here.

By the Fed's own analysis of various policy rules, including the Taylor rule, the revised Taylor rule, the balanced-approach rule, and the balanced-approach shortfall rule, rates should have begun to rise long before they did. According to the Fed's own analysis of these rules, the Fed's fund rate should currently be above 6 percent. This is in a report to Congress. Yet the rate currently stands at 1.6 percent. Likewise, these same rules should have prompted the Fed to begin raising rates, 2.4 last year, 2.1 this year.

I am concerned that the Fed has opted out of rules-based to discretionary monetary policy. As the Fed reviews monetary policy strategy, Chair Powell, will you commit to considering an increased weight for a rules-based strategy in Fed decisionmaking, and if not, why?

Mr. POWELL. We do use policy rules like the various forms of the Taylor rule, in all of the analysis that we do. If you are thinking about how monetary policy will affect the economy you have to have some sort of a rule like that. The Fed has never really used them in a prominent way to actually set policy in real time. But that is not to say they do not shed light, and we do consult them. You know, we consult them on an ongoing basis.

You know, the rules called for deeply, deeply negative rates during the pandemic, and we did not do that. They did call, of course, for rates to move up, and rates now really are moving up, much closer to where the Taylor rule, various forms of the Taylor rule are, and I think by the end of the year we will be pretty close to where some of the Taylor rule iterations are.

So it is something that we consider. I think in a couple of years, when we look at our framework again, that is something we could look at.

Senator TILLIS. Chair Powell, could you just briefly explain the variance between rules-based decisionmaking being at 6 and where we are today, what other factors came into play, what other factors came into play?

Mr. POWELL. Tailor rules do not take into consideration changes in financial conditions. They just look at the overnight policy rate. As I mentioned earlier, we began signaling, and we are set up now to signal policy changes going forward with the Summary of Economic Projections that we do four times a year. Markets price that in, and you are getting a lot of policy tightening well in advance of actually raising rates. As you pointed out, we are at 1.6 percent only on the Federal funds rate, but look at the rate curve. Very substantial additional rate hikes are already priced in, and they are affecting financial conditions, and they have been for several months.

So that is one way of thinking about it. It is really only at the very short end of the curve, where rates are still in negative territory, from a real perspective. If you look farther out, real rates are positive right across the curve, and that is really what you are trying to achieve with policy.

In a situation like this, where we have 40-year highs in inflation, and we know we need to have restrictive policy, that is where we are headed.

Senator TILLIS. Thank you. In 2012, the Fed adopted its current 2 percent inflation target, then amended this in 2020, to allow inflation to run over 2 percent target so that inflation averages 2 percent over time. Many warned this approach would simply give inflation a foothold before the Fed could respond. Now inflation is at 6.5 percent per year, and many serious analysts are predicting a recession.

According to the Fed's framework, will the Fed push inflation below 2 percent so that it averages 2 percent over time?

Mr. POWELL. No. That was not the way the framework worked, and I should clarify, though, the framework was carefully focused on what we knew, which was the economy of the last 25 years. The pandemic hit a few months afterward, and I think we have been aware since reasonably quickly after that, that the dis-inflationary forces over the last quarter century had been replaced, at least temporarily, but a whole different set of forces, and those are the forces that our policy has been reacting and dealing with. And we are well aware of that.

I think that what we were looking at was a world in which you did not see inflation move up, even when unemployment was, for an extended period, well below 4 percent. This is a different economy, different forces. The real question is how long will this new set of forces be sustained, and we cannot know that. But in the meantime, our job is to find price stability and maximum employment in this new economy.

Senator TILLIS. Final question. There is some renewed discussion about increased spending and increased taxes through reconciliation. Just hypothetically, if Congress were to pass a bill that in-

creased spending by half a trillion or a trillion dollars and raised taxes, would that make your job easier or more difficult?

Mr. POWELL. I swore off getting involved in these fiscal debates a year or so ago, and I am determined to see if I cannot stick to that. But remember, we can always incorporate, and what we do is we take fiscal policy as given and we react appropriately.

Senator TILLIS. Well then maybe instead of policy working through Congress but policy that was passed by Congress, do you believe that the $1.9 trillion spending package last year had any effect on inflation?

Mr. POWELL. It is really not our job to, you know, to pass judgment. We did not pass judgment on the Tax Cuts and Jobs Act or the CARES Act or that Act as well, the ARP. So I really think that is a job for Congressional Budget Office.

Senator TILLIS. Thank you, Chairman Powell.

Mr. POWELL. Thank you, Senator.

Chairman BROWN [presiding]. Senator Cortez Masto, of Nevada, is recognized for 5 minutes.

Senator CORTEZ MASTO. Thank you, Mr. Chairman. Chairman Powell, thank you for being here.

Let me start with high prices, because not only in Nevada but across the country we are seeing high food, housing, and gas prices, which really is creating a financial hardship for too many families. And I want to start with gas prices first.

In Nevada, the average price of gas is $5.60, in Las Vegas, about $5.60, in Reno, at $6.00 a gallon. And as gas prices rise across the country, oil and gas companies, we know, are making record profits but are using that money to continue to consolidate their industry and pay for stock buybacks instead of investing in increased oil production. And what I have heard is over 9,000 permits that they have that are unused, drilling permits, or they are not expanding their refining capacity.

We also know that reduced refining capacity is a particular problem that has been cause, in large part, by decades of oil industry consolidation, and is driving gas price hikes to be as much as 61 cents a gallon higher than expected.

So when considering the drivers of inflation, how much do Federal Reserve economists consider consolidation in an industry, and what else can we do to hold these industries accountable for their contributions to rising prices?

Mr. POWELL. You know, those are really questions for the competition authorities, questions of industry structure and consolidation. They really are not questions that we directly address. You know, we raise interest rates and our job is maximum employment——

Senator CORTEZ MASTO. But I have to push back. You have to consider that. I mean, you are considering what is happening in Ukraine as a variable on inflation and high prices. So you have to consider the fact that we have these oil companies, they exclusively control this commodity that is key for this country. We know that not only do they produce and decide how and when they are going to drill crude oil.

We also know the refineries, and quite honestly, the refineries in this country are not prepared to refine the domestic oil that even

comes from Texas and the Dakotas. The refineries are prepared to refine the oil that comes from out of this country. And we also know that many of the oil companies have their own traders that are trading on the price of crude oil in this country.

I mean, listen. You just talked about an outside agency. This is why this is so important and why I am a cosponsor of the Transportation Fuel Market Transparency Act. Glencore was just fined $1.1 billion because they were manipulating the oil prices for their benefit.

So that is something you have to take into consideration when we have an industry like these gas and oil companies that are so consolidated they are having an impact on the prices, to the detriment of the people in my State. So that has to be something you consider and take into consideration when you are looking at the impact that people across the country are seeing from these high prices.

I hope it is. Please tell me you are.

Mr. POWELL. Well, I think we see that the global oil prices, which have, you know, very important effects on gas prices here at home, are set on the global market and that, as we mentioned earlier, there is a large cartel that is responsible, to a significant extent, for setting those prices. We take that as given.

Senator CORTEZ MASTO. So do you pay attention to what Wall Street is saying and what these cartels are doing? When you say "cartels," these are these big oil companies, and they are indicating that, well, I am not going to drill because I am making profits because the price of gas is so high. So you would assume—I would hope that you would take that into consideration, that it is going to continue these high prices because there is a challenge in holding these oil companies accountable.

Mr. POWELL. So in principle we pay attention to anything that could affect the use of our tools, and the need to use our tools, and I think with the future price of oil the best thing you can probably do is look at oil futures, because futures, in theory, should be taking into account all of these factors, and that is what we do.

But ultimately the question for us is do we raise or lower interest rates. We do not have tools that would address these practices that you are discussing. Of course, we understand them——

Senator CORTEZ MASTO. Do you have concerns that these oil companies are manipulating and controlling the prices that we have right now? Do you take that into consideration with the tools that you need to reduce inflation and reduce these costs?

Mr. POWELL. Honestly, those are not judgments for us to make. You know, questions about industry structure and competition, it is not our assignment. Our assignment is——

Senator CORTEZ MASTO. But the outcome——

Mr. POWELL. ——maximum employment and price stability.

Senator CORTEZ MASTO. ——the outcome of that infrastructure is something that you have got to take into consideration.

Mr. POWELL. Yes. Very much.

Senator CORTEZ MASTO. Unless they change, the prices are not coming down. Unless they stop giving profits and sharing that with their shareholders and start addressing and looking at actually the consumer at the other end of this, who is bearing the brunt of it,

these prices are not going to come down. I would assume you take that into consideration. Maybe I am wrong.

Mr. POWELL. Well, when you say "take it into consideration," we do have to have a forecast of oil prices, and we do. But ultimately, though, the question for us is price inflation, what is happening with price inflation, and it is a macroeconomic question. It is not a question about industry structure or corporate behavior. It is a question about what will be the behavior of inflation across the economy.

And in particular, there is really not anything that we can do about oil prices. You know, food prices is a bit more mixed, but for oil prices, they are set at the global level. It has to do with global oil prices and also the refining spread. Neither of these are things that we have the tools to affect.

Senator CORTEZ MASTO. Does it concern you that these oil companies have not come to the table to look for a solution to help us reduce fuel costs?

Mr. POWELL. Honestly, I do not think it is appropriate for the Fed or for me to be reaching out into areas of policy that are not assigned to us. It is not up to us to comment on that sort of thing. We have a very specific job, and precious independence to carry that job out, and I think the other side of that is stick to that job. And our job is maximum employment and price stability.

Senator CORTEZ MASTO. Thank you, Mr. Chairman. My time is up.

Chairman BROWN. Thank you, Senator Cortez Masto.

Senator Rounds, from South Dakota, is recognized.

Senator ROUNDS. Thank you, Mr. Chairman. Chairman Powell, welcome again. It seems as though for the last couple of times that we have had you in front of this Committee inflation has been a primary item of discussion. I want to follow up, just as my colleagues have, and I would like to take it in a little bit different path perhaps, because when it comes to breaking down the different causes of inflation, clearly there is the supply side and the demand side. The reality is that a large portion of the inflation stems from the higher energy prices, which is part of the supply side issue.

When President Biden took office, January of 2021, through January of 2022, the price of unleaded gas has increased by 50 percent during that time period, from $2.33 to about $3.35 per gallon. Now that was well before the Russian invasion of Ukraine. Higher prices are instead, I believe, a direct result of policy decisions made by the Biden administration, like prohibiting new oil and gas leases on public lands and waters and choking off future access through the Keystone XL pipeline and increasing U.S. dependence on foreign energy sources by actively calling on OPEC to produce more oil. All of these seem to send a terrible message to the market about the future of investing in oil and gas processes within the United States.

At the same time, Mr. Chairman, your tools are designed, as we have discussed in the past, to impact not necessarily the supply side but the demand side of inflation. So if you attempt to use your tools that are available at this time to address what I believe to be the policy-induced side of inflation, do you risk hurting the econ-

omy by using these interest rate increases when, in effect, as you indicated earlier here in this meeting, that you really cannot impact the price of gas or the price of food?

Mr. POWELL. I think that is right. We know that our tools cannot affect certain aspects of inflation, and that would include certainly energy inflation and food inflation. Nonetheless, our statutory goal is headline inflation, but we also know that core inflation is actually a better indicator of headline inflation than headline inflation itself is because food and energy tend to be quite volatile. They tend to move up and move down, and that has been the history.

Core enables us to look through that volatility, so we focus very much on that as a better representation of what underlying inflation of the economy is at any given time.

Senator ROUNDS. But in this particular case that core inflation, if we are not going to include some of those what I think earlier we thought would be transitory in nature portions of inflation, they have proven not to be transitory.

In fact, South Dakotans are now paying $682 more per month on goods and services than they were when President Biden took office, due to inflation. The Administration is claiming the Federal Reserve can fix our inflation problem, but as you have just indicated, you focus on core, and your tools might very well work on core but not on those really heavy drivers to inflation that South Dakotans are seeing, like the rest of the country.

See, Mr. Chairman, what I believe is going to happen here, and I just share this, clearly you are aware that you are going to be the person that takes the fall if inflation is not brought under control, and this Administration is going to point to you and to the Federal Reserve, saying you have the tools to fix inflation and you are not doing your job, when, in essence, the portion of inflation which Americans are feeling today may not just be the core inflation that some of your tools do but the total cost of inflation that my citizens in South Dakota feel, to the tune of, well, $682 more per month in living expenses than what they were when this Administration took office.

Mr. POWELL. So we are focused on the part of it that we can address, and that is there a job to do on demand here. There are parts of the economy where demand exceeds supply, and that is where we think our tools can help, and that is what we are focused on.

Senator ROUNDS. Very good. Just very briefly, Mr. Chairman, another item. The Basel Committee on Banking Supervision issued a press release indicating that it had made substantive technical changes to the calculation of the G–SIB score for EU-based global, systemically important banks, the G–SIBs. The Federal Reserve, as being a part of this organization, do you believe right now that this change reflects the views of the Federal Reserve as an influential member of the Basel Committee? Apparently it looks like this may very well provide some advantages to our European banks over U.S. banks, based upon this reassessment of how they view risk within the EU community.

Mr. POWELL. My understanding of that is that it is really about supervisors being able to use discretion about transactions that go across national lines within the European Union.

Senator ROUNDS. Yeah.

Mr. POWELL. It does not apply at all here, and ultimately, the capital rules that Europeans apply are decided by Europeans, not by us.

Senator ROUNDS. Very good. Thank you, Mr. Chairman.

Chairman BROWN. Thank you, Senator Rounds.

Senator Warner, from Virginia, is recognized.

Senator WARNER. Thank you, Mr. Chairman, and Chairman Powell, it is good to see you again. Thank you for your service to our country.

I want to go in a couple of different directions. First, and I think some colleagues have already raised this, the truth is what we are grappling with right now on inflation is clearly a global phenomenon. I think even the Cato Institute, a group which does not always necessarily agree with folks on my side of the aisle, have pointed out inflation in many industrial countries around the world is running at the same rates, if not higher than us.

Frankly, I just returned from a bipartisan trip to Finland, Latvia, and Turkey, getting back late last night, so I am a little bit jetlagged. In Turkey, I think inflation is running at 78 percent a year. In Finland, gas prices were at $9.00 a gallon, and I asked one of my key Republican colleagues, "It is amazing. Joe Biden's inflation hitting here in Finland too." The point being that a lot of these effects are not due to any single country's activities but it is a global effect. I think colleagues have already acknowledged the effect that the Russian Ukraine war has, some of the disruptions on supply chains.

What I do not think has been fully addressed yet is some of the challenges that are coming around from China, in terms of their zero-COVID policy, a lockdown on Shanghai for literally months on end, and how that supply chain disruption is floating through the whole global economy. Can you speak to that, Mr. Chairman?

Mr. POWELL. Sure. So, of course, you are right. Inflation is very much a global phenomenon. If you look at comparable large, advanced economies like ours you will see inflation rates that are quite similar to ours, in some cases higher, in some cases lower. But there are important differences in the characteristics of that inflation. Ours is more about demand, I would say, than most of the others, and theirs is more about energy prices and things like that.

In terms of your question on China, we do not think we have seen the full effect of the lockdowns that we have had, so we will expect to be seeing some negative effects on bottlenecks. On the other hand, China now seems to be coming out of that period of lockdown, and growth seems to be picking up. Advanced indicators are that their economy may be recovering. But, of course, the zero-COVID policy, as long as it is in place, it certainly could—you could certainly have a relapse, given this highly contagious disease.

Senator WARNER. Again, we are all looking for short-term items, and frankly, I am glad that the President, I know particularly some folks on my side of the aisle are concerned about the President visiting Saudi Arabia and visiting with the leadership of that regime. I think you have got to use all the tools in the toolkit in getting

additional partners in the Middle East to increase oil production. I think it is important.

I have got a lot more proof to see whether some kind of short-term gas tax holiday would actually provide relief to consumers or simply, as we have seen in some States that have implemented, the prices do not change and the companies may make more money, but it does not really provide that kind of inflationary relief. And I am concerned, as somebody who spent a long time as Governor and as Senator trying to make sure we pay for our infrastructure investments, it is easy to take away a tax, tough to put it back on, and there is always an excuse not to. But I am open to seeing a better analysis.

I do want to raise, recognizing that not everything can be done with the flick of a switch, you know, there is a piece of legislation that has been floating around here for almost a year. It passed the Senate a year ago on a broadly bipartisan basis, passed the House a number of months ago. I think the House, frankly, took the wrong approach.

But it goes at at least one of the inflationary pressures here, which is making sure that we have got a domestic supply chain on semiconductor chips. Every device that has an on-and-off switch requires a semiconductor chip. And right now we see, particularly around auto inflation, one of the big drivers is the lack of chip supply so cars cannot actually be sold. They are literally sitting in warehouses, waiting for the semiconductors to come around.

This legislation, $52 billion of investment, would build ten semiconductor facilities here in America. I know Senator Brown has been a big advocate for this. If we do not do this, I do not think there will be another semiconductor facility built in America, even though some have been announced. I point out the fact that, you know, a year ago the Europeans had no plan here, in semiconductor investment, until recently announced $8 billion from the German Government. When the German bureaucracy and European bureaucracy moves faster than the American legislative process, I do not care which side of the aisle we are on, we are in trouble.

So in the last few seconds, I know you do not want to weigh in on specific piece of legislation, but the notion of investment in a key industry component like semiconductors, long-term in terms of keeping inflationary pressures down, right move or not?

Mr. POWELL. Again, as you say, I would not comment on a specific legislative proposal.

Senator WARNER. Talk about the industry sector.

Mr. POWELL. I will just say that I do think we learned a lot about global supply chains, and we are still learning, and it is important to take the right lessons, and I think it is an important area to explore about how we can harden up and improve our sources capabilities, including what should be here.

Senator WARNER. Thank you, Mr. Chairman.

Chairman BROWN. Thank you, Senator Warner.

Senator Kennedy, from Louisiana, is recognized.

Senator KENNEDY. Mr. Chairman, inflation is just an imbalance of supply and demand. Can we agree on that?

Mr. POWELL. Yes, generally.

Senator KENNEDY. And to put a little finer point on in, our inflation, at this time—and this is the case with respect to most cases of inflation—demand is greater than supply, so prices go up.

Mr. POWELL. In some parts of the economy, yes.

Senator KENNEDY. Right. So we have got a situation where demand is up here, supply is down here. You are trying to lower demand. Is that correct?

Mr. POWELL. Yes, while also giving the supply side time to recover. There is some ground to be covered on that side.

Senator KENNEDY. Yes, but you talked about your role, scope, and mission, and your job is monetary. You are trying to lower demand——

Mr. POWELL. Well, I would say lower demand growth. We do not know that demand has to actually go down, which would be a recession.

Senator KENNEDY. Well, 70 percent of our economy is driven by consumer demand, and you are trying to lower demand and slow the economy down. Am I correct?

Mr. POWELL. I guess I would just say we are slowing down growth.

Senator KENNEDY. Right. That is what the economy is.

Mr. POWELL. Growth, yeah.

Senator KENNEDY. OK.

Mr. POWELL. Exactly.

Senator KENNEDY. All right. There is another way. The two are not exclusive. You alluded to that. You can also lower demand but you can increase supply, can you not?

Mr. POWELL. Yes.

Senator KENNEDY. And that would solve inflation.

Mr. POWELL. Yes, it would.

Senator KENNEDY. Now, Congress' job is not to deal with demand per se. A lot of the bills we pass impact demand, but that is the Fed's job.

Mr. POWELL. Right.

Senator KENNEDY. OK? Now, I am not going to ask you to comment on any specific bill, but tell me the things that Congress could do right now, while you are lowering demand—not you, literally, the Federal Reserve—what we can do right now to increase supply.

Mr. POWELL. I think the things you can do are important over the medium and longer term, but probably not so much in the short term. But it is things like investing in people so that they can remain in the labor market longer, things like that. You know, infrastructure, again, things that will increase the productive capacity.

Senator KENNEDY. Well, in the long run, as Keynes said, we are all dead. I am interested right now in the short run.

If we reduce the regulatory burden, let's say on refineries, would that not incent refineries to start refining more and help on the supply side?

Mr. POWELL. I would say anything that could increase capacity on that front could have a——

Senator KENNEDY. Yeah, but would that help? I am not trying to get you to endorse legislation.

Look, Mr. Chairman, we have got a hell of a mess here, OK? Inflation is hitting my people so hard they are coughing up bones. I do not care what the inflation is in other parts of the world. I am sorry they are having inflation in other parts of the world, but them in misery does not make my people feel better. They are still miserable.

Inflation is hitting people so hard they are coughing up bones. It is the highest in 40 years. Our national debt is greater than our national output. Crime is up. The border is open. Respect for institutions is way down, and 70 percent of American people think we are headed in the wrong direction.

Now we have got a hell of a mess, and right now you are the most powerful man in the United States, maybe in the world. I mean, President Biden, I do not blame him. I understand politics. He keeps saying, “Well, your 401(k) has crashed and gas has gone from 2 bucks to 5 bucks a gallon because the economy is so good.” And the American people know that is not true.

Now other than relieving regulatory burden—well, let me put it in the form of a question. What if the U.S. Congress said, look, we have got a budget. We are going to freeze spending. We are going to stop injecting more money into the economy. We are going to freeze spending until Powell can get control on the demand side. Would that help?

Mr. POWELL. You know, I feel like giving you advice on what to do when we are not——

Senator KENNEDY. I am asking for it. I welcome it.

Mr. POWELL. ——getting our own job done. I feel like maybe a better thing to do would be for us to get our house in order and do the job you have assigned us.

Senator KENNEDY. Well, let me put it another way. Forget about Congress. Let us suppose that every Governor in every State, and every legislature in every State got together tomorrow and said—I know it is not likely to happen—and said we are going to freeze our budgets. We are not going to spend a penny more than is already budgeted. Would that help?

Mr. POWELL. Would it help?

Senator KENNEDY. Sir?

Mr. POWELL. Would it help with——

Senator KENNEDY. Would it help reduce inflation.

Mr. POWELL. It might. It might. But, I mean, it would take—again, I am scoring fiscal policy. I am really reluctant to do it.

Senator KENNEDY. Well, I understand you are being careful, but Mr. Chairman, the U.S. Congress, in addition to its regular budget, has spent $7 trillion. I am not saying all of it was unnecessary. On top of that, the Fed has increased its balance sheet from $1.5 trillion to $9 trillion—$9 trillion. I know you are cutting it back, but we have injected all of this money into the economy, and then people go, “Well, we have inflation.” Duh.

Give me some help here. Tell me what we can do?

Mr. POWELL. I am really focused on what we can do, which is shrink our balance sheet and raise interest rates and get supply and demand back into alignment, and get inflation back down to 2 percent.

Chairman BROWN. Thank you, Senator Kennedy.

Senator Tester, from Montana, is recognized for 5 minutes.

Senator TESTER. I want to thank the Chair and Ranking Member. I also want to thank you for being here, Mr. Chairman. I appreciate it.

I have just got to say one thing about Senator Kennedy. I think freezing spending is probably a pretty good idea, except we just had a flood that cost $1 billion worth of damage in southern Montana, $1 billion was projected. If we freeze spending that infrastructure never gets rebuilt.

So I hear what you are saying, and in some respects I agree, but it is a lot easier to talk about than it is to do. And I think that is the challenge that the Chairman of the Fed has, is that he really needs to focus on what needs to do, and if it was a simple solution we would have already had it done.

I am concerned about rural America and the impact inflation is having on rural America. And I know that you have seen it. You have seen it transpire over the last several years, particularly as this country has come out of this pandemic. And I know we have had a conversation that it is two-edged—it is supply and it is demand—and you are only dealing with the demand part, which is an important part. And in some respects Secretary Kennedy is right. You are probably one of the strongest people in the world to be able to deal with some of this stuff.

But from a rural perspective, is the Fed doing anything in particular that I could take back to my constituents and say this is what the Fed is doing to help rein in inflation in rural areas?

Mr. POWELL. Well, so we are, of course, well aware, as you know, we have four or five Reserve Bank presidents who have very large agricultural economies within their districts, and we hear excellent reports from them about what is going on. It is clearly a tremendously challenging situation. You know, fertilizer prices and all kinds of inputs, very difficult situation. Cannot get parts for your equipment and that kind of thing.

You know, overall, we do appreciate that. You are not seeing this yet but, you know, when times do get difficult and we work carefully with borrowers in the Farm Belt and that kind of thing because we know that is what you do in those kinds of times. We are not at those times at this point, but that is one thing we have done in the past.

I mean, overall, we think we need to get back to price stability, and that will help everybody. It will help the whole economy, including rural America.

Senator TESTER. OK. Interest rates. I know they have been raised a bit recently, and I think three-quarters of a point—correct me if I am wrong. And I am not going to ask you where interest rates need to be. But I do think this is a fine line to walk, and you tell me if I am wrong, where if interest rates are raised too high it could drive us into a recession.

Can you tell me some of the things you are looking at to make sure that does not happen?

Mr. POWELL. Sure. When we pivoted and started talking about raising rates last year, markets had priced in rate increases so that all out of the curve of debt maturities, interest rates have already

moved up to reflect interest rate increases that we have not actually made yet.

So what we have right now is a low short-term rate, which is our policy rate. And the increase that we made, we made one decision at the last meeting, which was to raise, by 75 basis points, but only to 1.6 percent. And we thought that was the right thing to do. I am happy to discuss why.

But really, the point is that our policy rate is still at a relatively low level, and in principle we want to get it up to a more neutralish level, even more expeditiously than we had been, and that is what was behind our thinking. And so the concern, I do not think, is about the level. It was with the speed. Are we moving too quickly? And I think I was persuaded that it was important that we make this move now and not wait and telegraph it and do it 6 weeks later, for example, or the meeting after that. It was important to do it now, because where we are with inflation is having seen inflation come in above target, over and over again, and we said we would move more aggressively if it was appropriate. We thought it was appropriate and we did.

Senator TESTER. And so you said you want to get things more to a neutral level. Are we to a neutral level now?

Mr. POWELL. No. We estimate that the longer-run neutral level of the Federal funds rate to be around 2.5 percent, and actually we think it will be appropriate to raise rates above a neutral level into a modestly restrictive level, because this is very high inflation and it is hurting everybody. And we need to do our job and get inflation back on a path down to 2 percent, and the way we are going to do that, we think, is raise rates, to that level.

Of course, everything depends on the data that we see. We are really strongly committed to getting inflation down to 2 percent, but we are going to be flexible as we see the data coming in.

Senator TESTER. Do you agree with the perspective—and then I will be done—but do you agree with the perspective that if interest rates go too high, too fast it could drive us into a recession?

Mr. POWELL. It is certainly a possibility. It is not our intended outcome at all but it is certainly a possibility. And frankly, the events of the last few months around the world have made it more difficult for us to achieve what we want, which is 2 percent inflation and still a strong labor market.

Senator TESTER. Thank you. Thank you, Mr. Chairman.

Chairman BROWN. Thank you, Senator Tester.

Senator Hagerty, of Tennessee, is recognized.

Senator HAGERTY. Thank you, Chairman Brown.

Chairman Powell, one of the many downsides of quantitative easing is the fact that the Federal Reserve, and then by extension, the American taxpayer is essentially taking a long position in the securities that are acquired. That means that when rates rise, the value of the securities on your balance sheet drop. That is exactly what is happening today. And as of March of this year, the Federal Reserve had about $330 billion worth of unrealized loss on its balance sheet. That number is probably close to half a trillion right now, given the rise in rates.

So my question of you is, did these unrealized losses limit the Federal Reserve's ability to execute its monetary policy objectives,

and specifically, will the Fed sell mortgage-backed securities and realize a loss, or will the Fed be cornered into holding these securities until they appreciate?

Mr. POWELL. Those kinds of unrealized losses play no role in our decisionmaking, have no effect at all on our ability to conduct monetary policy. They are just not a consideration, and they will not be a consideration when we decide whether to sell, and in what quantity, MBS. We said we would look at selling MBS when the normalization process for the balance sheet was well underway, and that means not soon. We have not decided exactly what that means.

And by the way, the reason we want to do that is we are committed to having a mostly Treasury balance sheet, and with these higher rates, MBS prepayment speeds have gone way down, and so to achieve the mostly Treasury balance sheet we may well need to sell MBS at some future date. When we turn to that we are going to be very transparent and give lots of transparency, obviously. But we will not be thinking about the balance sheet.

I mean, remember that we have contributed $1 trillion in profits to the Treasury over the course of the last 10 years. The reason we do not have a lot of capital is that we give our earnings to the Treasury every year. So it is not at all a concern for us.

Senator HAGERTY. But to be clear, these long-dated mortgage-backed securities may be sold as a loss. You are not limiting your ability to do that, to sell at a loss.

Mr. POWELL. No.

Senator HAGERTY. And that could happen. I just think the downside of quantitative easing is very much illustrated for us when you find yourself in this situation of holding this long-dated securities.

To turn to another point, Chairman Powell, I realize there are a number of factors that play a role in the historic inflation that we are experiencing—supply chain disruptions, regulations that constrain supply, we have got rising inflation expectations, and excessive fiscal spending. But the problem has not sprung out of nowhere.

In January of 2021, inflation was at 1.4 percent. By December of 2021, it had risen to 7 percent, a fivefold increase. Since the war in Ukraine began in late February, the rate of inflation has risen incrementally another 1.6 percent to a current level of 8.6 percent. So again, from 7 percent to 8.6 percent.

Given how inflation has escalated over the past 18 months, would you say that the war in Ukraine is the primary driver of inflation in America?

Mr. POWELL. No. Inflation was high before, certainly before the war in Ukraine broke out.

Senator HAGERTY. I am glad to hear you say that. The Biden administration seems to be intent on deflecting blame, and as recently as just this past Sunday spread the misinformation that Putin's invasion of Ukraine is the, quote, "biggest single driver of inflation." I am glad you agree with me that that is not the truth.

I would like to turn to the situation we find ourselves in now, tightening. A recent survey of global CEOs showed that more than 60 percent of executive expect a recession in the next 18 months. Meanwhile, per its most recent forecast, the Fed will be tightening

monetary policy for the next 2½ years. Thus, the Fed could soon find itself the challenging position of potentially exacerbating an economic downturn in order to address the historic inflation that has been unleashed by the Biden administration.

So, Mr. Chairman, as you know the Fed has a dual mandate—stable prices and maximum employment. As we look to the fall, how do you think about balancing this potential tension between the Fed's two mandates, particularly if the economic outlook worsens but inflation remains elevated?

Mr. POWELL. We do have a dual mandate, as you point out. Right now the labor market is extremely tight, and I would say unsustainably hot. And there is a mismatch between supply and demand there. As you know, there are more job openings, by a factor of 2 to 1, than there are unemployed people looking for work.

On the inflation side we are very far from our target. We think that we have to restore price stability to put the economy back in a place where, in the medium and longer term, we can have a sustained period of what we would call maximum employment.

So that is how we are thinking about it. Of course, we are not trying to provoke, and do not think that we will need to provoke a recession, but we do think it is absolutely essential that we restore price stability, really for the benefit of the labor market as much as anything else.

Senator HAGERTY. I agree. I think you have an extremely challenging job, particularly given some of the fiscal policies that have been undertaken that make your job more challenging than it should be.

Thank you very much, Mr. Chairman.

Chairman BROWN. Thank you, Senator Hagerty.

Senator Smith, from Minnesota, is recognized for 5 minutes.

Senator SMITH. Thank you, Mr. Chair, and welcome back to the Committee, Chair Powell. It is good to see you again.

I want to follow up on this issue of this imbalance between labor demand and supplies, you were just referring to. According to the latest figures from the Bureau of Labor Statistics, there were 5.5 million more jobs in April than available workers. And so we have, as a result, an extremely competitive labor market and very strong wage growth. But inflation is even higher than wage growth, so that is wiping out worker gains and leaving a lot of folks with what amounts to a pay cut as they, at the same time, try to figure out how to pay higher prices for gas and food.

So let me ask you this, Chair Powell. With all of that in mind, what is the basis for the argument that wages are too high and that they need to come down in order to rein in inflation?

Mr. POWELL. It is not that wages themselves are too high. It is that the rate of growth of wages is not consistent—and I will explain this—not consistent with 2 percent inflation over time.

Of course, it is great when wages go up, and we want them to go up. We want people to get strong wage increases. But at a certain point wages become high enough that companies start raising prices and you wind up getting high inflation. So if you just kind of reverse engineer what level of wage increases would be consistent with 2 percent inflation over the longer term, today's wage

increases, if you look across the numbers of measures that we look at, they are significantly above that.

Now there is some evidence that they are flattening out, particularly average hourly earnings. There is some evidence that that measure of wages is flattening out so that it is no longer going up.

So it is really not about reducing wages. It is just having a more sustainable pace of increases.

Senator SMITH. And what would you expect if wages started to stabilize, as you say, they stopped increases? How long would you expect it to be before the prices that consumers are paying would start to go down, or are they ever going to go down?

Mr. POWELL. It depends. They do not have to go down for inflation to go down.

Senator SMITH. Right.

Mr. POWELL. So if prices remain at the same level, inflation goes to zero. But it depends on different businesses. In some parts of the service economy labor costs are a very large portion of costs, and so you would think that that gets passed through very quickly into prices. And so we would think that that pass-through should be shown fairly quickly, in some parts of the economy. In others, less so. But over time, you know, we would want wages to be moving up at the highest sustainable rate that is possible and consistent with 2 percent inflation.

Senator SMITH. Of course, at the same time the economy, we have got this very, very strong labor market, but simultaneously we continue to see higher unemployment rates among African Americans, for example, nearly double the unemployment of white Americans.

So how do you see this sort of interplay between wage growth and the Fed actions to cool demand on that underlying issue?

Mr. POWELL. So we do not target wage growth, of course. Our job is price stability. We look at wage growth because over a long period of time it is an important factor in determining price stability. So that is really how we think about it.

In terms of the disparities, we saw those disparities increase significantly at the beginning of the pandemic and then reverse, as we pointed out in our Monetary Policy Report. Those gaps have at least returned to historically lower levels. There are still gaps, though, and those are not really gaps that we can get at with monetary policy. But we point them out because they are an important aspect of our economy and we do consider them as we think about appropriate policy.

Senator SMITH. I think I would agree with you. I think that those are sort of systemic challenges on our economy that need to be addressed through the policy that we work on here.

You know, it seems to me that, I mean, one, I think we have a labor supply problem in this country, and we should be dealing with that in Congress, in terms of what we need to do to make sure that people have the skills and the capacity to do the jobs that our economy is creating. But it also seems to me that as long as wage growth is lagging inflation that in some ways labor costs are actually dampening inflationary pressures because they are not keeping up with inflation. So I think it is just an interesting and complicated issue.

Mr. POWELL. No argument there.

Senator SMITH. I just have a couple of minutes left. I am not going to have a chance to get into this, but I am quite interested also in what we are seeing around the country everywhere, and especially in Minnesota, about extraordinarily high increases in housing. The Fed is raising interest rates, which is going to have an impact on increasing housing prices because mortgage prices are going to go up, and other costs, in terms of building housing is going to go up.

So I am just interested in how you sort of weigh that dilemma.

Mr. POWELL. You know, after the pandemic, for a number of reasons, housing demand went way up, rates were low, but also people decided they wanted to live more in single-family homes rather than downtown. So prices went up all over the country, at very, very high levels.

Now you see the housing market slowing down because you see higher rates are having an effect. That should have an effect on housing prices, perhaps even fairly quickly, so that prices will not necessarily come down but price increases will flatten out.

We are seeing lower home sales. We are seeing lower starts. So we are seeing a slowing in housing. And, you know, the very low settings of rates during the pandemic were appropriate, but part of what that did was it supported a lot of demand for housing. We want to get back to a place where supply and demand are closer.

I will say I agree with you on the labor shortage issue, which is a longer-term issue that we have, but also with housing there are constraints on housing construction. So it is very possible that we will be in a position where there is not enough appropriate housing at the right price, and that is a longer-run issue, again, not so much for us as for you.

Senator SMITH. Thank you. Thank you, Mr. Chairman.

Chairman BROWN. Thank you, Senator Smith.

Senator Lummmis, of Wyoming, is recognized.

Senator LUMMIS. Thank you, Mr. Chairman, and thank you, Chairman Powell, for being with us today. It will come as no surprise to you that I want to focus on digital assets in Fed master accounts.

My first question is about the accounting treatment of digital assets, specific SEC Staff Accounting Bulletin 121. This bulletin requires publicly traded companies, including banks, to hold digital assets in custody as an on-balance-sheet liability. So will the accounting standards contained in this bulletin, that requires it to be on balance sheet, be applied by the Federal Reserve to banks and bank holding companies?

Mr. POWELL. We, too, saw that and understood the implications, and I think that is something we are working on with our fellow bank regulators. And I do not have an answer for you, but that is certainly something we are focusing on very closely right now.

Senator LUMMIS. And I would note that the Basel

Committee on Bank Supervision has declined to establish a capital charge for custody digital assets because they are always off balance sheet. They have created a framework called the prudential treatment of cryptoassets that continues to acknowledge that they are off balance sheet.

So if the standards of the SEC's Staff Bulletin are adopted, that would be the first time that custody assets are place on balance sheet. Do you think it is smart for the U.S. to be imposing bank standards beyond international norms?

Mr. POWELL. So again, the SEC has authority over accounting rules, and that is what this was, and we now have to consider that exact question, and that is what we are doing. I cannot really say more because we are working our way through it. But my understanding of it is the same as yours, though, which is custody assets are off balance sheet, have always been. But the SEC made a different decision as it relates to digital assets, for reasons it explained, and now we have to consider those.

Senator LUMMIS. Yeah, and thank you. I encourage you to consider that, and I appreciate that you are looking at it and you are aware of it. That is great.

I will turn to master accounts now, of course. The Board and the Reserve Banks have refused to provide Congress and the public with transparency with regard to the application process. At its core, a master account is a public benefit, conferred by the Fed to a private institution. And since a master account is a public benefit, really does the public not have a right to know which institutions have master account and which have applied for accounts and not received them? Both the FDIC and the OCC publicly list similar application information on their websites today.

So could you commit, as part of transparency project, to make publicly available a list of institutions that have received master accounts as well as the institutions that have applied and not received them?

Mr. POWELL. I will be glad to look into that. You know our system well, and it really is that the Board, you know, we set rules but the Reserve Banks really make the decisions about granting accounts, subject to those rules. And we actually think we can improve on that system with the current proposal we have, and are considering comments on that right now, as I am sure you know very well.

Senator LUMMIS. Yeah, and as you also know, applicants for master accounts are getting whipsawed between the Federal Reserve Board of Governors and the banks. The Federal Reserve says that the banks have all of the authority they need, meaning Federal Reserve Bank of Kansas City and others have all of the authority they need to make these decisions, and yet you go to the Reserve Banks and they say, "Oh no, we are waiting for the Board of Governors." And so there is a whipsaw effect, and we get no answer.

The black hole continues to exist, and my frustration level has long since been at a boiling point. It continues to be at a boiling point. There is no responsiveness. It is a black hole. And I wish to just, once again, use this opportunity to encourage you to address that. There is just no excuse. There is no excuse anymore, Mr. Chairman. Thank you.

Chairman BROWN. Thank you, Senator Lummis.

Senator Van Hollen, of Maryland, is recognized.

Senator VAN HOLLEN. Thank you, Mr. Chairman. Welcome, Chairman Powell. I cannot let an opportunity go by without raising

the issue of the FedNow real-time payments system implementation. You would agree that if we can get this system into place it will save millions of Americans billions of dollars, would you not?

Mr. POWELL. Yes, I would.

Senator VAN HOLLEN. And so that is why I always want to encourage you to move very quickly. As you know, the system is scheduled to go up next year. We had an earlier hearing in May, in this Committee, and Brookings senior fellow Aaron Klein, who has spent a lot of time monitoring this system, shared his concern that we were not moving fast enough to hit that date and fully implement it.

So I just want your commitment, Mr. Chairman, that you are focused on this and that it is a priority.

Mr. POWELL. Very much so. We are very focused on doing it right and also on time, and that is next year.

Senator VAN HOLLEN. Right. Because it especially impacts, of course, people living paycheck to paycheck, right, who make a deposit in a bank but it does not clear, and then they get tagged with all sorts of overcharge fees and things like that. You know, other countries that are a lot less advanced in terms of technology than the United States have figured this out and we should be there now.

I just want to turn to really the issue of the day, which is this challenge in navigating between keeping a strong economy moving and low unemployment and dealing with price stability.

On the good news front, and I think you testified to this earlier, the United States is doing a lot better than our sort of near-peer economies when it comes to economic growth and quickly reducing our unemployment rate. Is that not the case?

Mr. POWELL. Yes, generally. We are further advanced in our recovery, I would say.

Senator VAN HOLLEN. Yeah. So that is good news, and we want to keep that going. We also, obviously, want to deal with the price increase. And the concern which has been shared by others this morning is that many of the causes of those price increases are beyond the control of the Fed. And I call them the three P's—Putin's war, pandemic supply chain disruptions, price gouging—Senator Cortez Masto raised that.

And so I think the challenge is how do you navigate increases in interest rates when a lot of the drivers of price increases are beyond your control? And I want to raise a specific kind of case study here, which is in the housing market. Because you would agree, would you not, that increasing the supply of housing can help reduce housing prices, right?

Mr. POWELL. Sure.

Senator VAN HOLLEN. Yeah. But what we are seeing now is that with rising interest rates obviously new investments are more expensive. We have seen housing starts fall by 14 percent in May. So that means fewer housing opportunities, less supply, fewer workers engaged in building new homes.

So if you could just use that as a sort of case study of how you are going to navigate these cross currents.

Mr. POWELL. Interest-sensitive spending is a very important aspect of how our tools work, and in the case of the housing market

what you are seeing is higher mortgage rates, so you are actually seeing demand move down quite significantly. Many, many indicators suggest that fewer people are visiting homes, the wait time for selling a home is increasing, housing sales are moving down, housing starts are moving down, and overall, it is a slowing in the housing market.

And I think what you will see, or many forecasts call for, the increase in housing prices to slow pretty significantly now. You have seen very, very large, as you know, increases in housing prices, really since the beginning of the pandemic, to the point where, you know, all over the country you have people five bids above the ask the second the house comes on the market. Well, that is cooling off now to a more sustainable pace.

So what we hope is we can get demand, that part of the economy, to slow to a more sustainable pace, and get the housing market back on a more sustainable path where there is a better balance between supply and demand.

Senator VAN HOLLEN. I appreciate that. I am just going to use my remaining time to sort of push you a little further on this issue, not specifically with housing. But given the fact that so many of the factors that are driving price increases are beyond our control—and you talked about core inflation—what is your confidence level that we will have what is generally referred to as a soft landing, where we will not overcorrect in raising our interest rates to the point that it begins to really hurt our economy, workers, and wages? What is your level of confidence that you can navigate a soft landing for the economy?

Mr. POWELL. I mean, it is our goal. It is going to be very challenging. It has been made significantly more challenging by the events of the last few months, thinking there of the war and commodities prices and further problems with supply chains. And the question whether we are able to accomplish that is going to depend, to some extent, on factors that we do not control.

Senator VAN HOLLEN. Well, Mr. Chairman, if I could, but this is the point, I think many of us are making. The factors that are out of your control are not going to be susceptible to those costs being brought down—oil, gas, food—by the measures you are taking. And the risk is that the measures you are taking will slow down other parts of the economy without getting us the benefit of lower prices.

So I think that is a big theme today, and I just look forward to continuing our conversation about how you are going to thread that needle.

Mr. POWELL. Can I say that the other risk, though, is that we would not manage to restore price stability and that we would allow this high inflation to get entrenched in our economy. And we know from history that that will hurt the people we would like to help, the people in the lower income spectrum who suffer now from high inflation. That will hurt them more than anyone.

So we cannot fail on that task. We have to get back to 2 percent inflation so that we can have the kind of labor market that we really want.

Senator VAN HOLLEN. I appreciate that, Mr. Chairman. But as you know, the prices that people are experiencing most vividly day to day is the price of gas at the pump and the price of food at the

grocery store, both of which are things that you have said are beyond your control.

So thank you. Thank you, Mr. Chairman.

Chairman BROWN. Thank you, Senator Van Hollen.

Senator Daines, from Montana, is recognized for 5 minutes.

Senator DAINES. Mr. Chairman, thank you. Mr. Powell, good to see you here today. Like my colleagues, I continue to be deeply concerned with the inflation we are seeing in the economy and its real-life impact on Montana families. When I go back home I hear the top three concerns from Montanans. It is inflation, it is inflation, it is inflation. The price of gas, the price of groceries.

CPI inflation grew 8.6 percent, year over year, in May, the highest increase since December 1981. In Montana, the Mountain States, as you are aware, inflation grew by 9.4 percent versus a year earlier. This rate of inflation is unsustainable for Montanans and Americans alike.

For months—for months—Republicans in Congress and even some Democrats, like former Treasury Secretary Larry Summers, warned of the massive inflationary risk of the $2 trillion March of 2021 stimulus package, what that posed to the economy. In fact, I just pulled up the *Washington Post* article from March 29, 2021. I remember being in this very room, similar hearings, warning our colleagues about the risks of moving through a $2 trillion spending package when we had $1 trillion of unspent COVID money still remaining in December of the prior year.

Let me quote from that *Washington Post* article. It says, "Summers"—remember, Secretary of the Treasury under Clinton and economic advisor to Barack Obama, a Democrat—"Summers, age 66, who drafted economic blueprints for the past two Democratic Presidents and was a top candidate to lead the Federal Reserve Board under President Obama, has emerged in recent weeks as the loudest critic of President Biden's approach to reviving the pandemic-era U.S. economy. The Harvard University professor, who advised Biden for a time last summer, warns"—and this is key—"that the President's stimulus plan may trigger the highest inflation in more than half a century and could cost Democrats the chance to make lasting investments in the economy."

There were many of us warning the Administration and our colleagues across the aisle of blindly moving forward, on a purely partisan basis, to jam through that $2 trillion package and the inflation risks associated with it.

Now, with inflation at a 40-year high, these same Democrats are continuing their ill-advised effort to revise President Biden's sweeping "build back broke" package, no matter the warning signs that are flashing right now in all of our faces.

Chairman Powell, Mr. Summers has suggested several years of greater than 5 percent unemployment might be necessary to contain inflation. Would you agree with that assessment?

Mr. POWELL. I guess I would say that I do not want to comment on other forecasts, generally, but my assessment is that it is going to depend, to a significant extent, on factors like how long does the war run and how long does it take supply chains to improve, and that kind of thing. There is a lot of uncertainty around that. I would have a lot of humility about trying to predict with any clar-

ity exactly where the economy is going to be in the next 3 years, for example.

But my assessment, though, is that there are certainly paths to get inflation down to 2 percent with outcomes that are substantially less troubling than what you just read.

Senator DAINES. You have characterized a soft landing as getting back to 2 percent inflation while keeping the labor market strong. What is your confidence that the Fed can achieve this goal without causing a recession?

Mr. POWELL. That is our goal. That is our intention. I think it is going to be very challenging. We have never said it was going to be easy or straightforward. It is going to be challenging, and the events of the last few months have certainly made it more challenging. Nonetheless, there are pathways through which that could happen, and in particular, what we saw in the early part of 2021, when inflation went up, was very strong demand surged against what were unanticipated supply side constraints. And the result was prices went up a lot, much more than could be explained by just the increase in demand.

And so, in principle, if demand can move back down, then inflation could move back along that path just as quickly as it went up, in principle. No one is guaranteeing that, but the idea is this is not the same—you know, there are relationships in the economy for how quickly inflation would move compared to demand moving. This could be an unusual situation because we have had what is, in effect, a vertical supply curve, where there is not any more supply, or a very steep supply curve. So you get really sharp increases in prices. You could get sharp declines for the same reason.

So that could be a difference, and I think we will find out, ideally. But ultimately we need to see progress on the supply side, and we are not waiting for it. Our job and our tools work on demand, and that is what we are working on now, is getting demand down to a more sustainable level so that supply can catch up and is in better balance with demand.

Senator DAINES. Chairman Powell, thank you.

Senator TILLIS [presiding]. Thank you, Senator Daines. Senator Ossoff, on behalf of the Chair.

Senator OSSOFF. Thank you, Senator Tillis. Mr. Chairman, welcome back.

Let me state at the outset you have an extraordinarily challenging job and extraordinarily complex times, and much of what you are responding to and adapting to is beyond your control. Your success is the country's success. To a significant extent, it is the world's success, and I fervently hope for your success and appreciate your continued efforts.

I would like to ask you to specify, if you can, what transmission mechanisms you believe are most sensitive right now to the change in monetary policy, what forms of consumption you expect to be most sensitive to it, and the extent to which you anticipate that some of the effects that you hope to have on aggregate demand through the increase in rates are transmitted by financial markets, and if so, how.

Mr. POWELL. I guess I would say three basic channels through which our tools work. The first would be interest-sensitive spend-

ing. So that is durables, including cars and things like that, durable goods. Housing, for example. So when rates go up, spending on those purchases, which tend to be financed with debt, will be restrained. That is one major, major channel.

The second is just asset prices generally, across the economy. When interest rates go up, it raises the cost of holding assets. It can cause assets, again, broadly across the economy, to either moderate their growth or decline somewhat in value, and that has an effect, a broad effect, across the economy on spending, on everything.

The third channel is really the exchange rate, which you can think of as another asset price. That also has the effect of pressing down on inflation.

So we look at all of those. Starting with the first one, you can see, we just talked about the housing market. The housing market is the classic part of the economy that is very sensitive to interest rates, and you are going to see a moderation in housing demand. You are going to see declining—well, slower increases, at least, in housing prices.

So those are the three main channels I would point to.

Senator OSSOFF. Let me ask about, in terms of asset prices and how financial markets are responding to the Fed's stance. I have consistently asked you and Secretary Yellen, when you appear before the Committee to talk about systemic risks, risks to financial stability, risk of financial contagion, where you are moving swiftly and markets are volatile there are perhaps institutional trades that could rapidly unwind or exotic financial instruments that no longer function well.

What do you anticipate to be the parts of capital markets now, or the phenomena in capital markets that present the greatest risk to financial stability as the Fed takes the aggressive action that you are taking?

Mr. POWELL. Well, I would start by saying that the banking system is very strong, well-capitalized, highly liquid, does a much better job of understanding the risks it runs and managing them than before the global financial crisis, and that is a reflection of the work that regulators did and that the banks did. So that part of the financial system is critically very strong, and we saw that through the pandemic and we see it now.

To your point, though, capital markets did show real periods of illiquidity during the immediate aftermath of the pandemic, and so we have been looking at ways—we, I say broadly, the regulatory community—has been looking at ways to address that.

Senator OSSOFF. So you remain concerned about money markets.

Mr. POWELL. Well, that is different. So money markets, that is a part of the economy where it has become illiquid because the assets that they were invested in were not able to be turned into cash quickly to fund depositors wanting to take their money back. So we stepped in and had to provide that liquidity for the second time. There are reforms going on there at the SEC which should address that, and they are in the process of being considered and then implemented. So that should help on that front.

I was thinking more of the Treasury market, for example, which became illiquid at the very beginning when people wanted nothing but cash, nothing but the cash, and those cash-like things.

The Treasury market has been functioning, though, all through this period, when we have very significantly changed the stance of monetary policy. So markets have been functioning well, reasonably well, and——

Senator OSSOFF. OK. My time is running short. I appreciate that. We will probably follow up to talk a little bit more about financial risk.

With my remaining few seconds let me ask you this. How would you characterize the share of responsibility, if you will, on the supply side versus the demand side, for the elevated price levels over the last year? To what extent do you believe that—you mentioned the supply curve being steeper than expected and so the increased durable goods demand and consumer demand having a greater than expected effect on prices.

Right now, is the principal driver of the increase in the price level elevated consumer demand, elevated demand, or is it supply constraints? I know we are facing both, but I am asking you to allocate, as you can, some share to each phenomenon.

Mr. POWELL. Yeah. I just would say it is clearly both factors are principally at work here. You could not get this kind of high inflation without strong demand, and you certainly could not get it without the kind of supply issues that we have had, both in the labor market, reflected in high wages, and then in the goods market, reflected in what has happened with durable goods. And cars, in particular, you look there, it has been driven by the semiconductor shortage.

Senator OSSOFF. Thank you, Chair Powell. Thank you, Mr. Chairman.

Senator TILLIS. On behalf of the Chair, Senator Moran.

Senator MORAN. Mr. Chairman, thank you. Chairman Powell, thank you for your presence here today. Let me start just by making certain that I tell you something that I think I need to say, on behalf of Kansans. I have never seen the level of anxiety, uncertainty, concern for the future as I see today when I have conversations with folks in my neighborhood and across Kansas. There is a sense that something is not right. Inflation is a significant component of that feeling, and the inability to know what is around the corner is terribly damaging to folks, both financially but also mentally or psychologically.

There is a real circumstance out there that I want you, as the Chairman, and your colleagues to know exists. I think uncertainty in what the future holds is one of the most damaging things, when people try to figure out their lives and how comfortable they are.

I also want to highlight a particular Kansas but middle America, across the country issue of agriculture. I was on a farm on Saturday, participating in, observing harvest of wheat. We live in a world in which people are starving and more are going to starve if we fail to get more grain into markets, from Ukraine and from Russia, but from the United States as well. Agriculture, farming is a noble calling and it has a lot to do with being able to feed people who are now desperate.

Part of the concern in regard to agriculture is the interest rates have a significant consequence to the profitability, to the survivability of producers, and profit margins gets squeezed. If interest rates continue to climb we face declining or lower land values. That creates greater access to credit challenges.

Tell me how you see, one, how I can assure my Kansans and Americans that things are going to be better, and two, how can I assure farmers and ranchers that their future will be brighter, based upon the activities of the Federal Reserve?

Mr. POWELL. I take the sort of very low confidence readings that we are reading about, and your comments about Kansas citizens, as being pretty directly related to high inflation, and I think people have not seen it. You know, most people, you and I are old enough to remember what it was like, and it is something that it just really does destroy public confidence in the economy and that kind of thing. So we need to get inflation back down to 2 percent, and all I can say is we are using our tools to do that and the public should believe that we will get inflation back down to 2 percent, over time.

Again, there are factors that we do not control, but those factors do tend to wash out over time. Things like commodity prices do not tend to just keep going up. They may remain high but essentially they are quite volatile over time. That is what the record shows.

So we are doing what we can to get inflation down, the parts that we can address. So whatever that is worth, that is what we can do and what we will do.

In terms of the agricultural patch, as you know we have, including your Kansas City Fed president, we have some terrific people who are Reserve Bank presidents who give us a good sense of what is going on in the agricultural sector on an ongoing basis, and it is obviously a very, very difficult time, with fertilizer prices and difficulty in getting all kinds of inputs. It is just a very challenging time in the agriculture world. We do understand that.

Our part of it is to do what we can to get inflation back under control. I know higher interest rates are painful, but that is the tool we have to moderate demand and get demand and supply back into balance so that inflation can come down.

Senator MORAN. Mr. Chairman, in a conversation you and I had on the phone you indicated, as you did today, that there are certain aspects of inflation that you have little control over. One of them, I think you mentioned, was energy. Let me be reassured, if you would, that there will not be actions by the Federal Reserve to make lending to fossil fuel producers a component of the policies of the Federal Reserve. When you say you have little to do with it, you could cause great damage if you decide to go down a path that was at least contemplated by a number of nominees for the Federal Reserve Board, and I would love to be reassured that is not a component that you would pursue and that we would not see resulting in increasing cost of fuel as a result of Federal Reserve policy.

Mr. POWELL. My view certainly is that it is not our job to allocate credit to or against or away from any particular sector of the economy. That is the job for elected officials or for markets, but it is not a job for the Federal Reserve, which has a mandate to, you know, pursue maximum employment, price stability, a well-regulated banking system, and a sound payment system.

Senator MORAN. Mr. Chairman, thank you.

Senator TILLIS. On behalf of the Chair, Senator Warnock.

Senator WARNOCK. Thank you very much, Mr. Chair, and thank you, Chairman Powell, for being here again today.

Georgia is in a serious housing crisis, and the Federal Reserve Bank of Atlanta has designed owning a home in Atlanta as unaffordable to the average home buyer. But it is not just a city problem. It is urban. It is rural. Haralson County, a county with a population of less than 30,000, is also rated as unaffordable.

In the midst of this housing crisis, the Federal Reserve Bank, which has a tough mandate and a tough time of managing inflation, has raised the Federal funds rate by 0.75 percent. This means mortgages are about to get a lot more expensive for families.

Chairman Powell, as the Fed raises its interest rates, what is the Fed doing to prevent this rate increase from further exacerbating the housing crisis?

Mr. POWELL. Well, so by raising rates, what you are seeing is a slowing housing market now. Because of higher interest rates, mortgage rates have gone up pretty substantially, and you are seeing a slowing in the housing market. And one of the things that should mean is that housing prices should stop going up at such remarkably rapid rates. Since the beginning of the pandemic, we have had a very, very hot housing market all around the country, and what should take place is as demand moderates, the demand for housing moderates, for new and existing homes, you should see prices stop going up quite so fast. You are also going to see fewer home sales, and just generally a lower rate of activity in the housing market.

So really what needs to happen is housing supply and demand need to get back into better alignment, and the part of that that we can control is really by moderating demand so that prices stop going up quite so much and that we can get back to a housing market where supply and demand are.

Now we do not control supply, and there are issues in this country around housing supply. It is harder to get land and lots and things like that. It is harder to get people to work. So there are supply side constraints, if you meet with builders from around the country. They will tell you that we have a longer-term issue as a country around creating enough housing supply. That is not something that the Federal Reserve can do anything about, but it is an important issue.

Senator WARNOCK. Notwithstanding that mortgages are clearly, at least in the short term, about to get more expensive, it seems to me that what would be helpful is if the Congress would pass my Down Payment Toward Equity Act to help first-generation homebuyers afford their first home.

What effects do you expect the Fed's interest rate increases will have on the—well, let me put it another way. The Federal Reserve helps enforce the Fair Housing Act and the Equal Credit Opportunity Act. What plans do you have to ensure that as interest rates increase everyone still has access to a fair, reasonably priced mortgage?

Mr. POWELL. Higher interest rates do not change our very important obligations under the fair credit laws that we enforce, and so

we will continue to enforce those, you know, transparently and aggressively.

It is true, though, that mortgage rates have gone up, and that will slow down demand, and there is some pain involved in that for people paying higher mortgage rates and also some people will be priced out of the mortgage market. But that is ultimately what needs to happen if we are to get back to price stability to a place where people's wages are not being eaten up by inflation.

So the greatest pain would be if we allow this high inflation to just continue.

Senator WARNOCK. Yeah, and I guess my point is in the meantime, the folks who are on the margins of the marketplace in the first place, the issue is how do we protect them as much as possible.

Related to that, when Secretary Yellen was here she stated that the Federal Reserve needed to not only be skillful, but she said, quote, "lucky" to ensure, quote, "a soft landing." I do not like counting on luck when the economic safety of Georgians, particularly those at the margins, is at risk, which is why I am doing what I can here in the Senate.

I have introduced a couple of bills to lower the price of gas, to lower the cost of groceries and other everyday goods, to cap the cost of insulin and other medication, and I have held the White House accountable to pursue investigation of price gouging of ocean carriers and I have supported bipartisan legislation addressing the same issue that just became law.

How can Congress lower costs for Georgia families, and what steps can Congress take to support the Fed and ensure a soft landing?

Mr. POWELL. I guess I would be reluctant to give you advice while we are trying so hard to do the job that you have actually assigned us, which is to get inflation back down. Yeah, I mean, I think those are authorities that those of you who run for elected office have, and we do not have, as mere appointees. So that is really up to you.

Senator WARNOCK. You would agree that the folks at the margins of the economy are feeling the most pressure and pain, and that has to be addressed?

Mr. POWELL. I think that is always the case, and in the case of inflation it is really that if you are spending every dollar that you are intaking on the bare essentials of life, and the cost of them goes up 10 percent, you are in trouble right away, whereas middle-class people and people better off than that, they have got some resources, some ability to deal with it.

But that is why it is such a priority for us to get on top of inflation before it does become entrenched. Inflation has only now been around for—you know, it really did not start until March of last year. So it is not at all too late for us to get this job done and get back onto the kind of path we all want to be on.

Senator WARNOCK. Thank you so much. I am concerned about this, and it is why, in the meantime, I have introduced several bills the lower costs for essential items like gas and groceries and medication.

Thank you for your testimony.

Mr. POWELL. Thank you, Senator.

Senator TILLIS. On behalf of the Chair, Senator Sinema I think will join virtually.

Senator SINEMA. Thank you, Mr. Chairman, and thank you, Chairman Powell, for joining us today, and congratulations on your recent reconfirmation.

You know, the inflation numbers continue to be concerning, and this is the number one issue I have been hearing about from Arizonans. Families and small businesses are paying higher prices and they need relief from soaring inflation so they can make ends meet.

But we also know that this is not only a U.S. problem. Countries around the world, both big and small, are also seeing high inflation. So how is the U.S. positioned relative to other countries with respect to inflation?

Mr. POWELL. I would say our level of inflation is broadly comparable to that of other major economies. You saw Canada release their inflation number today. It is not far from where ours are. Same with the Western European democracies and the United Kingdom.

But there are different compositions. So I would say generally, to generalize, in the United States our inflation has more of a demand-driven component whereas in Europe it is more, to a greater extent, driven by very high energy prices, for example, although the United Kingdom kind of has a mix of both of those. We also have high energy prices here. So the levels are similar but the composition is a little bit different here in the United States.

Senator SINEMA. Thank you. You know, crypto markets have experienced substantial volatility in the past several weeks. Has the Fed been tracking these events, and what implications do they have for how the Fed is viewing the broader economic outlook and making decisions with respect to monetary policy?

Mr. POWELL. We are tracking those events very carefully of course, and not really seeing significant macroeconomic implications so far. But I think the principal implication is really what we have been saying, and others have been saying, for some time, which is that in this very innovative, new space, really there is a need for a better regulatory framework.

The same activity should have the same regulation no matter where it appears, and that is not the case right now because a lot of the digital finance products are in some ways quite similar to products that had existing in the banking system or the capital markets but they are not regulated the same way. So we need to do that. And I think that is the main takeaway I would have.

Senator SINEMA. What is an appropriate proportion of current U.S. inflation to assign to Russia's illegal invasion of Ukraine, and how are you thinking about these events in the context of setting monetary policy?

Mr. POWELL. Well, I would say that, you know, the increase in commodity prices are clearly connected to the war in Ukraine, so that part of inflation would be certainly much lower than it is without the war in Ukraine. And, you know, really there is nothing that our tools—our tools work on demand, and there is a job for our tools to do here. There is a job to moderate demand so that it can

be in better balance with supply. But we do not think that we have the answer to higher oil prices due to the global oil situation.

Senator SINEMA. I know the Fed tracks the core personal consumption expenditures index closely when thinking about monetary policy. Many trends in our economy, including a big shift toward technology and e-commerce, accelerated during the first year of the pandemic, and it is possible that the indicators and weights used to measure inflation may need to be revised to accurate measure inflation as Americans are experiencing it.

So we all know inflation is high, but how high it is matters to ensure that we have an appropriate response. Congress and the Fed should make decisions based off the best information that most accurately reflects the challenges that families and businesses are facing.

Have you given thought to this issue?

Mr. POWELL. Well, yes, in the sense that we look very carefully at the way we measure inflation in this country. We actually use personal consumption expenditures, which is a little different and a better approach, we think, than the more traditional consumer price index. This was a change we made about 20 years ago, and I think economists generally think that PCE inflation does a better job of measuring the inflation that people are actually experiencing in their lives. So that is what we do.

And we keep it updated. The Government agency that manages it keeps it updated on a regular basis. So we think that is the right approach in terms of measuring inflation. Of course, we look at CPI as well, but we have chosen to make PCE inflation our principal measuring stick.

Senator SINEMA. OK. Thank you. Mr. Chairman, I see my time has expired. I yield back. Thank you.

Chairman BROWN [presiding]. Senator Menendez, of New Jersey, is recognized.

Senator MENENDEZ. Thank you, Mr. Chairman. Chairman Powell, I want to start on the issue of diversity at the Fed. I have a letter that we sent you yesterday, and signed by nine Senators, including five Members of this Committee, urging you to undertake a number of simple reforms to the process for selecting bank presidents and Class B directors. That process has to include meaningful transparency and public engagement if we are ever going to have Fed leadership that truly represents the public, as required by the Federal Reserve Act.

So I will wait for your written response because we just sent that letter, on the details of those proposed reforms, but for now can I have your commitment that you will provide us with a substantive response by July 22nd?

Mr. POWELL. Yes.

Senator MENENDEZ. Thank you. And also will you commit to work with me to put in place real, meaningful changes to the process so we can have a broader array of voices to the Fed leadership?

Mr. POWELL. I will commit to having a frank discussion with you about that. We are open to ideas of how to improve. As you point out in your letter, you know, it is not like we have not made tremendous strides as it relates to the Class B and Class C directors in the course of the last 10 years. We really have, and the diversity

numbers are, I think, quite impressive for the B and C directors. The A directors, as you point out in your letter, less so, but those are appointed by the bankers in the district.

But we can have this conversation. I look forward to it.

Senator MENENDEZ. Less so, but it is worse than less so. I mean, you do not have one bank president in the history of the Federal Reserve who has been Hispanic. That is far worse than less so.

Mr. POWELL. I was talking about directors. But you are right about that.

Senator MENENDEZ. And there was a tremendous opportunity and it did not happen.

You know, I feel like I am the lone effort on this, but 62 million Hispanic Americans, who represent $2 trillion of domestic purchasing power, deserve a seat, where some of the most important economic decisions are being made. So we look forward to the engagement that you have said that you are willing to engage in.

Now I am trying to find out, as others have raised with you, there is no question that painfully high inflation is affecting every family in America. But in order to develop the right response we need to understand the underlying factors that are driving price increases. I think you have said here today that Russia's invasion of Ukraine, pandemic-related supply chain issues, and the energy issues that flow from Russia's invasion of Ukraine are perhaps some of the biggest factors in driving inflation.

But the question is, how is it that raising interest rates on those underlying causes of today's inflation ultimately are going to change it? You know, energy is still energy. Supply chain is still supply chain. Russia's invasion of Ukraine is a continuing challenge for the world. But there is nothing about interest rates that is going to affect any of that.

Mr. POWELL. No, but notwithstanding that there are major parts of the economy where demand exceeds supply, meaningfully, and that is where our tools have a job to do, where we can moderate demand and give supply time to recover so that supply and demand get back into better balance and inflation comes down.

Senator MENENDEZ. Well, it seems to me that we can all recognize that raising interest rates is a blunt tool at the end of the day, but I am looking, going back to the beginning of my questioning, it is essential, I believe, to be mindful of the effects of your actions—"your" meaning the Federal Reserve—will have on unemployment, particularly for those groups that we were hit hardest by the pandemic.

The Fed's latest *Monetary Policy Report* states that, quote, "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." Now that we are potentially entering a period of larger and more frequent interest rate increases, what do you expect will happen to the unemployment rates of Black and Hispanic workers relative to the population as a whole?

Mr. POWELL. It will depend on what happens to the overall unemployment rate. Our goal is to achieve 2 percent inflation while still keeping the labor market strong. That is our intention with this.

Senator MENENDEZ. Well, I appreciate what your intention is, but I would venture to say that what we will see is what we have seen in the past, that crisis after crisis disproportionately harms Americans of color. So I hope the Fed's response to inflation does not continue that trend because it is woefully wrong that one group of Americans disproportionately faces consequences of policy decisions versus the rest of America. And this is another reason to have people at the Federal Reserve who represent this community to share those insights with the Fed as you determine these macro policies that are going to affect our communities disproportionately.

Chairman BROWN. Thank you, Senator Menendez.

Senator Tillis.

Senator TILLIS. Thank you, Mr. Chair. Chair Powell, in response to a question from Senator Warner and a question from Senator Sinema, Senator Warner more or less asserted that we are all in the same boat in terms of inflation globally, but you made the point, on two different occasions that what is driving inflation in largely Europe, a little bit less so in the U.K., has to do with spiraling energy prices.

Could you talk a little bit about, beyond the pain at the gas pump and the increased cost of transportation, how increasing—I should say, and I believe that Europe is where they are—this is not for you to comment on—because they moved a little bit too aggressively and did not look at resiliency with some of their energy inputs that were largely affected by the Russian invasion. But could you talk a little bit about the other commodities that are affected by rising interest rates? We are talking about housing, and we know that pipes, a number of inputs to housing construction have gone up. Can you talk a little bit more about the market basket of other commodities that are influenced by increasing energy prices?

Mr. POWELL. I think energy prices go into an awful lot of different places in the economy, including as an input into manufacturing goods of all kinds and plastics, particularly, and things like that. So it is a big contributor to inflation, beyond just the actual energy prices.

Senator TILLIS. Yeah, and so, my only comment here, then I just have a closing thought, is that we are unilaterally hamstringing your ability to bring inflation down—you do not have to respond to this; it is a policy position—by artificially increasing the cost of energy in this country. If we simply would recognize that there is a way to get to a transition to green, renewable energy and made the glidepath sustainable, we could easily separate ourselves from the rest of other Western democracies with respect to that tool, which is not in your toolbox. And hopefully we can get to that discussion and embrace the idea that the transition is inevitable. It is a matter of timing and resiliency in the meantime.

Just one other question. I know the Post FOMC press conference you ruled out a 100 basis point increase. Is that a long-term view or a view based on the circumstances as you see them today? In other words, would that be something potentially on the table if the measures that you are taking right now to not work out?

Mr. POWELL. I think I would never take something off the table for any and all purposes. You know, the committee that I chair will

make whatever moves it believes are appropriate to restore price stability.

Senator TILLIS. OK. Well, I, for one, am glad you are at the helm. I have a lot of confidence in you, which I why I voted for your confirmation. But we will be submitting some questions to the record back on the points that I made in the opening statement about transparency. There is some frustration, and I have to say it is bipartisan, in terms of questions that we are asking and not getting answers to. The master account is one of them, but there are other items that we will just include for the record.

Thank you, Chair Powell. Thank you for serving.

Chairman BROWN. Thank you, Senator Tillis, and thank you for your cooperation in this hearing today. It has been a busy day for a lot of people, and Chair Powell, thank you.

I have a series of questions. I have not asked my questions. I was saving them for last. After my questions we will adjourn.

You have said that Russia's aggression in Ukraine, port congestion, and COVID lockdowns in China especially have contributed to higher prices. Consumer spending continues to be strong. Most Americans probably worry about inflation.

Talk for a moment, if you would, about the strengths of the American economy now and whether or not you see positive signs of prices stabilizing.

Mr. POWELL. Well, consumers are overall—not every consumer, but overall the consumer sector is in very strong shape financially. There is, as you know, a very substantial accumulated quantity of savings on balance sheets, less so at the very bottom of the income spectrum but right across the rest of the spectrum. So that is there to support spending, even in the face of higher inflation. And you are seeing consumer spending hold up pretty well.

Sorry, the rest of your question——

Chairman BROWN. Well, are there positive signs of prices stabilizing?

Mr. POWELL. So in terms of prices stabilizing, what we are looking for is compelling evidence that inflation is coming down, and we do not have that, so nothing I could point to says that we have that.

I will say that core PCE inflation is a pretty good indicator of where underlying inflation is running, and it has moderated over the course of this year reasonably significantly from where it was in the latter part of last year. It is still way higher than it needs to be. We need to see a lot more progress. But it has been running at a rate over the last, say, four or 5 months that is lower than it was, at least, but again, still far too high.

So we are looking for that. We are not really seeing it yet. You know, there are lots of stories out there of how this should happen, and some people think it is very clear that it will, and until we actually do see it happen we need to keep moving.

Chairman BROWN. And I want to be clear. From your comments publicly, your comments to this Committee today, you say the economy is not at the point of a recession. Correct?

Mr. POWELL. I do not see the likelihood of a recession as particularly elevated right now. You should know that no one is very good

at forecasting recessions very far out. No one has been able to do that regularly.

But I would say that the U.S. economy for now is strong, and spending is strong, consumers are in good shape, businesses are in good shape. Clearly financial conditions have tightened, and you are seeing growth slow from the very elevated levels of last year, associated with the reopening. You are seeing the beginnings of job growth slowing to more sustainable levels.

And, you know, there is risk in that. There is obviously risk in that. Monetary policy is famously a blunt tool, and there is risk that weaker outcomes are certainly possible. But they are not our intent.

Chairman BROWN. And as I said at the beginning of my testimony, or my opening statement a couple of hours ago that our economy is growing faster than China's. Let me ask two simple questions about gas prices. We have heard a lot today about gas prices from both sides. Just a few yes-or-nos. Does President Biden set gas prices?

Mr. POWELL. No.

Chairman BROWN. Does Congress set gas prices?

Mr. POWELL. Not as far as I know.

Chairman BROWN. Do you, as Chair of the Federal Reserve, set gas prices?

Mr. POWELL. No.

Chairman BROWN. I would not ask you to assign a sort of quantum responsibility, but starting with the decisions of OPEC and the world's major oil companies to not produce more, can you tell the Committee briefly what goes into the price at the pump and only what tools you have, Congress has, other Government agencies have to bring the price down?

Mr. POWELL. It is really principally, the price of oil, which is set globally, largely by the actions of large oil-producing countries, and then it is the refining spread, what it costs to refine, what the refiners can charge for what the public consumes, that refined product. So those are the two pieces of it, and our tools certainly do not work to address either of those things.

Chairman BROWN. Let me talk for a moment about housing. Several have asked about the skyrocketing costs for both renters and aspiring homeowners, prices over the last 2 years, but prices were not that great prior to President Biden and the last administration either, we know. Last year alone, rents went up more than 11 percent, grew faster than wages.

What are the short-term and long-term effects on inflation and our economy if renters see more and more of their monthly income going to housing?

Mr. POWELL. That will crowd out other kinds of spending. The very fast increases in housing prices over the last couple of years have been very broad across the country and unsustainably high.

Chairman BROWN. And that, of course, speaks to the importance of building more housing.

Last question I want to ask before adjournment, we have seen cryptocurrency values collapse by some $2 trillion and markets crash over the past few weeks, consumers losing money, workers losing jobs. The Monetary Policy Report highlighted the risks of

stablecoins, digital assets that aim to maintain a stable value in order to trade cryptocurrencies.

Talk for a moment, if you would, about the financial stability and monetary policy risks that these assets pose and how are stablecoins different? In your answer include how stablecoins are different from the U.S. dollar, which has the full faith and credit of the United States behind it.

Mr. POWELL. A Stablecoin is an instrument really that is backed up—there is a reserve that has securities in it that are meant to assure the value. Let's say it is a dollar stablecoin. So it is meant to assure that your interest is actually worth a dollar. So that sounds a lot like a money market fund, for example, and the way money market funds work is there is great transparency about what is in the reserve, and there are requirements about what must be in the reserve in order to preserve that one-dollar value.

The world of stablecoins is new and emerging, and it does not have the sort of fit-for-purpose regulatory scheme that it needs to. And I think that is something you have been hearing a lot across the board from a number of Federal agencies, and from our own Treasury Department, which has been leading an effort to try to put in place—and many Members of Congress now have proposed new frameworks for regulating stablecoins, and digital assets generally, and that seems like a wise thing.

Chairman BROWN. And clearly SEC, clearly CFPB, other agencies, the Fed's role in regulation of cryptocurrency in your mind is what?

Mr. POWELL. Well, that is one of the issues is who really does have authority over this, and that is something Congress would need to clarify. We have authority over what banks can and cannot do, some banks and bank holding companies. The SEC has some jurisdiction, has jurisdictions over securities. The CFTC has relevant jurisdiction. So part of this will be deciding what these things are and how they should be regulated.

There are stablecoins that are really used in connection with the crypto trading platforms. That is most of what happens now with stablecoins, but there are also some stablecoins, and even more potentially, that will be used in payments broadly. So that would be two different kinds of regulation there.

It is just an area where Congress—and Congress is investing bandwidth and looking at proposals, and that is, I think, a healthy process that should lead, over time, to something that has bipartisan support and puts in place appropriate regulation for the whole area.

Chairman BROWN. Let me drill down, and this is my last question. So if Congress does not act—I understand, and the Commodities Futures Trading Commission understand what you said about SEC. Is the Fed directly involved in any of these regulatory actions regarding cryptocurrency, absent of Congress action?

Mr. POWELL. We regulate banks, regulate and supervise banks, and so we have a say in what our banks, you know, the Federal Reserve-regulated banks and bank holding companies, do with crypto assets on their balance sheets, what activities are permitted and that kind of thing. Of course, the OCC is at that table and so is the FDIC.

Chairman BROWN. Does that suggest that a number of American banks are cautious because of your oversight of them on crypto?

Mr. POWELL. I mean, American banks are now very much exploring are there profitable opportunities to serve our customers in this new space? And, of course, what we are doing is saying let's be sure that takes place in a way that preserves and supports safety and soundness. And we have had an ongoing set of meetings and collaborations with the FDIC and the OCC, and that is ongoing, I guess, between us and the OCC. So I think that is an appropriate way to carry forward. But it is not a substitute for what I think is—you know, it is like any other major area of innovation. Ultimately, Congress will come together to create a regulatory framework that is more fit for purpose for it, as it has in so many other cases.

Chairman BROWN. OK. Thank you, Chair Powell. I look forward to continuing to work together.

For Senators who wish to submit questions, those questions are due 1 week from today, Wednesday, June 29th. To Chair Powell, please submit your responses to these questions for the record no more than 45 days from the day you receive them.

Thank you again for your testimony. The Committee is adjourned.

[Whereupon, at 12 p.m., the hearing was adjourned.]

[Prepared statements, responses to written questions, and additional material supplied for the record follow:]

PREPARED STATEMENT OF CHAIRMAN SHERROD BROWN

The Banking, Housing, and Urban Affairs Committee will come to order.

Today's hearing is in hybrid format. Our witness is in-person, but Members have the option to appear either in-person or virtually.

Today we've seen the fastest job growth in decades, faster growth than China, and the lowest unemployment levels in 50 years.

But when Americans see the price of gas and groceries going up, week after week, available jobs and long-awaited wage gains don't mean as much and don't go as far.

American families have been through enough the past 2 years.

But for most people, it's not just the past 2years that have been tough. Our economy hasn't worked for most Americans for far too long.

Whether it's war or disease or financial crisis or the march of globalization, workers and their families always bear the biggest burden—whether it's in the form of higher prices or lost jobs or low wages or all of the above.

That's not inevitable. The economy isn't physics.

The ghost of Adam Smith would not recognize America today. There is no invisible hand of the market.

When prices go up, it's because someone made a choice to raise them.

In corporate board rooms, when supply chains slow down or input costs go up or resources become scarce, executives make decisions:

Do we cut back on bonuses, do we rethink our stock buyback plan for this quarter, do we forgo executive raises this year, do we post quarterly profits that are still higher than last year—but maybe not quite as high as analysts thought they could be.

Or do we raise consumer prices, and foist all the negative consequences of world events onto the people who can least afford them. We know what most corporations do.

They make the same choice they've always made, no matter the economic conditions of the moment.

Most of these executives probably aren't bad people. They're just doing their jobs, they tell us.

It's the Wall Street system. These executives have to post profit increases for their shareholders, quarter after quarter—the consequences for everyone else be damned.

It's why for decades, Wall Street has rewarded the companies that squeeze their workers the hardest—companies that cut wages and retirement benefits, and then cut corners on worker safety and on consumer protection—just to make their stock prices go up.

It's why too many companies failed to invest in their workers or their products.

It's why companies moved manufacturing overseas, and then neglected the supply chains that have been crippled during the pandemic.

It's why big corporations like Amazon and Starbucks bust unions.

It's why oil and gas companies would rather charge higher prices than increase supply to meet demand.

We aren't witnessing traditional inflation—we're watching Russia and OPEC drive up prices and American energy companies engage in war-time profiteering.

At the root of the higher prices and the empty shelves is the same problem that's been shipping jobs overseas and keeping wages low for decades:

Corporate power and concentration reaching into every industry and market, into every corner of the economy.

Our economy doesn't have to be a zero-sum game where Wall Street wins and everyone else loses.

We can create an economy that reflects our values and works for everyone.

We passed the American Rescue Plan, including the Child Tax Credit—the biggest tax cut for working families ever. And despite what naysayers claim, it was not the cause of inflation. For the Ohio families that I talk to, it empowered them to keep up with the cost of raising children.

We passed the bipartisan infrastructure bill—a long-term invest in economic growth that will create more jobs, strengthen our supply chains, and improve our bridges and roads and public transit.

Last week, President Biden signed the bipartisan Ocean Shipping Reform Act into law, which will bring down ocean shipping supply chain costs.

We need to build on these successes to build an economy that rewards work, making things in America.

We should pass my Supply Chain Resiliency Act, and bring manufacturing back to the United States.

We should bring down the cost of prescription drugs and housing and childcare and elder care and others costs that have been rising for decades.

We need to pass the PRO Act, to empower workers in their workplace and our economy.

And we need to crack down on corporate consolidation and concentration. Fair competition is good for workers, consumers, and Main Street businesses, and it's a core American value.

That is how we bring costs down, and ensure that workers don't always pay the price for powerful people's bad decisions—whether it's a dictator in Eastern Europe or a Wall Street bank executive.

In a truly fair economy, people don't have to choose between two bad options—low wages, or high prices.

No one likes inflation, and people also want good jobs that pay a living wage.

Americans want to work, and they want to work with dignity. That's central to the functioning of our economy—and that's part of the Fed's mandate.

We must continue to empower workers and strengthen the labor market. Wages are not responsible for inflation right now.

We can't forget that 5.7 million people are still looking for work—there are actual workers behind the numbers, whose livelihoods are directly affected by decisions the Federal Reserve makes.

And as interest rates rise and financial stability risks increase, it is even more important to keep a close watch on the biggest banks, so that excessive risk-taking doesn't create even more problems.

Banks must have enough capital to withstand a crisis. They must serve their communities—not just enrich themselves with stock buybacks and exorbitant executive pay. And mergers must benefit the local economy, not just shareholders.

We've seen too much evidence of big Wall Street banks behaving badly: shunning small businesses, raking in billions in overdraft fees, discriminating against Black borrowers.

You, Chair Powell, must also ensure we have a strong payment system that works for Main Street banks and consumers, so that people don't feel like the only option is a risky and unregulated alternative financial system, backed by nothing but empty promises.

The thousands of proxy currencies, like stablecoins, and other digital assets, that promise transparency and democracy are missing one thing: they aren't backed by the full faith and credit of the United States.

The Federal Reserve—our Nation's central bank—must use its authorities to protect consumers and the financial system from these risks.

And you must ensure that the Fed has the highest ethical standards.

After former Fed officials profited off of their positions in last year's stock trading scandal, you must restore the American people's trust in this institution that is critical for a healthy economy.

I was encouraged when you updated the Fed's policies, but we need rules that have the force of law. That's why we need to pass my Ban Conflicted Trading at the Fed Act.

As Chair of the Federal Reserve, you have an important role to play to make sure our economy works for everyone, not just those at the top. I urge you to remember the millions of working Americans who are counting on you.

PREPARED STATEMENT OF JEROME H. POWELL

CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

JUNE 22, 2022

Chairman Brown, Ranking Member Toomey, 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 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.

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 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 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.

Questions for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from Chairman Sherrod Brown:

1. **According to a June 21, 2022 San Francisco Federal Reserve Bank Economic Letter, supply-side factors are driving up inflation much more than demand-side factors.**

   The letter referenced data which shows that "supply-driven factors are contributing 2.5 percentage points more than their pre-pandemic average to inflation, compared with 1.4 percentage points more for demand-driven factors." In other words, supply-driven inflation accounts for a majority of the increase in inflation in the U.S. since the COVID-19 Crisis began.

   How would this information factor into the FOMC's monetary policy decision-making to curb demand, when that approach could not address the supply-side issues primarily driving up inflation?

Imbalances between supply and demand are contributing to the high inflation the economy is currently experiencing. The Federal Reserve cannot directly influence supply. But we can take and are taking forceful and rapid steps to moderate demand so that it comes into better alignment with supply.

It is possible that improvements in supply both in the U.S. and globally will also contribute to bringing supply and demand into better balance. But it is difficult to know how much or over what time horizon supply will improve or whether it will improve at all. The longer these supply-demand imbalances persist, the more persistent high inflation will be, and the greater the likelihood that inflation expectations will rise. We know from the experience of the 1970s and early 1980s that the difficulty of bringing inflation down is likely to rise if inflation becomes entrenched.

Reducing inflation is likely to require a sustained period of below-trend growth, and there will very likely be some softening of labor market conditions. But restoring price stability is essential to set the stage for achieving maximum employment and stable prices over the longer run. We will keep at it until we are confident the job is done.

2. **The United States is experiencing the fastest job growth in decades and lower unemployment levels than we've seen in 50 years. While nominal wage growth has been fast over the last year compared to previous decades, inflation has been outpacing this growth, meaning that *real* wages have actually been declining. Non-wage-related pressures, like supply chain bottlenecks and Russia's war on Ukraine, are the primary drivers of inflation.**

   The Federal Reserve's monetary policy mandate is to "promote maximum employment, stable prices, and moderate long-term interest rates in the U.S. economy." As the Federal Reserve manages inflation by raising interest rates, how will the Federal Reserve meet its full employment mandate for the 5.7 million Americans still looking

for work, given that labor costs are taming, rather than amplifying, current price pressures?

Currently, there are nearly two job openings for every unemployed worker, and firms are reporting severe labor shortages. Nominal wage growth is well in excess of productivity growth, putting upward pressure on firms' labor costs, which are now rising much more than would be consistent with meeting our 2 percent inflation target. A strong labor market can only be sustained if inflation is brought under control. By moderating demand and bringing it into better alignment with supply, the Federal Reserve can bring inflation down and create the conditions necessary for a sustainably strong labor market.

3. **You have acknowledged that high inflation imposes significant hardship, especially on those least able to meet the higher costs of essentials like food, housing, and transportation. This burden falls disproportionately on Black and brown families, who have less savings and wealth than their white counterparts. The average white family has 7.8 times more median wealth than the average Black family. As of May 2022, the unemployment rate for Black and Hispanic workers is 6 percent and 4 percent respectively, compared to 3 percent for white workers, and 3.6 percent for all workers. What concrete steps will the Fed take to ensure that its actions do not further widen the wealth and unemployment gaps?**

Under our dual mandate, the Federal Open Market Committee aims for the maximum level of employment consistent with stable prices. Without price stability, the economy does not work for anyone. In particular, without price stability, we will not achieve a sustained period of strong labor market conditions that benefit all. The burdens of high inflation fall heaviest on those who are least able to bear them. The pre-pandemic economy showed clearly that a strong labor market will deliver benefits very widely and deeply. And the current economy demonstrates that high inflation is particularly harmful to low-income families.

While the benefits of a strong labor market and low inflation are spread broadly, they have not been spread evenly. At the end of 2019, the unemployment rate for Blacks was still roughly 3 percentage points above that of whites, even though the Black unemployment rate was at its lowest level on record. Currently, the same situation prevails: Most demographic groups are experiencing historically low unemployment rates, but there is a lot of dispersion across groups, including by race, ethnicity, gender, educational attainment, and geographical location. The Federal Reserve's tools are not well suited for targeting these disparities. However, fostering an environment of low inflation and high employment will help build a strong foundation for creating prosperity for all.

4. **In the 2022 stress test results, the Federal Reserve stated that bank capital remains strong, yet the individual stress capital ratios range from as low as 6.8 to as high as 22.8. From what precise level of capital or numerical benchmark does the Fed make the determination that capital levels are strong? How would the outcomes of the 2022 stress tests be different if performed prior to the Fed's replacement of the quantitative Comprehensive Capital Analysis and Review (CCAR) with the stress capital buffer?**

The 2022 stress test results showed that large banks have sufficient capital to withstand severe stress and continue lending to households and businesses. Despite projected losses of over $600 billion in the stress test, the aggregate common equity tier 1 (CET1) ratio across all banks tested was more than twice the minimum requirement. In addition, each large bank's capital ratios remained above all regulatory minimum requirements despite large loan and other losses under stress. Variation in stress testing results across firms and over time reflects variation in each firm's starting allowances and capital ratios as well as portfolio and risk compositions.

In March 2020, the Federal Reserve Board (Board) approved a rule to simplify its capital requirements. The rule created the stress capital buffer, which integrated the stress test with non-stress capital requirements into one simplified framework. The rule modified certain stress test assumptions used in CCAR to simplify and remove redundant elements of the capital framework. When the Board finalized the rule, it performed a historical analysis and found that the rule was estimated to result in largely unchanged CET1 capital requirements.

The supervisory stress test is generally the same following the changes implemented in the March 2020 rule. Consequently, the severity of the 2022 stress test was comparable to the severity in prior years, including cycles prior to the establishment of the stress capital buffer. For example, the aggregate loan loss rate in the 2022 stress test was at the same level as the rate in the 2018 stress test.

5. **Concentration and consolidation across industries has hurt workers and families on Main Street. On April 7, 2022, I sent you a letter urging the Fed to initiate a public comment process on the Fed's approach to bank mergers. When does the Fed plan to initiate this review?**

I recently responded to your letter of April 7, 2022. A copy was sent to your office.

Questions for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from The Honorable Patrick J. Toomey:

Fed Master Accounts

1. **In questions for the record after your March 3, 2022 appearance before the Banking Committee, I asked you for a list of every institution that has applied for a Fed master account in the past 20 years (including the type of each institution, e.g., traditional bank, trust company, fintech company) and the status of each application (e.g., approved, denied, withdrawn, under review).**

   On June 24, 2022, I received your response to this request. In your response you stated that, "information regarding which institutions have requested or maintain master accounts is considered confidential business information of the requestors and the Reserve Banks. As such, the Federal Reserve does not disclose that information publicly." Notably, just two days prior at a Committee hearing, you told Senator Lummis that you would "be glad to look into that."

   It is hard to see how the mere fact that an institution has applied for – and either has or does not have – a master account is "confidential business information," which generally refers to trade secrets and proprietary commercial or financial information. Given that it's well understood in the banking community that every commercial bank has a master account, the existence of the account could hardly be seen as a trade secret. Other federal agencies regularly provide similar information to the public. For example, the FDIC publicly releases the names of institutions that apply for FDIC insurance, as well as the status of each application.[1]

   The Kansas City Fed (KC Fed) also recently refused to provide information about the status of the master account of Reserve Trust, a non-bank fintech company. However, the KC Fed did not claim master account status was "confidential business information." Instead, the KC Fed asserted that this information was "confidential *supervisory* information [CSI] belonging to the Federal Reserve Bank of Kansas City and its regulatory components." Several well-known financial regulation scholars have disputed the KC Fed's claim regarding CSI, since Reserve Trust is a state-chartered trust company that the Fed does not supervise.

   [1] https://www.fdic.gov/regulations/applications/actions.html.

   a. **What specific law does the Fed believe prohibits it from providing information regarding master account applications to Congress and the public?**

   b. **Why does this law prohibit the Fed from disclosing information regarding master account applications to Congress and the public, but not prohibit the FDIC from publicly disclosing similar information about applications for FDIC insurance?**

c. How can the KC Fed claim that information about Reserve Trust's master account is confidential supervisory information when the Fed does not supervise Reserve Trust since it is a state-chartered trust company?

The Federal Reserve Board on June 16, 2023, published a database of financial institutions with access to, or requests to access, Federal Reserve Bank master accounts and services.[1] The database is consistent with the requirements set forth in legislation enacted in 2022 and will be updated on a quarterly basis.

Congressional Investigation Records Request

2. In questions for the record after your March 3, 2022 appearance before the Banking Committee, I asked you about an outstanding request I have for Federal Reserve Board records concerning certain Fed regional banks exceeding their mandates by engaging in politically charged activities. My questions noted that my staff has communicated with Federal Reserve Board staff about this request, but as of March 10, 2022, I had not received from the Federal Reserve Board any requested records that were not already publicly available. I asked if you would commit to producing all of the requested records and, if not, to please explain why.

On June 24, 2022, I received your response to these questions for the record, which simply stated: "Board staff have worked together with your staff to respond to your records request. The Board provided your staff with approximately 2,000 pages of documents on April 19. This is in addition to the over 7,000 pages provided previously."

The fact is the vast majority of the documents that the Federal Reserve Board has provided are publicly available. For example, the Federal Reserve Board provided copies of multiple statutes and agency regulations and letters that are publicly available. These statutes, regulations, and letters alone account for more than 5,000 pages of the documents provided. Even when the Federal Reserve Board has provided internal documents, like email newsletters, the substance of these documents is primarily publicly available information, like articles from public newspapers.

The Federal Reserve Board has indicated that it has withheld certain documents that are responsive to my request on the grounds that these documents are exempt from disclosure under the Freedom of Information Act (FOIA). These documents apparently contain search terms that my staff provided to Federal Reserve Board staff, which included the terms whiteness, white privilege, critical race theory, systemic racism, and structural racism. These responsive documents include approximately 120 emails (and attachments) that Federal Reserve Board staff have claimed are exempt in full from disclosure under FOIA exemption (b)(5) because they allegedly contain information subject to the deliberative process privilege. They also include approximately 28 emails (and attachments) that Federal Reserve Board staff have claimed are exempt in full from disclosure under FOIA exemption (b)(8) because they allegedly concern the supervision of financial institutions.

[1] *See* https://www.federalreserve.gov/paymentsystems/master-account-and-services-database-about.htm.

FOIA does not govern congressional oversight requests, like this request. In fact, FOIA itself explicitly states that FOIA "is not authority to withhold information from Congress." (5 U.S.C. § 552(d)). Even if FOIA did govern congressional oversight requests, the Federal Reserve Board can voluntarily disclose information that falls under a FOIA exemption.

a. **Will you provide the approximately 120 emails (and attachments) that the Federal Reserve Board has withheld in full under FOIA exemption (b)(5)?**

b. **Will you provide the approximately 28 emails (and attachments) that Federal Reserve Board has withheld in full under FOIA exemption (b)(8)?**

The Board understands and respects the critical importance of congressional oversight of our activities, and we work collaboratively and cooperatively with members of Congress to provide information on a broad range of issues. Consistent with the conclusion of a 2017 Office of Legal Counsel opinion, it has been the Board's long-standing policy and practice to process information requests submitted by individual members of Congress under the standards that generally would apply to requests under the Freedom of Information Act.

Monetary Policy

3. **The Fed's monetary policy report to Congress includes a section on "Monetary Rules in the Current Environment." According to the Fed's own analysis, simple monetary rules call for the Fed funds rate to currently be above 6 percent, yet it is only at 1.6 percent. Those rules would have had the Fed begin raising rates in Q4 2020 or Q1 2021, as some had called for.**

   Instead of following a rules-based strategy, the Fed has followed a discretion-based policy. With CPI inflation now at 8.6 percent per year, its clear that the Fed's discretionary judgment has been very wrong. Admittedly, no rule is perfect, and a rule chosen by the Fed might be different than one of the simple rules described in the report. For example, as you emphasized at the June 22 hearing, some rules would inappropriately prescribe negative interest rates.

   Even so, some have argued that a sensibly designed rules-based policy could better achieve the Fed's dual mandate, improve the Fed's accountability and transparency, and improve the Fed's credibility.[2] Senator Tillis asked you at the hearing if you will "commit to considering an increased weight for rules-based strategy in Fed decision making" during its next strategy review. You said, "I think in a couple of years, when we look at our framework again, that's something we could look at," but did not make a firm commitment to him.

   Will you commit to considering a rules-based strategy during the Fed's next strategy review?

[2] See, e.g., Lars E.O. Svensson, "What Rule for the Federal Reserve? Forecast Targeting," NBER Working Paper Series, no. 23993 (2017). https://www.nber.org/papers/w23993.

Scott B. Sumner, "Nominal GDP Targeting: A Simple Rule to Improve Fed Performance," The Cato Journal 34, no. 2 (2014): 314-337. https://www.cato.org/sites/cato.org/files/serials/files/cato-journal/2014/5/cato-journal-v34n2-7.pdf

Michael Woodford, "The Case for Forecast Targeting as a Monetary Policy Strategy," The Journal of Economic Perspective 21, no. 4 (2007): 3-24. https://www.aeaweb.org/articles?id=10.1257/jep.21.4.3

Policy rules played a prominent role during the Federal Reserve's previous review of its strategic framework for monetary policy, as they were regularly utilized to evaluate the performance of alternative policy strategies as part of the background analysis for the review.[2] They will likely play a similarly important role in the next review. That review will be a comprehensive examination of our strategy, tools, and communication practices to consider how our policy framework can be improved to meet future challenges. As in the previous review, public outreach and consultation about how to improve our policy framework will be essential components of the review.

More broadly, of course policymakers frequently consult policy rate prescriptions derived from a variety of policy rules, such as the Taylor rule, as part of their monetary policy deliberations each round, without mechanically following the prescriptions of any particular rule. Simple policy rules have important limitations, including that they respond to only a small set of economic variables, thus abstracting from broader financial and economic conditions as well as from risk-management considerations. In addition, 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. Broadly speaking, the change in monetary policy stance that has occurred as circumstances have changed in the past three years have been consistent with the prescriptions of many simple policy rules. That is, these rules would have called for a highly accommodative stance for monetary policy in response to the pandemic-driven recession and for significant increases in interest rates in the face of elevated inflation.

4. **"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," according a recent working paper published by the American Enterprise Institute.[3] According to the authors' estimates, the Fed's securities portfolio lost $540 billion in market value between December 31, 2021 and May 31, 2022. Those losses amount to more than 13 times the Fed's consolidated capital ($41 billion).**

   The authors project that if the Fed eventually raised short-term interest rates above 2.7 percent, then "the Fed will experience net operating losses." According to the June 2022

[2] *See* https://www.federalreserve.gov/monetarypolicy/review-of-monetary-policy-strategy-tools-and-communications-background-for-review.htm.

Summary of Economic Projections, the median Federal Open Market Committee (FOMC) participant projects a Fed funds rate of 3.4 percent by December 2022, 3.8 percent in 2023, and 3.4 percent in 2024.[3] Under that rate path, the Fed will suffer sustained operating losses.

In the event of operating losses, the authors claim that the Fed would not reduce its book capital surplus, but would instead create a "deferred asset" on its balance sheet. Moreover, because member bank capital remains positive, the Fed would continue to pay dividends. The authors claim that accounting standard is inconsistent with the Federal Reserve Act.

[3] Paul H. Kupiec and Alex J. Pollock, "Who Owns the Federal Reserve Losses and How Will They Impact Monetary Policy," AEI Economics Working Paper, no. 6 (2022): 1. https://www.aei.org/wp-content/uploads/2022/06/Kupiec-Pollock-Who-Owns-Federal-Reserve-Losses-WP-1.pdf?x91208

[4] "Summary of Economic Projections," Board of Governors of the Federal Reserve System, June 15, 2022. https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20220615.pdf

- **a. With respect to the treatment of capital and operating losses, are the Federal Reserve's accounting practices consistent with the requirements of the Federal Reserve Act?**

- **b. If the Fed suffers operating losses, will it continue to pay dividends to member banks?**

The Federal Reserve remits excess earnings to the U.S. Department of the Treasury (Treasury) after providing for the cost of operations, payment of dividends, and reservation of an amount necessary to maintain surplus at each Reserve Bank's allocated portion of the aggregate surplus limitation (currently set at $6.785 billion). Under Federal Reserve accounting policies, which are consistent with generally accepted accounting principles, the creation of a deferred asset and suspension of remittances occur when the Reserve Bank's earnings are not sufficient to provide for these costs. Even if remittances to the Treasury are suspended, we would continue to pay dividends to member banks consistent with the Federal Reserve Act.

Net operating losses would not interfere with our ability to conduct monetary policy or to meet our financial obligations. Unrealized gains and losses on our securities holdings, as well as increases in our interest expense as interest rates rise, have no effect on our ability to use our tools to foster the achievement of our congressionally assigned goals of maximum employment and stable prices.

5. The Federal Open Market Committee (FOMC) "seeks to achieve inflation that averages 2 percent over time," according to its statement on longer-run goals.[5] The Fed adopted its current 2 percent target in 2012, and then amended the target in 2020 to allow periods of above-average inflation to makeup for periods of below-average

inflation.

Average inflation now far-exceeds the Fed's 2 percent target over any reasonable horizon. Over the past two years, PCE inflation (the Fed's preferred measure) has averaged 5 percent per year. Over the past four years, PCE inflation has averaged 3 percent per year. Even if the Fed returns inflation to 2 percent per year, average inflation will remain far above target.

At the hearing, Senator Tillis asked you: "According to the Fed's framework, will the Fed push inflation below 2 percent, so that it averages 2 percent over time?" You answered, "No, that wasn't the way the framework worked." As you explained, the Fed's new framework is asymmetric, meant to deal with "the disinflationary forces of the last quarter century."

[5] "Statement on Longer-Run Goals and Monetary Policy Strategy," Board of Governors of the Federal Reserve System, as reaffirmed effective January 25, 2022. https://www.federalreserve.gov/monetarypolicy/files/fomc_longerrungoals.pdf

- **a. As a matter of arithmetic, if the FOMC is now treating its 2 percent inflation target asymmetrically, won't average inflation necessarily run above 2 percent?**

- **b. If the FOMC is not committed to bringing average inflation down to the 2 percent target by pushing inflation below 2 percent for some time, how will the FOMC keep longer-term inflation expectations "well anchored at 2 percent?"**

In a low interest rate environment, the Federal Reserve is limited in its ability to fully address adverse economic shocks because policy interest rates generally are constrained by the effective lower bound. Although other policy tools such as large-scale asset purchases may provide further accommodation in these circumstances, the effective lower bound (ELB) constraint on monetary policy has created downward risks to employment and inflation in the past. By contrast, there is no technical constraint on the FOMC's ability to raise the federal funds rate to tighten the stance of policy when inflation is running too high.

To address this asymmetry, the Statement on Longer-Run Goals and Monetary Policy Strategy (Statement) conveys that, in order to maintain longer-term inflation expectations well anchored at 2 percent, following periods when inflation has been running persistently below 2 percent, appropriate monetary policy would likely aim to achieve inflation moderately above 2 percent for some time. In addition, the Statement indicates that the FOMC seeks to achieve inflation that averages 2 percent over time to ensure that longer-term inflation expectations are well anchored at levels consistent with the 2 percent goal. The intent of this language is to remove rather than to introduce an asymmetry in inflation outcomes around the 2 percent longer-run goal introduced in 2012. In doing so, the FOMC seeks to achieve inflation outcomes that broadly reinforce the public's expectations that inflation will run at 2 percent over the longer run.

Of course, the situation we face today is far removed from issues associated with the ELB. Inflation remains much too high. Reflecting the Statement's emphasis on inflation

expectations, we are aggressively using our tools to bring inflation back down to our 2 percent goal over time in order to keep longer-term inflation expectations well anchored. Since March 2022, we have raised the target range for the federal funds rate by 500 basis points, bringing the target range to 5 to 5¼ percent, and commenced a significant and ongoing reduction in the size of our balance sheet. In determining the extent of additional policy firming that may be appropriate to return inflation to 2 percent over time, the FOMC will take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments.

The steps we are taking should moderate demand so that supply and demand come into better alignment. We remain committed to bringing inflation back down to our 2 percent goal and to keep longer-term inflation expectations well-anchored.

6. **The New York Fed recently published projections of the Fed's balance sheet and net income.[6] Admittedly, those projections are not a promise or a plan by Fed officials, and are based on particular assumptions about the economy and Fed policy. Nevertheless, the projections are a plausible illustration of the outcomes of the Fed's current policy.**

   According to the New York Fed's headline projections, the Fed's balance sheet would decline from about $9 trillion to about $6 trillion by 2025, still well above its pre-pandemic highs. The Fed's balance sheet would then resume growth of about 5 percent per year. Fed holdings would stabilize at about 22 percent of gross domestic product. By 2030, the Fed would still own about $1 trillion of agency mortgage-backed securities (MBS).

   Moreover, assuming that the Fed's securities holdings decrease the 10-year yield by 70 basis points per 10 percent of GDP, the New York Fed's projections that imply that the Fed's securities holding would lower the 10-year yield by about 150 basis points in the long run.[7]

   The Federal Open Market Committee (FOMC) "intended that the Federal Reserve will, in the longer run, hold no more securities than necessary to implement monetary policy efficiently and effective, and that it will primarily hold Treasury securities, thereby minimizing the effect of Federal Reserve holdings on the allocation of credit across sectors the economy."[8]

   [6] "Open Market Operations During 2021," Federal Reserve Bank of New York, May 2021. https://www.newyorkfed.org/medialibrary/media/markets/omo/omo2021-pdf.pdf

   [7] This assumption for the term-premium effect is based on your January 19, 2022 response to my questions following the January 11, 2022 hearing. While estimates are uncertain, you cited the median estimate from Table 1 of Gagnon (2016): Joseph Gagnon, "Quantitative Easing: An Underappreciated Success," PIIE Policy Brief 16, no. 4 (2016). https://www.piie.com/publications/policy-briefs/quantitative-easing-underappreciated-success

[8] "Policy Normalization Principles and Plans," Board of Governors of the Federal Reserve System, as adopted effective September 16, 2014. https://www.federalreserve.gov/monetarypolicy/files/fomc_policynormalization.pdf

a. **If realized, would the New York Fed's projections be consistent with the FOMC's intention to "in the longer run, hold no more securities than necessary"? Please explain.**

The Federal Reserve is in the process of significantly reducing its securities holdings. This started on June 1, 2022. That process will result in a substantial decline in the size of the balance sheet over the next few years. As stated in the "Principles for Reducing the Size of the Federal Reserve's Balance Sheet"[3] released in January 2022, the FOMC intends to maintain securities holdings over time in amounts needed to implement monetary policy efficiently and effectively in its ample reserves regime. The projections by staff at the Federal Reserve Bank of New York are consistent with this principle, and the other principles in that document, as well as the FOMC's Plans for Reducing the Size of the Federal Reserve's Balance Sheet announced in May 2022. The size of the Federal Reserve's balance sheet in the longer run is ultimately determined by the public's demand for the Federal Reserve's non-reserve liabilities, such as physical currency and the Treasury's account balance, as well as the level of reserves necessary to implement monetary policy in the Federal Reserve's ample-reserves framework.

b. **If realized, would the New York Fed's projections be consistent with the FOMC's intention to "primarily hold Treasury securities" and "minimizing the effect of Federal Reserve holdings on the allocation of credit"? Please explain.**

In the Principles for Reducing the Size of the Federal Reserve's Balance Sheet, the FOMC agreed that the Federal Reserve should hold primarily Treasury securities in the longer run. As of year-end 2022, 64 percent of the Federal Reserve's balance sheet was composed of Treasury securities, and 31 percent of the assets were a combination of agency mortgage-backed securities (MBS), agency commercial mortgage-backed securities, and agency debt. By 2030, according to the projections by the Federal Reserve Bank of New York, the Federal Reserve's balance sheet is projected to be composed of 83 percent Treasury securities and 17 percent agency MBS. The increase in the share of Treasury securities and decline in the share of agency MBS that these projections entail are consistent with the FOMC's intention to primarily hold Treasury securities, thereby minimizing the effect of Federal Reserve holdings on the allocation of credit across sectors of the economy.

c. **What are your views on the benefits and drawbacks of MBS sales? Some Fed officials have discussed selling MBS to accelerate balance sheet normalization.[9]**

[9] Dan Burns, "Sales of Fed's mortgage-backed securities may be future option, Williams said," Reuters, May 16, 2022.

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[3] *See* https://www.federalreserve.gov/monetarypolicy/policy-normalization.htm

https://www.reuters.com/markets/us/feds-williams-mbs-sales-could-be-an-option-down-road-2022-05-16/

Howard Schneider, "Mester: MBS sales could mean market losses for Fed," Reuters, May 10, 2022. https://www.reuters.com/world/us/mester-mbs-sales-could-mean-market-losses-fed-2022-05-10/
Michelle W. Bowman, "The Outlook for Inflation and Monetary Policy," Board of Governors of the Federal Reserve System, June 23, 2022. https://www.federalreserve.gov/newsevents/speech/bowman20220623a.htm

In the longer run, the FOMC intends to hold primarily Treasury securities on the Federal Reserve's balance sheet. At the March 2022 FOMC meeting, participants generally agreed that after balance sheet runoff was well under way, it will be appropriate to consider sales of agency MBS to enable suitable progress toward a longer-run portfolio composed of primarily Treasury securities. This plan was noted in subsequent meetings in May and September of 2022. It is important to conduct a careful assessment of the ability of financial markets to absorb potential agency MBS sales in a way that preserves smooth market functioning and avoids unnecessary market volatility. Any program of sales of agency MBS would be announced well in advance.

<u>Questions for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from Senator Elizabeth Warren:</u>

1. **In response to a question during your June 15, 2022 press conference from reporter Michael McKee about whether the Federal Open Market Committee (FOMC) was "targeting headline inflation now or core inflation," you stated: "we're responsible for inflation in the law. And inflation means headline inflation. So that's our ultimate goal."[1]**

   [1] Federal Open Market Committee, Transcript of Chair Powell's Press Conference, June 15, 2022, https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20220615.pdf.

   a. **Please identify where in the *Federal Reserve Act*, or any other relevant statute, the FOMC is directed to target headline inflation over core inflation.**

   b. **Is the FOMC's targeting of "inflation of 2 percent over the longer run, as measured by the annual change in the price index for personal consumer expenditures"[2] specified in statute? If so, please provide the relevant statute and passage.**

      [2] Board of Governors of the Federal Reserve System, FAQs, "Why does the Federal Reserve aim for inflation of 2 percent over the longer run?," August 27, 2020, https://www.federalreserve.gov/faqs/economy_14400.htm.

   c. **Is the FOMC's strategy of "achiev[ing] inflation that averages 2 percent over time," such that "following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time"[3] specified in statute? If so, please provide the relevant statue and passage.**

      [3] Federal Open Market Committee, "Statement on Longer-Run Goals and Monetary Policy Strategy," January 25, 2022, https://www.federalreserve.gov/monetarypolicy/files/fomc_longerrungoals.pdf.

Pursuant to Section 2A of the Federal Reserve Act, 12 U.S.C. § 225a, Congress has directed the Board of Governors of the Federal Reserve System (Board) and the Federal Open Market Committee (FOMC) to "maintain long run growth of the monetary and credit aggregates commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates." Congress has given us an important degree of independence so that we can effectively pursue these statutory goals based on objective analysis and data. Since 2012, as part of its Statement on Longer-Run Goals and Monetary Policy Strategy, the FOMC has affirmed its judgement 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 Statement of Longer-Run Goals and Monetary Policy

Strategy explains how the FOMC interprets its congressional mandate, articulates its approach to monetary policy, and serves as the foundation for its policy actions.

2. According to a June 24, 2022 report by the *New York Times*, "The Federal Reserve did not disclose updated financial information for two former regional bank presidents whose trading ignited a scandal at the central bank, even though they held important monetary policy roles for most of 2021 — the year covered by a fresh set of disclosures released on Friday."[4] Though Robert S. Kaplan, the former president of the Federal Reserve Bank of Dallas, and Eric Rosengren, the former president of the Federal Reserve Bank of Boston – both of whom resigned as the Fed's trading scandal came to light – "sat in their policy roles for most of last year, when the Fed was debating market-critical topics like how to handle the onset of rapid inflation and when to pull back economic support, neither of their reserve banks published fresh disclosures to cover the end of their tenures. Instead, the banks published disclosures for the interim presidents who succeeded Mr. Kaplan and Mr. Rosengren."[5] The Dallas and Boston Feds claim that ethics rules for each of the Reserve Banks did not require the presidents to file updated financial disclosures upon their departures.[6]

I have long been concerned about the Fed's stock trading scandal since it first came to light in September 2021. I am also concerned about the Fed's failure to publicly disclose all trades by Fed governors and presidents since January 1, 2020 and release critical communications between Fed ethics staff and Fed officials, despite repeated requests.[7] To date, I have sent three public letters and private QFRs requesting this information.

[4] New York Times, "Fresh Fed financial disclosures omit the officials who ignited ethics scandal," June 24, 2022, Jeanna Smialek, https://www.nytimes.com/2022/06/24/business/fed-financial-disclosures-ethics.html.

[5] Id.

[6] Id.

[7] Letter from Senator Warren to The Honorable Jerome Powell, January 10, 2022, http://ct.symplicity.com/t/wrn/e85d98fc9c1ef107bdda7bdf4a07d7ef/2665571418/realurl =https:/www.warren.senate.gov/imo/media/doc/2022.01.07%20Letter%20to%20Powell %20on%20Fed%20ethics.pdf; Letter from Senator Warren to The Honorable Jerome Powell, December 7, 2021,

https://www.warren.senate.gov/imo/media/doc/2021.12.07%20Letter%20to%20Powell %20follow-up.pdf; Letter from Senator Warren to The Honorable Jerome Powell, October 21, 2021, https://www.warren.senate.gov/imo/media/doc/2021.10.21%20Letter%20to%20Powell %20re%20Ethics%20Officials%20Warnings.pdf.

a. Given the public scrutiny around Mr. Kaplan and Mr. Rosengren's trading activity during their tenures, and the clear public interest in greater

transparency around Fed officials' trading, did the Board of Governors at any point direct or advise the Boston and Dallas Federal Reserve Banks to produce financial disclosures for the departing presidents?

b. In response to one of my previous letters requesting information on all trades by Fed governors and presidents since January 1, 2020, you stated that "financial disclosure reports of Reserve Bank Presidents are available upon request from the Reserve Banks."[8] Did the Board of Governors request this information from the Reserve Banks at any point since the trading scandal came to light in September 2021? Did any Reserve Banks refuse to provide this information to the Board?

[8] Letter from The Honorable Jerome Powell to Senator Warren, February 14, 2022.

As you know, I have asked the Board's Inspector General (IG) to review the trades conducted by Mr. Kaplan and Mr. Rosengren. The IG is in the best position to conduct an independent and objective investigation. As a completely independent investigator, the IG has full authority to request whatever records or other information he deems necessary, and has staff who have investigatory skills and backgrounds, including to identify any violations of law. The IG is under no time pressure to issue a report and has broad statutory authority to define the ultimate scope of his investigation. The IG will also ultimately determine what information should be made public regarding the prior trading activity of Mr. Kaplan and Mr. Rosengren in connection with his review. I would refer you to the IG's office for any further specific questions you have about their work.

Question for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from Senator Van Hollen:

1. **The Board's proposed rule to modernize the Community Reinvestment Act (CRA) would require the collection of lending data by race and ethnicity as part of the CRA review process, but would not use this data to help assess compliance with fair lending requirements. While gathering this data is important, shouldn't it also be used in determining whether banks are meeting their fair lending requirements? If not, why not?**

The agencies' (the Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency) June 2022 Community Reinvestment Act (CRA) notice of proposed rulemaking (NPR) contains a proposal that the agencies would include existing race- and ethnicity-related data regarding a large bank's home mortgage lending, among other published data, in the bank's CRA performance evaluation. The relevant data are collected under the Home Mortgage Disclosure Act (HMDA) (as implemented by the CFPB's Regulation C) and is currently made available to the public. Including this HMDA data in a large bank's CRA performance evaluation would serve to bring additional transparency regarding how each of these banks is helping to meet the credit needs of its entire community.

Fair lending examinations, which are a component of consumer compliance supervision, are separate from CRA evaluations. Fair lending examinations use HMDA data with respect to race and ethnicity, among other data sources and information and a broad range of data from the regulated institutions, including confidential information, to assess banks' compliance with fair lending laws, such as the Equal Credit Opportunity Act and the Fair Housing Act. Importantly, CRA evaluations consider a bank's violations of fair lending laws when assigning CRA ratings and such violations can lead to CRA ratings downgrades. In the NPR, the agencies have proposed to continue factoring violations of fair lending laws (and other consumer laws and regulations) into CRA ratings decisions.

<u>Questions for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from Senator Mike Rounds:</u>

1. **During last month's hearing to consider the nomination of Michael Barr to be the Federal Reserve Board's Vice Chair of Supervision, I told Mr. Barr of my desire to see our federal representatives work to defend the U.S. system of insurance regulation during discussions at the International Association of Insurance Supervisors (IAIS) – and in particular – that the U.S. advocates in favor of the IAIS treating the Aggregation Method as a comparable method to the Insurance Capital Standard (ICS). Mr. Barr agreed to advocate for the Aggregation Method to be deemed an outcome-equivalent approach for implementation of the ICS.**

   Chair Powell, are you also committed to defending the use of the aggregation method and the state-based system of insurance regulation at international bodies like the IAIS?

The Federal Reserve continues to advocate for the Aggregation Method (AM), alongside the National Association of Insurance Supervisors and the Federal Insurance Office of the U.S. Treasury Department. In 2019, the International Association of Insurance Supervisors (IAIS) agreed on a pathway that would allow for the AM, if deemed comparable, to be used as the U.S. implementation of the Insurance Capital Standard (ICS). In June 2022, the IAIS released a public consultation on draft criteria that will be used to assess whether the AM results are comparable to the ICS.[2] The Federal Reserve also continues to advocate for changes to the ICS that would make it a more appropriate capital measure for U.S. insurers that can be better compared with the AM.

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[2] *See* https://www.iaisweb.org/uploads/2022/06/220615-Explanatory-note-on-the-draft-criteria-for-the-Aggregation-Method-comparability-consultation-1.pdf.

<u>Questions for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from Senator Thom Tillis:</u>

As I noted during the Banking Committee hearing on June 22, I remain concerned that the Fed and its Reserve Banks continue a pattern of stonewalling reasonable requests for information. The latest example concerns the fairness, transparency, and consistency of Fed decisions concerning highly valuable Fed master accounts. Kansas City Fed President Esther George recently refused, once again, to provide information to Senate Banking Committee Ranking Member Pat Toomey (R-PA) regarding the unusual case of Reserve Trust's Fed master account.[1]

But this is far from the only example. I am likewise aware that last year, several Reserve Banks—specifically, the Boston Fed, San Francisco Fed, Minneapolis Fed, and Atlanta Fed—repeatedly refused to provide any documents in response to Ranking Member Toomey's inquiry about their embrace of politically- charged social causes outside the Fed's historical mission and statutory mandate.[2]

This pattern of obstruction raises concerns that Reserve Banks believe they can circumvent congressional oversight. As former Obama administration official and Brookings Institution scholar Aaron Klein recently remarked, "If the Kansas City Fed is not accountable to Congress for regulatory decisions, then to whom are they accountable?"[3]

[1] https://www.kansascityfed.org/AboutUs/documents/8854/06-16-22_Toomey_Letter_from_Esther_George.pdf.
[2] https://www.banking.senate.gov/newsroom/minority/toomey-blasts-regional-fed-banks-for-refusing-to-comply-with-congressional-request.
[3] https://www.americanbanker.com/news/the-broad-implications-of-pat-toomeys-standoff-with-k-c-feds-president.

1. **Do you think it is appropriate for Reserve Banks to refuse to comply with requests for information and documents from Congress?**

The Federal Reserve Board (Board) is committed to public transparency. The Board understands and respects the critical importance of congressional oversight of our activities. We work collaboratively and cooperatively with Members of Congress to provide information on a broad range of issues, and we expect Reserve Banks to respond appropriately to congressional requests for information as well. In March, the Reserve Banks publicly announced a System-wide effort to develop a uniform information disclosure policy to further increase transparency and accountability. I support their effort on this important initiative.

2. **What steps will you take to ensure that Reserve Banks are responsive to requests for information and documents from Congress?**

Please see my response to Question 1.

3. Specifically, what steps will you take to ensure that the Kansas City Fed complies with congressional requests for information concerning Reserve Trust's master account?

Please see my response to Question 1.

I am also concerned about a recent Securities and Exchange Commission proposal to dramatically reinterpret the definition of a "government securities dealer," in which the Commission would require many large investors to register as broker-dealers. This may have significant unintended impacts on US Treasury market participation, liquidity, and resiliency.

4. Was the Federal Reserve Board consulted in the development of this proposal?

The Federal Reserve remains committed to a safe and efficient market for Treasury securities. With regard to the proposed rule of the Securities and Exchange Commission (SEC), *Further Definition of 'As a Part of a Regular Business' in the Definition of Dealer and Government Securities Dealer,* Federal Reserve staff has had contact with staff of the SEC regarding its proposal. As the SEC considers the comments it received on the proposal, and assesses how to move forward, our staff is ready to provide technical assistance as requested.

5. Will you commit to consider the potential market impacts of this significant proposal and to engage with the other members of the interagency working group on Treasury markets to fully assess its costs and benefits?

Federal Reserve staff actively participate in the Interagency Working Group on Treasury Market Surveillance (IAWG), including in work to better understand participation in the U.S. Treasury market and ways in which to improve its resilience. A safe and efficient market for Treasury securities is critical to the transmission of monetary policy, and to the broader health of the global financial system.

<u>Questions for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from Senator Jerry Moran:</u>

1. **Chairman Powell, I am concerned that a recent Securities and Exchange Commission proposal to radically reinterpret the definition of a "government securities dealer," in which the Commission would require many large investors to register as broker-dealers, may have significant unintended impacts on US Treasury market participation, liquidity, and resiliency.**

    a. **Was the Federal Reserve Board consulted in the development of this proposal? Will you commit to consider the potential market impacts of this significant proposal and to engage with the other members of the interagency working group on Treasury markets to fully assess its costs and benefits?**

The Federal Reserve remains committed to a safe and efficient market for Treasury securities. Federal Reserve staff actively participates in the Interagency Working Group on Treasury Market Surveillance (IAWG), including in work to better understand participation in the U.S. Treasury market and ways in which to improve its resilience. With regard to the proposed rule of the Securities and Exchange Commission (SEC), *Further Definition of 'As a Part of a Regular Business' in the Definition of Dealer and Government Securities Dealer*, Federal Reserve staff has had contact with staff of the SEC regarding its proposal. As the SEC considers the comments it received on the proposal, and assesses how to move forward, our staff is ready to provide technical assistance as requested.

2. **While I support the FOMC's commitment to bring inflation down by whatever means necessary – I share some of your Fed colleagues' concerns regarding the impact these large rate hikes have on households' and small businesses' financial planning – as well as the implications for community banks using traditional bank lending models. Especially at a time when the FDIC is planning to increase costs for banks by hiking deposit insurance assessment rates for the first time in years.**

    a. **Chairman Powell, are you able to elaborate on how FOMC members are thinking through these dynamics when a pivot to a larger benchmark rate increase than previously forecasted is considered?**

The FOMC remains strongly committed to bringing inflation back down to our 2 percent goal and to keep longer-term inflation expectations well anchored. Reducing inflation is likely to require a period of below-trend growth, as well as an easing of the significant tightness in labor market conditions, evidenced, for example, by the higher than usual ratio of job openings to unemployed job seekers. Restoring price stability is essential to set the stage for achieving maximum employment and stable prices over the longer run.

While high interest rates may reduce borrowers' ability to service their outstanding debts, the overall effect depends on the whether the debt is fixed-rate or floating-rate—as higher rates will translate into higher service expenses only for floating-rate debt. Small businesses tend to rely significantly on bank loans, which are mostly floating-rate and tied to a base rate such as LIBOR

or SOFR. For these businesses, higher interest rates will translate directly into additional interest expenses via the base rate, which is typically reset at a quarterly basis. Some very small businesses also rely on credit card loans, which are also floating-rate and therefore have rates that adjust higher following a rise in shorter-term interest rates.

For households, residential mortgages and the majority of consumer loans (such as student and motor vehicle loans) are fixed-rate long-term loans. Therefore, the projected path of the federal funds rate is likely to have a modest impact on these households' interest payments on their existing debt. In contrast, credit card loans are floating-rate and thus more sensitive to changes in interest rates. These loans, however, represent a modest fraction of total consumer debt outstanding.

My colleagues and I are acutely aware of the higher borrowing costs that Americans have faced since early 2022 as monetary policy has been tightened. But the steps we are taking now against inflation are meant to avoid the need for an even more severe tightening of monetary policy in the future, one that could otherwise be necessary if inflation were to become entrenched.

Moving to a restrictive monetary policy stance promptly also helps keep longer-term inflation expectations well anchored and so prevents the U.S. economy from shifting into an environment of permanently higher interest rates. The actions we have taken thus far are meant to help prevent longer-term damage from being inflicted on the economy and to set the stage for achieving maximum employment and price stability.

<u>Questions for The Honorable Jerome H. Powell, Chairman, Board of Governors of the Federal Reserve System, from Senator Steve Daines:</u>

1. **Despite an end to government stimulus efforts, American consumers are still sitting on a stock of unused savings worth trillions. When do you expect the excess savings rate to return to pre-pandemic levels?**

While the overall personal saving rate has dropped back down and is now somewhat below pre-pandemic rates, the stock of savings accumulated since the pandemic remains high and has only edged down slightly so far this year.

The personal saving rate—the ratio of personal saving to disposable personal income—increased during the pandemic as fiscal support offset a drop in other sources of personal income, and as households temporarily reduced their spending on discretionary, close contact services such as dining out, travel, and non-essential medical care. However, the saving rate quickly began to normalize in the second half of last year as the economy reopened and pandemic-era fiscal programs were wound down. In recent months, the personal saving rate has moved down further and stood at 4.1 percent in April 2023, below the average rate of 7.4 percent which prevailed in the five years leading up to the pandemic.

Looking ahead, it is unclear how much of the stock of savings will be directly spent by households or instead held for the long-term. Importantly, although bank balances have risen significantly from pre-pandemic levels, excess savings do not show up one-for-one in checking and savings accounts. These savings can also take the form of debt paid down, as well investments in the stock market, and lower credit card balances, among other possibilities. In this regard, spending may ultimately prove relatively more robust in the face of any future downturn as more households may be able to tap into savings or access credit.

The spending implications from high excess savings also depend importantly on who holds them. For instance, lower income households tend to experience more difficulty covering basic expenses and therefore may have run down their balances more quickly. This seems especially relevant at present since a disproportionate share of spending by lower income households goes to essentials such as food, gas, and shelter.

All told, it seems likely that a significant portion of the overall stock of pandemic-era excess saving will not be spent in the years ahead, as higher income households convert their liquid savings into longer-term investments, and as lower income households—to the extent they still hold excess savings—reduce their consumption back towards their pre-pandemic trend. While a more robust spend out is certainly plausible, it seems less likely in the current economic environment.

2. **In a September 2021 hearing, I asked you if you would agree to subjecting the heads of the regional Federal Reserve Banks to the Freedom of Information Act to allow for greater public scrutiny of their activities. At the time you said you would reflect on it. Have you taken a position on the issue since?**

The Federal Reserve Banks are unique entities with powers and responsibilities established by Congress pursuant to the Federal Reserve Act. My colleagues and I throughout the Federal Reserve System take seriously our commitment to transparency, and we recognize that maintaining the trust and confidence of the public is essential to the work of the Federal Reserve. In March, the Reserve Banks publicly announced a System-wide effort to develop a uniform information disclosure policy to further increase transparency and accountability. I support their effort on this important initiative. In March, the Reserve Banks publicly announced a System-wide effort to develop a uniform information disclosure policy to further increase transparency and accountability. I support their effort on this important initiative. We continue to consider whether there are ways to further improve the transparency of the operations of the Federal Reserve System.

3. **Residential mobility rates have been falling for decades in the US and today's rates are at an all-time low. The reasons behind this long-term decline are many and the trajectory of these trends point to a continued decline in mobility going forward. In Montana, home prices will likely continue to accelerate this decline. What are the implications you foresee of declining residential mobility on labor markets?**

As you note, residential mobility rates have been declining for decades.[2] The sources of this decline are still being debated, but possible contributors include demographic changes, such as the aging of the population, limited housing availability in many areas, and structural changes in the labor market.[3]

Residential mobility promotes the smooth functioning of labor markets. At the micro level, mobility enables individuals and households to pursue job opportunities in other areas, or to shorten commutes to their current jobs. Mobility is an especially important driver of earnings growth for younger Americans, and barriers to mobility—such as those arising from high house prices and rental costs—may interfere with their career progressions. At the macro level, regional mobility has historically served to equalize labor market conditions across areas, and it has supported productivity growth through reallocation of workers to the places where they can be most productively employed.[4] Declines in residential mobility could therefore limit job opportunities for individual workers, contribute to regional disparities in economic conditions, and dampen gains in labor productivity.

One important source of uncertainty going forward is the long-term effect of the COVID-19 pandemic on residential mobility and its connection to the labor market. The pandemic may have weakened the historical relationship between housing and labor markets, since, in some

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[2] *See*, for example, Jia, Ning, Raven Molloy, Christopher Smith, and Abigail Wozniak (2022), "The Economics of Internal Migration: Advances and Policy Questions," Finance and Economics Discussion Series 2022-003, Washington: Board of Governors of the Federal Reserve System.

[3] *See* Molloy, Raven, Christopher L. Smith, and Abigail Wozniak (2013), "Declining Migration within the US: The Role of the Labor Market," Finance and Economics Discussion Series 2013-27, Washington: Board of Governors of the Federal Reserve System; and Frost, Riordan (2020), "Are Americans Stuck in Place? Declining Residential Mobility in the US," Joint Center for Housing Studies, Harvard University, Research Brief.

[4] *See* Blanchard, Olivier J., and Lawrence F. Katz (1992), "Regional Evolutions," Brookings Papers on Economic Activity, Volume 1, pp. 1-75; and Ganong, Peter, and Daniel Shoag (2017), "Why Has Regional Income Convergence in the US Declined?," Journal of Urban Economics, Volume 102, pp. 76-90.

occupations, persistent shifts toward remote work have enabled workers to pursue distant job openings without relocating. Even so, a large majority of jobs are still tied to specific locations, and residential mobility will likely remain an important driver of both individual employment opportunities and broad-based economic growth.

4. **Regional indices of manufacturing activity for the Kansas City, Richmond, Dallas, Philadelphia, and New York Fed districts released in recent days have shown an outright contraction of factory activity in June. Do you believe the decline in manufacturing reflects an impending recession or a spending pivot from physical goods toward services spending?**

Manufacturing production, as measured in the G.17 Index of Industrial Production and Capacity Utilization, has been little changed so far this year, following a decline in the fourth quarter of last year. Moreover, the regional and national indices of manufacturing activity, particularly their new orders components, point to continued weakness in activity in the near term. Although some of the weakness in manufacturing production probably reflects some reallocation of consumer spending toward services, slowing growth in business investment and the sharp decline in the housing sector over the past year has likely also played a role.
The Federal Reserve will continue to closely monitor developments in the industrial sector.

5. **In its monetary policy report released last week, the Federal Reserve declared that its commitment to restoring price stability is "unconditional." Can you elaborate on the definition of "unconditional" in this context?**

Our commitment to price stability is unconditional in that the Federal Reserve Act directs the Federal Reserve to conduct monetary policy to promote price stability and maximum employment. We have both the tools we need and the resolve that it will take to restore price stability on behalf of American families and businesses. Restoring price stability is essential to set the stage for achieving maximum employment and stable prices over the longer run. We will keep at it until we are confident the job is done.

6. **How will the Fed redesign its economic models to adapt to the retooling of the US economy in the 21st century and to more accurately predict inflation in the future?**

We are constantly updating and redesigning our economic models to reflect changes in the economy, the availability of new data, advances in economic theory, and improvements in econometric techniques. Predictions of economic models reflect those models' assumptions (based on economic theory and empirical evidence) about the structure of the economy. We continuously assess if the structure of the economy is changing, and, if so, how best to reflect those changes in our economic models. The accuracy of models' predictions also depends on the quality of the data the models use. We are always looking for new data sources that can more quickly and more accurately inform us about changes in important economic variables. We also are constantly investigating new ways to best extract information about key macroeconomic relationships from both new and existing data sources. Finally, we continually update our models to reflect new developments in both economic theory and econometric techniques.

7. Does the Fed expect wages to maintain a reasonable level of growth or stagnate as the labor market contracts?

Labor demand is out of balance with labor supply, putting significant upward pressure on nominal wages. Higher wages are generally something that is welcome. But given current gains in labor productivity, wage gains have been much faster than is consistent with 2 percent inflation. And high inflation is bad for everyone and has been eroding wage gains. My expectation is that wage growth will move down over time to a level that is consistent with our 2 percent inflation target and that reflects ongoing increases in labor productivity.

8. What specific models were used to predict the financial state of the United States currently? Did these models accurately depict the future state of the economy in the United States?

In advance of each Federal Open Market Committee (FOMC) meeting, the Board of Governors' economic staff prepares a wide variety of analyses, including economic forecasts and alternative scenarios. The staff's economic forecast is "judgmental" in that it is not based on one model. Rather the staff uses a variety of models, some of which are taken from the economic literature and some of which are built in-house, along with their own judgement, to develop the forecast. In addition, staff present various alternative scenarios to the FOMC to provide the FOMC information about other possible paths for the economy. These alternative scenarios use specific forecasting models, primarily FRB/US and SIGMA.[5] A public version of FRB/US is available for use by researchers.

There have been many studies of the accuracy of the staff's judgmental forecast and those of the FRB/US model in comparison to private sector forecasts. These studies generally show that forecasts by the Federal Reserve are as good as, or better than, those of the private sector or other model-based forecasts. An example of those studies is "The Accuracy of Forecast Prepared for the Federal Open Market Committee" by Andrew Chang which appeared in the *Journal of Economics and Business* in 2016. That paper also cites prior research that also show the staff's forecasts perform relatively well compared to other forecasters and models.

9. What are the benefits of high growth and high inflation, compared to a slower but sustainable economic growth, with predictable inflation?

The experience of the U.S. economy and economic research show that while there may be a short-run tradeoff between inflation and economic activity, sustainably strong economic growth and maximum employment require price stability in the long run. For this reason, the FOMC is focused on bringing inflation back to its 2 percent objective. Indeed, as I noted in my response to Question 5, restoring price stability is essential to set the stage for achieving maximum employment and stable prices over the longer run, and we will keep at it until we are confident the job is done.

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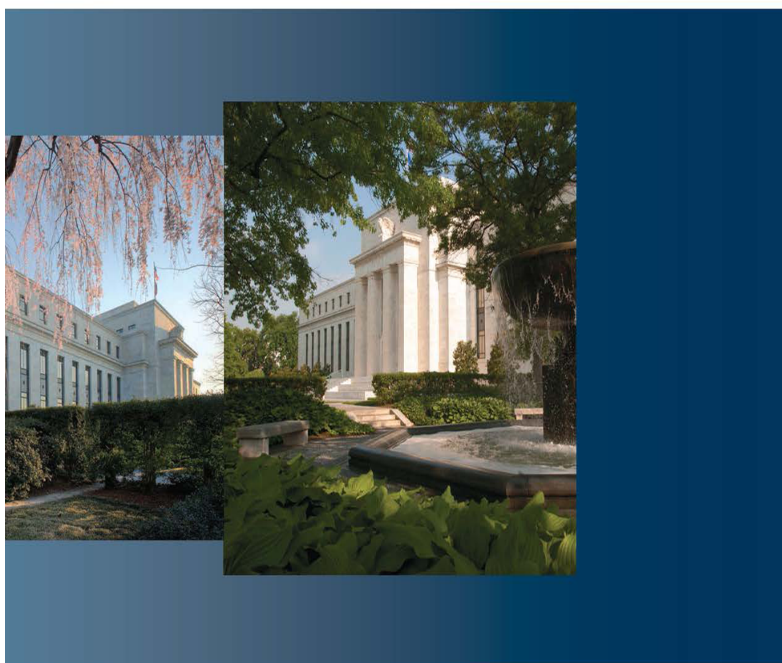
[5] *See* https://www.federalreserve.gov/econres/us-models-about.htm.

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

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

Summary **1**
Recent Economic and Financial Developments 1
Monetary Policy 3
Special Topics 3

Part 1: Recent Economic and Financial Developments **5**
Domestic Developments 5
Financial Developments 27
International Developments 35

Part 2: Monetary Policy **43**

Part 3: Summary of Economic Projections **51**

Abbreviations **69**

List of Boxes
Developments in Global Supply Chains 8
Developments in Employment and Earnings across Groups 14
Developments Related to Financial Stability 31
Global Inflation 37
Monetary Policy in Foreign Economies 39
Monetary Policy Rules in the Current Environment 46
Developments in the Federal Reserve's Balance Sheet and Money Markets 49
Forecast Uncertainty 66

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.

For figures 23, 36, and 42, note that the S&P/Case-Shiller U.S. National Home Price Index, the S&P 500 Index, and the Dow Jones Bank Index are products of S&P Dow Jones Indices LLC and/or its affiliates and have been licensed for use by the Board. Copyright © 2022 S&P Dow Jones Indices LLC, a division of S&P Global, and/or its affiliates. All rights reserved. Redistribution, reproduction, and/or photocopying in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. For more information on any of S&P Dow Jones Indices LLC's indices, please visit www.spdji.com. S&P® is a registered trademark of Standard & Poor's Financial Services LLC, and Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC. Neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates, nor their third-party licensors make any representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent, and neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates, nor their third-party licensors shall have any liability for any errors, omissions, or interruptions of any index or the data included therein.

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.

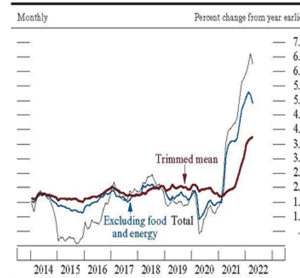
Part 1
Recent Economic and Financial Developments

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



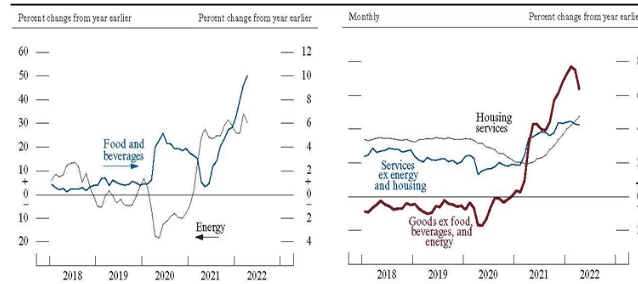
Note: The data extend through April 2022.
Source: For trimmed mean, Federal Reserve Bank of Dallas; for all else, Bureau of Economic Analysis; all via Haver Analytics.

. . . 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,

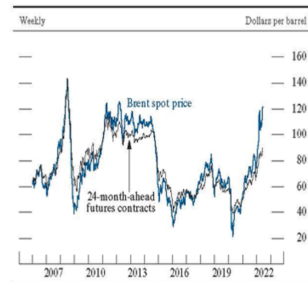
2. Personal consumption expenditures price indexes



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

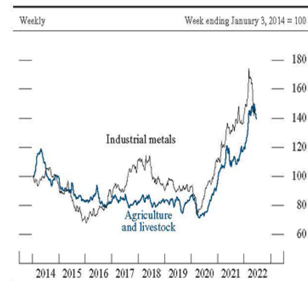
Note: The data extend through April 2022.
Source: Bureau of Economic Analysis via Haver Analytics.

3. Spot and futures prices for crude oil



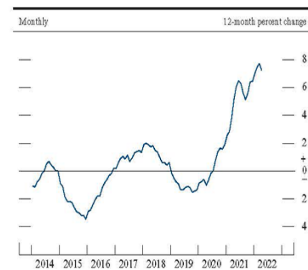
NOTE: The data are weekly averages of daily data and extend through June 10, 2022.
SOURCE: ICE Brent Futures via Bloomberg.

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.

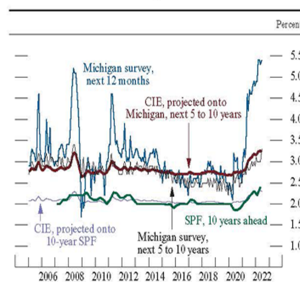
Nevertheless, the recent inflation readings have been mixed, remain far above levels consistent with price stability, and are far from conclusive evidence on the direction of inflation. Unlike durable goods price inflation, core services inflation has not declined significantly. Housing service prices 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.

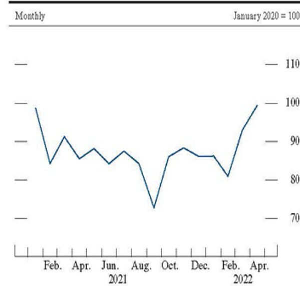
Developments in Global Supply Chains

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.

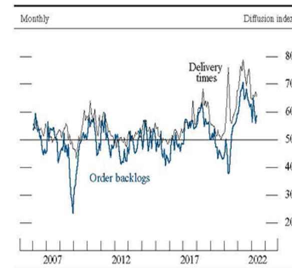
(continued)

A. U.S. light motor vehicle production



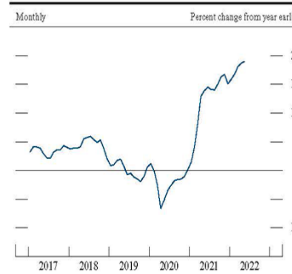
NOTE: The data extend through April 2022. The data are adjusted using Federal Reserve Board seasonal factors.
SOURCE: Ward's Automotive Group, AutoInfoBank and Intelligence Data Query; Chrysler Group LLC, North American Production Data; General Motors Corporation, GM Motor Vehicle Assembly Production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

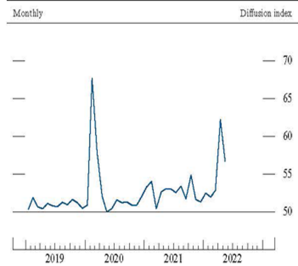
Risks to supply chain conditions abound, including those arising from COVID-19 lockdowns in China beginning in mid-March and the ongoing war in Ukraine.[1] Committed to their zero-COVID strategy, Chinese authorities ratcheted up restrictions quickly in the face of rising cases of the Omicron variant, 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

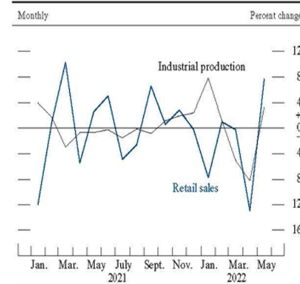
(continued on next page)

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



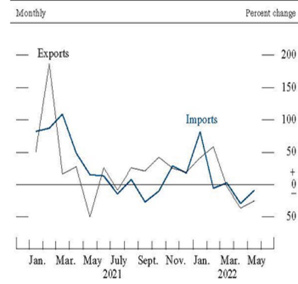
NOTE: The series is seasonally adjusted. Values greater than 50 indicate that more respondents reported longer delivery times relative to a month earlier than reported shorter delivery times.
SOURCE: Caixin; S&P Global; both via Haver Analytics.

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



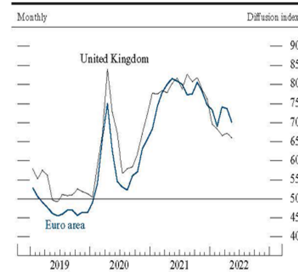
NOTE: All series are seasonally adjusted at an annual rate using Federal Reserve Board seasonal factors. The data are 3-month moving averages.
SOURCE: General Administration of Customs, China, via Haver Analytics.

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).

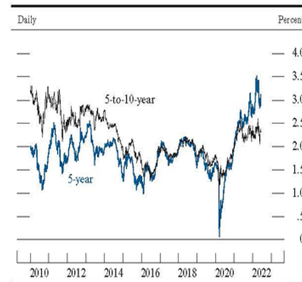
The Index of Common Inflation Expectations, which is produced by Federal Reserve Board staff and synthesizes information from a large range of near-term as well as longer-term expectation measures, edged up in the first half of this year and now stands at the high end of the range from the past 20 years.

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.

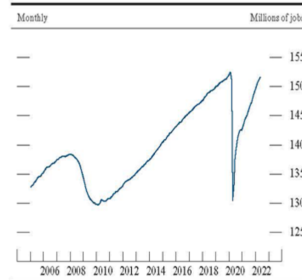
The increase in payrolls was accompanied by further declines in the unemployment rate, which fell 0.3 percentage point over the first five months of the year to 3.6 percent in May, just above the bottom of its range

7. Inflation compensation implied by Treasury Inflation-Protected Securities



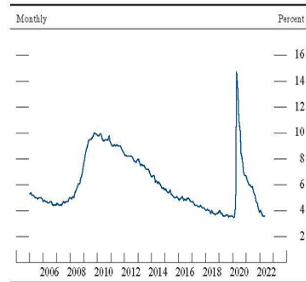
NOTE: The data are at a business-day frequency and are estimated from smoothed nominal and inflation-indexed Treasury yield curves.
SOURCE: Federal Reserve Bank of New York; Federal Reserve Board staff calculations.

8. Nonfarm payroll employment



SOURCE: Bureau of Labor Statistics via Haver Analytics.

9. Civilian unemployment rate



SOURCE: Bureau of Labor Statistics via Haver Analytics.

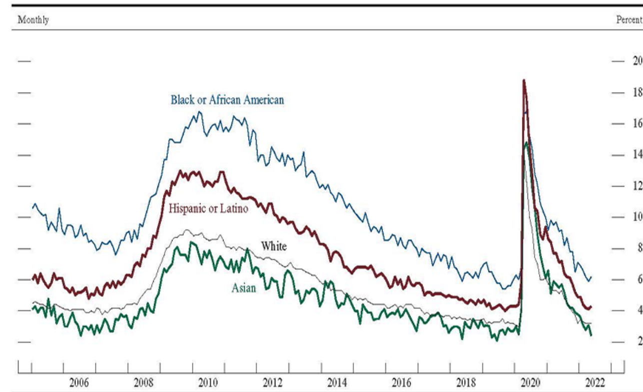
over the past 50 years (figure 9). The decline in the unemployment rate has been fairly broad based across age, educational attainment, gender, and ethnic and racial groups (figure 10). These declines have helped employment of nearly all major demographic groups recover to near or above their levels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

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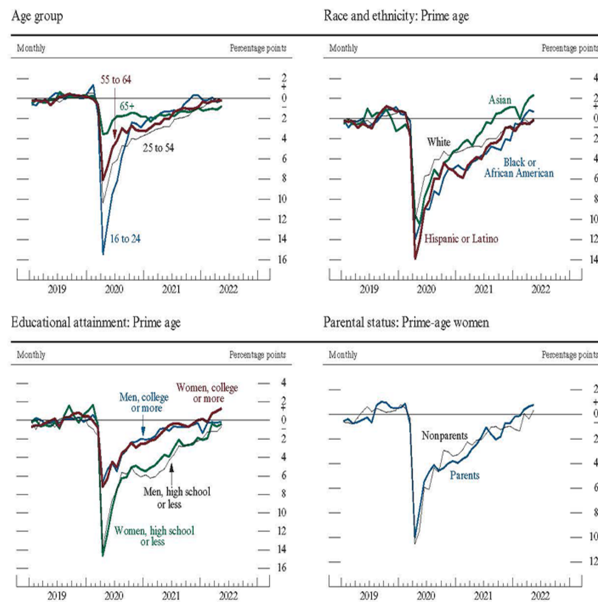
4. The increase in the share of mothers of school-age children who reported being out of the labor force due to caregiving closely tracked the degree to which schools were fully closed to in-person learning over the 2020–21 school year, and districts that serve more Blacks and Hispanics were less likely 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.

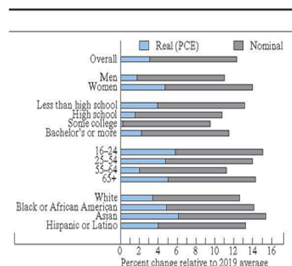
SOURCE: Bureau of Labor Statistics; Federal Reserve Board staff calculations from Current Population Survey microdata.

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.

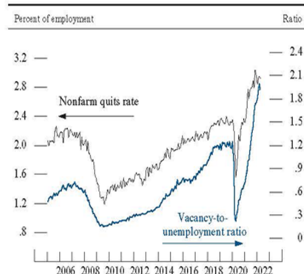
5. The effect of COVID-related deaths on the labor force, however, was relatively smaller, because these deaths have been concentrated among older individuals, who tend to have low LFPRs.

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.

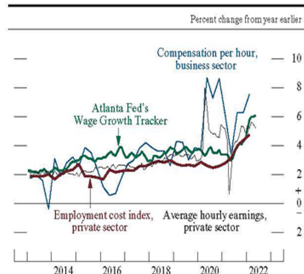
12. Ratio of job openings to job seekers and quits rate



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.

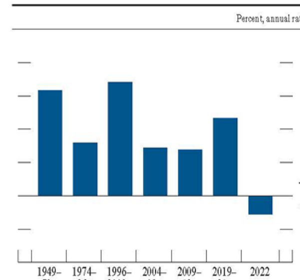
Following a period of solid growth, labor productivity softened

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

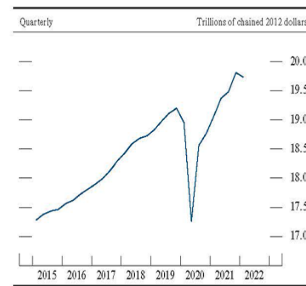
14. Change in business-sector output per hour



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.

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.

15. Real gross domestic product



SOURCE: Bureau of Economic Analysis via Haver Analytics.

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.

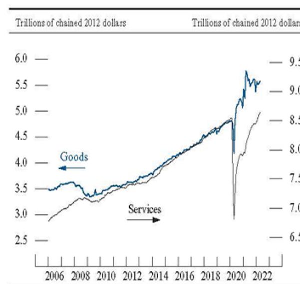
That said, consumer spending growth has moderated from its very rapid pace from early 2021 as fiscal support has declined from historical highs, some households have likely depleted excess savings accumulated during the pandemic, and inflation has eroded households' purchasing power.

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

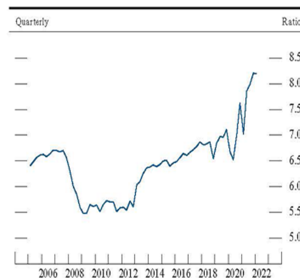
Household wealth grew by roughly $30 trillion between late 2019 and late 2021 because of rises in equity and house prices along with the elevated rate of saving in 2020 and 2021 (figures 17 and 18). Since the beginning of the year, wealth has declined because of the drop in equity prices. Nevertheless,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

16. Real personal consumption expenditures



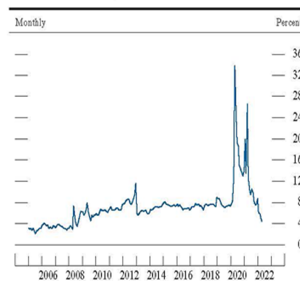
NOTE: The data are monthly and extend through April 2022.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

17. Wealth-to-income ratio



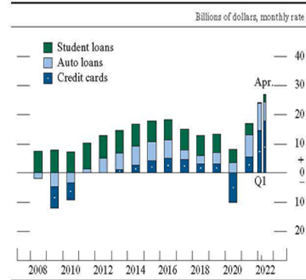
NOTE: The series is the ratio of household net worth to disposable personal income.
SOURCE: For net worth, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; for income, Bureau of Economic Analysis via Haver Analytics.

18. Personal saving rate



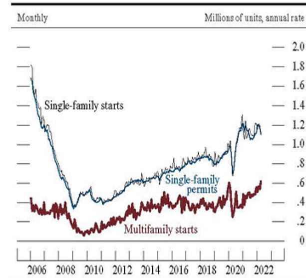
NOTE: The data extend through April 2022.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

19. Consumer credit flows



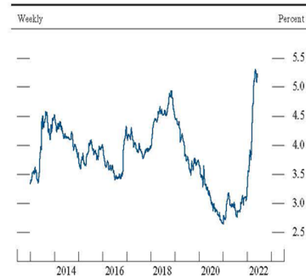
Source: Federal Reserve Board, Statistical Release G.19, "Consumer Credit."

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

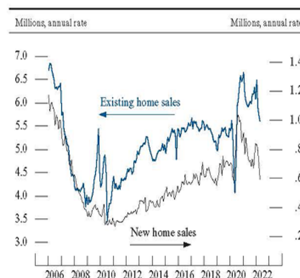
(figure 22). Some of this decline may have reflected further reductions in inventories of existing homes to historically low levels early in the year. In addition, the sharp increases in mortgage rates may have begun to moderate housing demand. Even so, financing conditions in the residential mortgage 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.

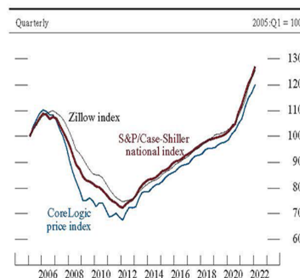
Investment in nonresidential structures declined moderately in the first quarter after falling more rapidly over the second half of

22. New and existing home sales



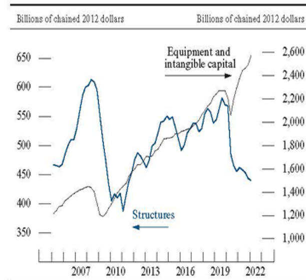
NOTE: The data are monthly and extend through April 2022. New home sales include only single-family sales. Existing home sales include single-family, condo, and co-op sales.
SOURCE: For new home sales, U.S. Census Bureau; for existing home sales, National Association of Realtors; all via Haver Analytics.

23. Real prices of existing single-family houses



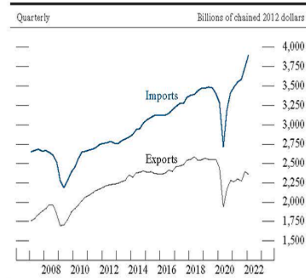
NOTE: Series are deflated by the personal consumption expenditures price index.
SOURCE: Bureau of Economic Analysis via Haver Analytics; CoreLogic Home Price Index; Zillow, Inc., Real Estate Data; S&P/Case-Shiller U.S. National Home Price Index. The S&P/Case-Shiller index is a product of S&P Dow Jones 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.

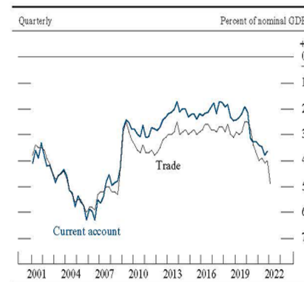
Credit also remained broadly available to small businesses. The share of small firms reporting that it was more difficult to obtain loans (compared with three months earlier) remained low by historical standards. Loan origination data through April were consistent with credit availability being comparable 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).

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.

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

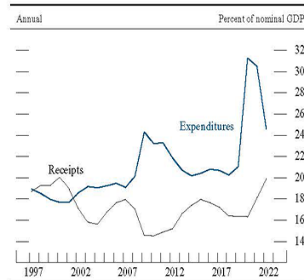
In response to the pandemic, the federal government enacted fiscal policies to address the economic consequences of the pandemic. Because the boost to spending from these policies ended last year, the effects on demand are likely waning this year and weighing on GDP growth.

. . . 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

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.

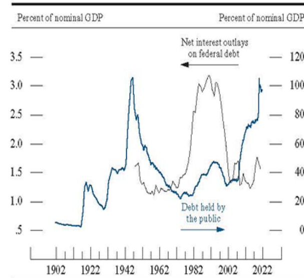
27. Federal receipts and expenditures



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 . . .

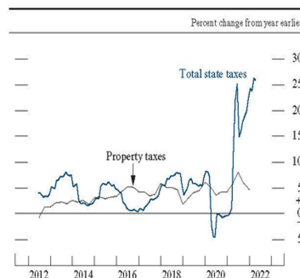
Federal policymakers provided a historic level of fiscal support to state and local governments during the pandemic, with aid totaling about $1 trillion. This aid has more than covered pandemic-related budget shortfalls in the aggregate. Moreover, following the pandemic-induced slump, total state tax 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.

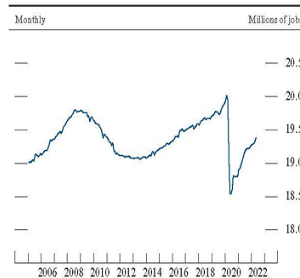
29. State and local tax receipts



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.

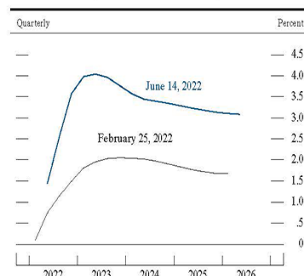
Financial Developments

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

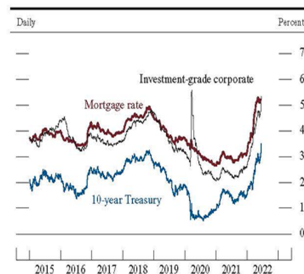
31. Market-implied federal funds rate path



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.

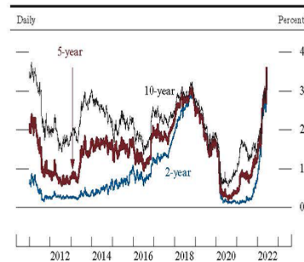
32. Financial market indicators



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.

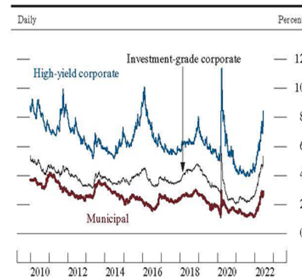
spreads over yields on comparable-maturity Treasury securities have increased notably since late February. Corporate bond yields and spreads are somewhat above the historical median values of their respective historical distributions since the mid-1990s (figure 34). Municipal bond yields also increased 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

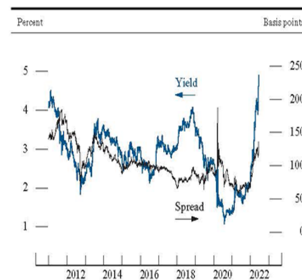
Broad equity price indexes were volatile and declined sharply, on net, amid sustained inflation pressures and expectations of monetary policy tightening, as well as heightened uncertainty regarding Russia's invasion of Ukraine and the economic outlook (figure 36). Bank stock prices also declined on net. 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



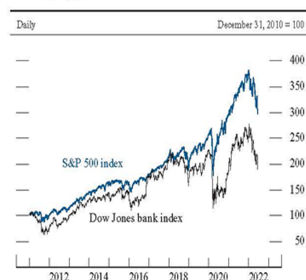
NOTE: Investment-grade corporate reflects the effective yield of the ICE Bank of America Merrill Lynch (BofAML) triple-B U.S. Corporate Index (C0A4). High-yield corporate reflects the effective yield of the ICE BofAML High Yield Index (H0A0). Municipal reflects the yield to worst of the ICE BofAML U.S. Municipal Securities Index (U0A0).
SOURCE: ICE Data Indices, LLC, used with permission.

35. Yield and spread on agency mortgage-backed securities



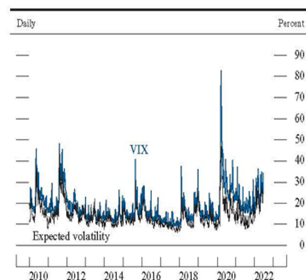
NOTE: The data are daily. Yield shown is for the uniform mortgage-backed securities 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value, for dates after May 31, 2019; for earlier dates, the yield shown is for the Fannie Mae 30-year current 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

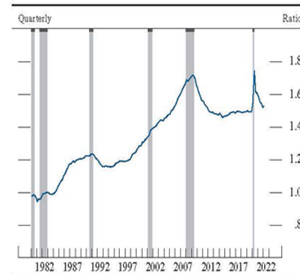
This discussion reviews vulnerabilities in the U.S. financial system. The framework used by the Federal Reserve Board for assessing the resilience of the U.S. financial system focuses on financial vulnerabilities in four broad areas: asset valuations, business and household debt, leverage in the financial 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 . . .

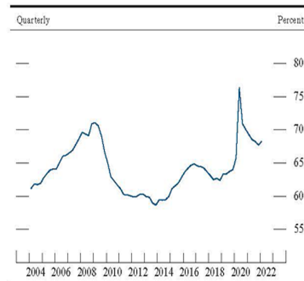
Conditions in money markets have been stable and orderly. Increases in the target range for the federal funds rate fully passed through to market overnight rates. The effective federal funds rate and other unsecured overnight rates have been a few basis points below the interest rate on reserve balances 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

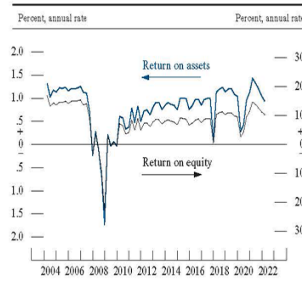
38. Ratio of total commercial bank credit to nominal gross domestic product



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.

39. Profitability of bank holding companies



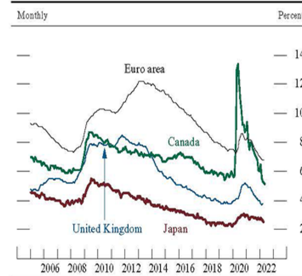
NOTE: The data are quarterly.
SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Holding Companies.

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).

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.

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.

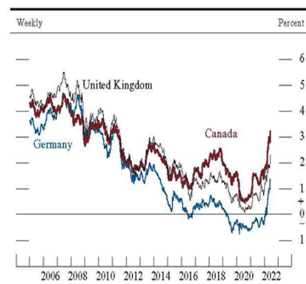
. . . while foreign inflation remained on the rise in most economies . . .

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.")

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.

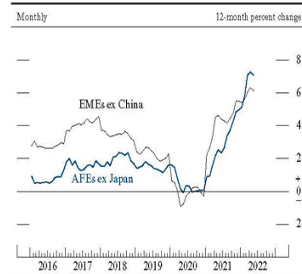
Financial conditions abroad tightened since the beginning of the year . . .

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.

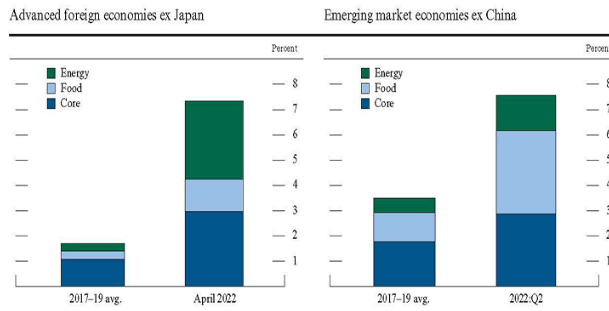
Price pressures have recently broadened to core inflation, as elevated input costs have been increasingly passed through to prices of goods and services that have not been directly affected by supply disruptions and soaring commodity prices. This broadening of inflationary pressure is reflected in increases 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)*

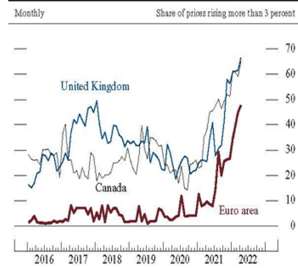
B. Foreign consumer price inflation components



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.

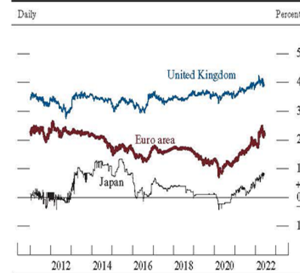
C. Diffusion index for foreign core prices



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.

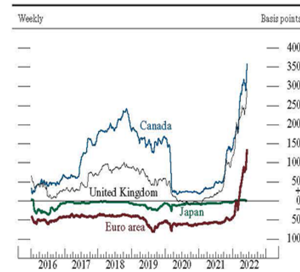
SOURCE: Bloomberg; Haver Analytics; Federal Reserve Board staff calculations.

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.

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.

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.

42. Equity indexes for selected foreign economies

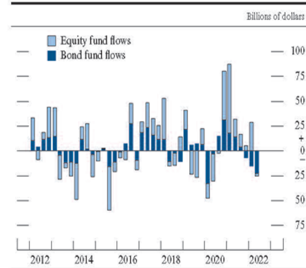
Weekly   Week ending January 8, 2016 = 100

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

Billions of dollars



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.

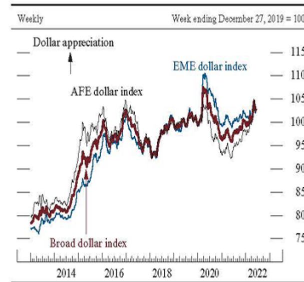
Concerns about persistently high inflation and associated monetary policy tightening across countries, as well as Russia's invasion of Ukraine and COVID lockdowns in China, weighed on foreign risky asset prices (figure 42). Equities in many AFEs have declined since the beginning of the year. Equity declines 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.

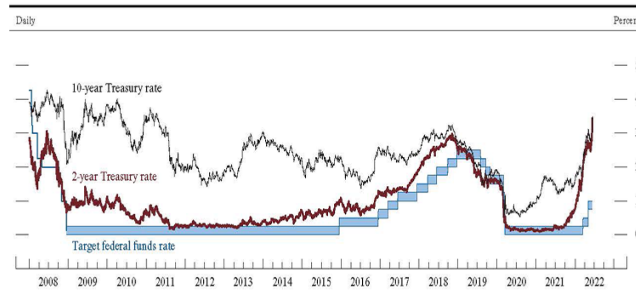
The Committee ceased net purchases of Treasury securities and agency mortgage-backed securities in early March and began the process of significantly reducing its securities holdings on June 1

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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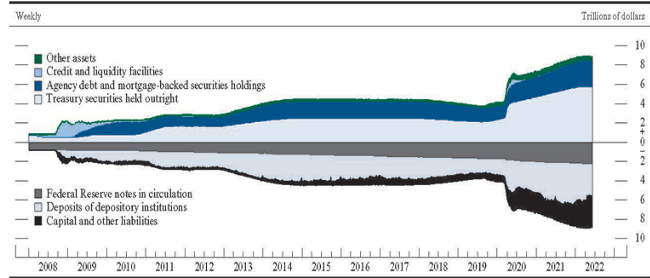
15. Although balance sheet reduction started on June 1, the actual reduction in securities holdings has been negligible thus far given the timing of principal payments.

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

Rule	Formula
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

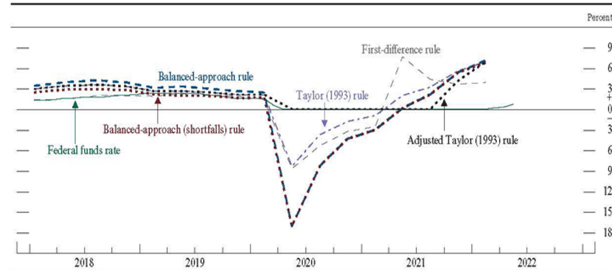
Figure B shows historical prescriptions for the federal funds rate under the five simple rules considered. For each quarterly period, the figure reports the policy rates prescribed by the rules, taking as given the prevailing economic conditions and survey-based estimates of u_t^{LR} and r_t^{LR} at 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

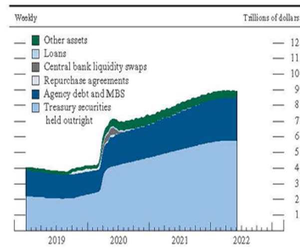
	June 8, 2022	February 16, 2022	Change
Assets			
Total securities			
Treasury securities	5,772	5,739	33
Agency debt and MBS	2,710	2,707	3
Net unamortized premiums	336	350	−14
Repurchase agreements	0	0	0
Loans and lending facilities			
PPPLF	19	28	−8
Other loans and lending facilities	37	40	−3
Central 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."

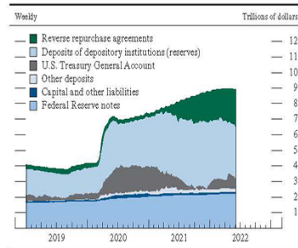
Developments in the Federal Reserve's Balance Sheet and Money Markets *(continued)*

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

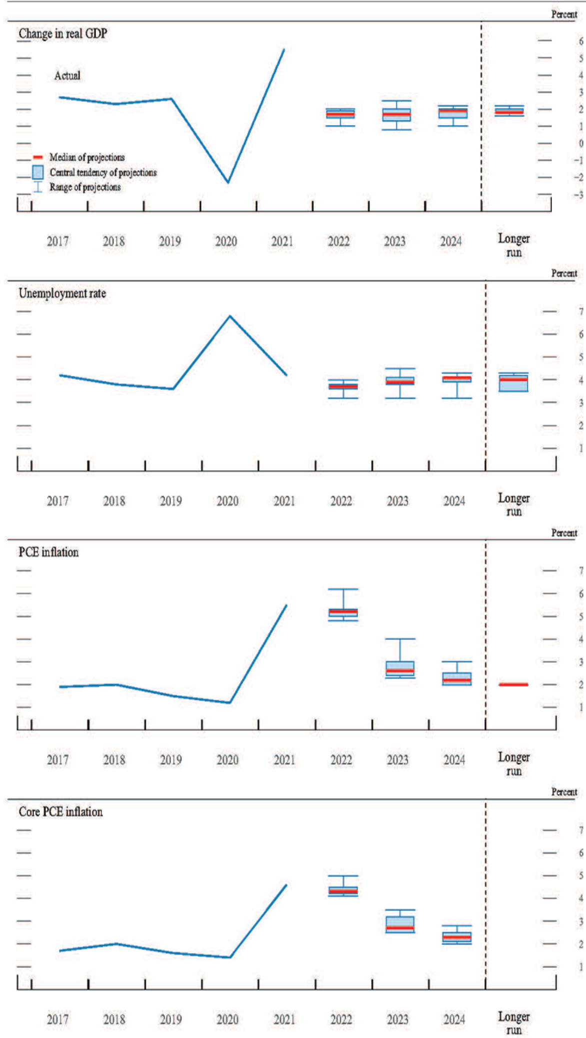
Percent

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.

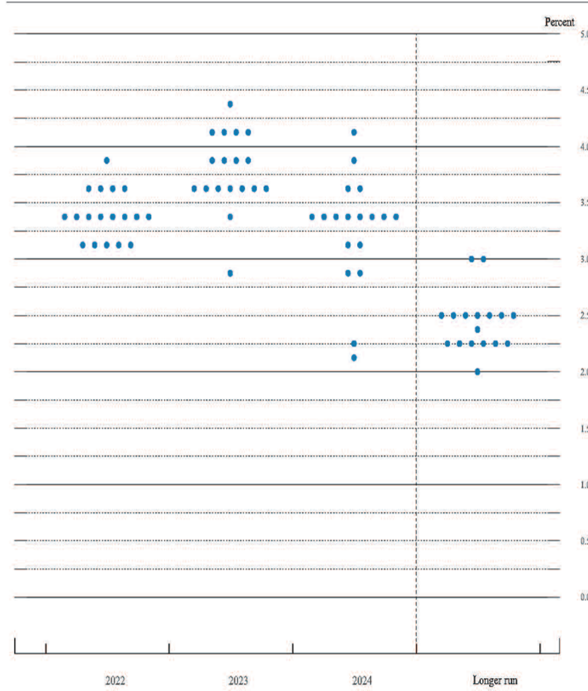
1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable 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



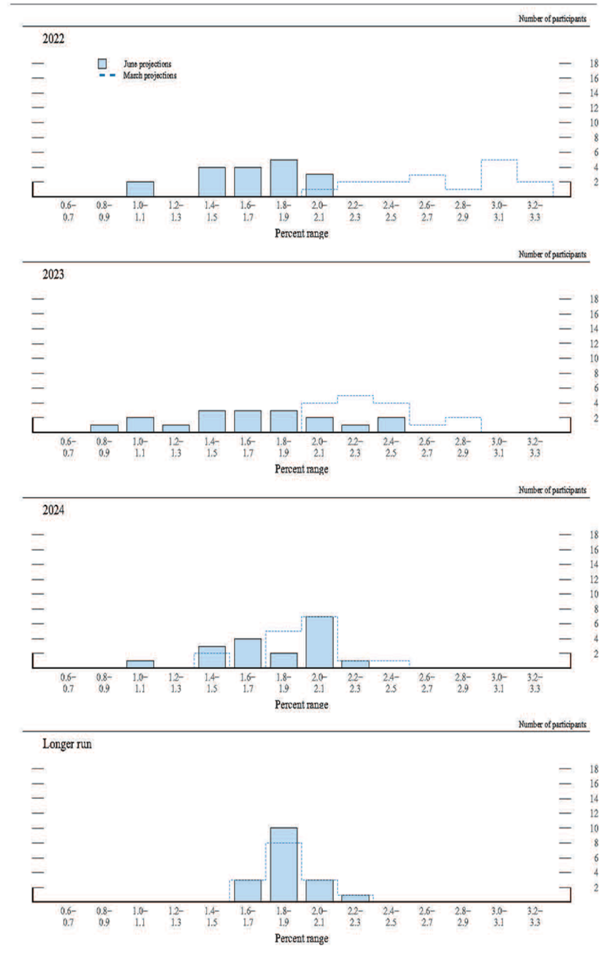
NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



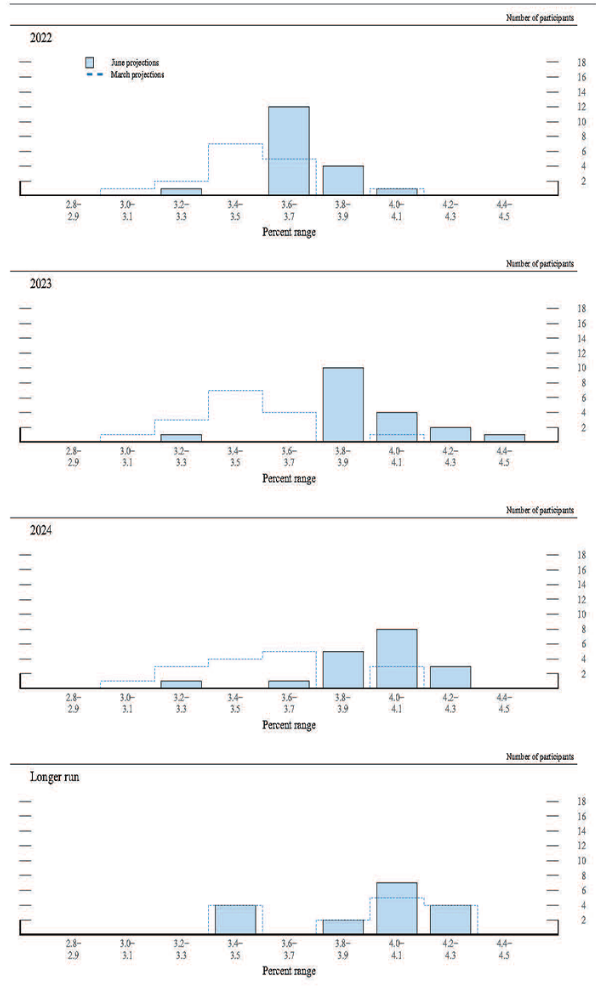
NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar 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



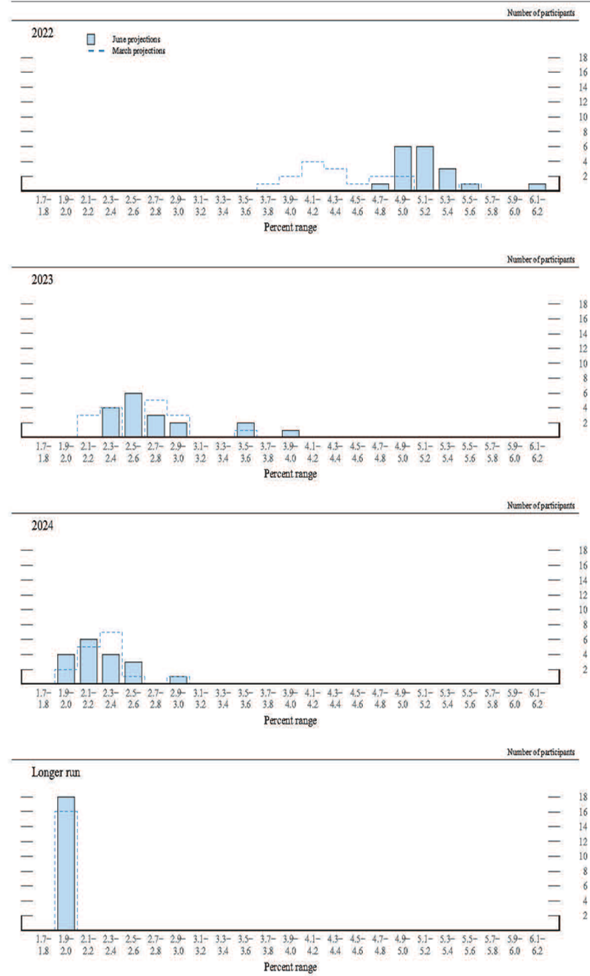
Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2022–24 and over the longer run



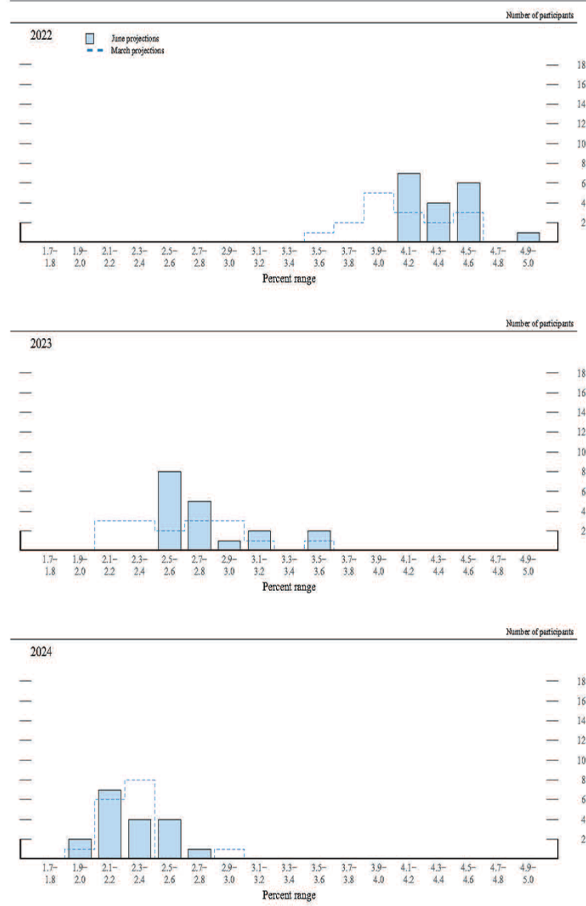
Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2022–24 and over the longer run



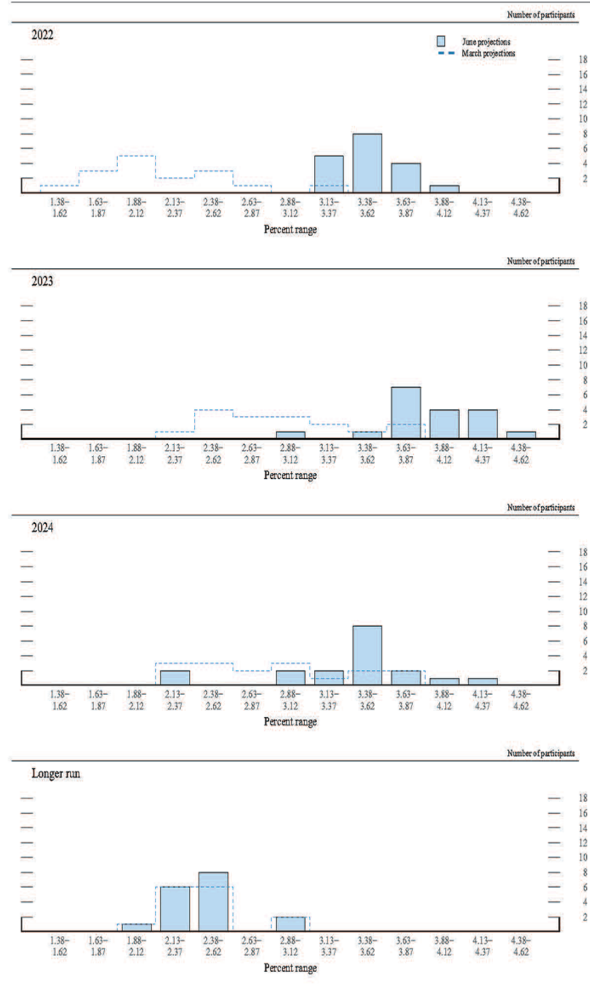
Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2022–24



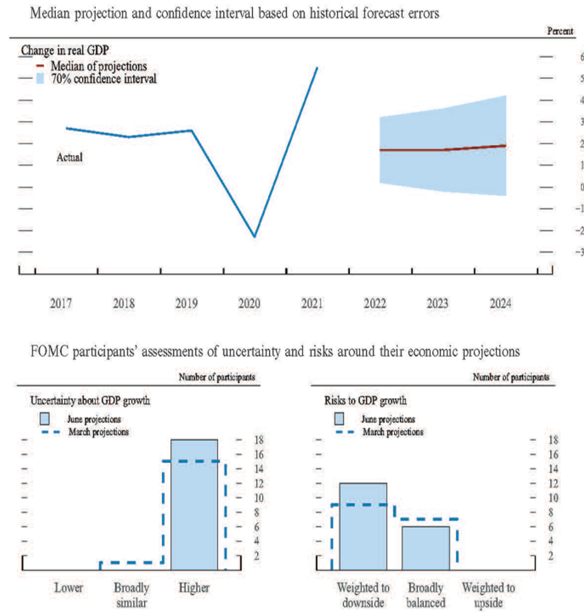
Note: Definitions of variables and other explanations are in the notes to table 1.

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



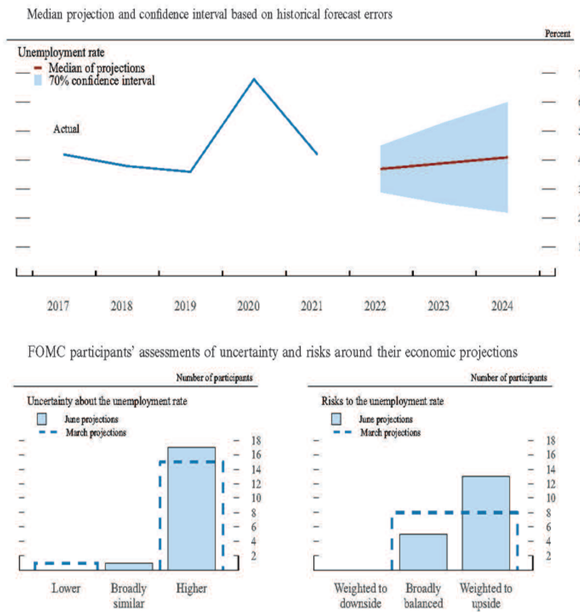
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 4.A. Uncertainty and risks in projections of GDP growth

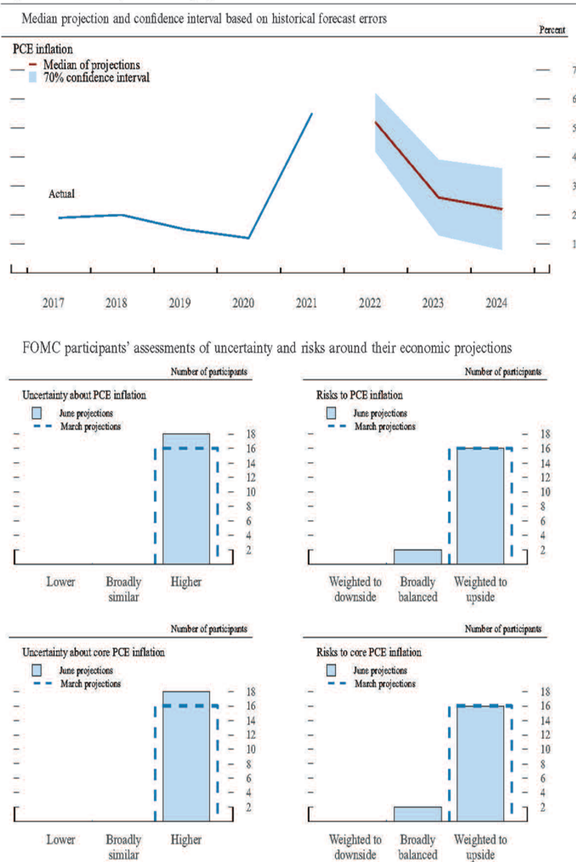


NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in real gross domestic product (GDP) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval around the median projected 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

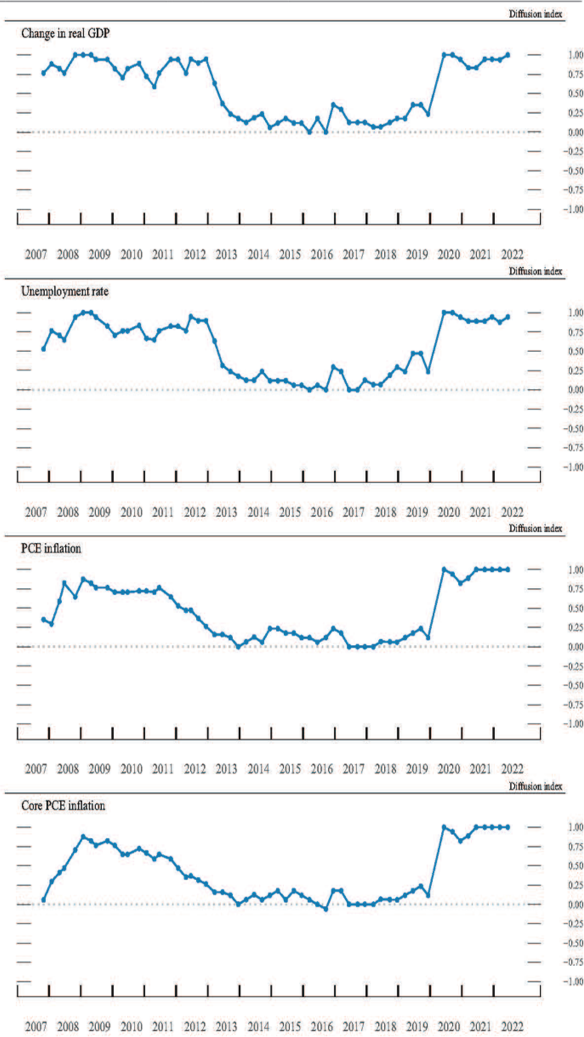


Note: The blue and red lines in the top panel show actual values and median projected values, respectively, of the average civilian unemployment rate in the fourth quarter of the year indicated. The confidence interval around the median projected values is assumed to be symmetric and is based on root 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."



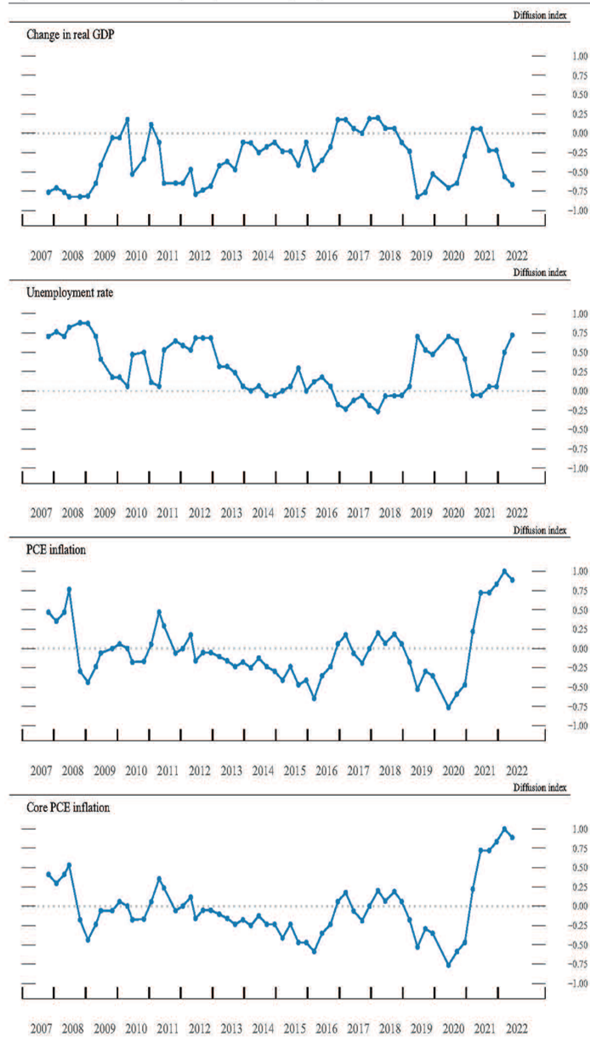
NOTE: The blue and red lines in the top panel show actual values and median projected values, respectively, of the percent change in the price index for personal consumption expenditures (PCE) from the fourth quarter of the previous year to the fourth quarter of the year indicated. The confidence interval 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



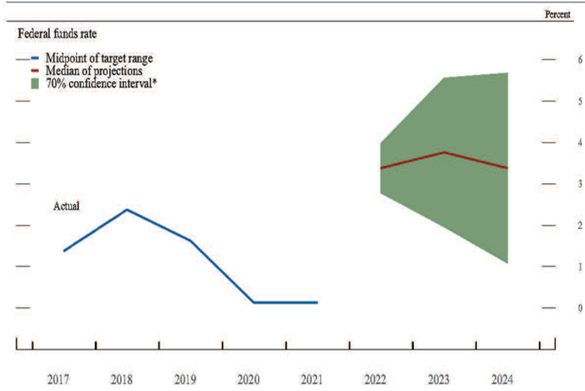
Note: For each SEP, participants provided responses to the question "Please indicate your judgment of the uncertainty attached to your projections relative to the levels of uncertainty over the past 20 years." Each point in the diffusion indexes represents the number of participants who responded "Higher" 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 Reports* and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee (FOMC). The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.5 to 4.5 percent in the current year, 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