A Promising Growth Outlook and Thoughts on Inflation Dynamics

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The views expressed today are my own and not necessarily those of the Federal Reserve System or the FOMC.

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Introduction

Thank you for the opportunity to speak with you today; it's a great pleasure to share some of my thoughts with you on the course of the economy. But before I begin, I should note that these views are my own and do not necessarily represent those of my colleagues on the Federal Open Market Committee (FOMC) or others in the Federal Reserve System.

Needless to say, it has been a very challenging year in so many respects. With regard to the Fed, we, as the monetary policy authority, still have some ways to go before we reach our dual mandate goals of maximum and inclusive employment and inflation that averages 2 percent. We also face many uncertainties and risks on the road ahead. But I am very optimistic about our economy's growth prospects, and am hopeful that our employment goal will be in sight before too long. Yet, despite some recent price increases, achieving our inflation goal may prove more difficult.

The large and uneven impact of the pandemic

The pandemic has had a devastating impact on our nation. It has taken a horrible number of lives and caused immeasurable hardship in so many different ways. It is difficult to overstate the human costs of this tragedy. Economic developments over the past year have been largely dictated by the pandemic and our efforts to contain it.

After huge declines in output with the onset of the pandemic, the economy rebounded sharply in the second half of last year, and it is moving forward with a good deal of momentum so far in 2021. Indeed, I—like most forecasters—have been surprised by its resiliency.

A key reason for this resiliency has been the ability of so many households, businesses, and nonprofit organizations to successfully adapt and operate safely in the midst of the pandemic. Consequently, activity in many sectors of the economy, such as manufacturing, has returned near—or even surpassed—its pre-pandemic level. The efforts have been truly impressive. Part of this resiliency also is due to the support provided by fiscal and monetary policies.[1] Throughout the crisis and recovery, federal funds flowing to the private sector and state and local governments, along with low borrowing rates, have helped support the economy.[2]

One not-surprising feature of the recovery is that sectors of the economy where in-person contact is not necessary are doing much better than those for which social distancing is more difficult. For example, consumer spending on housing, autos, and

[1] The $2.2 trillion Coronavirus Aid, Relief, and Economic Security (CARES) Act was signed into law on March 27, 2020, and an additional $900 billion in relief was provided as part of a government spending bill called the Consolidated Appropriations Act, 2021, which was enacted on December 27, 2020. More recently, the $1.9 trillion American Rescue Plan Act (ARP) was signed into law on March 11, 2021. These bills have provided loans to businesses, direct payments and other benefits to individuals, and funding to health care providers and state and local governments, as well as other support to various segments of the economy.

[2] For instance, following the most recent round of stimulus payments, personal income in March 2021 from wages and salaries plus pandemic relief provided by the government was nearly 48 percent above its pre-pandemic level in February 2020. In addition, the average interest rate on 30-year mortgages declined 1 percentage point from 3.9 percent in March of last year to 2.9 percent in January of this year before rising to over 3 percent in mid-February, where it has remained.

other goods has increased at a solid pace.[3] In contrast, despite recent improvements, the leisure and hospitality sector is still suffering immensely. Indeed, before the pandemic, employment in leisure and hospitality accounted for only about a tenth of total payrolls in the economy. Yet the job losses in this sector accounted for nearly 40 percent of the 8.5 million shortfall in total employment that we saw in March 2021 relative to its pre-pandemic level in February 2020.[4]

The impact of the pandemic has been uneven across a number of other dimensions as well. For example, because a disproportionate number of women, minorities, and lower-wage workers are employed in leisure and hospitality or other vulnerable sectors, these demographic groups have been particularly hard hit. Worryingly, these shifts are magnifying the longstanding inequalities among these segments of our society. And depending on the path of the recovery, some of the recent changes may leave unfortunate longer-lasting marks as well. Our economy cannot fully recover if a substantial portion of the population is left behind.

All told, even though the economy is recovering, we still have a long way to go before economic activity returns to its pre-pandemic vibrancy. Even after the very strong March employment report, at 6.0 percent, the unemployment rate is well above the 3.5 percent

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[3] Single-family permits in March 2021 were more than 20 percent above their pre-pandemic level. Real consumer spending on goods in March 2021 was over 16 percent above its level in February 2020, and auto sales in the first quarter of 2021 were at nearly pre-pandemic levels.

[4] Between February 2020 and March 2021, total nonfarm employment decreased 5.5 percent, according to data from the U.S. Bureau of Labor Statistics. Over the same period, employment in leisure and hospitality declined nearly 19 percent. Some of the other industries seeing large employment declines over this span include air, water, rail, and ground passenger transportation (–22.8 percent), education services (–8.2 percent), mining and logging (–11.6 percent), and motion picture production (–40.3 percent).

we saw on the eve of the pandemic. And many other workers have stopped looking for a job and exited the labor force.

Optimistic outlook for growth

Despite these numerous hardships, I am optimistic that the economy is poised for strong growth later this year, which will bring with it further significant improvements in the labor market. One important reason for my optimism is that we have made good progress on the health front. Though caseloads are still worrisome, the numbers are much lower than they were at the turn of the year. Moreover, each day more and more people are getting vaccinated, and hopefully, before too long, much of the population will be able and willing to resume activities such as traveling, attending events, and dining out.[5]

Fiscal policy will also provide a big boost to the economy. Over the past five months, we have seen two large stimulus packages enacted: the $900 billion in relief from the Consolidated Appropriations Act in late December and the $1.9 trillion American Rescue Plan Act, or ARP, in early March. This legislation provides further direct stimulus payments to individuals; extends unemployment insurance and lending to small businesses; provides substantial funding to state and local governments;

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[5] According to the Centers for Disease Control and Prevention (CDC), as of May 2, 2021, about 56 percent of the U.S. population aged 18 and over had received at least one Covid-19 vaccine dose and over 40 percent were fully vaccinated. CDC updates on the state of Covid-19 vaccinations across the United States are available online, https://covid.cdc.gov/covid-data-tracker/#vaccinations.

and authorizes spending on programs such as those for vaccines and testing, childcare, housing assistance, and education.[6]

With these developments, my outlook for growth and unemployment is much more positive today than it was just a few months ago. Since my forecast is similar to those made by my colleagues on the FOMC, let me discuss mine in the context of theirs. Four times a year each FOMC participant provides projections of key economic variables. These are released in our Summary of Economic Projections, or SEP—the most recent of which came out in mid-March.[7] The median forecast in the SEP for gross domestic product (GDP) growth in 2021 was 6.5 percent. This quite strong figure reflects the return to more normal operations in sectors still impacted by the virus today, as well as the big boost from fiscal policy. As these factors run their course, growth is then expected to moderate to 3.3 percent next year and 2.2 percent in 2023.[8] The median FOMC participant sees the unemployment rate declining steadily from 6.0 percent today to 4.5 percent by the end of this year and then to 3.5 percent by the end of 2023—finally bringing us back to the mark we saw prior to the pandemic.

Of course, there is a lot of uncertainty underlying these projections. A very important one surrounds the path for the virus. My base case is that the virus will become much less of a public health concern by the second half of this year. But that is not assured;

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[6] The extension of unemployment benefits applies to the Federal Pandemic Unemployment Compensation (FPUC), Pandemic Unemployment Assistance (PUA), and Pandemic Emergency Unemployment Compensation (PEUC) programs created by the CARES Act.

[7] Federal Open Market Committee (2021b).

[8] While economic growth is projected to moderate in the next two years, it is expected to remain above the economy's long-run growth rate—which is estimated to be 1.8 percent by the median FOMC participant.

and there are downside risks if people become less vigilant or if vaccine hesitancy or vaccine-resistant variants of the virus impede the immunization process.

Another is the speed at which hard-hit sectors will be able to resume business. Will the return to normal be like flipping a switch, where activity and employment in sectors such as leisure and hospitality return to high levels fairly quickly as demand reappears? Or will significant start-up costs or sticky labor force adjustments slow the return? The potential for longer-term structural changes in some sectors, such as retailing and commercial real estate, pose similar questions about the path ahead.

The size and timing of the impact from fiscal policy also are uncertain. For example, with regard to the stimulus payments, those whose livelihoods have been most severely harmed by the pandemic will spend them quickly, but others will save theirs and spend them gradually.[9] Similar uncertainties surround other elements of the recent fiscal packages. And then there is the possibility that further spending and tax changes will be coming soon. So, we could see more—or less—impact from fiscal policy than I've built into my projections.

Inflation and inflation dynamics

Let me turn now to the price stability element of our dual mandate. This is a far more nuanced story. To set the stage, the FOMC has an inflation target of 2 percent.[10] Since the Great Financial Crisis, inflation has persistently run under our target,

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[9] See, for example, Karger and Rajan (2021).

[10] The Committee's inflation goal is measured by the annual change in the Personal Consumption Expenditures (PCE) Price Index.

only fleetingly touching 2 percent a couple of times prior to the pandemic. The pandemic further depressed inflation as demand plummeted for many goods and services, with outright price declines in sectors hardest hit by the pandemic, such as air travel and hotel accommodations. To be sure, prices rose for other items that were in higher demand—such as hand sanitizers, autos, and household appliances. But if you look at the overall basket of goods and services purchased by households—as measured by the Personal Consumption Expenditures Price Index excluding food and energy (or core PCE for short)—inflation has declined from 1.9 percent just before the pandemic to 1.4 percent this past February.[11] Core PCE inflation then popped up to 1.8 percent in March.

I was not surprised to see such an increase, and I expect to see some further pickup in inflation in the coming months. Part of the increase will be purely mechanical as the low inflation reading from April of last year falls out of the 12-month calculation—a factor that boosted year-over-year inflation in March as well.[12] In addition, as the virus subsides and people resume normal activities, demand should pick up further for those goods and services that are most affected by the pandemic, pulling their prices up to more typical levels. Finally, we are seeing supply chain bottlenecks develop as activity picks up rapidly in some sectors, and these can contribute to temporary price pressures in selected industries. We've all read about issues with steel, computer chips, construction materials, appliances, and other items.

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[11] Core PCE inflation is a better gauge of underlying inflation trends than total PCE inflation.

[12] Core PCE prices fell 0.4 percent in April 2020. So even if core PCE prices were unchanged in April 2021, the 12-month change would rise by 0.4 percentage points solely because the April 2020 number fell out of the average.

But what happens once prices renormalize and supply chains adjust? Will inflation just settle back down to 1-1/2 percent, or will we see a more persistent increase in underlying inflation? And if we do see persistently higher inflation, how much higher will that inflation be?

A number of economists have been warning that persistently higher inflation is coming. This has generally been in the context of the effects of the American Rescue Plan Act. They argue that the ARP is too big, will overheat the economy, and will generate higher inflation that we really ought to be worried about. But two important questions often are left unaddressed in their arguments: How high is this higher inflation? And what is the mechanism generating it?

To understand these concerns, you need to have some coherent framework for thinking about the inflationary process. The standard inflation-expectations-augmented Phillips curve model is one such framework. This model tells you that inflation is related to economic slack, supply shocks, inertia in the inflation process, and inflation expectations. This is the model Janet Yellen often used when she was Fed Chair to frame her discussions about inflation.

Two economists on my staff—Jonas Fisher and Leo Melosi—looked at a few alternative scenarios for inflation that might accompany the ARP.[13] They took some standard calibrations of the resource pressures that might be generated and then ran those through several versions of the inflation-expectations-augmented Phillips curve.

[13] For details, see Bianchi, Fisher, and Melosi (2021).

What did they find? In most of the models, the increase in PCE inflation relative to baseline over the next several quarters is fairly modest—topping out somewhere between 1/2 and 3/4 percentage points. And these increases don't last that long, largely dissipating in two or three years.

One specification did yield some larger and persistently higher readings on inflation. This was a model in which inflation expectations were assumed to vary with recent inflationary experience and included so-called speed effects, in which the change in unemployment, not just its level, influences inflation. Here, PCE inflation increased by about a percentage point in some scenarios, and a feedback loop between higher actual inflation and inflation expectations meant the higher rate was largely maintained several years out.

The lessons from these exercises are well known. The coefficient on resource utilization in the Phillips curve is small, so that resource pressures on their own will have a limited impact on inflation. As an example of recent work documenting this, I would point you to a paper by Jonathon Hazell and co-authors that controls for simultaneity bias by analyzing state variation in prices for tradable goods and still finds that the Phillips curve is quite flat.[14] Furthermore, even the modest effects of resource pressures on inflation will go away as those pressures dissipate. To generate larger and persistently higher inflation, you need higher inflation expectations.[15] That is, you need to see households and businesses begin to incorporate a higher underlying rate of inflation into their

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[14] Hazell et al. (2021).

[15] Hazell et al. (2021) find that the greater stability of inflation since the 1990s is mostly due to long-run inflationary expectations becoming more firmly anchored.

decisions today and their plans for the future. As these plans take hold, they become embedded in actual inflation itself and, in a self-fulfilling process, justify the beliefs.

Now it turns out that to get the results in those higher-inflation simulations, Jonas and Leo estimated the feedback between actual inflation and inflation expectations using data going back to 1959. We “seasoned veterans” remember that when working with data from the 1960s, ’70s, and ’80s, we usually estimated accelerationist Phillips curves, in which the *change*—not the level—of inflation was driven by the output gap. In these models, even if resource pressures were eliminated, inflation would remain at its new higher level. If resource pressures were maintained, inflation would continue to spiral upward. And theory gave us a very credible underpinning for this accelerationist result: It could be explained by a strong and long-lasting sensitivity of inflation expectations to recent inflation experience.

It seems to me that such an accelerationist view is on the minds of many of those warning about an outbreak of inflation today. I think the risk of this scenario is remote. Inflation certainly wasn’t spiraling upward prior to the pandemic, when the unemployment rate was at a historically low 3.5 percent. Furthermore, given the low inflation experienced over the past 15 years, inflation expectations have likely drifted noticeably below 2 percent. For example, the ten-year Treasury rate is just 1.6 percent today. That low rate can hardly reflect outsized inflation expectations on the part of financial market participants. Even with the increases we’ve seen in recent weeks, inflation compensation priced into Treasury rates over the five- to ten-year horizon are still noticeably below where they were in 2012 and 2013—a period when one might

argue that inflation expectations were more aligned with our 2 percent target. So there is no evidence that inflation expectations are spiraling out of control.

Indeed, I have to say that I hope we do get some feedback between actual inflation and inflation expectations as we move through the year. If expectations move up, then we could make some real progress toward reaching our inflation target. So, we will be watching measures of inflation expectations very carefully. And I would not be concerned about inflation moving persistently too high unless we saw some quite outsized movements in financial market pricing at the longer maturities or in survey-based measures of inflation expectations.

What are forecasters looking for? Well, according to the March SEP, the median FOMC participant sees core inflation rising to 2.2 percent by the end of this year and then slowing to 2.0 next year before moving up slightly to 2.1 percent in 2023. That's better than the 1.8 percent we have today. And while I can't speak for others on the Committee, my outlook is consistent with some increase in longer-run inflation expectations. But does it mean we've reached our inflation goal?

Policy to remain accommodative for some time

Before I answer this question, let me say a few words about our policy goals. Congress gave the Federal Reserve a dual mandate to achieve maximum employment and price stability. Last August, after a lengthy review, the FOMC revised our long-run strategy statement that operationalizes this mandate.[16] First, we stated that our

[16] Federal Open Market Committee (2020).

employment goal is broad-based and inclusive and that our aim is to eliminate shortfalls of employment from our assessment of its maximum level.[17] The term "shortfalls" is significant—in the past we characterized our employment mandate in terms of eliminating deviations from some long-run normal level of employment. Under the new framework, the FOMC will not be concerned about high employment—or low unemployment—unless it is also associated with undesirable inflationary pressures.

With regard to our price stability objective, we indicated we want to achieve inflation that averages 2 percent over time. This averaging is important in order to center longer-term inflation expectations at 2 percent and thus achieve our target on a persistent basis. Therefore, if inflation has been running persistently below 2 percent, we need to have inflation overshoot our goal moderately for some time to bring the average back to 2 percent.

As you know, even before we adopted this new framework, monetary policymakers responded to the pandemic swiftly and strongly. In order to support the overall economy, we brought the federal funds rate down to nearly zero, introduced a host of liquidity and credit facilities, and purchased U.S. government securities on a large scale. While the emergency actions are behind us, today the fed funds rate remains near zero and we continue to purchase securities at a pace of $120 billion per month.

I expect monetary policy will have to remain accommodative for some time to ensure that we meet the policy goals laid out in our new framework. With regard to our

[17] We consider a wide range of indicators in making that assessment; see Federal Open Market Committee (2021c)—which is the very latest version of the long-run strategy statement (reaffirming the 2020 version).

employment mandate, an important gauge is the unemployment rate. The median FOMC participant estimates that the longer-run unemployment rate is 4.0 percent. In other words, after the effects of various shocks to the economy dissipate, the unemployment rate should naturally settle at 4.0 percent. The median FOMC forecast has the unemployment rate falling below this level by the end of 2022. So, our employment mandate is within sight. Now, the median inflation forecast I just mentioned is at or somewhat above 2 percent. But after years of underrunning our target, in my view those increases and, down the road, some even higher rates of inflation are needed to get inflation to average 2 percent and to solidify inflation expectations about that number. So, I see the need for continued accommodative monetary policy to reach our goals.

What does this mean in terms of our policy tools? The FOMC statements, released after each meeting, provide some guidance. The one we just issued in April reaffirmed that it will be appropriate to maintain the current target range for the federal funds rate until labor market conditions have reached levels consistent with the Committee's assessments of maximum employment and inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time. In addition, the Federal Reserve will continue to purchase assets until substantial further progress has been made toward the Committee's maximum employment and price stability goals.[18] Judging from the most recent SEP, those conditions will not be met for a while. The median FOMC

[18] Federal Open Market Committee (2021a).

participant expects the federal funds rate to stay in its current low range of 0 to 1/4 percent through at least the end of 2023. So, policy is likely on hold for some time.

Conclusion

In sum, we still have quite a way to go before we return to pre-pandemic levels of employment, but given the growth prospects for the economy, I am confident that we will be making good progress toward our inclusive employment objective over the next couple of years. I expect inflation will pick up in the near to medium term, but a firming in inflation expectations will still be needed to achieve our goal of averaging 2 percent inflation over the longer run.

Thank you.

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