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How We Got Here: A Perspective on Inflation and the Labor Market

Remarks by

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Thank you, John, and thank you for the opportunity to speak here today.[1] It is good to be back at the Kennedy School and in particular at the Mossavar-Rahmani Center, which has a long tradition of engaging on important policy issues.

In my remarks today, I will provide my outlook for the U.S. economy and the implications for monetary policy. The combination of significant ongoing progress in reducing inflation and a cooling in the labor market means that the time has come to begin easing monetary policy, and I strongly supported the decision last week by the Federal Open Market Committee (FOMC) to cut the federal funds rate by 50 basis points. While future actions by the FOMC will depend on data we receive on inflation, employment, and economic activity, if conditions continue to evolve in the direction traveled thus far, then additional cuts will be appropriate.

I will begin by summarizing where we stand on inflation, including details on how the different components of inflation have changed over time, since these facts form the basis for my judgment on where inflation is headed. I will then talk about the recent cooling in the labor market and the forces driving it as well as how shifts on this other side of our mandate fit into the overall economic outlook for the rest of this year. I will conclude with the implications of all this for appropriate monetary policy and our focus on our dual mandate.

Inflation based on personal consumption expenditures (PCE) has come down from a peak of 7.1 percent on a year-on-year basis to 2.5 percent in July. Core PCE inflation, which excludes energy and food prices and tends to be less volatile, has come down from a peak of 5.6 percent to now 2.6 percent. Based on consumer and producer

[1] The views expressed here are my own and are not necessarily those of my colleagues on the Federal Reserve Board or the Federal Open Market Committee.

price indexes, I estimate headline PCE and core PCE inflation to be at about 2.2 and 2.7 percent, respectively, in August, consistent with ongoing progress toward the FOMC's 2 percent target. The progress on inflation is good news, but it is important to remember that households and businesses are still dealing with prices for many goods and services that are significantly higher than a couple of years ago. Prices for groceries, for example, are about 20 percent higher than before inflation started rising in 2021, and while earnings have been rising faster than inflation, it may take some time for it to feel as though prices are back to normal.[2]

Inflation data are produced by the Labor Department, and when I served as chief economist at Labor, I delved into the differential effects of inflation on various demographic groups. When inflation was at its peak in 2022, it was more than 1 percentage point higher for lower-income households, for those without a college degree, and for those aged 18 to 29—all groups that spend a higher share of income on necessities and have less wealth to draw from.[3] Fortunately, research by staff at the Fed shows that disinflation helps close that gap as well, something that only adds to the urgency I feel about returning inflation to the FOMC's 2 percent goal.

Research on the causes of inflation and the subsequent disinflation show that both supply and demand forces have played an important role. In the past two years, specifically, improvements in supply, along with moderation in demand in part due to

[2] Unlike in previous recoveries, those in the lower half of the distribution have benefited more from the real earnings increases during the post-pandemic period. The 12-month change in average hourly earnings and the employment cost index have been rising faster than consumer price index inflation for those in the first and second quartiles since 2019 and since 2022, respectively, and for everyone across the distribution for roughly a year.

[3] See Xavier Jaravel (2021), "Inflation Inequality: Measurement, Causes, and Policy Implications," *Annual Review of Economics,* vol. 13, pp. 599–629.

tighter monetary policy, have both played a role in the disinflationary process.[4] Supply chain bottlenecks as well as the drastic drop in the labor force due to excess retirements and the withdrawal of prime-age workers contributed to the initial rise in inflation, but the resolution of these disruptions and the return of workers to the labor force have also helped rein in inflation. Early on, consumers shifted spending from services to goods, a development that goods producers struggled to accommodate, putting upward pressure on prices. But as the demand shock to goods unwound and consumer spending shifted back to services, goods inflation fell and has been running below zero in recent months. Also, the increased demand due to the fiscal response to COVID-19 in 2020 and 2021 has more recently been roughly neutral on growth, as shown by the Hutchins Center on Fiscal and Monetary Policy in their measure of fiscal impact. And, of course, as I will discuss in a moment, tight monetary policy has been and continues to be a moderating force on demand, primarily by raising costs for interest-sensitive goods and services.

As I think about where inflation is headed, I find it helpful to consider how it has evolved over the past several years and in particular how the major components of inflation have behaved, so I want to take a few minutes to walk through those details.

[4] Different approaches allow a parsing of the relative contributions of supply and demand, top-down approaches by Bernanke and Blanchard (forthcoming) and Benigno and Eggertson (2023) and bottom-up approaches by Braun, Flaaen, and Hoke (2024) and Shapiro (2022); see Ben Bernanke and Olivier Blanchard (forthcoming), "What Caused the U.S. Pandemic-Era Inflation?" *American Economic Journal: Macroeconomics*; Pierpaolo Benigno and Gauti B. Eggertsson (2023), "It's Baaack: The Surge in Inflation in the 2020s and the Return of the Non-Linear Phillips Curve," NBER Working Paper Series 31197 (Cambridge, Mass.: National Bureau of Economic Research, April), https://www.nber.org/papers/w31197; Robin Braun, Aaron Flaaen, and Sinem Hacioglu Hoke (2024), "Supply vs Demand Factors Influencing Prices of Manufactured Goods," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, February 23), https://www.federalreserve.gov/econres/notes/feds-notes/supply-vs-demand-factors-influencing-prices-of-manufactured-goods-20240223.html; and Adam Hale Shapiro (2022), "How Much Do Supply and Demand Drive Inflation?" FRBSF Economic Letter 2022-15 (San Francisco: Federal Reserve Bank of San Francisco, June 21), https://www.frbsf.org/research-and-insights/publications/economic-letter/2022/06/how-much-do-supply-and-demand-drive-inflation. All of these studies agree that both supply and demand shocks contributed to the surge in inflation as well as its fall.

As I have indicated, the big picture is that goods inflation surged early on in 2020 and 2021, followed by prices for services excluding housing, and then housing, with some overlap in those steps. Disinflation has followed that course in reverse. Core goods inflation rose, after almost a year of social distancing shifted spending from services and after production and delivery of goods was disrupted by the pandemic. This was a big change because over the long expansion leading to the pandemic, core goods prices actually fell, slightly but consistently.[5] On a 12-month basis, core PCE goods inflation rose above zero in December 2020, reached a peak of 7.6 percent in February 2022, and fell again below zero at the end of 2023. In July of this year, it was negative 0.5 percent. This recent disinflation offset still-rising prices for services and helped reduce overall inflation. Goods inflation has reverted to its longer-term pattern as demand has moderated and supply chain problems have abated. This is reflected by various indexes of supply chain bottlenecks that showed the supply-side disruptions that contributed early on to surging inflation have now retreated to pre-pandemic levels.[6] Other data show that computer chip supply, which fell far short of demand early in the pandemic, is back to normal conditions as well.

Food and energy prices, always subject to larger ups and downs than other parts of inflation, rose also early on. Food inflation increased in 2020 as shoppers began stockpiling groceries and as warehouses and production facilities had difficulty staffing due to COVID. After Russia's invasion of Ukraine, energy price inflation reached a peak

[5] The causes most often cited by economists are competition from globalized trade and productivity gains, including from technological advances.
[6] The most commonly used indicators of supply chain bottlenecks are the Global Supply Chain Pressure Index produced by the Federal Reserve Bank of New York, the Supplier Deliveries Index from the Institute for Supply Management, and the percent of answers to the question of why production is not at capacity in the Quarterly Survey of Plant Capacity Utilization fielded by the Census Bureau and funded by the Federal Reserve Board.

12-month rate of nearly 45 percent and food inflation reached a peak of 12 percent in mid-2022, highlighting the importance of petroleum and agricultural commodities from that part of the world. Food and energy inflation has moderated over the past two years and are now both running at 12-month rates of 1.4 percent and 1.9 percent, respectively, as supply chain issues have resolved and production in the U.S. and elsewhere has increased. Food and energy expenses represent a sizable share of consumer spending, but the frequent purchase of these goods means that they are highly salient in the public's views on inflation. Research by Francesco D'Acunto and coauthors has shown that the weights that consumers assign to price changes in forming their inflation expectations are not based on the actual share of their expenditures but instead on the frequency of purchases, which happen to be highest for food and energy goods.[7] Thus, the fall in food and energy prices is important because it may feed back into lower inflation in other categories by moderating overall inflation expectations and also real wage expectations in wage bargaining.

Housing services price increases were the last component of inflation to escalate, rising to a peak 12-month rate of 8.3 percent in April 2023 and moderating to a 5.3 percent pace in July. It took time for housing prices to escalate and has taken longer for them to moderate because of both the nature of the rental market and the data collection method from the Bureau of Labor Statistics, as I have discussed at length in other speeches.[8] However, new rent increases, which better capture rental price changes in real

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[7] See Francesco D'Acunto, Ulrike Malmendier, Juan Ospina, and Michael Weber (2021), "Exposure to Grocery Prices and Inflation Expectations," *Journal of Political Economy,* vol. 129 (May), 1615–39.

[8] Rental prices are the basis for all estimates of housing service costs. Prices tend to change only when rented homes change tenants, which happens relatively infrequently. Prices tend to change more when there are new tenants, while the majority of lease renewals tend to keep the same price-generating

time, are falling and are the main reason why I expect housing services costs to moderate further.

The final component of inflation is services excluding housing, which accounts for 50 percent of PCE inflation and is heavily influenced by labor markets. On a 12-month basis, this component of inflation rose to a peak of 5.3 percent in December 2021, stayed persistently high until February 2023, and has moderated since then to 3.3 percent in July of this year. Its escalation was driven both by the rise in labor costs and by the transition of demand from goods to services following the pandemic. Labor costs are a substantial share of the total costs for services. For example, labor accounts for between 60 percent to 80 percent of costs in construction, education, and health services.

Among the initial forces driving the escalation in wages were the increase in food and energy prices, as wage demands tend to track closely with the prices of these frequently purchased goods. Data on wage demands from the New York Fed's Survey of Consumer Expectations indeed show a sudden increase early on during the pandemic right after the first bout of food inflation.[9] Importantly, worker shortages likely allowed those higher wage demands to be realized, contributing to the rise in wages. Later, as demand for services quickly rose and employers were creating a large number of jobs in several service sectors, workers were able to be more selective, and the ensuing "Great Resignation" took hold, allowing people to choose different careers. The relatively high

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persistence. In addition, the Bureau of Economic Analysis samples rents only every six months. As a result, substantial lags are built into the official statistics. See Adriana D. Kugler (2024), "The Outlook for the Economy and Monetary Policy," speech delivered at the Brookings Institution, Washington, D.C., February 7, https://www.federalreserve.gov/newsevents/speech/kugler20240207a.htm; Adriana D. Kugler (2024), "Some Reasons for Optimism about Inflation," speech delivered at the Peterson Institute for International Economics, Washington, D.C., June 18, https://www.federalreserve.gov/newsevents/speech/kugler20240618a.htm.

[9] The Survey of Consumer Expectations from the New York Fed collects data on "reservation wages," which are what workers report as being the minimum wage that they would require to accept a job.

demand relative to the supply of workers in some service sectors encouraged workers to move from job to job for higher wages, benefits, and other improvements in working conditions. Evidence from the Atlanta Fed's Wage Growth Tracker suggests that during this period, wages for job switchers grew more than 2 percentage points faster than wages for people staying in the same job, though this wage premium for job switchers disappeared by the second half of last year.

But now inflation for services excluding housing is declining, after a temporary escalation in the first quarter of this year that was likely partly due to residual seasonality. There had been fears that wage increases would drive a wage–price spiral, as the U.S. experienced in the 1970s, but this did not occur.

To sum up, inflation has broadly moderated as the supply of goods and services has improved, and as producers and consumers have adjusted to the effects of higher prices. Demand has moderated, in part due to tighter monetary policy. And, as I just noted, changes in the pace of wage growth have also played an important role in the ups and downs of inflation, which points me toward a discussion of labor markets, which has recently become a greater focus of monetary policy.

As I have noted, there has been a significant moderation in the labor market recently, but I want to start by pointing to what really has been a remarkable performance of the labor market over the past four years. After the unprecedented job losses early in the pandemic, and even accounting for the quick recovery of a large share of those losses, the recovery of the labor market that followed was historically swift. Unemployment was 7.8 percent in September 2020 and 4.7 percent only 12 months later, and it fell to under 4 percent 3 months after that. That is a more rapid recovery than the U.S. has experienced since the 1960's. What started, at that point, was 30 straight months of unemployment at or below 4 percent, which had not happened during the pre-pandemic period, the boom of the 1990s, or anytime during the 1980s, and it was only exceeded by the strong labor market of the latter half of the 1960s. Something that I think was just as remarkable has been the narrowing of the typical gap between labor market outcomes for less-advantaged groups. For example, there has been a reduction in the unemployment rate between Black and Latino workers, on the one hand, and white workers, on the other hand. There has also been a narrowing of the prime-age labor force participation rate among these groups, and, perhaps most notable of all, wage inequality among them has narrowed, which is not typical during economic expansions, according to research by David Autor and several coauthors.[10] They found that one benefit of the unusually tight labor market of the past few years was that the heightened competition for scarce workers produced more rapid wage gains for workers at the bottom of the wage distribution. The real wage gains for those in the lower quartiles of the distribution and with higher propensities to consume, in turn, likely spurred consumption and helped sustain growth after the pandemic.

After a couple of years in which labor demand exceeded supply, the labor market has come into balance, reflecting an economy that has moderated in part due to tighter monetary policy. On the labor supply side, two forces have contributed to this rebalancing of the labor market. Labor force participation suffered due to the disruptions

[10] See David Autor, Arindrajit Dube, and Annie McGrew (2024), "The Unexpected Compression: Competition at Work in the Low Wage Labor Market," NBER Working Paper Series 31010 (Cambridge, Mass.: National Bureau of Economic Research, March; revised May 2024), http://www.nber.org/papers/w31010. Using Current Population Survey microdata, they show that increased labor market competition for scarce workers produced more rapid real wage gains at the bottom of the wage distribution, reducing wage inequality.

in work during the pandemic but rebounded strongly in 2022 and 2023 as the labor market tightened and wages rose sharply. The labor force participation rate for prime-age women reached historic highs over the past year and reached yet another historic record high in August. The overall increase in participation among workers aged 25 to 54, in the prime of their working lives, helped offset the loss of many workers aged 55 and over who experienced excess retirements during the pandemic. The second force boosting labor supply has been the large increase in immigration. The Congressional Budget Office estimates that net immigration boosted the U.S. population by close to 6 million people in 2022 and 2023, the majority of them of working age, and, by most accounts, rates of immigration have remained high in 2024.

As a result of improved supply and easing of demand for workers, the labor market has rebalanced. After running at very low levels, unemployment has edged up this year to 4.2 percent in August, still quite low by historical standards. The slowdown in labor demand is most evident in payroll numbers. Job creation averaged 267,000 a month in the first quarter of the year and now stands at an average of 116,000 in the three months ending in August, which is still a healthy pace of job creation. Yet, given recent revisions in the payroll numbers, it is important to continue monitoring additional labor market indicators. In addition, the fall in diffusion indexes suggests that job creation cooling has been broad based, complementing the payroll data in showing rebalances in demand and supply across sectors. Beyond payroll data, voluntary quits, which tend to reflect the rate at which people find a better job, are now back around where they were before the pandemic. The ratio of job vacancies to the number of people looking for work, the V/U ratio, has also fallen close to its pre-pandemic ratio.[11] In summary, after a period of demand exceeding supply, the labor market appears to have rebalanced.

In tandem with the cooling in the labor market, economic activity has slowed but is still expanding at a solid pace. After adjusting for inflation, gross domestic product (GDP) grew 2.5 percent in 2023 and at around a 2 percent annual rate in the first half of 2024. Personal spending, which accounts for the majority of economic activity, has been solid this year, supported by a resilient labor market so far and high levels of household wealth relative to income. But given a rise in credit card and auto delinquencies, a rise in credit card balances, and a cooling labor market, I expect spending to grow at a somewhat more moderate pace moving forward.

Certainly, tight monetary policy has contributed to cool off aggregate demand and slow the economy. It has done so in large part by slowing spending on interest-sensitive expenditures, such as housing, as well as autos and other durable goods. Other spending typically financed with credit, such as business equipment, has also been slower.

Another effect of tight monetary policy is to keep expectations of future inflation in check. And, to the extent that expectations affect decisions by businesses to set prices and by workers to negotiate wages, this has helped put downward pressure on inflation. Survey- and market-based measures of future inflation did increase when inflation surged, but only modestly, and they have moved down in tandem with inflation and have largely returned to their 2019 levels.

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[11] I consider here a V/U ratio in which the numerator is the ratio of the vacancy rate for the total nonfarm sector computed as job openings over the labor force. Job openings data are from the Job Openings and Labor Turnover Survey fielded by the Bureau of Labor Statistics. The denominator is the unemployment rate. The last data point available for job openings is July 2024, while the last data point for the unemployment rate is August.

In conclusion, I would say that recent economic developments, against the backdrop of the experience of the past four years, have validated the Federal Reserve's focus on reducing inflation and set the stage for the shift in monetary policy that occurred last week. The progress in bringing down inflation thus far, coupled with the softening in the labor market that I have described, means that while our focus should remain on continuing to bring inflation to 2 percent, we should now also shift attention to the maximum-employment side of the FOMC's dual mandate. The labor market remains resilient, but the FOMC now needs to balance its focus so we can continue making progress on disinflation while avoiding unnecessary pain and weakness in the economy as disinflation continues in the right trajectory. I strongly supported last week's decision and, if progress on inflation continues as I expect, I will support additional cuts in the federal funds rate going forward.

Thank you.