EMBARGOED UNTIL 1:30 P.M. U.S. Eastern Time,
Friday, February 24, 2023 – OR UPON DELIVERY

Remarks for the Panel Discussion *“Why Did We Miscast Inflation?”*

Susan M. Collins

President & Chief Executive Officer
Federal Reserve Bank of Boston

2023 U.S. Monetary Policy Forum
sponsored by the Initiative on Global Markets at the University of Chicago Booth School of Business

February 24, 2023

The views expressed today are my own, not necessarily those of my colleagues on the Federal Reserve Board of Governors or the Federal Open Market Committee.

Key Takeaways:

1. Inflation remains too high. I anticipate further rate increases to reach a sufficiently restrictive level, then holding there for some, perhaps extended, time. My views will continue to be based on a holistic assessment of available information. And while aware of the risks and uncertainties, I remain optimistic there is a path to restoring price stability without a significant downturn.

2. The root of the inflation surprise was an imbalance between demand and supply. During 2021-22, realized demand exceeded supply, and forecasters were overly optimistic about supply recovering to meet the increase in demand as the economy reopened. The interaction of supply chain bottlenecks and constraints to labor supply compounded the forecasting misses. Supply chains were under strain due to continued bouts of COVID variants; and later, Russia's war in Ukraine.

3. My view is that, in 2021 – in the aftermath of the deep pandemic downturn, in the face of significant continued uncertainty, and with inflation expectations in a reasonable range – supporting the economy versus pre-empting an inflation surge that few were forecasting seemed a reasoned decision.

4. Policy lessons from this still-evolving episode include that capacity constraints can lead to a less favorable trade-off between inflation and unemployment – and this potentially has implications for the future conduct of monetary policy, as we at the Fed fulfill our dual mandate. Furthermore, I'll observe that additional wide-ranging indicators can be especially helpful for evaluating policy options in unusual contexts.

It is a pleasure to be part of the 2023 Forum. I'll begin by noting that, of course, I speak only for myself, not for colleagues at the Board of Governors or other Reserve Banks. After some brief remarks about current monetary policy, I'll turn to the important topic of this panel.

Inflation remains too high, and recent data – including several strong labor market indicators, as well as faster than expected retail sales and producer price inflation – all reinforce my view that we have more work to do, to bring inflation down to the 2 percent target. While optimistic there is a path to restoring price stability without a significant downturn, I am also well aware of the many risks and uncertainties, including the risk of a self-fulfilling loss of business and consumer confidence.

Policy actions to date continue to demonstrate the committee's resolve – and it is helpful to see further declines in longer term inflation expectations, consistent with the credibility of our commitment. I anticipate further rate increases to reach a sufficiently restrictive level, and then holding there for some, perhaps extended, time. My outlook and policy decisions will continue to be based on a holistic assessment of available information and rooted in pursuit of the Fed's Congressional mandate for price stability and maximum employment.

Few forecasters inside or outside the Fed anticipated the inflation surge that began in the first half of 2021, as the economy reopened from the pandemic. Indeed, for months, many – including the Fed – miscast how high, broad, and recalcitrant inflation would prove to be. Fed actions to remove accommodation began in late 2021, with winding down asset purchases. As this shifted to an asset run-off (from our balance sheet) that is still underway, the FOMC began raising rates in March 2022. Since then, our unusually aggressive actions increased the federal funds rate by four and a half percentage points in just nine months. These actions, along with the ones I expect will be taken going forward, should bring inflation back down to target in a reasonable amount of time.

While I'll say a bit more about recent policy, my remarks focus on the topic of this panel – why were the inflation forecast misses so large and persistent? Examining the nature of the errors is important and will help us improve policy going forward. The following are key aspects of my current perspective, recognizing that this complex episode is still unfolding.

The Miscast Inflation Forecast

Inflation has several determinants, but unsurprisingly, the root of the inflation surprise was an imbalance between demand and supply. Over the course of 2021 and 2022, realized demand exceeded expectations while the opposite was true for supply, causing significant price pressures and much higher-than-expected inflation. I'll highlight a few important factors.

The first relates to the behavior of consumption and gross domestic product (GDP), relative to pre-pandemic trends. Output fell suddenly and sharply in the pandemic, prompting strongly accommodative monetary and fiscal policy actions (from the central bank and the federal government, respectively).

As shown in **Figure 1**, the rebound in demand was also quick, and especially so for consumption. Perhaps more focus on consumption rather than GDP would have helped forecasters better assess the implications of demand for consumer price inflation dynamics.[1]

By early 2021, both GDP and consumption were above trend. But although notable at roughly 3 percent, even the consumption gap was not that large by historical standards. By itself, such a gap cannot account for most of the inflation surge.

Unanticipated supply shortfalls that lowered capacity relative to pre-pandemic trends clearly had to play an important role in the supply-demand imbalance and in miscasting inflation. Monetary policy, of course, cannot remedy supply disruptions. But an understanding of supply conditions is central to assessing the economic context, developing the outlook, and determining appropriate policy. And the FOMC does need to respond to supply-driven inflationary pressures that have the potential to un-anchor longer-run inflation expectations.[2]

The errors in assessing the speed of the supply recovery were, for most policymakers and observers, large and persistent. There were certainly efforts then, which continue today, to better understand constraints on global supply chains and their impact on inflation. The New

---

[1] The consumption basket includes domestic and imported goods and services so that both domestic and international developments will impact consumer price inflation dynamics. However, much of the spending in the early stages of the recovery was on imported goods, likely somewhat mitigating the initial effects on domestic prices.

[2] See "Inflation levels and (in)attention," by Anat Bracha and Jenny Tang, Federal Reserve Bank of Boston Working Paper 22-4 (2022), for details on how the relationship between inflation news and inflation expectations becomes stronger when inflation rates are high.

York Fed's Global Supply Chain Pressure Index (**Figure 2**) is an example.[3] Still, it is difficult to assess the extent and duration of supply challenges in real time – especially if they depend on pandemic developments and unexpected shocks such as Russia's war in Ukraine.

Another factor to consider is that the consumption recovery after the initial phase of the pandemic was disproportionately concentrated in goods, rather than on service sector spending that required face-to-face interactions. This pattern by itself was bound to create supply pressures, which were in turn amplified by pandemic-related constraints. This dynamic is reflected in the chart (**Figure 3**) showing the large increase in goods consumption and the surge in goods price inflation.

Perhaps equally notable is the fact that, despite the large drop in services consumption, there was little decline in services price inflation (**Figure 4**). Here, the contrast with the experience from the Great Recession – when the mild slowdown in consumption was accompanied by a noticeable deceleration in inflation – is instructive, and again suggests a key role for supply constraints this time.

Surprises on the inflation front continued in late 2021 and into 2022. The expectation was that, as the economy reopened, demand would shift back from goods to services, and goods inflation would subside without a significant rise in service-sector inflation. Supply – and most notably *labor* supply, since services tend to be labor intensive – would increase to meet demand.

Reality was a bit different. Services consumption rose somewhat, without a material decline in goods consumption. This meant little relief to supply chains, which were also under significant strain due to continued global bouts of COVID variants and, later, Russia's war in Ukraine – thus keeping pressure on inflation.

Most importantly, the expected pickup in labor supply to meet the increased services demand has been taking much longer to materialize than expected, creating a demand-supply gap in the labor market that fueled wage and price inflation.

---

[3] See https://libertystreeteconomics.newyorkfed.org/2022/01/a-new-barometer-of-global-supply-chain-pressures/. More broadly, there was an expansion of types of information considered by policymakers, including an effort to better understand consumer behavior as the economy re-opened by using high-frequency data on mobility and foot traffic, transportation, dining, and hotel occupancy, among others.

There are several ways to think about the labor market imbalance. One is illustrated in this chart (**Figure 5**), which compares the GDP recovery to the employment recovery, again using pre-pandemic trends as benchmarks. Although fast by historical standards, the employment recovery was noticeably slower than the GDP recovery.[4] Only near the end of 2022 did the cyclical position of employment become more in line with GDP.

The fact that employment took more time to recover than aggregate demand reflected a slower than expected recovery in labor supply, which caused fierce competition among firms for available workers. Given these unusual patterns, the unemployment rate has clearly not been a sufficient statistic for gauging labor market conditions.

Just before the pandemic, inflation was seemingly stuck *below* the 2 percent target, with an unemployment rate at similarly low levels. Perhaps more weight should have been placed on indicators such as quits and vacancies – but their possible superiority as measures of labor market tightness relative to the unemployment rate was not clear from past experience.

Again, the pandemic was uncharted territory for forecasters and policymakers alike, and there was little reason to expect an accurate real-time read on how much, for example, fear of Covid and remote education arrangements would affect labor supply decisions, especially given all the uncertainty associated with the pandemic's evolution.[5]

In sum, an important reason for underpredicting inflation was that forecasters were overly optimistic about supply recovering to meet the increase in demand as the economy reopened. The fact that *both* supply chain bottlenecks and constraints to labor supply were operating at the same time compounded the forecasting errors.

Monetary Policy in Real Time

My comments so far have highlighted the importance of supply constraints in generating high, unexpected inflation during the pandemic recovery. I've noted that there is little the Fed

[4] On this point, see also "A new interpretation of productivity growth dynamics in the pre-pandemic and pandemic era U.S. economy, 1950-2022" by Robert J. Gordon and Hassan Sayed, NBER working paper 30267 (2022).

[5] Incidentally, I will note here that it was also difficult to predict that the pandemic would lead to increased demand for residential space, stemming from remote work, which in turn resulted in higher house prices and rents.

can do to alleviate supply challenges, but that policy should lean against supply-driven inflation that risks un-anchoring longer-run inflation expectations. In particular, a temporary but *persistent* dislocation can increase such a risk.

It is also clear from my previous comments and charts that demand played a role in the inflation rise as well.[6] One question, then, is whether monetary policy should have tightened earlier to reduce the risk of un-anchoring inflation expectations and to offset the demand increase.

Some may say that policy was too accommodative in the first place. In my view, such a statement ignores the real time concerns created by the pandemic; the associated risk management required; and the difficulty of inferring, in real time, how quickly adverse supply shocks would unwind.

While not involved in policy decisions until becoming Boston Fed President in July 2022, I was a keen policy observer. I agree with Chair Powell and other colleagues who have stated that, with the benefit of hindsight, policy could have been tightened sooner. But to me in 2021, in the aftermath of the deep pandemic downturn, in the face of significant continued uncertainty, and with inflation expectations in a reasonable range, supporting the economy versus pre-empting an inflation surge that few were forecasting seemed a reasoned decision. I'll note that my view was not predicated on the 2020 revisions to the Fed's policy framework.

Would earlier rate increases have significantly helped reduce inflation pressures? That depends on how early and how quickly the Fed would have moved. In my view, given the significant uncertainty that continued to surround the pandemic, earlier action by the Fed may have been less aggressive, taking longer to reach a restrictive range.

Where Are We Now?

While the misses in inflation were large, key aspects of prior forecasts are playing out, albeit with a lag. With improvements on the supply side – both in terms of supply chains and, to

[6] For a decomposition of inflation into demand- and supply-driven components, see "How much do supply and demand drive inflation?" by Adam H. Shapiro, Federal Reserve Bank of San Francisco Economic Letter (June 21, 2022) and "Are the Demand and Supply Channels of Inflation Persistent? Evidence from a Novel Decomposition of PCE Inflation" by Viacheslav Sheremirov, Federal Reserve Bank of Boston Current Policy Perspectives (2022).

some degree, labor supply – we are now seeing initial signs of deceleration in goods-price and wage inflation. These improvements took longer than expected to materialize but do appear to be providing some relief to inflation.

In addition, despite the risk of longer-run inflation expectations becoming un-anchored, they have remained in check throughout this period. And now that policy is in restrictive territory, the process of realigning demand with supply is underway.

Some Policy Lessons

There are several important policy issues to be studied from this still-evolving episode. I offer a partial list and reiterate that these are my views alone.

The belief that inflation dynamics during the pandemic recovery would remain similar to the 1996-2019 period was too optimistic. Thus, forecasters likely underestimated implications of excessively strong labor markets for wages and prices. And especially when unemployment is low, it is clear that labor market tightness is best assessed with a broad range of indicators.

Reliance on a small trade-off between inflation and unemployment – that is, on a linear and flat Phillips curve even at low unemployment rates – implied more willingness to risk probing down on the unemployment rate than may have been warranted. Recent experience suggests that capacity constraints can lead to a nonlinear Phillips curve with a higher slope at low unemployment rate levels. This less favorable trade-off between inflation and unemployment has implications for how best to probe going forward, as we at the Fed fulfill our dual mandate.

Ultimately, the nature of the pandemic represented unchartered waters for policymakers, and as I have argued, supply factors played an important role. Indeed, there may be a somewhat stronger case than previously thought for taking out insurance against adverse inflation outcomes, with policy tightening, when there is the risk of supply constraints being binding. Moreover, we have learned that additional, wide ranging, indicators may be helpful for evaluating if there is a need for preemptive policy in these contexts.

In sum, I believe a collective dose of humility and openness is appropriate, as we focus on all we can learn from studying this episode. I am pleased to see that work well underway, including at the Fed and through discussions such as this panel.