

*kcFED* **Economic BULLETIN**

# Current Monetary Policy May Be Less Restrictive Than It Seems

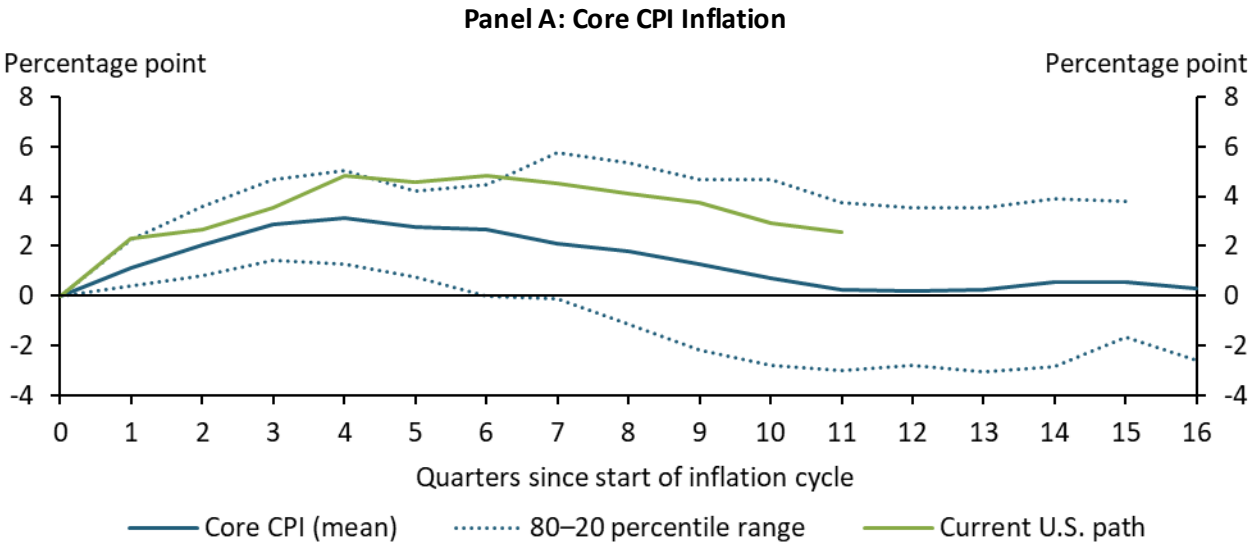
By Johannes Matschke and Alice von Ende-Becker

*Compared with most historical inflationary episodes since the 1960s, the current U.S. inflation cycle features both higher core inflation and a more resilient real economy. This co-movement of prices and real activity suggests monetary policy has not sufficiently reduced demand. We examine the current policy stance and argue that interest rates may indeed be less restrictive than commonly thought. To lower inflation to 2 percent, the Federal Reserve may have to maintain a restrictive policy stance for some time.*

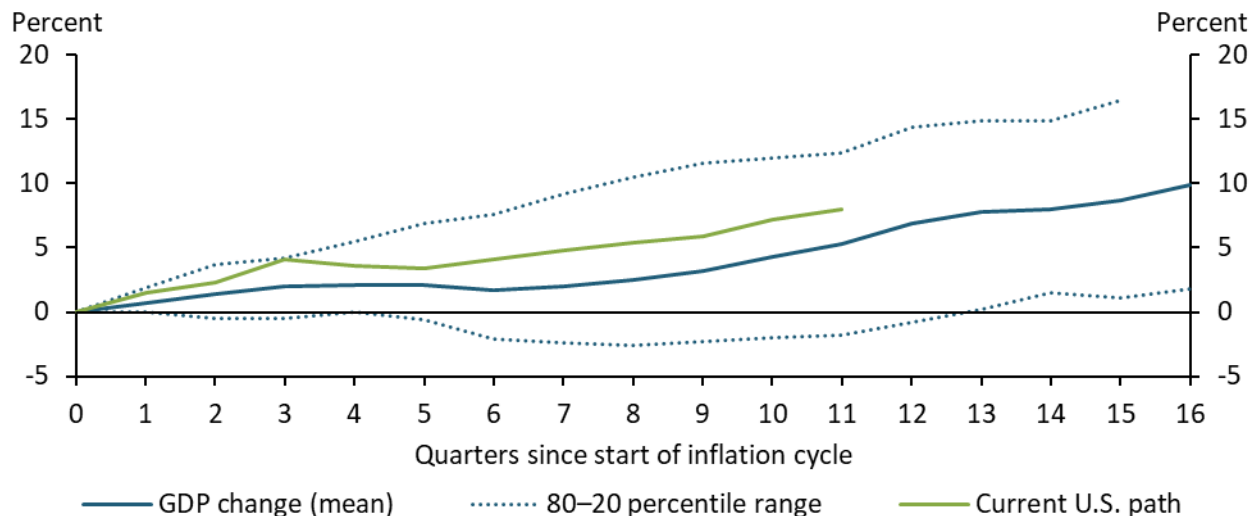
To help combat inflation, the Federal Reserve has raised the federal funds rate by 550 basis points over the past two years. Although core CPI inflation has since declined considerably, from 6.4 percent in February 2022 to 3.8 percent in March 2024, inflation has yet to decline to 2 percent. Moreover, real GDP increased noticeably by 3.4 percent in 2023:Q4. Continued above-target inflation readings and a resilient real economy suggest that demand in the U.S. economy remains elevated.

Both these elevated price pressures and the strength of the U.S. economy are remarkable by historical standards. Chart 1 shows the typical path of core CPI inflation (Panel A) and real GDP (Panel B) during historical inflationary episodes across advanced economies since 1960, excluding ongoing COVID-19-related inflation cycles.<sup>1</sup> Panel A shows that historically, core CPI inflation (blue line) has tended to rise rapidly at the start of an inflation cycle before slowly declining to previous levels after three years. During the current U.S. inflation cycle starting in 2021:Q2, inflation (green line) initially increased 1.8 percentage points above the historical average but declined at a similar rate. Consequently, inflation is 2.3 percentage points higher than the historical average for this point in an inflationary cycle.

**Chart 1: Inflation is higher and GDP is stronger relative to historical inflationary cycles**



**Panel B: Real GDP**



Notes: Chart panels show the evolution of core CPI inflation and real GDP during historical inflationary cycles relative to the start of the cycle. The green line portrays the paths for the current U.S. inflation cycle with a start date of 2021:Q2. Inflation is measured in percentage point differences relative to the start of the cycle. Real GDP is expressed in cumulative percent changes.

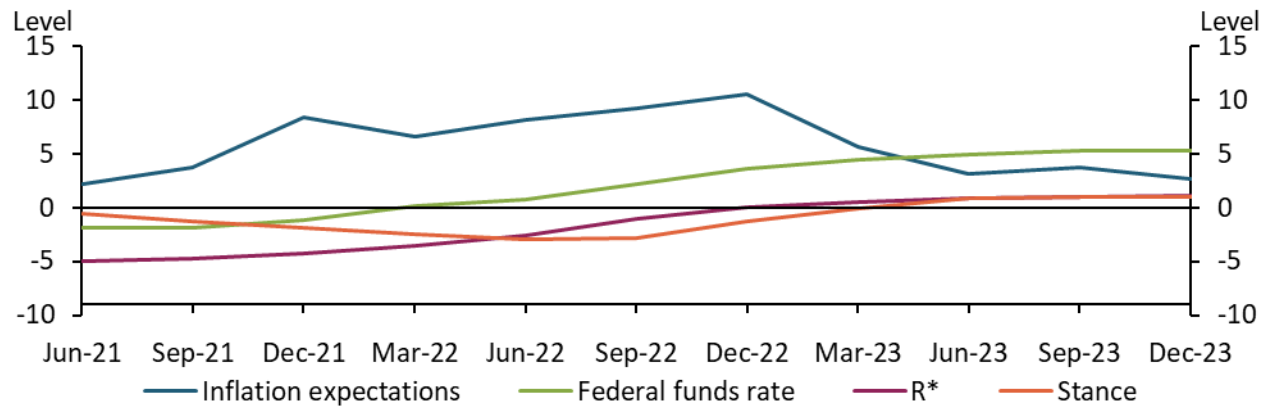
Sources: International Monetary Fund; U.S. Bureau of Labor Statistics (Haver Analytics); U.S. Bureau of Economic Analysis (Haver Analytics); Blanco, Ottonello, and Ranosova (2022); and authors’ calculations.

Panel B shows that historically, real GDP (blue line) has grown considerably in the first year of an inflation cycle before slowing during the second year and then picking up again. The current path for real GDP (green line) exhibits a similar pattern, though growth during the first year is stronger than average. Since the start of the inflation cycle, real GDP has grown by close to 8.0 percent compared with just 6.9 percent on average based on historical data. The continued momentum in the U.S. economy and above-target inflation suggests that demand remains elevated relative to supply despite improvements in supply chains and the labor supply.

Although a variety of factors influence demand, one explanation for its continued strength may be that interest rates are less restrictive than they appear. Higher nominal interest rates are perceived to slow demand by increasing credit costs and incentivizing households to save. However, whether monetary policy leads to a restrictive interest rate environment depends not only on nominal interest rates, but also inflation expectations and the natural rate of interest ( $r^*$ )—commonly defined as the real interest rate consistent with 2 percent inflation and steady output growth.<sup>2</sup>

Accounting for both inflation expectations and  $r^*$  highlights that while monetary policy is currently restrictive, it did not *become* restrictive until early 2023, when inflation expectations declined. Chart 2 shows the time path of the stance of monetary policy (orange line) and its determinants over the last two and a half years. Values above zero signal a restrictive stance of monetary policy, while values below zero signal an accommodative stance.<sup>3</sup> Ongoing supply chain disruptions led to a dramatic rise in inflation and inflation expectations (blue line) in 2021, contributing to an accommodative monetary policy stance. Although the federal funds rate (green line) began to increase in 2022, elevated inflation expectations and a rising  $r^*$  mitigated the effects of higher interest rates until early 2023.

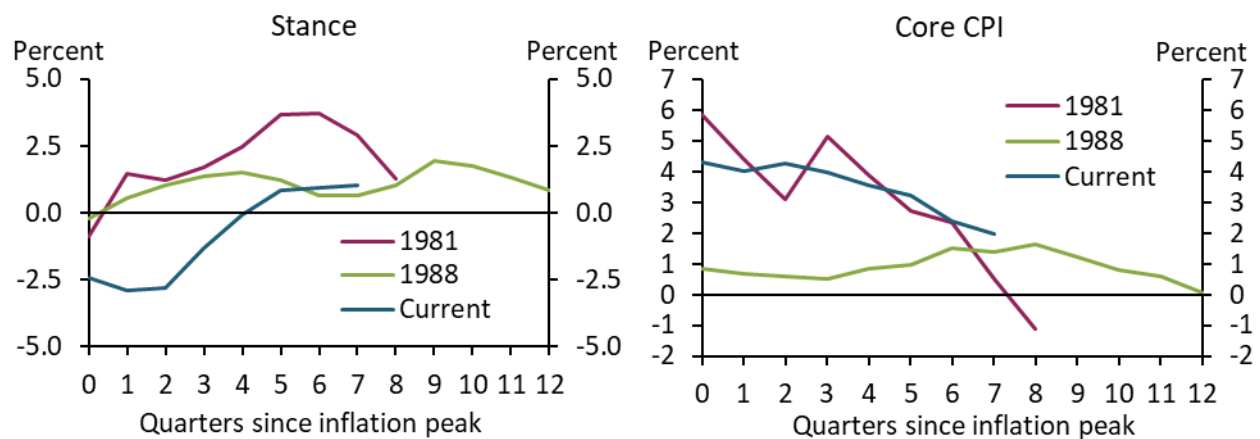
**Chart 2: Monetary policy is currently restrictive due to a higher federal funds rate and declining inflation expectations**



Notes: The stance of monetary policy is smoothed based on a three-quarter moving average. The inflation series shows one-quarter-ahead headline CPI inflation expectations based on the Survey of Professional Forecasters. Sources: Board of Governors of the Federal Reserve System, Federal Reserve Bank of Philadelphia, Wu and Xia (2016), and authors’ calculations.

For how long was monetary policy restrictive during previous inflation cycles? In past episodes when the FOMC tightened policy specifically to lower inflation, the stance of monetary policy remained restrictive for several years. In May 1981 and December 1988, for example, the FOMC tightened policy to bring down the rate of inflation (Romer and Romer 2023). Chart 3 shows the evolution of the stance of monetary policy and core CPI inflation since the inflation peak during both cycles. During the 1981 cycle (maroon lines), monetary policy was restrictive for two years, during which inflation fell by 7.0 percentage points. During the 1988 cycle (green lines) monetary policy was restrictive for three years, during which inflation declined by only 0.8 percentage points. These historical episodes suggest that current monetary policy may need to remain restrictive for longer to return inflation to target. During the current inflation cycle (blue lines), monetary policy has been restrictive for only about one year.

**Chart 3: Historically, monetary policy had to remain restrictive for several years to deliver the desired reduction in inflation**



Notes: Chart shows the evolution of stance and core CPI inflation from the quarter in which inflation peaked until the quarter in which monetary policy become more accommodative. CPI inflation is measured relative to the previous trough in inflation (1981 and 1988 cycle) or the 2 percent target (current cycle). Sources: U.S. Bureau of Labor Statistics (Haver Analytics), Board of Governors of the Federal Reserve System, Federal Reserve Bank of Philadelphia, Wu and Xia (2016), and authors’ calculations.

Importantly, inflation is higher and the real economy is more resilient than during previous inflation cycles. Together, these factors suggest elevated demand pressures in the economy that are likely to continue to contribute to inflation. Accordingly, bringing inflation back to 2 percent may require monetary policy to remain restrictive for some time.

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## Endnotes

<sup>1</sup> The dates for the inflation cycles are obtained from Blanco, Ottonello, and Ranosova (2022), who determine the starting year of an inflation cycle as when an inflation reading first exceeds the 90th percentile of the inflation distribution. Our analysis is on a quarterly basis. The initial quarter in Chart 1 (“quarter zero”) corresponds to the quarter before inflation started to increase. Our analysis spans 76 individual cycles and includes the following countries, with the starting year of each cycle in parentheses: Australia (1971, 1985, 1995, 2000); Austria (1980, 1984); Belgium (1974, 2008); Canada (1973, 1981); Czech Republic (1993, 2004, 2008); Denmark (1962, 1965, 1970, 1973, 1980); Estonia (2008, 2017); Finland (1962, 1974, 1980); France (1962, 1974, 1980); Germany (none); Greece (1963, 1969, 1973, 1979, 1986, 1990, 2010); Hong Kong (2004, 2011); Ireland (1961, 1964, 1969, 1973, 1979, 2000, 2010); Israel (1961, 1965, 1970, 1977, 1989, 2002, 2008); Italy (1962, 1970, 1973, 1979); Japan (1965, 1973, 1980, 2014); South Korea (1963, 1970, 1974, 1978, 1988); Latvia (2004, 2007, 2011, 2017); Lithuania (2008, 2011, 2017); Netherlands (1964, 1969, 1980); New Zealand (1967, 1971, 1974, 1980, 1985); Norway (1962, 1970, 1980); Portugal (1969, 1981, 1989); Singapore (1973, 1977, 1980, 2008, 2011); Slovakia (1993, 1999, 2003, 2011); Slovenia (1983, 2000); Spain (1962, 1970, 1977); Sweden (1962, 1970, 1974, 1980, 1990, 1993); Switzerland (1962, 1971, 1979); United Kingdom (1961, 1971, 1974, 1979, 1990); and the United States (1973, 1979).

<sup>2</sup>  $R^*$  is slow-moving and determined by long-run trends in macroeconomic factors, such as productivity or demographics, as well as financial factors, such as financial integration or preferences for safe assets.  $R^*$  is an unobserved variable. We estimate  $r^*$  based on the methods developed in Jordà and Taylor (2019). The underlying model is a standard New Keynesian framework. We cast the model in state space form and use the Kalman Filter to extract  $r^*$ . We use quarterly data since 1960. One-quarter-ahead inflation expectations are based on the mean projection from the Survey of Professional Forecasters when available. Otherwise, we estimate an AR(1) model on observed inflation.

<sup>3</sup> The stance measure relies on an estimate for  $r^*$ . Estimates for  $r^*$  are accompanied by considerable uncertainty. Consequently, there is also uncertainty around the stance of monetary policy.

## References

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