Labor Market Dynamics During the 2021–24 Inflation Surge

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Summary:

This paper revisits the common interpretation that the surge in the vacancy-tounemployment ratio during the 2021–24 inflation episode primarily reflected an overheated labor market. Instead, I argue that the increase in vacancies relative to unemployment was largely driven by falling real wages and a rise in job-to-job transitions, as workers sought to recover lost purchasing power, rather than by broad-based labor market overheating.

Key findings:

- 1. The US labor market from 2021 to 2024 was characterized by a rise in quits, job-to-job transitions, and the vacancy-to-unemployment ratio, together with a decline in layoffs and real wages.
- 2. This *Policy Hub* paper highlights the importance of understanding how inflation distorts traditional indicators of labor market tightness. Elevated vacancy-to-unemployment ratios during inflationary periods may not reflect a booming labor market but rather increased churn and frictions due to nominal wage rigidity.

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Andres Blanco is an economist at the Federal Reserve Bank of Atlanta and a visiting professor at Emory University. He focuses on macroeconomic policy, investment, and labor economics. His work supports the Federal Reserve's mission of maintaining stable economic growth, fostering maximum employment, and ensuring price stability. He holds a PhD in economics from New York University. His academic background aims to answer policy-relevant questions by measuring new facts, developing theories, and testing their quantitative relevance.

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1 Introduction

After many years of low and stable inflation, the United States saw prices rise sharply between 2021 and 2024. Figure 1 illustrates this change. For decades, inflation (measured by the core Personal Consumption Expenditures index) stayed close to the Federal Reserve's 2 percent target. But starting in 2021, inflation climbed well above that level, reaching highs not seen in years.



Figure 1: Core PCE Inflation, 1990–2024

Note: The graph displays the 12-month percent change in the price index of personal consumption expenditures (PCE) excluding food and energy from January 1990 to December 2024. The gray shaded areas describe recessions as determined by the National Bureau of Economic Research. The red shaded area describes the 2021–24 inflation surge. The black dashed line denotes the 2 percent inflation target. Source: The US Bureau of Economic Analysis (core PCE)

Amid the unprecedented disruptions caused by the COVID-19 recession and extraordinary policy responses, analysts and policymakers have asked: What drove this inflation surge?

Following the sharp increase of the vacancy-to-unemployment ratio in 2021 (commonly referred to as *labor market tightness*), many prominent economists in academia and policy circles have pointed to an overheated labor market—characterized by too many firms chasing too few workers—as the principal driver of US inflation during this period, particularly given the backdrop of expansive fiscal and monetary policies. At his press conference following a meeting of the Federal Open Market Committee on November 2, 2022, Federal Reserve chair Jerome Powell stated, "the broader picture is of an overheated labor market where demand substantially exceeds supply." Similarly, in an early-warning op-ed published in *The Washington Post* on February 5, 2021, Lawrence Summers cautioned that the planned fiscal stimulus was large enough to push demand well above potential output and "set off inflationary pressures of a kind we have not seen in a generation."

But a new study by Afrouzi, Blanco, Drenik, and Hurst (2024) offers a different explanation. The authors build a model of the labor market where wages don't change very often and finding new jobs takes time and effort. In their model, workers decide when to quit, look for new jobs, or ask for a raise—and all of these choices involve costs. Firms, in turn, decide when to hire and lay off workers.

The key idea in their model is that a jump in inflation—even without changes in productivity or hiring costs—can make the job market look overheated. When prices rise faster than nominal wages, workers' real (inflation-adjusted) earnings fall. To overcome low real income, workers either try to renegotiate their wages or start looking for better-paying jobs, leading to more job switching and more job openings, which pushes up the vacancy-tounemployment ratio. At the same time, because current workers are now cheaper in real terms, firms are less likely to lay them off and may even see higher profits.

Is this just a one-time phenomenon or something we've seen before? Looking at US history, the pattern is clear. The same research identifies eight periods since 1950 when the vacancy-to-unemployment ratio was much higher than normal. In four of those periods including the early 1950s, mid-1970s, late 1970s, and recently—inflation was also very high. Each of those times followed big supply shocks (such as energy crises or wars) that pushed prices up, suggesting that the link between high inflation and a tight labor market is not unusual—it's part of a broader pattern we've seen before.

2 The Labor Market During the 2021–24 Inflation Surge

The COVID-19 pandemic and its aftermath had major effects on the US economy. These included problems with global supply chains, big increases in energy and raw material prices, a rise in remote work, and very large government spending and low interest rates. These changes created a complex economic environment that makes it hard to point to a single cause of the recent inflation surge.

One popular explanation focuses on the labor market. In particular, economists Benigno and Eggertsson (2023) argued that the spike in the vacancy-to-unemployment ratio (a measure of how many job openings exist compared to job seekers) was the main driver of inflation during this period. They based their claim on a strong link between a "tight" labor market and rising inflation.

The authors' starting point is the observed statistical relationship between the labor market tightness and inflation during the study period. Panel A in figure 2 shows labor market tightness during the inflation surge, and panel B shows its association with inflation. Together, they document a strong, nonlinear association between tight labor markets (measured by unemployment-to-vacancy ratio) and rising inflation. To explain this association, they develop an economic model incorporating a novel wage norm linking real wages—the key input in the Phillips curve—to market tightness. The core intuition of their framework is that in tight labor markets, where hiring firms vastly outnumber available workers, employers aggressively bid up wages, increasing the real wages and inflation.



Figure 2: Market Tightness During the 2021–24 Inflation Surge

Note: Panels A and B show the vacancy-to-unemployment ratio (market tightness) and the real wage with its exponential trend from January 2015 to December 2024. The trend is computed with a linear projection to (log) real wages from Match 1997 to December of 2024. The gray shaded areas describe NBER recessions. The red shaded area describes the 2021-2024 inflation surge. Source: Vacancies is from Bureau of Labor Statistics JOLTS, unemployment is from the Current Population Survey, and nominal wage is derived from the Atlanta Fed's Wage Growth Tracker, deflated by the consumer price index from the US Bureau of Economic Analysis.

Crucially, it is real wages—not merely nominal wages—that drive inflation dynamics. Intuitively, when nominal wages rise faster than prices, firms face higher real wages. To maintain constant markups, they are incentivized to raise their own prices (see Gali, 2015). Thus, in a "hot labor market," the central transmission channel runs from excess labor demand to higher real wages, which in turn fuels inflation.

Figure 3 shows real wages over time. Real wages normally rise as the economy grows, but during this period, they instead fell. Panel A compares actual real wages (the blue line) to a trend assuming no major shocks (the green line). The gap shows that wages didn't keep up with inflation. Panel B shows that real wages fell even while the labor market appeared tight. This raises a big question: If real wages were falling, why were job openings still so high?

One clue comes from when people leave one job for another. Research by Fallick and Fleischman (2004) found that nearly 40 percent of jobs created between 1994 and 2003 came from workers switching jobs, not from the unemployed being hired. This means that job-to-job

movement plays a big role in driving labor market tightness because when someone quits, that person's employer has to post a vacancy to replace the employee.



Figure 3: Inflation, Market Tightness, and Real Wages

Note: Panels A and B show the unemployment-to-vacancies ratio on the x-axis and inflation and real wages minus its trend on the y-axis, respectively, from January 2015 to December 2024. Source: Vacancies is from the US Bureau of Labor Statistics JOLTS, unemployment is from the Current Population Survey, and nominal wage is derived from the Atlanta Fed's Wage Growth Tracker, deflated by the consumer price index from US Bureau of Economic Analysis.

Motivated by this fact, a recent paper by Afrouzi, Blanco, Drenik, and Hurst (2024) develops a modern macro-labor model with frictional unemployment and sticky wages, where real wages influence matched worker and firm decisions. In this framework, workers face two costly adjustment choices: one, pay a renegotiation cost to adjust their wage with their current employer, or two, incur search costs to transition to a new firm offering higher pay.

Here's what happens in the model when inflation rises quickly: since wages don't adjust right away, workers' real wages fall. To recover their real income, some workers try to renegotiate, but many choose to look for new jobs instead. As a result, job switching increases, which leads to more job openings—but unemployment doesn't rise. This dynamic helps explain why the vacancy-to-unemployment ratio surged during inflation even though real wages were falling.

Why are workers so eager to switch jobs? Because it pays off. On average, workers who moved to a new job saw their pay grow about three times faster than those who stayed and renegotiated with their current employer.

While this *Policy Hub* paper focuses on market tightness during the inflationary period, it is important to note that during this period there was a slight rise in workers who quit to unemployment, while the number of layoffs declined significantly. The reason is that inflation

reduces real wages, thereby increasing firm profits and lowering the incentive to lay off workers (see also Blanco, Drenik, Mosar, and Zaratiegui, 2025).

This analysis leads to an important conclusion: The dynamics of market tightness and wage adjustment observed during the 2021–24 inflationary period can be attributed to labor market responses to an increase in price level without any change in other fundamentals driving the labor market.

3 Historical Evidence of Inflation and Market Tightness

During the postpandemic inflation surge (2021–24), the US labor market experienced an unusually high vacancy-to-unemployment ratio. A central question is whether this pattern reflects a broader empirical regularity. To address this, Afrouzi, Blanco, Drenik, and Hurst (2024) analyze historical US data to establish a systematic positive relationship between inflation and labor market tightness.

Figure 4 presents the monthly market-tightness ratio from 1950 to 2024. The authors identify eight distinct periods in which the market-tightness ratio spiked sharply relative to its historical average. Four of these episodes—marked with green triangles—align with the traditional interpretation of a tight labor market: They feature falling unemployment rates and relatively low and stable inflation (below 4 percent). In contrast, the other four peaks—marked with red circles—occurred during periods of high and rising headline inflation (exceeding 7 percent), with either elevated or stable unemployment rates. These inflationary episodes, including the 2021–24 period, suggest that market tightness can emerge from inflation-induced frictions rather than increased job-finding rates alone.



Figure 4: Market Tightness and Inflation over Time

Note: The figure shows the evolution of the vacancy-to-unemployment ratio between 1950 and 2024. The periods denoted with a triangle are periods of high market tightness and stable inflation. The periods denoted with circles are periods of high market tightness associated with elevated inflation. Source: Afrouzi, Blanco, Drenik, and Hurtz (2024) To quantify this relationship, the researchers estimate a series of regressions of market tightness on the unemployment rate, the squared unemployment rate, and inflation. The following table summarizes the results. As expected, the unemployment rate is a strong predictor of market tightness. However, the key insight is that inflation remains a statistically and economically significant determinant of the vacancy-to-unemployment ratio—even after controlling for nonlinear effects of unemployment. This finding confirms that periods of higher inflation are associated with higher levels of labor market tightness, consistent with increased job churn and nominal wage rigidities during inflationary episodes.

Historical Estimation

	Vacancy-to-Unemployment Ratio
Unemployment Rate (%)	-0.531 (0.016)
Unemployment Rate Squared	0.030 (0.001)
Inflation Rate (%)	0.026 (0.001)
R-Squared	0.83

Note: The table shows the coefficient from a linear estimation where the dependent variable is vacancyto-unemployment ratio and the independent variables are the unemployment rate, the unemployment rate squared, and the inflation rate. Each observation is a month between January 1951 and December 2019. Robust standard errors are in parenthesis.

Source: Afrouzi, Blanco, Drenik, and Hurtz (2024)

4 Taking Stock

This *Policy Hub* paper summarizes recent research analyzing labor market dynamics during an inflation surge. The objective is not to identify the causes of the recent inflation episode but rather to assess how inflation itself can alter standard indicators of labor market conditions. In particular, the research highlights how inflation can distort the interpretation of market tightness. During periods of high inflation, an elevated vacancy-to-unemployment ratio may not indicate a booming labor market, but it can instead reflect heightened worker turnover and frictions caused by nominal wage rigidity.

References

- Afrouzi, Hassan, Andres Blanco, Andres Drenik, and Erik Hurst. 2024. A Theory of How Workers Keep Up with Inflation. NBER working paper no. 33233.
- Benigno, Pierpaolo, and Gauti Eggertsson. 2023. It's Baaack: The Surge in Inflation in the 2020s and the Return of the Non-Linear Phillips Curve. NBER working paper no. 31197.
- Blanco, Andres, Andres Drenik, Christian Mosar, and Emilio Zaratiegui. 2025. The Macroeconomics of Wage Rigidities and Job Separations. Working paper.
- Fallick, Bruce and Charles Fleischman. 2004. Employer-to-Employer Flows in the U.S. Labor Market: The Complete Picture of Gross Worker Flows. Board of Governors of the Federal Reserve System working paper.
- Gali, Jordi. 2015. Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Model and Its Application. Princeton University Press.