Has the Vacancy-to-Unemployment Ratio Lost Predictive Validity for Inflation? Evidence from Post-2021 Labor-Market Shifts

Investigators and Affiliations

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Introduction

Since early 2021 the U.S. labor market has exhibited historic tightness: the aggregate vacancy-to-unemployment (V/U) ratio climbed to around 2 in March 2022 -almost double its 2001-2019 average according to JOLTS and CPS data. In the same window, core CPI inflation surged to 6.6 percent year-over-year, while real median hourly wages slid about 1.7 percent (cumulative 2021-2024) per the Atlanta Fed Wage Growth Tracker. Yet price dynamics have diverged markedly across sectors, casting doubt on the traditional V/U ->inflation link.

A wave of recent research amplifies this concern. Pandemic-era shifts in the Beveridge curve reveal new matching inefficiencies (Barlevy & Sbordone, 2023). Rolling Phillips-curve estimates suggest steeper inflation-employment trade-offs during COVID shocks (Carlo et al., 2023). Structural decompositions by Ball et al. (2022) attribute a sizable share of post-2021 inflation surprises to labour-market frictions that conventional V/U metrics cannot capture.

Research question: To what extent have post-2021 labour-market shifts weakened the predictive power of V/U for headline and core inflation -and which alternative tightness indicators (e.g., quit rate, participation-adjusted unemployment) now outperform it?

Answering this question will update inflation-forecasting frameworks and offer policymakers an evidence-based dashboard of labour-market indicators better suited to a transformed economy.

If policymakers misread labour-market slack, they face a twin risk: tightening monetary policy too early, needlessly suppressing employment, or tightening too late, letting inflation expectations drift upward. Bustamante (2025) argues that a surge in vacancies during 2021-23 masked falling real wages and rising long-term unemployment, calling the V/U gauge “an illusion of strength” in an inflationary environment. High vacancy rates can reflect labour-market churn -workers job-hopping to offset lost purchasing power, rather than genuine hiring intent. If V/U mistakes churn for tightness, monetary policy may misjudge inflation risk.

Addressing this critique requires measuring whether V/U’s predictive content has indeed deteriorated post-2021 and identifying alternative indicators that better track real wage pressure.

Methodology

Empirical design

- Rolling-window forecasts. Ten-year expanding windows estimate the out-of-sample R^2 of models of the form
  $Y_{t+h} = \alpha + \beta_t \theta_t + \gamma' X_t + \varepsilon_t$ where Y is inflation, θ the V/U ratio, and X controls.
- Structural-break tests. Bai-Perron multiple-break statistics and a Chow test centred on 2021Q1 assess parameter stability.
- Indicator horse-race. Replace V/U with quits rate, participation-adjusted unemployment, and labor-flow metrics; compare Diebold-Mariano forecast-error statistics.
- Sector-level SUR. Seemingly-unrelated regressions estimate heterogeneous coefficients for goods, non-housing services, health, and manufacturing inflation.

Robustness checks

- Quantile regressions (inflation tails).
- Measurement-error correction (EM algorithm for JOLTS revisions).
- Pandemic-specific dummies and interaction terms.

Data Sources

Publicly available macro microdata

Dataset	Coverage	Frequency	Use
JOLTS Job Openings & Labor Turnover	2001-2025	monthly	Vacancies, quits, hires
CPS Microdata (IPUMS)	2001-2025	monthly	Unemployment by industry
BLS CES Hourly Earnings & ECI	2001-2025	monthly / quarterly	Wage controls
BLS Productivity	2001-2025	quarterly	Productivity controls
CPI & Core CPI	2001-2025	monthly	Inflation
PCE Deflator (BEA)	2001-2025	monthly	Robustness
WFH Research Remote-Work Share	2020-2025	monthly	Structural-shift control

All data are publicly accessible; no restricted Census or RDC files are required.

Project Output and Dissemination

Working paper submitted to the NBER working-paper series.

Funding Source

The project will be individually funded. Work will be carried out remotely; no Census RDC access is necessary.

References

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