



Monetary Policy in this Unusual Time

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Overview

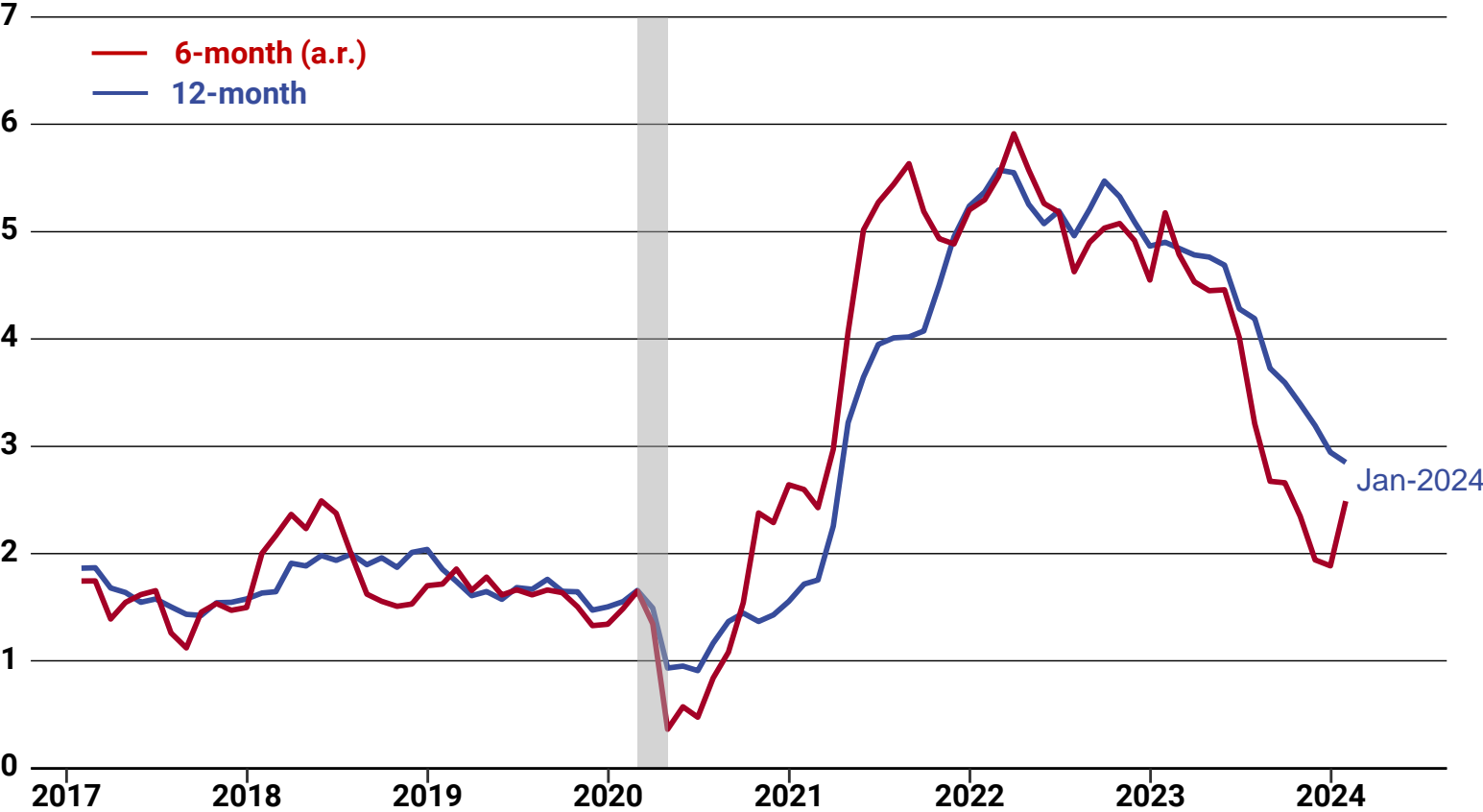
- **2023: The golden path and inflation dynamics**
 - A great year for the dual mandate
 - Supply chains, labor supply, productivity growth
 - Are more favorable supply developments to come in 2024?
- **Inflation expectations barely moved: The role of the Fed**
 - Credibility was an anchor
- **(If time) Non-bank financial institutions (NBFIs) and monetary policy transmission**

2023: The Golden Path and Inflation Dynamics

Huge decline in inflation without a recession

Core PCE Inflation

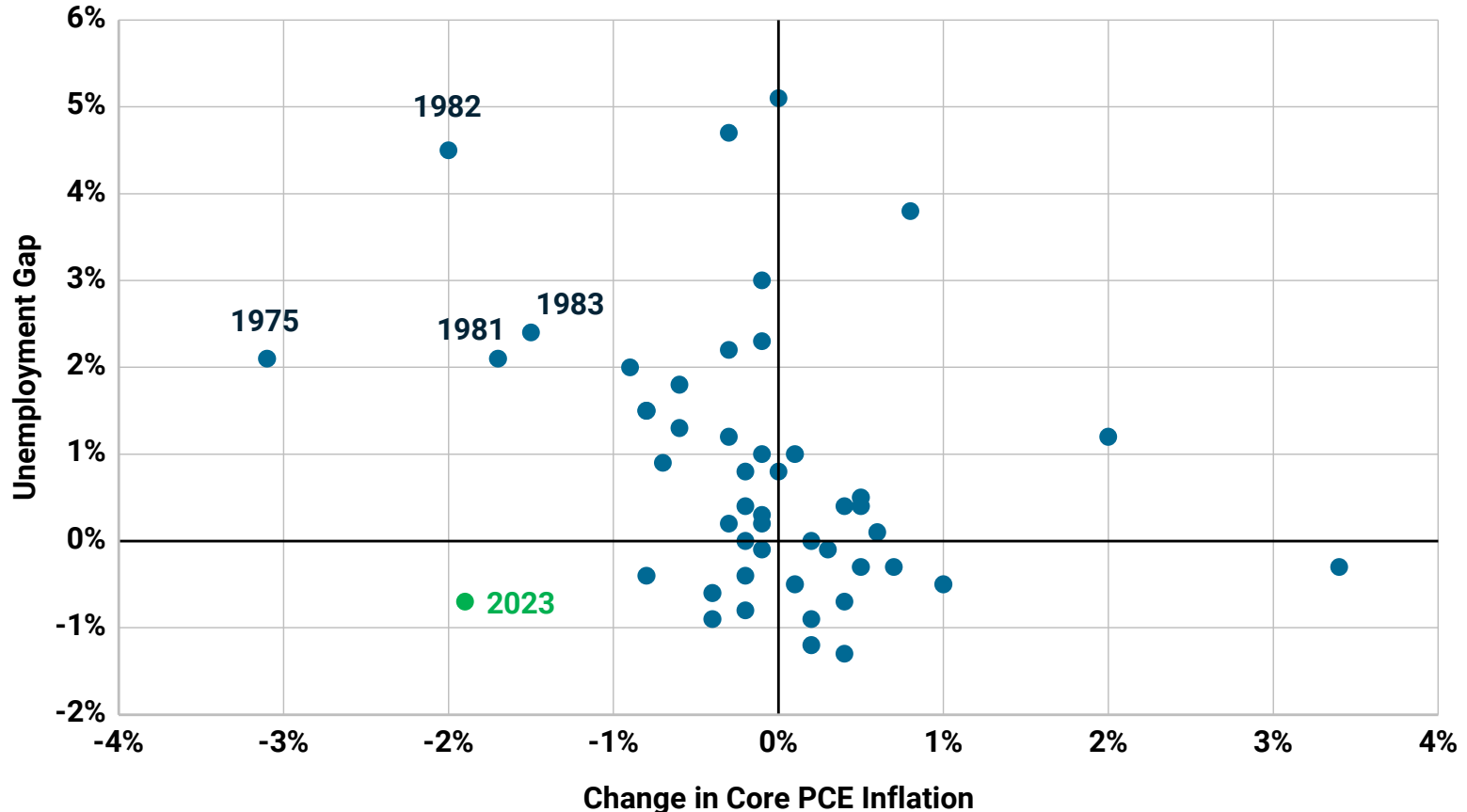
(Percent change)



Source: BEA via Haver Analytics

Huge decline in inflation without a recession

Change in Core PCE Inflation vs. Unemployment Gap



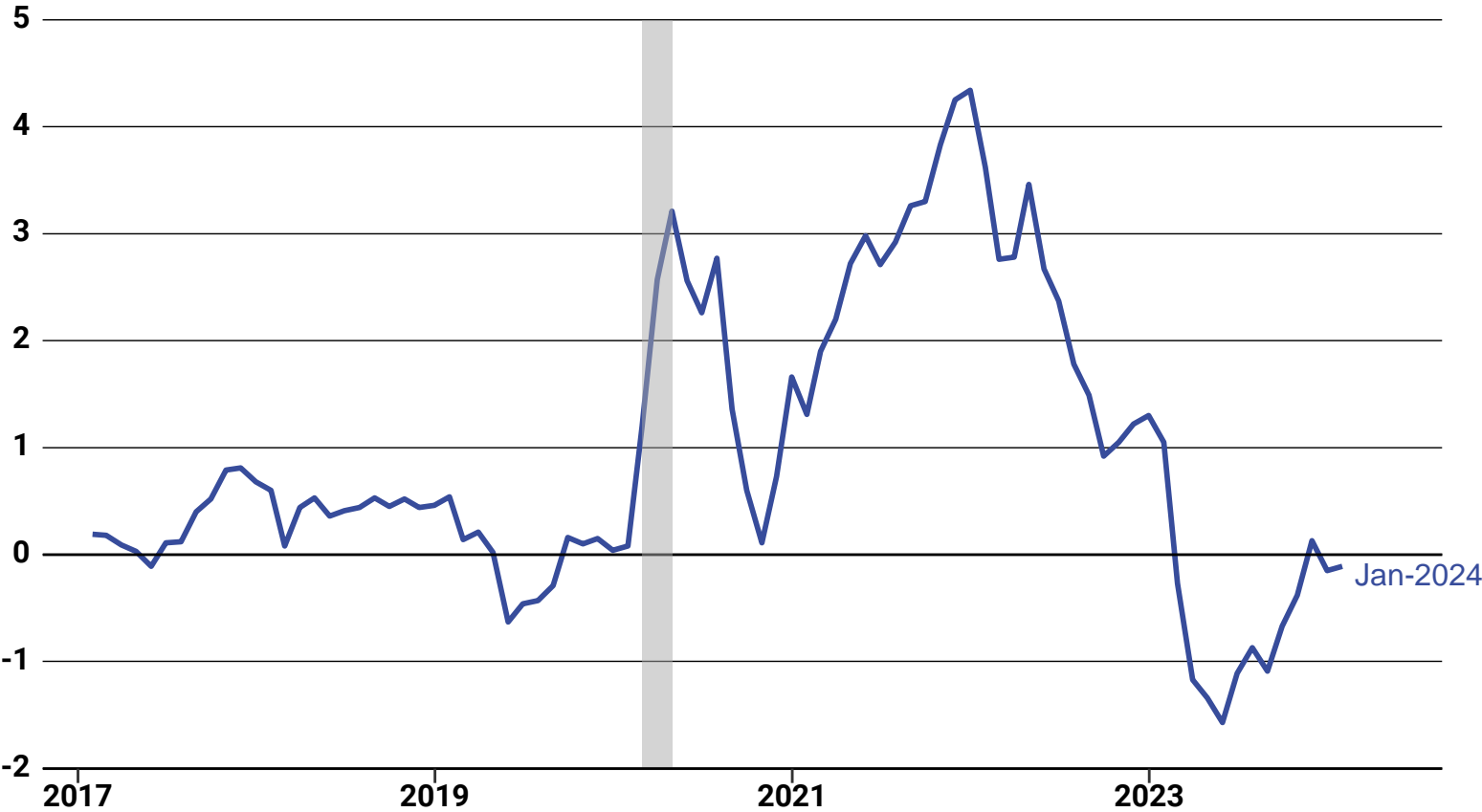
Note: Core PCE inflation is the change from the previous year in Q4/Q4 core PCE inflation; unemployment gap is the difference between unemployment rate and CBO's estimate of the noncyclical rate of unemployment.

Source: BEA, BLS, and CBO via FRED; staff calculations

Supply chain repair

Global Supply Chain Pressure Index

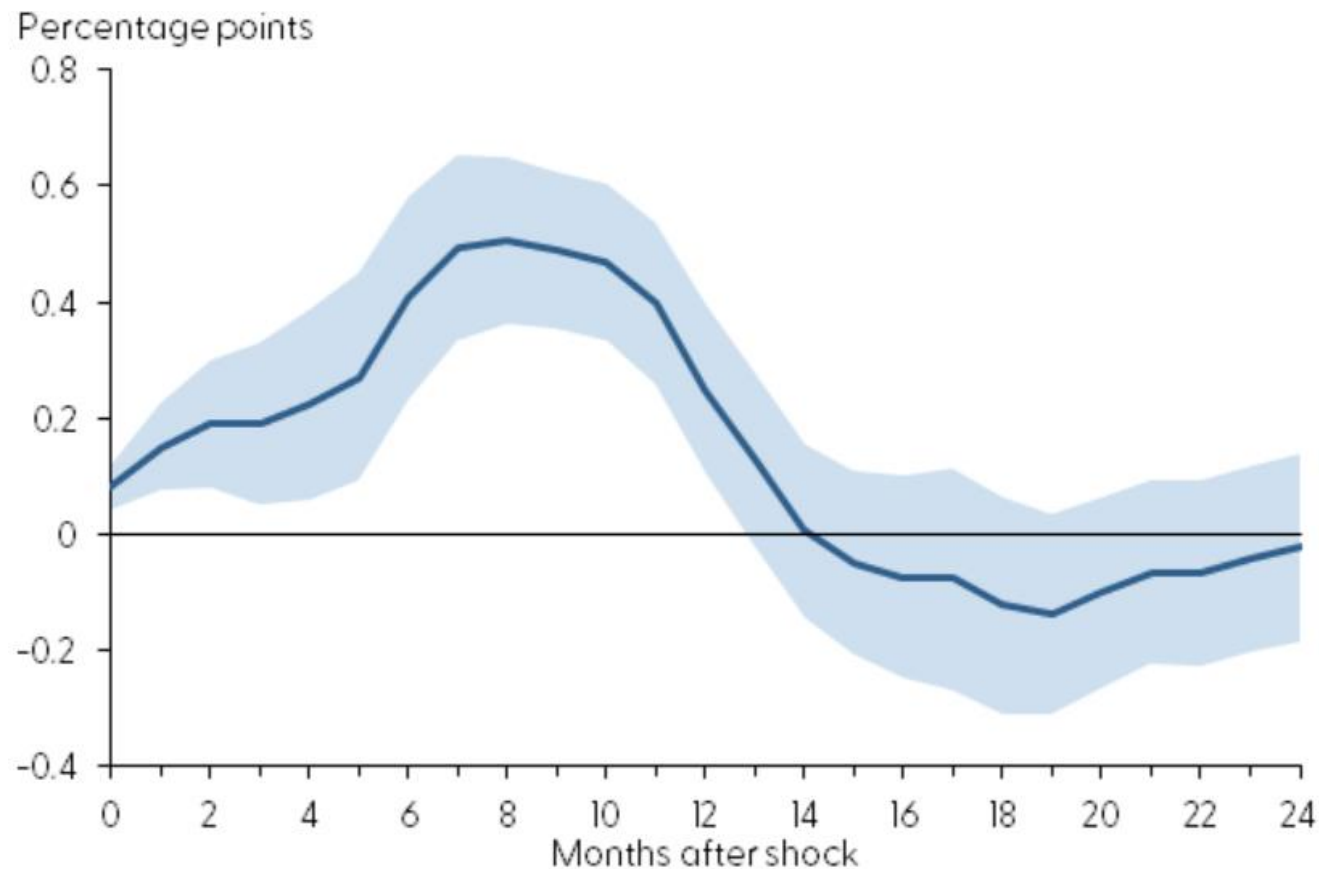
(Standard deviations from average)



Source: FRBNY via Haver Analytics

Supply chain impulse response

Response of Headline PCE Inflation to Global Supply Chain Index Shock



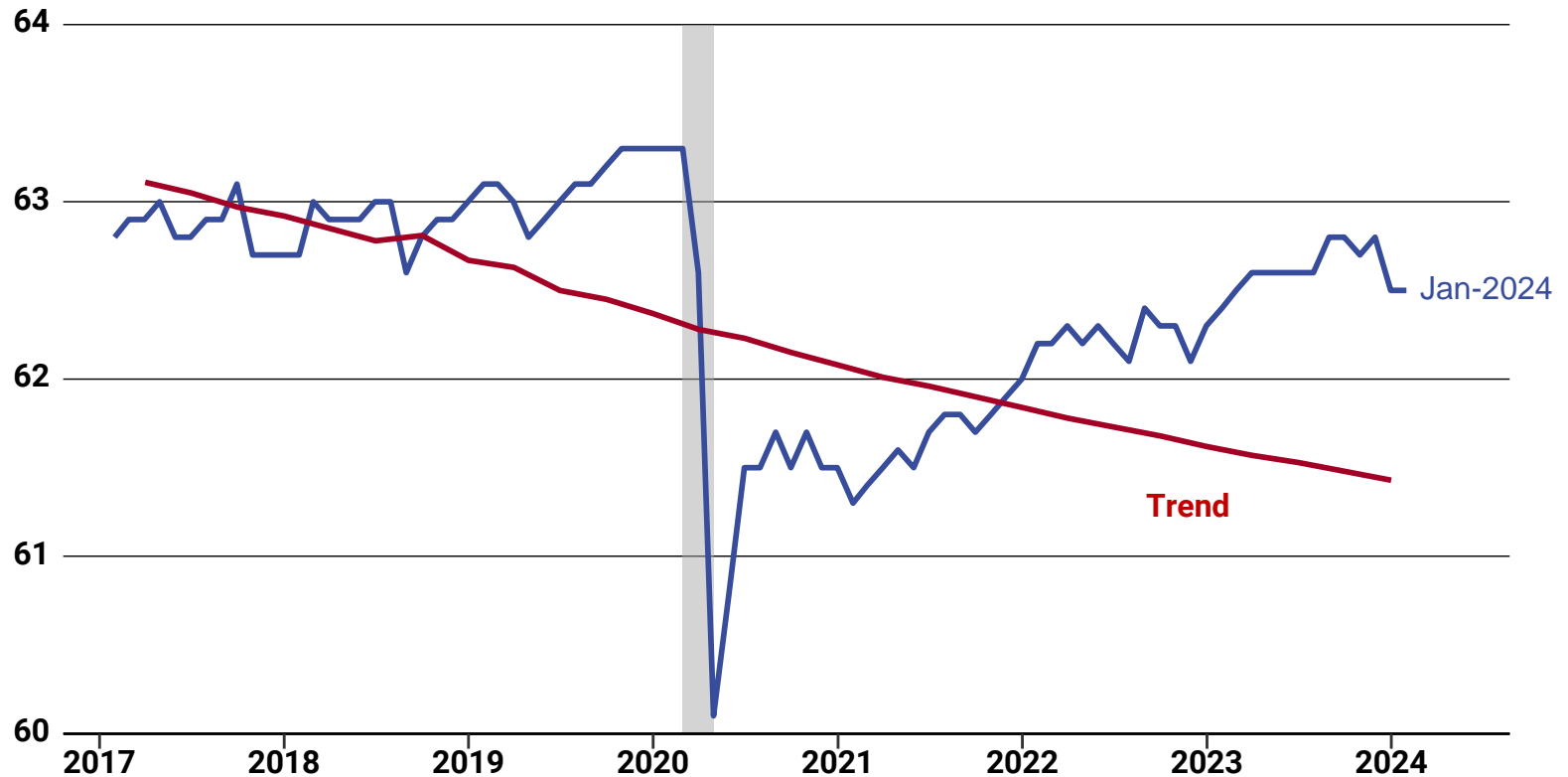
Note: Blue shading indicates 68% confidence band

Source: Liu, Zheng, and Thuy Lan Nguyen. 2023. "Global Supply Chain Pressures and U.S. Inflation." FRBSF Economic Letter 2023-14. <https://www.frbsf.org/wp-content/uploads/el2023-14.pdf>.

Strong labor supply

Labor Force Participation Rate

(Percent)



Note: Trend reflects the labor force participation rate expected in an economy with unemployment at its natural rate given the age, cohort, gender, and education composition of the labor force.

Source: BLS via Haver Analytics; staff calculations based on Aaronson, Hu, Seifoddini, and Sullivan (2014)

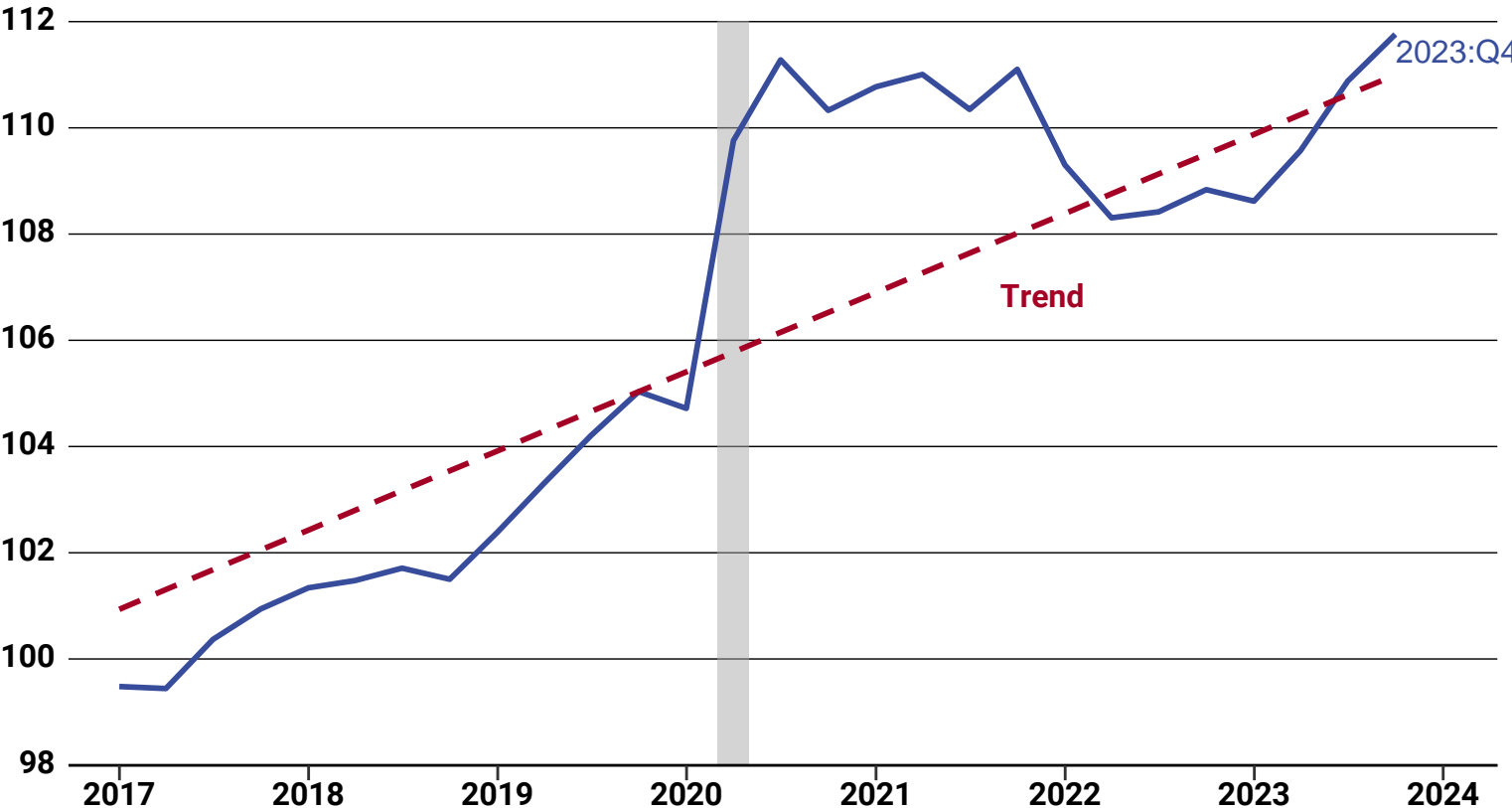
Wage-price dynamics

- In long run, inflation = wage growth - productivity growth
- Is wage growth consistent with target inflation?
 - Wages stickier than prices, so be careful in making judgments
- In short- and medium-run, prices lead unit labor costs
 - Barlevy, Gadi, and Luoja Hu. 2023. “Unit Labor Costs and Inflation in the Non-housing Service Sector.” Chicago Fed Letter No. 477. <https://www.chicagofed.org/publications/chicago-fed-letter/2023/477>
 - Andrade, P., Brauning, F., Fillat, J.L., and G. Joaquim. 2024. “Is Post-Pandemic Wage Growth Fueling Inflation?” Federal Reserve Bank of Boston, Current Policy Perspectives, 2024-1. <https://www.bostonfed.org/publications/current-policy-perspectives/2024/is-post-pandemic-wage-growth-fueling-inflation>

Productivity recovery: Hints of the '90s?

Nonfarm Business Sector Productivity vs. Trend

(Index 2017 = 100)



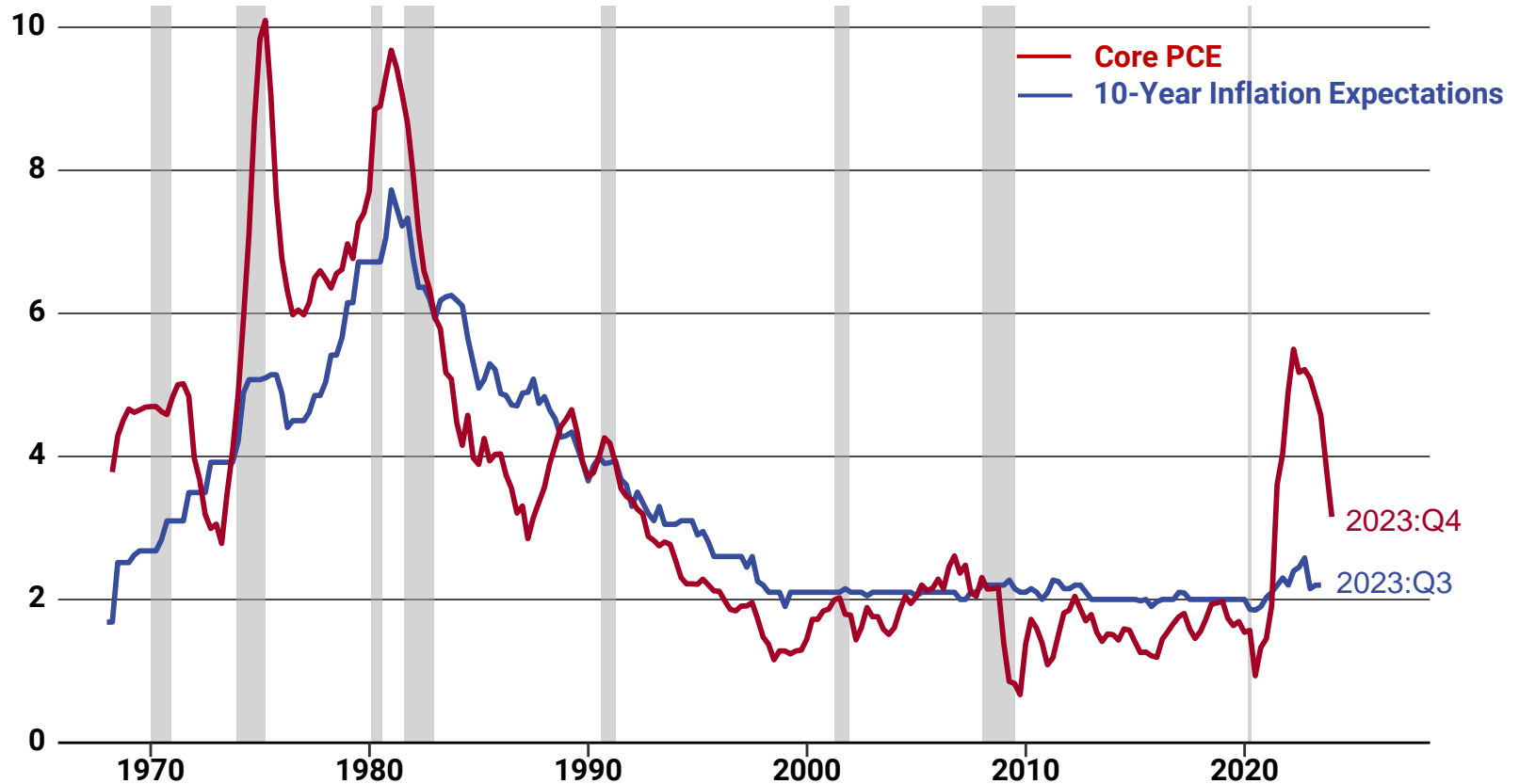
Note: Trend calculated from 2007:Q1 to 2019:Q4
Source: BLS via Haver Analytics

Inflation Expectations Barely Moved: The Role of the Fed

Anchored inflation expectations – since the 2000's

10-Year Inflation Expectations and Core PCE Inflation

(Percent)

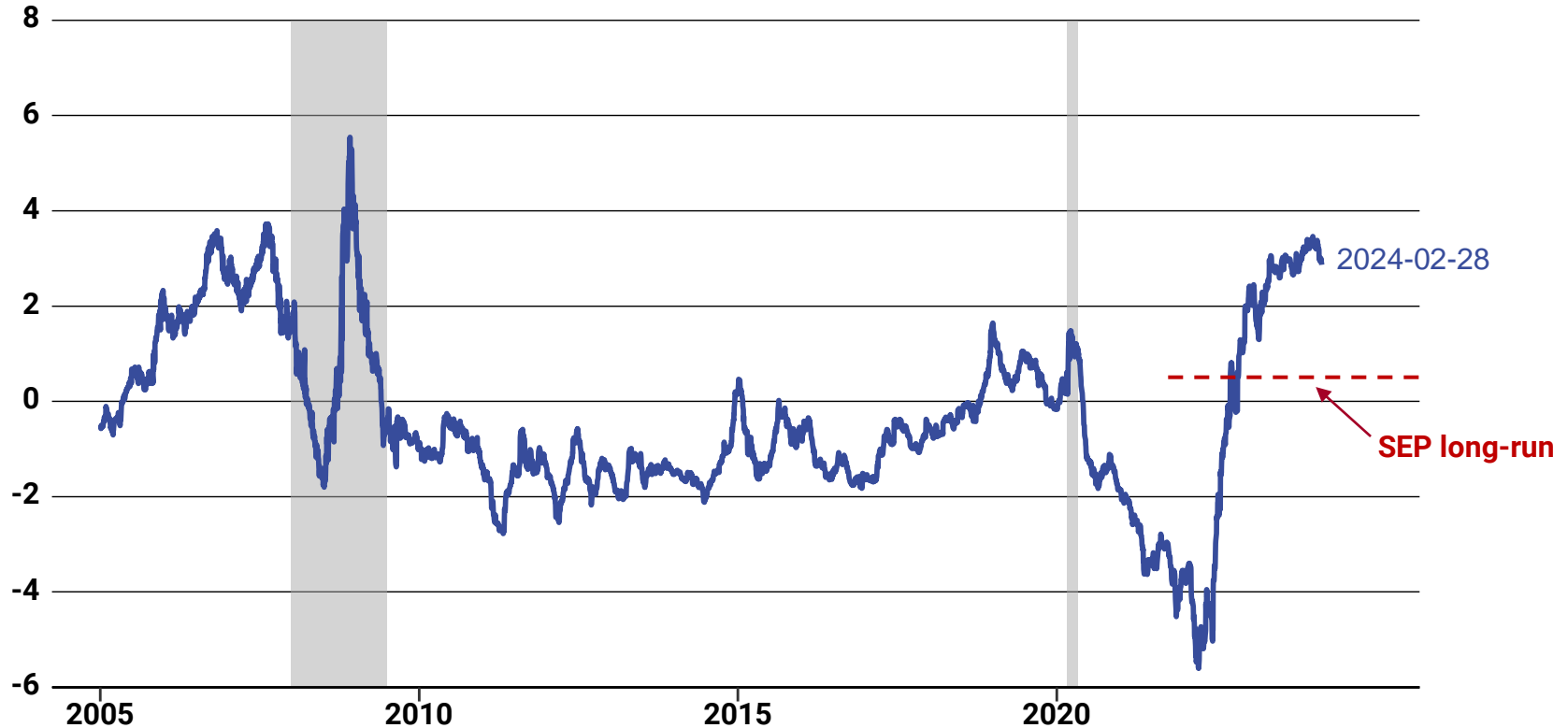


Note: 4-quarter percent change in core PCE and a PCE consistent series for average inflation expectations over the coming 10 years constructed from the Hoey Survey, Survey of Professional forecasters, and a statistical model.
Source: BEA via Haver Analytics, Federal Reserve Board

Rates are restrictive

Real Federal Funds Rate

(Percent)



Note: Federal funds rate target midpoint less 1-year ahead inflation swap rate. SEP long-run equal to longer run federal funds rate projection in the December 2023 SEP less the 2 percent inflation target.

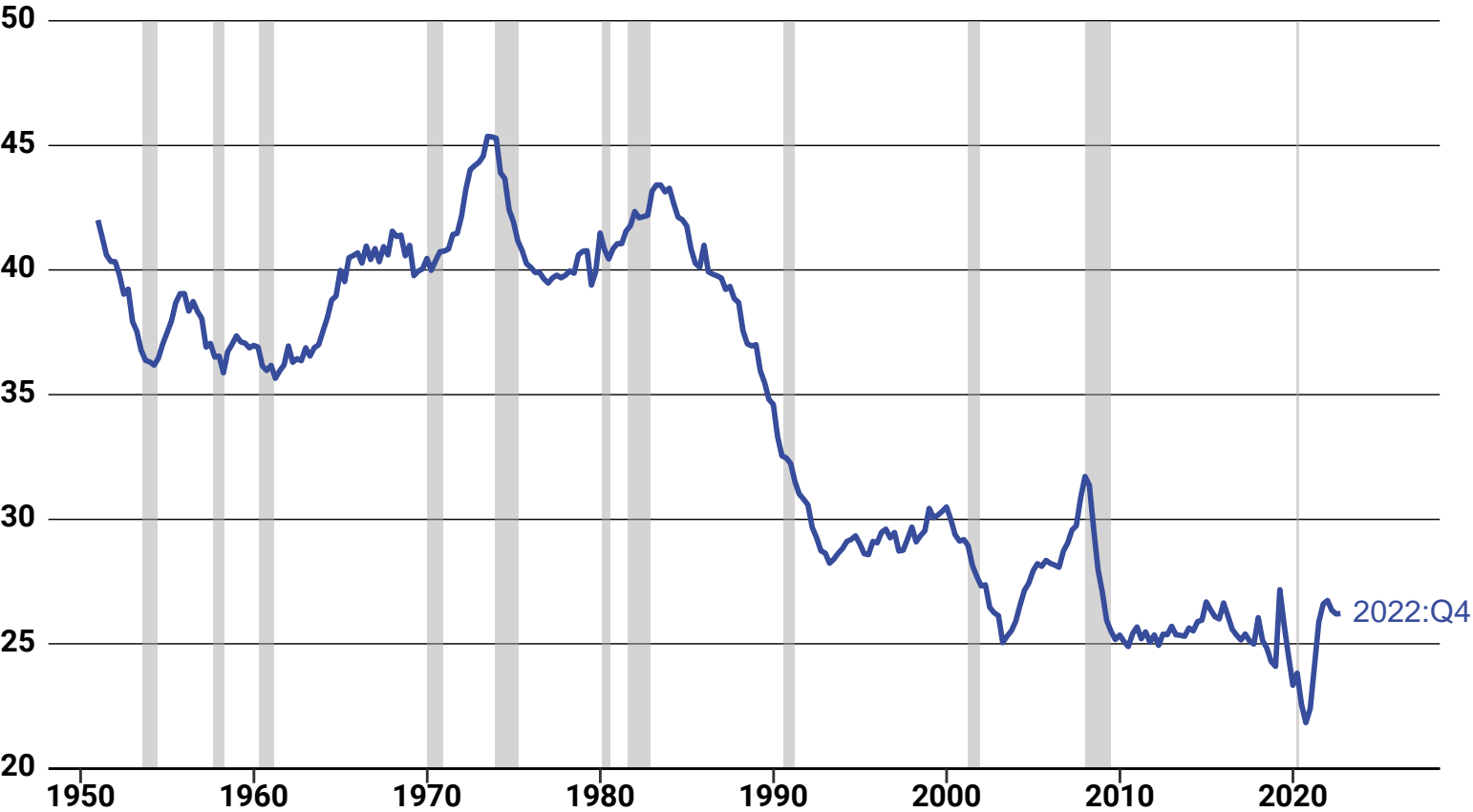
Source: Federal Reserve Board; Bloomberg

Nonbank Financial Institutions and Monetary Policy Transmission

Bank share of lending to nonfinancial business

Lending Share Excluding Real Estate

(Percent)



Source: Federal Reserve Board Z.1 Financial Accounts of the United States



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Appendix

Core PCE inflation components

12-Month Percent Change

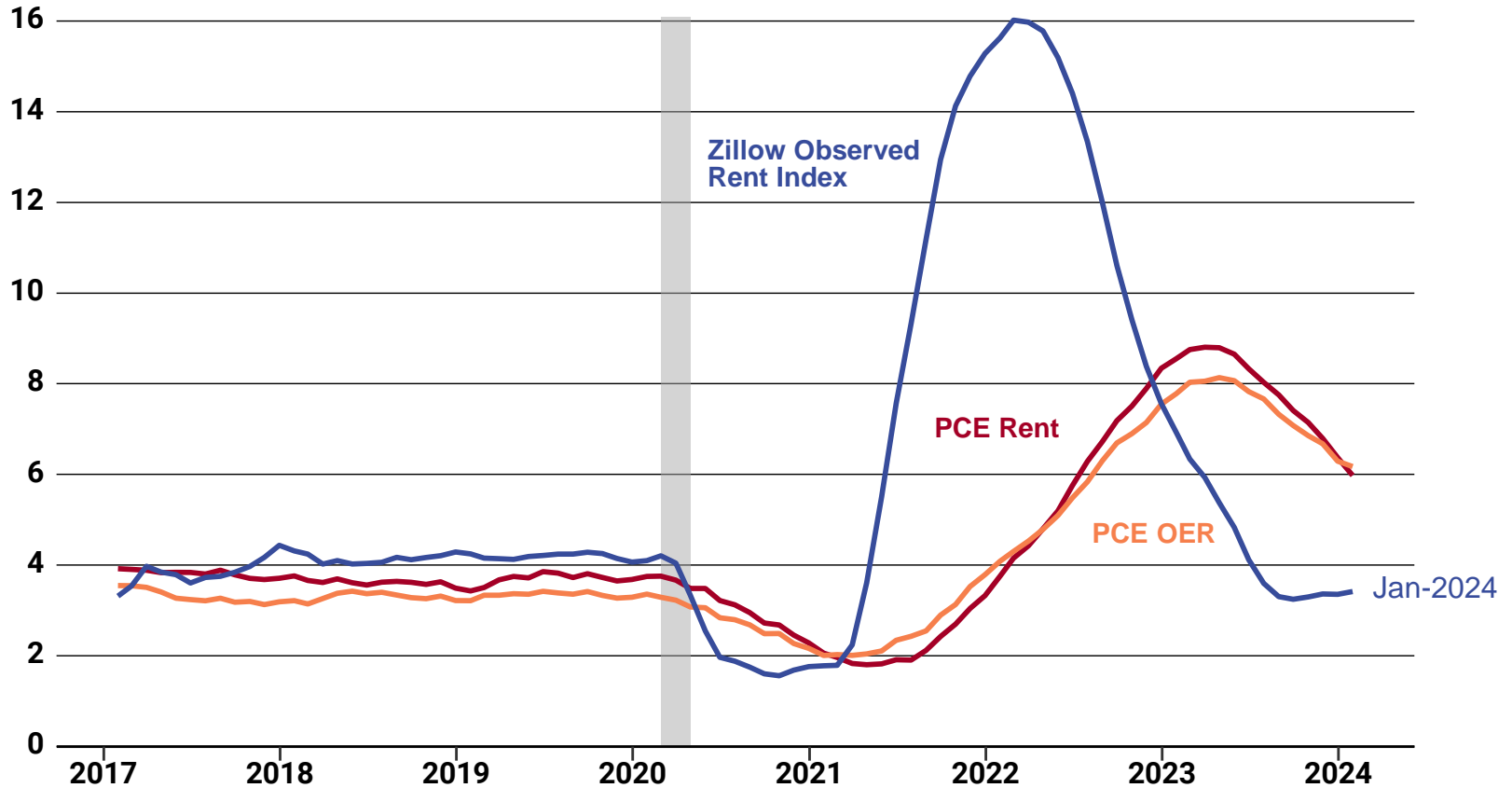


Note: Core goods are goods less food and beverages purchased for off-premise consumption and gasoline and other energy goods. Core services are services less electricity and gas. Food services are included, as is the case in BEA core PCE prices. Source: BEA via Haver Analytics; staff calculations

PCE housing detail vs. Zillow new rents

PCE Rent and Owner-Equivalent Rent Subindexes & Zillow Observed Rent Index

(12-month percent change)

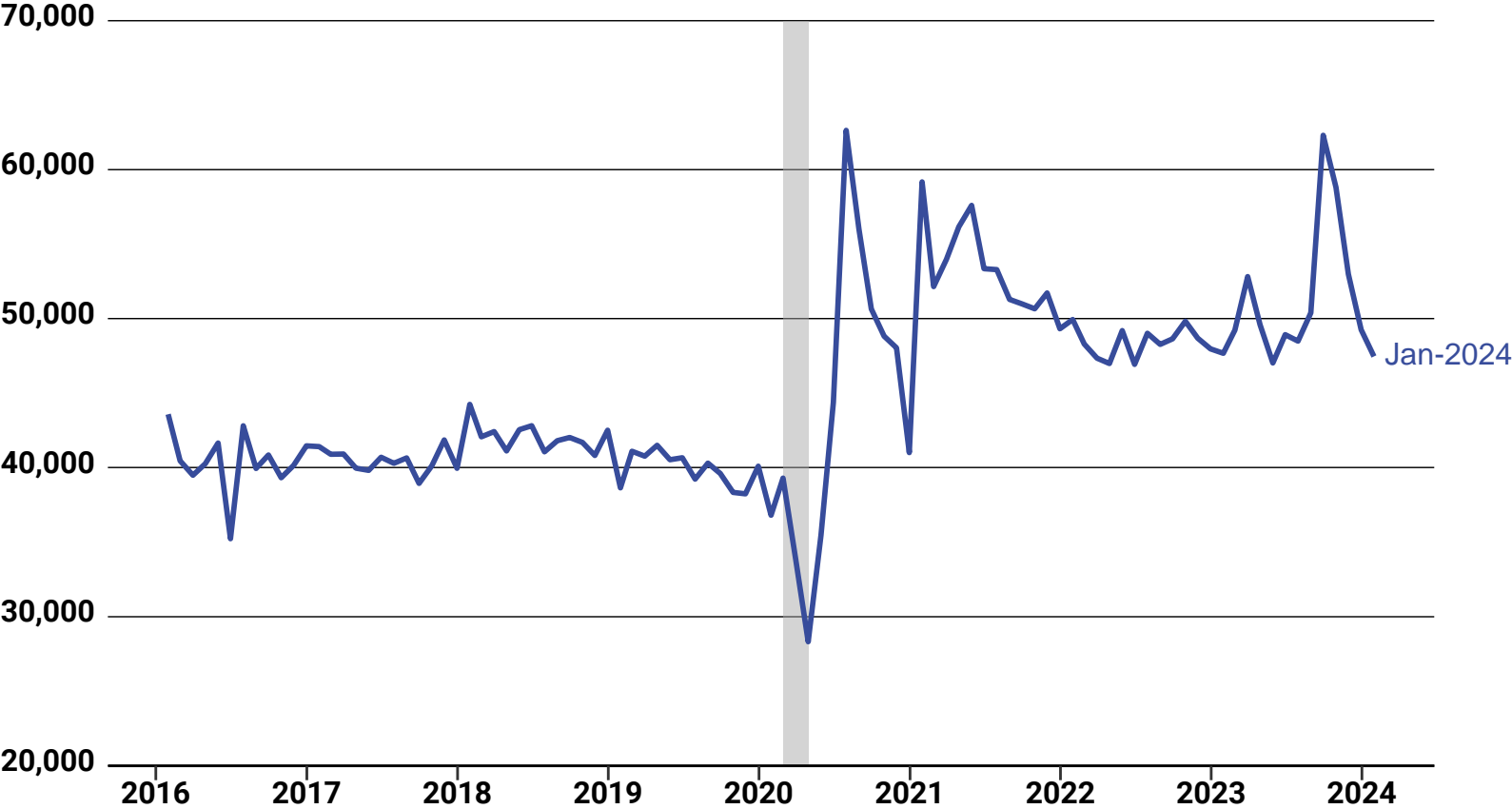


Source: BEA and Zillow via Haver Analytics

Increased business formation

U.S. Business Applications with Planned Wages

(Number, seasonally adjusted)



Source: U.S. Census Bureau via Haver Analytics