

The economy: Caught between a mask and a gun

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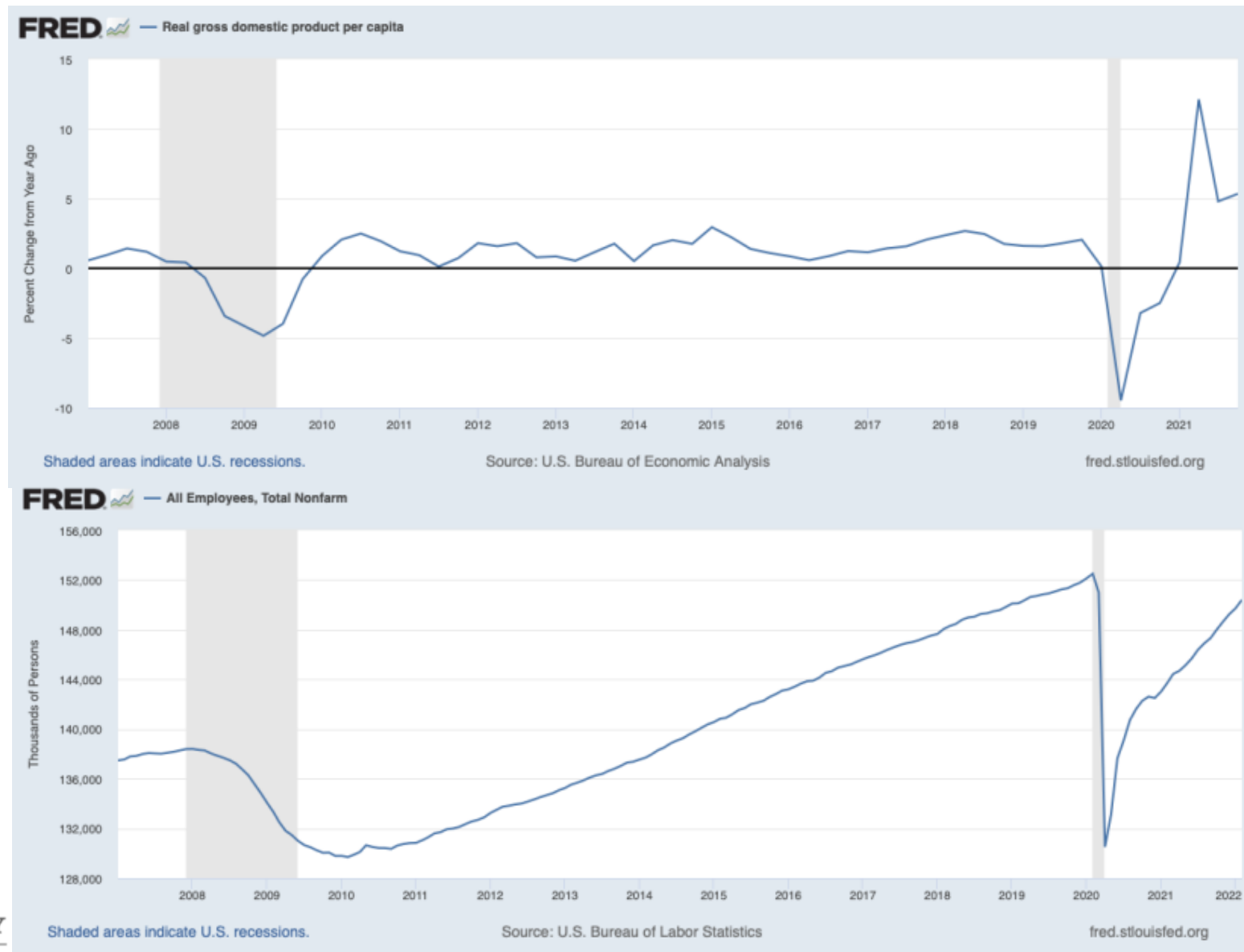
Five Events leading to one challenge



1. COVID-19 and its not gone
2. Ruptured supply chains
3. Preparing for a major recession
4. Stimulus – it worked!
5. Aftershocks
 - Inflation ~ rolling, dampening aftershocks (and a war)
 - Labor Market ~ Shortages and childcare
6. Challenge to the Fed: Threading the needle, dampen inflation without triggering a recession
7. What does this mean for our economic development strategy?
Continue to play the long game



Real GDP per Capita and Nonfarm Employees



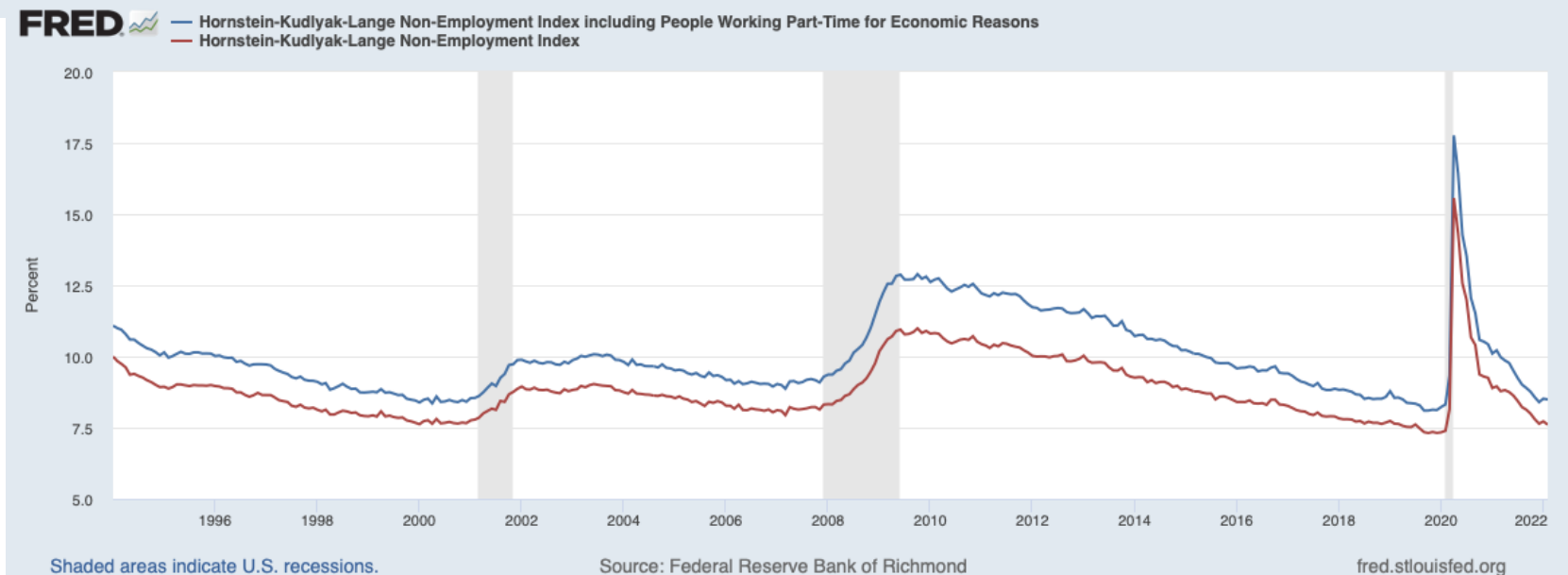
Labor markets are tightening

Unemployment Rate and Nonemployment index

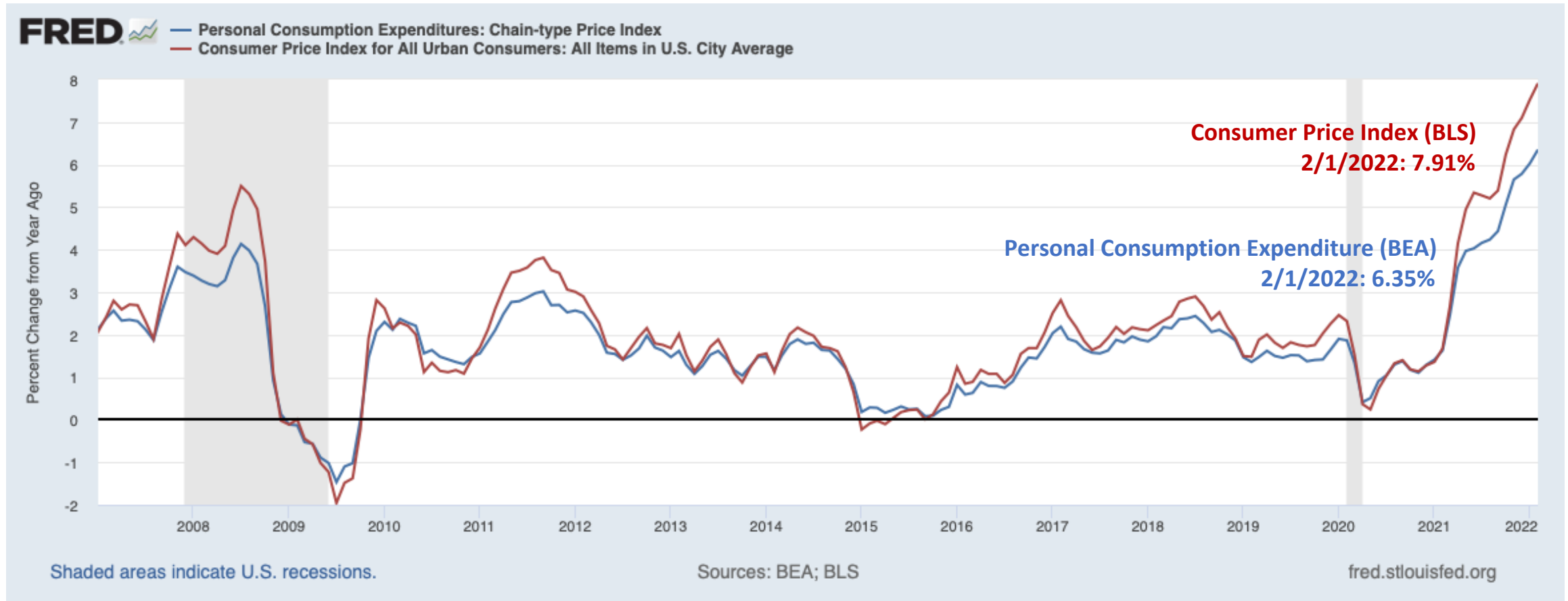


The Hornstein-Kudlyak-Lange Non-Employment Index (NEI) is a weighted average of all non-employed people expressed as the share of the civilian non-institutionalized population 16 years and older. The weights take into account persistent differences in each group's likelihood of transitioning back into employment. For further information about this series, go to https://www.richmondfed.org/research/national_economy/non_employment_index.

Source: Federal Reserve Bank of Richmond, Hornstein-Kudlyak-Lange Non-Employment Index [NEIM156SFRBRIC], retrieved from FRED, Federal Reserve Bank of St. Louis;
<https://fred.stlouisfed.org/series/NEIM156SFRBRIC>, March 31, 2022.



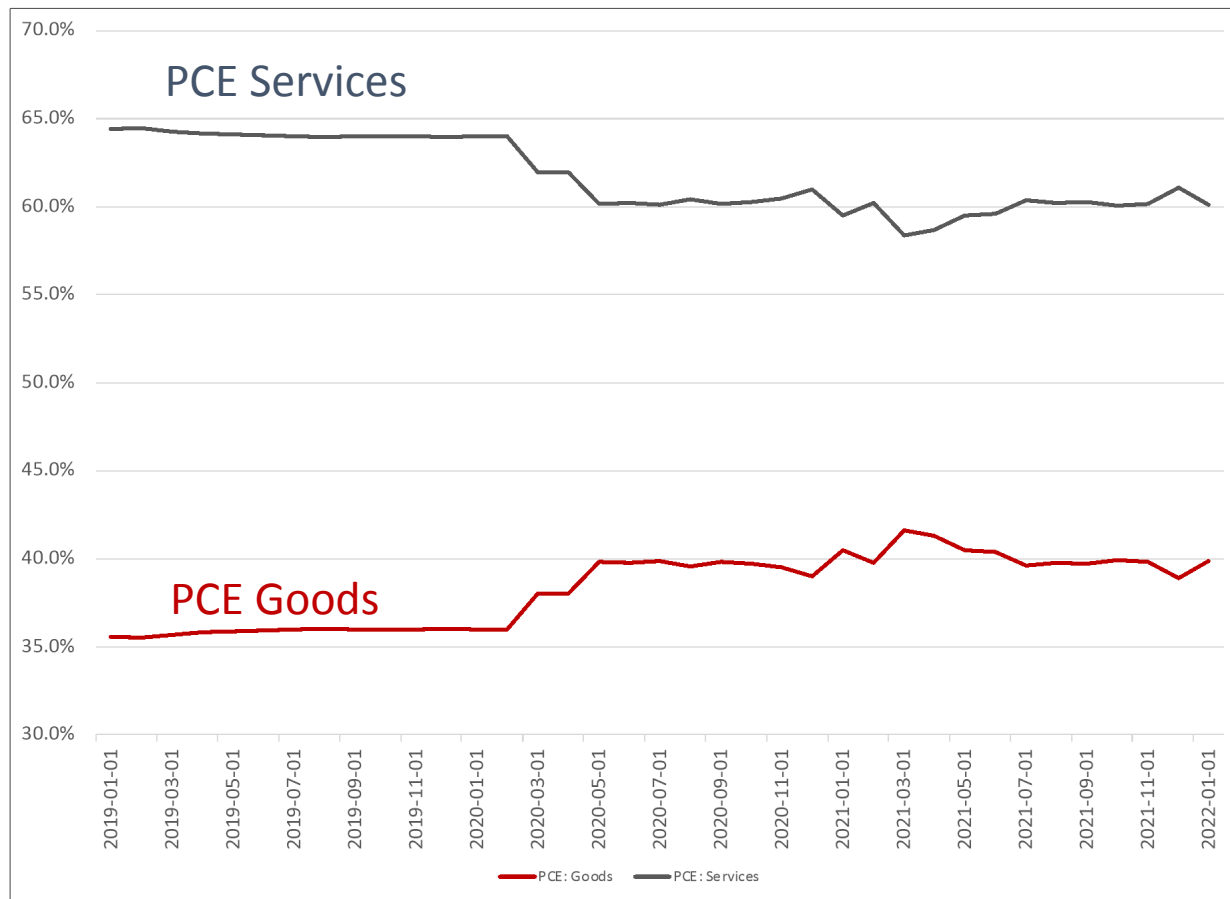
Inflation is rising; rates will follow



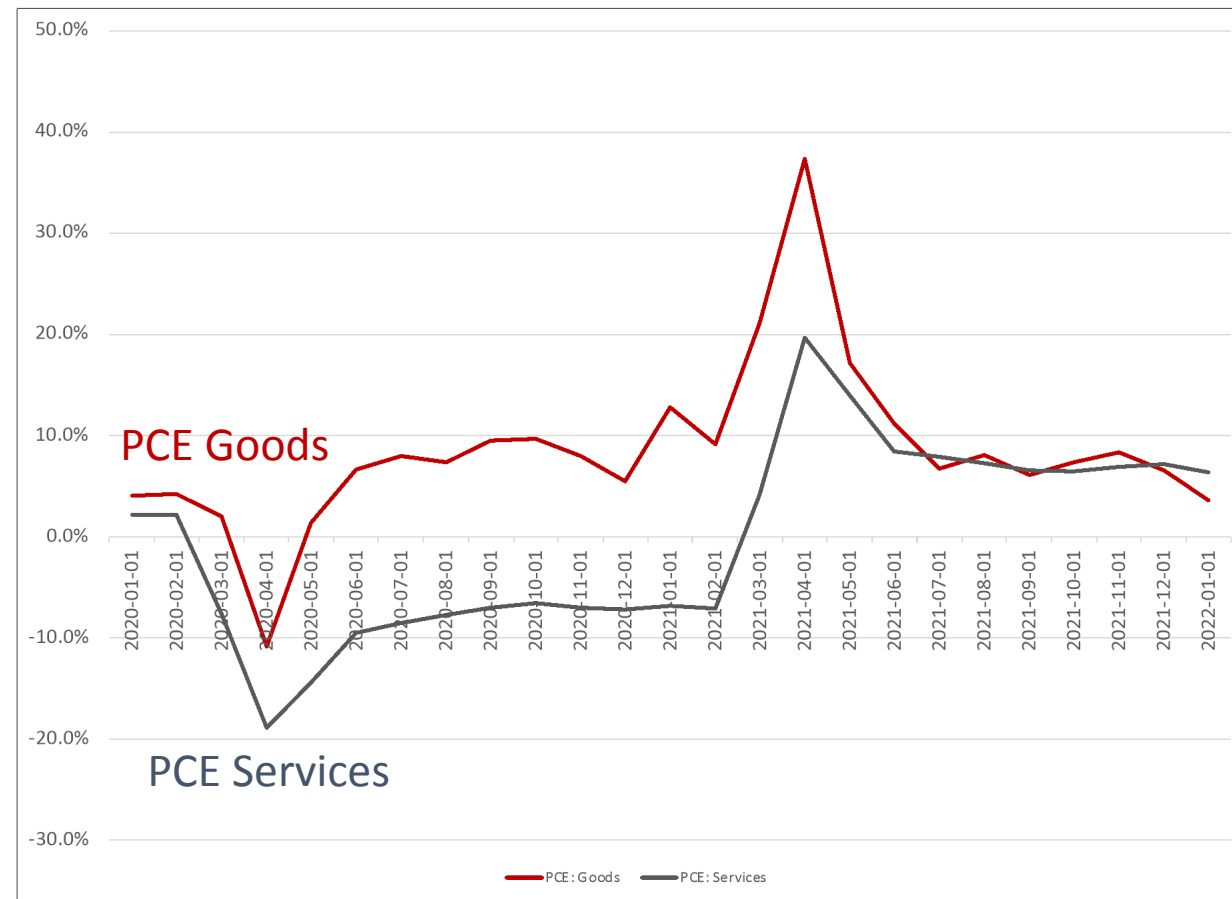
Shift In Consumer Spending

12-month percent change in Personal Consumption Expenditures on goods and on services
Percent of Total PCE and 12-month Percent Change, January 2019 to January 2022

Percent of Total PCE



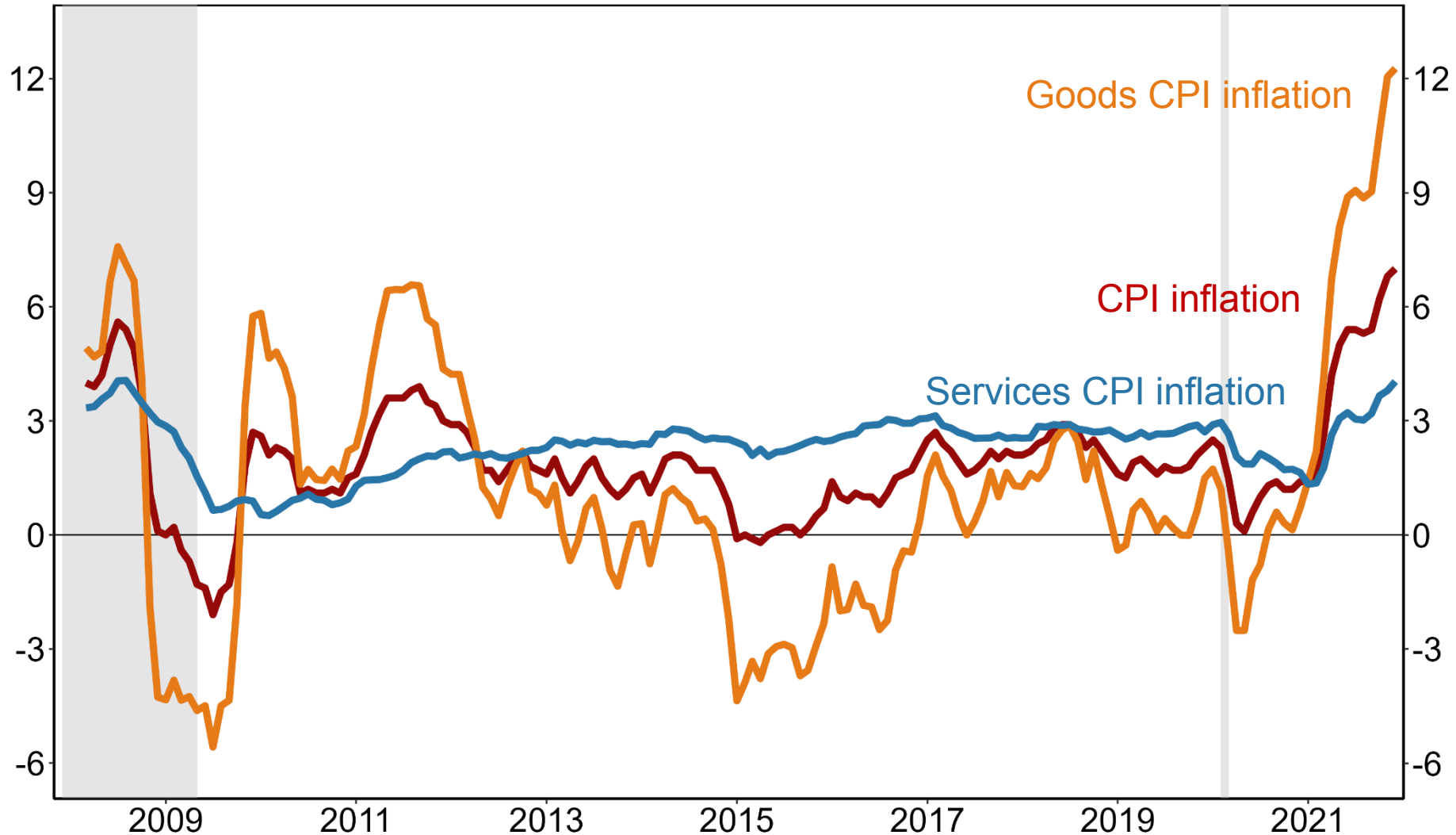
12-month Percent Change in PCE Expenditures by Sector



Goods inflation has led

12 Month % Change

12 Month % Change



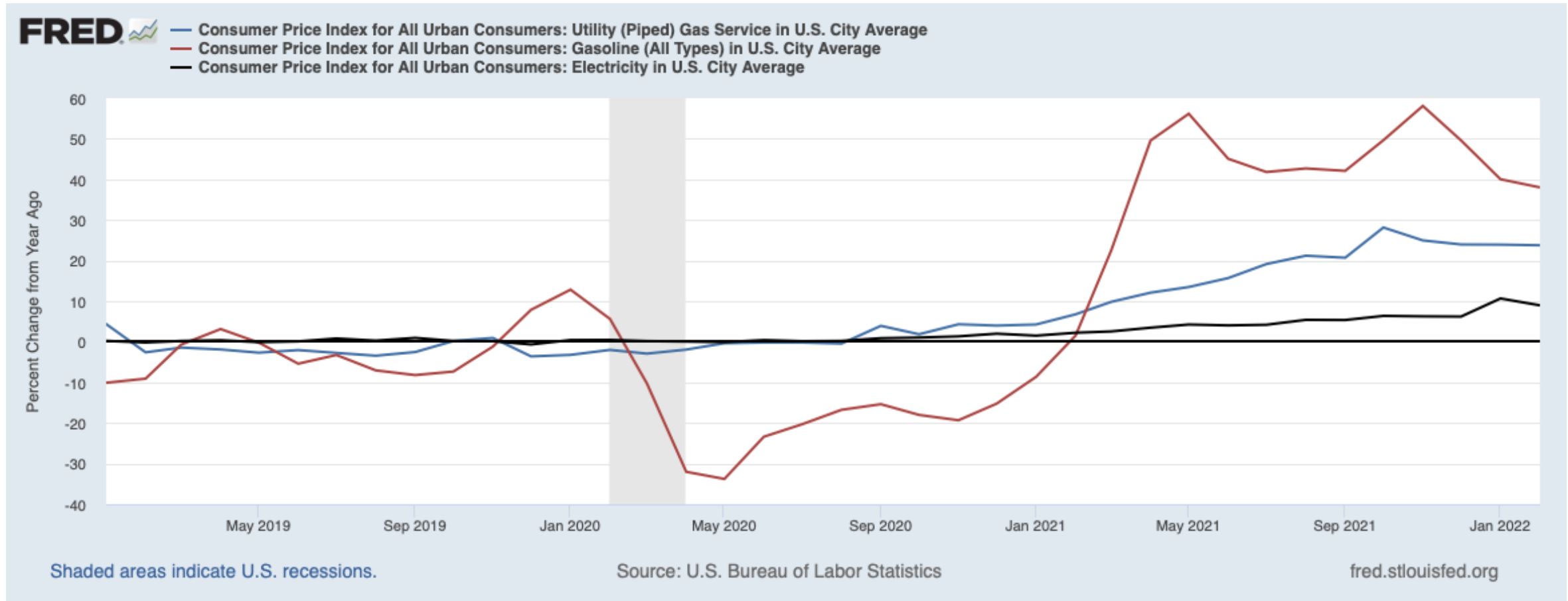
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Source: Robert Rich, Center for the Study of Inflation, Federal Reserve Bank of Cleveland, <https://www.clevelandfed.org/our-research/center-for-inflation-research.aspx> from Bureau of Economic Analysis, Bureau of Labor Statistics, Haver Analytics, Note: Shading shows NBER recessions

Energy prices accelerate

12-month Percent Change in CPI for all Urban Consumers: Gasoline, Utility Gas, and Electricity

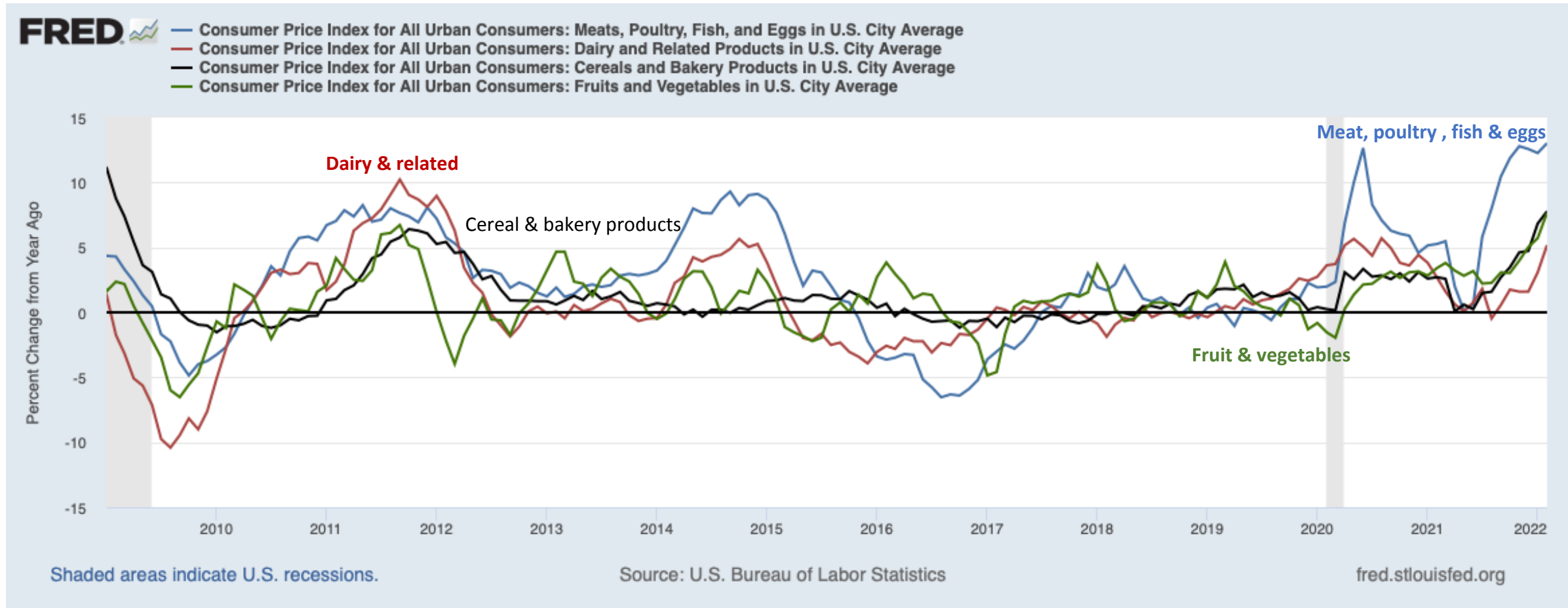


Source: U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: Electricity in U.S. City Average [CUSR0000SEHF01], Utility (piped) Gasoline, and Consumer Electricity retrieved from FRED, Federal Reserve Bank of St. Louis;
<https://fred.stlouisfed.org/series/CUSR0000SEHF01>, March 31, 2022.



Prices increase in the grocery store; We don't have the meats

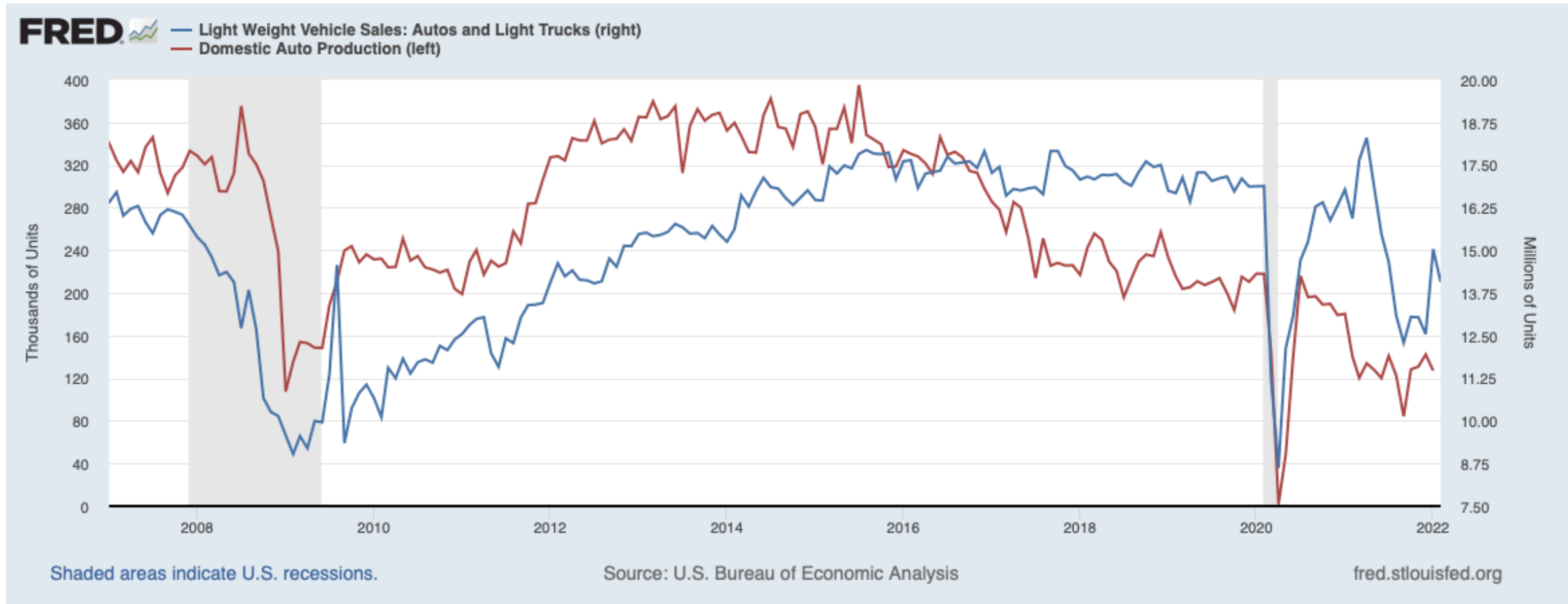
12-month percent change in CPI for four food items



Stomping on the brakes

New and used auto sales and domestic production

Thousands of vehicles from January 2007 to January (production) and February (sales) 2022



Production in April 2020: 2,000 and in September 2021: 84,000

Source: U.S. Bureau of Economic Analysis, Light Weight Vehicle Sales: Autos and Light Trucks, Millions of Units, Seasonally Adjusted Annual Rate (ALTSales) and Domestic Auto Production [DAUPSA], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/DAUPSA>, March 31, 2022.

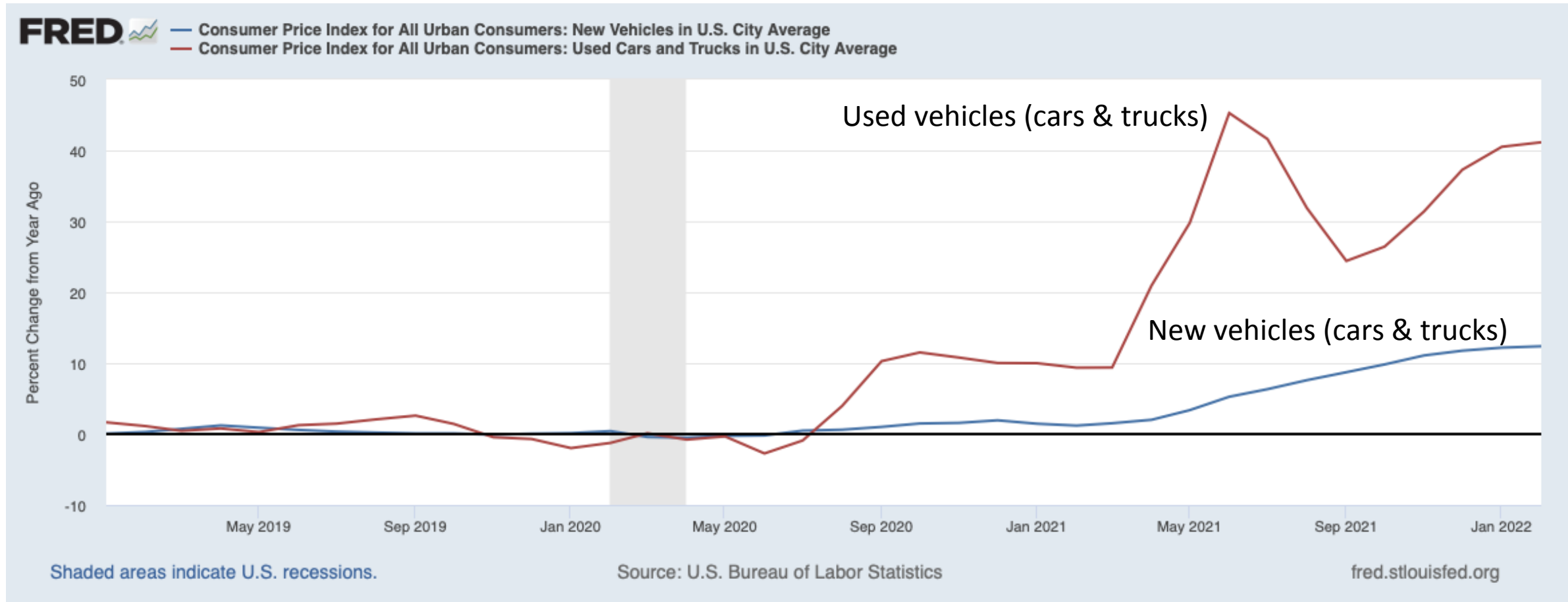


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Used auto prices are a wreck

Letting the chips fall; Shortage of sensors and integrated circuits expected through late summer or early fall



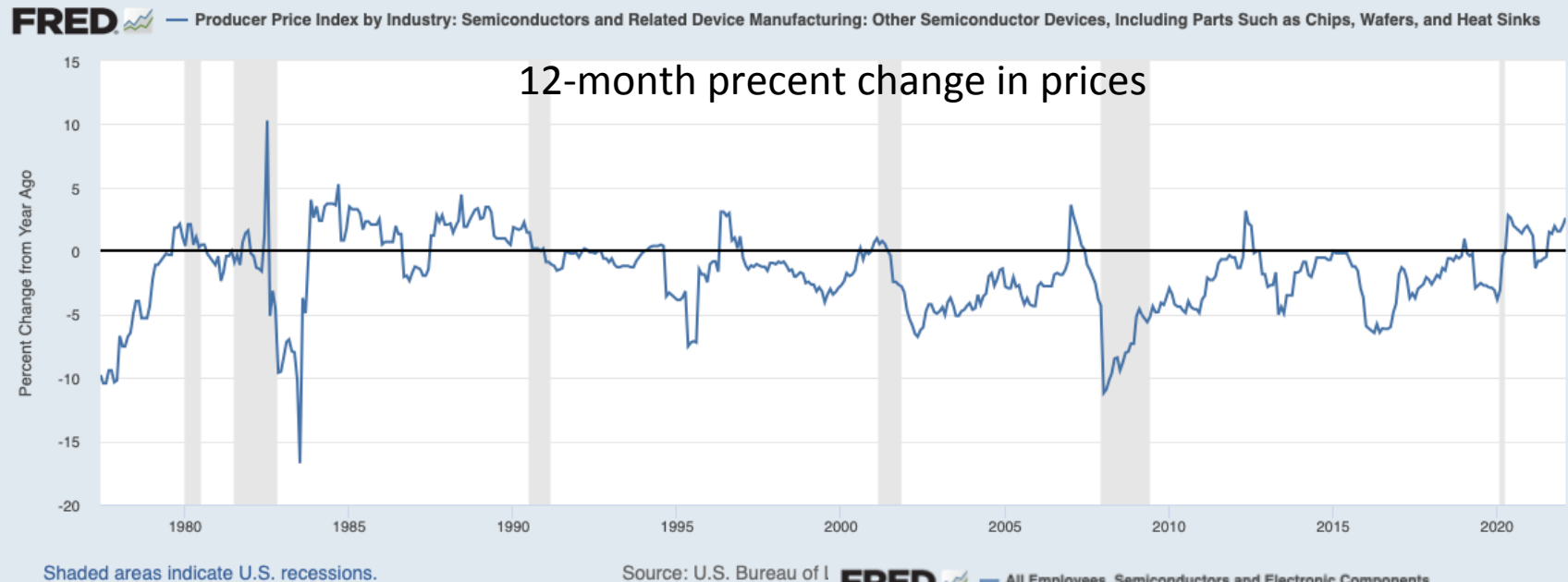
Source: U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: New Vehicles [CUSR0000SETA01] and Used Cars and Trucks in U.S. City Average [CUSR0000SETA02], retrieved from FRED, Federal Reserve Bank of St. Louis

<https://fred.stlouisfed.org/series/CUSR0000SETA02>, March 31, 2022.

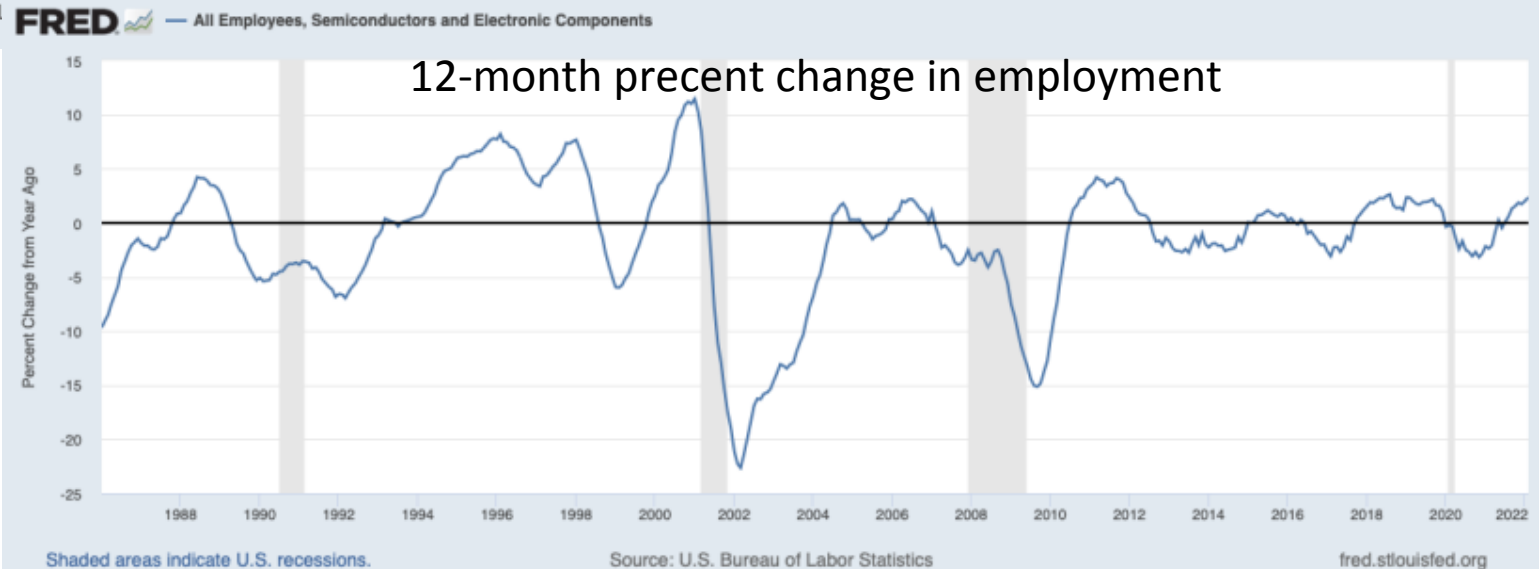


When the chips are down

The connection between prices, investment, and employment



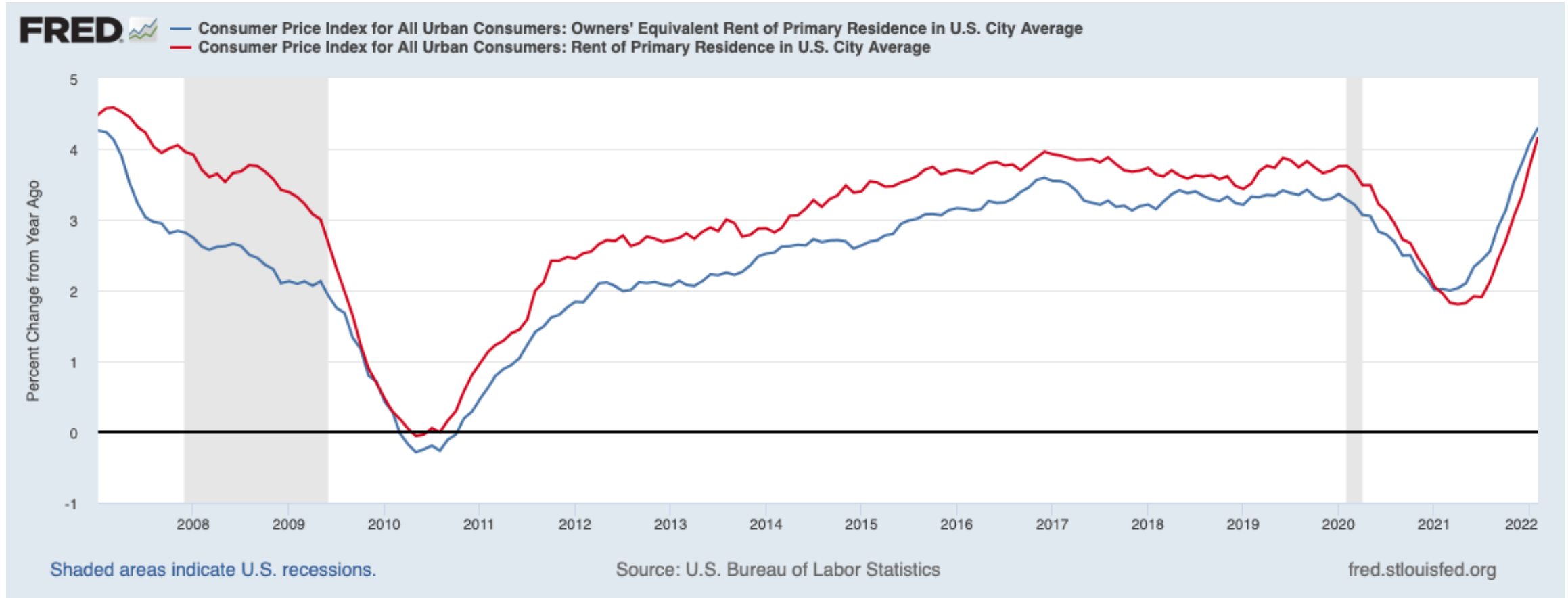
Source: U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Semiconductors and Related Device Manufacturing: Other Semiconductor Devices, Including Parts Such as Chips, Wafers, and Heat Sinks [PCU334413334413A] and All Employees, Semiconductors and Electronic Components [CES3133440001], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CES3133440001>, March 31, 2022.



Give me shelter: Demand outpaces supply

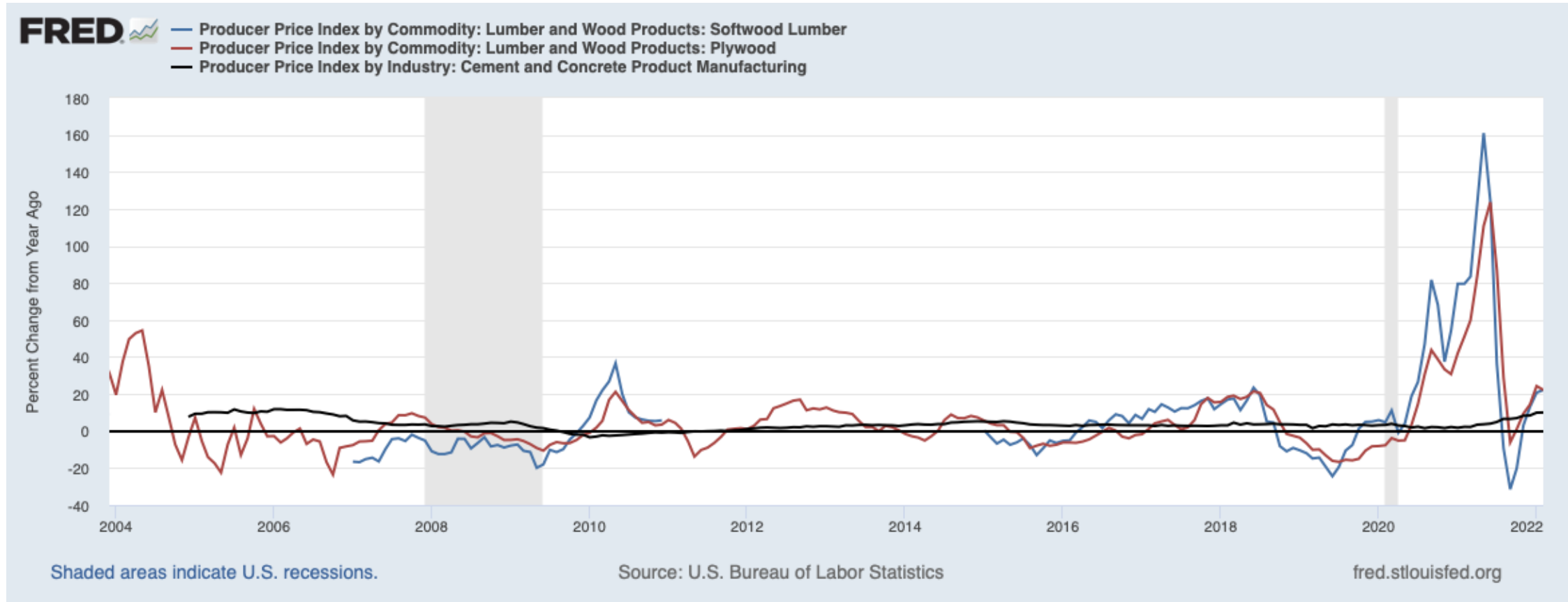
Low starts for the past 15 years; high building costs, low interest rates

Switch: Cost of owning increases faster than rents despite low interest rates



Lumber prices reflect supply

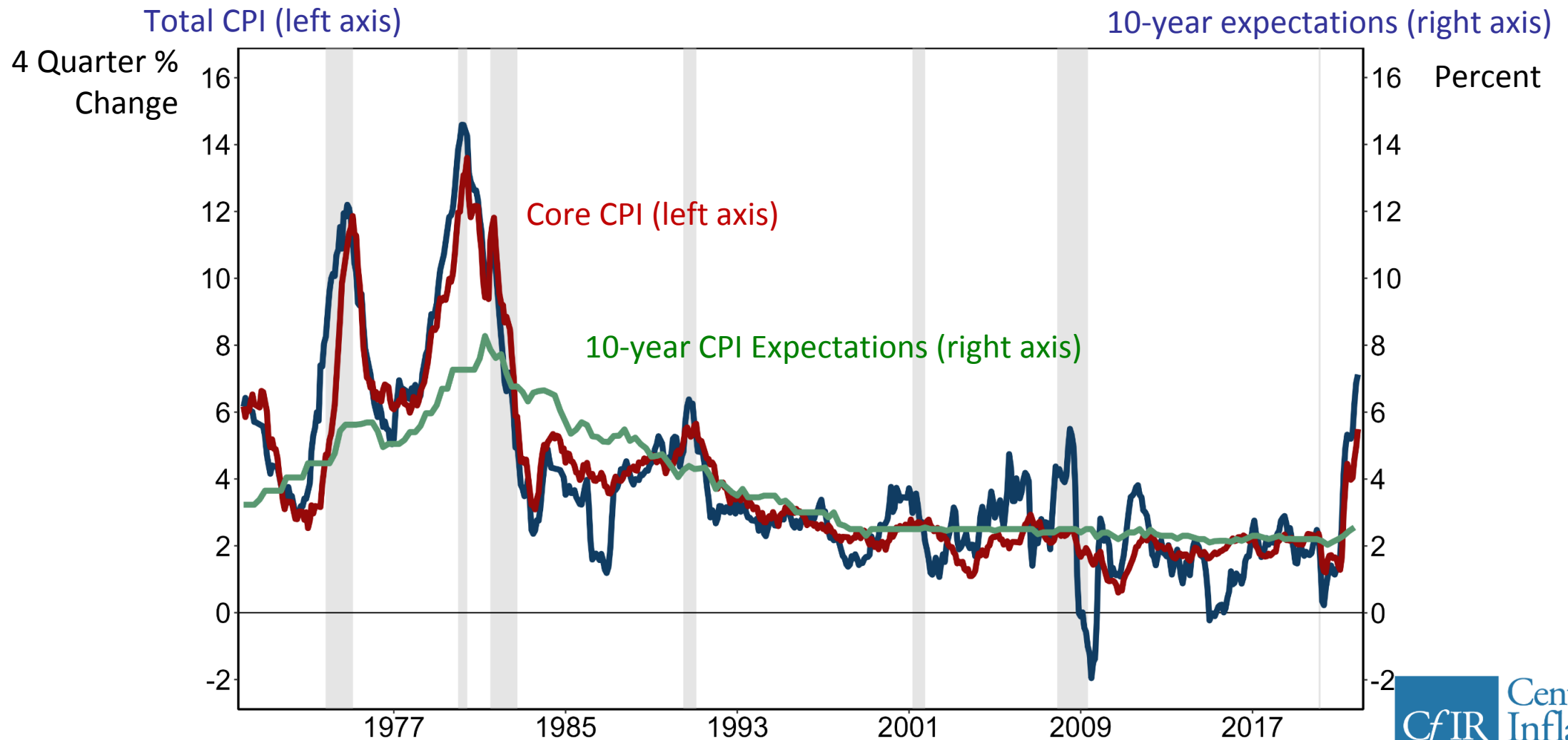
Bugs in British Columbia, hurricanes in the Gulf, COVID in the mills, mudslides in the Pacific Northwest coupled with demand (decks, remodeling, low interest rates, stimulus payments)



Source: U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Cement and Concrete Product Manufacturing [PCU32733273], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PCU32733273>, March 31, 2022.



Steady expectations can help stabilize inflation



Playing the long game

Invest in economic development assets

Respond to the digitally integrated enterprise

React to ongoing changes in supply chains—Lean coupled with strategic sourcing

Manufacturing is in early stages of a 20-year transition to the new lean

Continue to connect heads and hands through active learning & recognize what human capital really is

Recreate the applied engineer

Every automation and digital project is a cyber security project



Digital Transformation Manufacturing Assessment

Assess level of digital maturity using the Digital Transformation for Manufacturers Assessment

Eliminate problems and constraints that limit digital performance

Develop improvement plans and shape capital budgets to boost digital capabilities and performance

Build a foundation for continuous improvement of digital capabilities

How?

Quantify current state of digital maturity.

Focus on areas of weakness and constraints that limit improved performance.

Plan, collaborate, and act: Allocating resources and implementing sustainable changes.

Develop: Foundation for continuous review and improvement of digital capabilities.

Repeat, Identify, and Transform: Repeated assessments at frequent intervals can DRIVE ongoing digital improvements, IDENTIFY new constraints as they emerge, and digitally TRANSFORM a company — leading to increased overall performance and competitiveness.



Thank you

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