US Macro:
Where we were, where we are, and where we’re headed

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Summary

- Where we were: Lessons from the previous cycle
- Pandemic economics
- The rise and partial fall of inflation
- Where we are
  - Which sacrifice ratio slope are we on?
  - Inflation and nominal wages both slowing amidst very tight labor markets
- Current transition, ideally to steady, stable growth
  - Tailwinds
  - Headwinds
- Are there some overarching lessons to take from this history?

Previous expansion: From star-driven to data-driven

- Insights from the pre-pandemic cycle
  - u*--lowest unemployment rate consistent with stable inflation—unknowable within policy-relevant confidence intervals
  - y*--same; “if you build it they will come” theory of NILF➔LF
  - inflation: persistent downside misses

- Conclusions
  - Flat price Phillips curve
  - “Secular stagnation”
    - Demand shortfalls

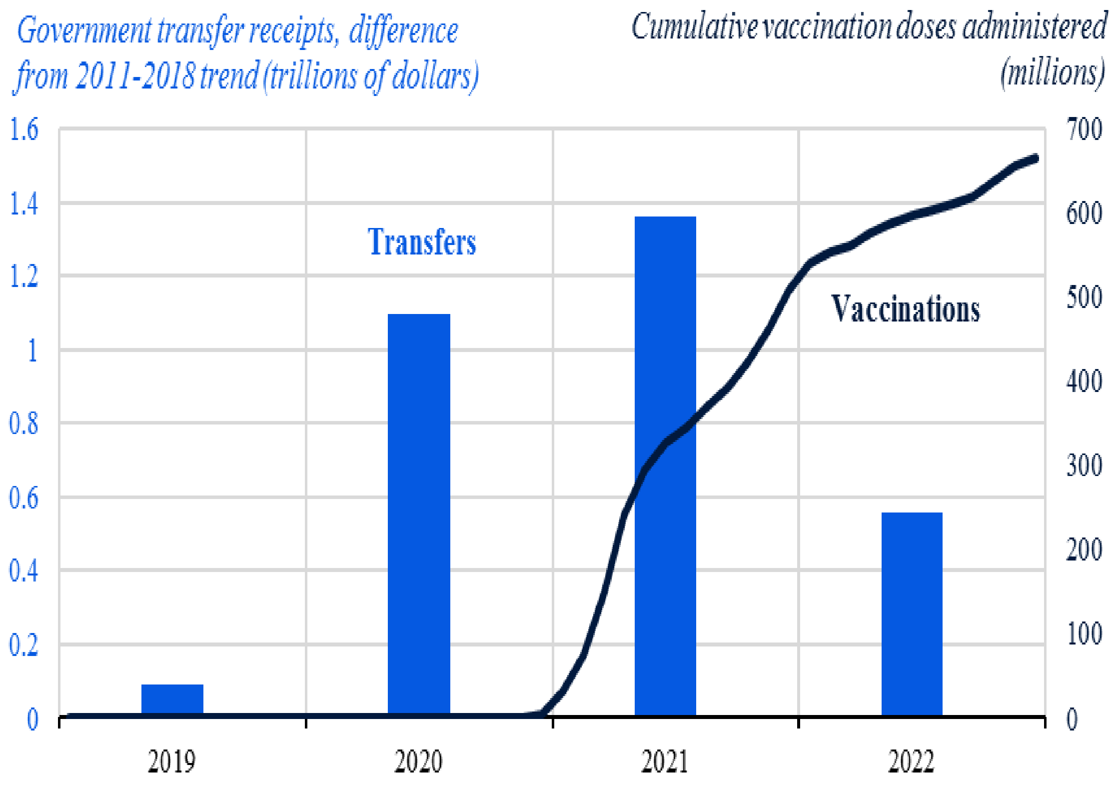
Where we were: The pandemic economy

- **Fiscal policy hit back harder than ever**
  - **“Shots in arms and checks in pockets”’**
- Shifts in consumer preferences
- Supply chain disruptions
- Inflationary pressures take off.

Strong demand (esp for goods) + disrupted supply (+ expectations) = higher inflation

- The “T” word (transitory): Far too “temporally ambiguous.”

Vaccinations and government transfer receipts, 2019-2022



Source: CDC, BEA, CEA calculations.

Period	Episode of Fiscal Expansion	Average Annual Support (percentage of GDP)
1941–43	World War II mobilization	13.0
2020–21	COVID-19 pandemic	9.2
2008–9	Great Recession	5.5
1949–50	1949 Recession / Korean War	4.9
2001–4	2001 Recession and aftermath	4.7

Sources: Office of Management and Budget; CEA calculations.

Note: This table shows the average annual increase in the primary deficit-to-GDP ratio, relative to the final year before the expansion (it includes both new and expanded programs).

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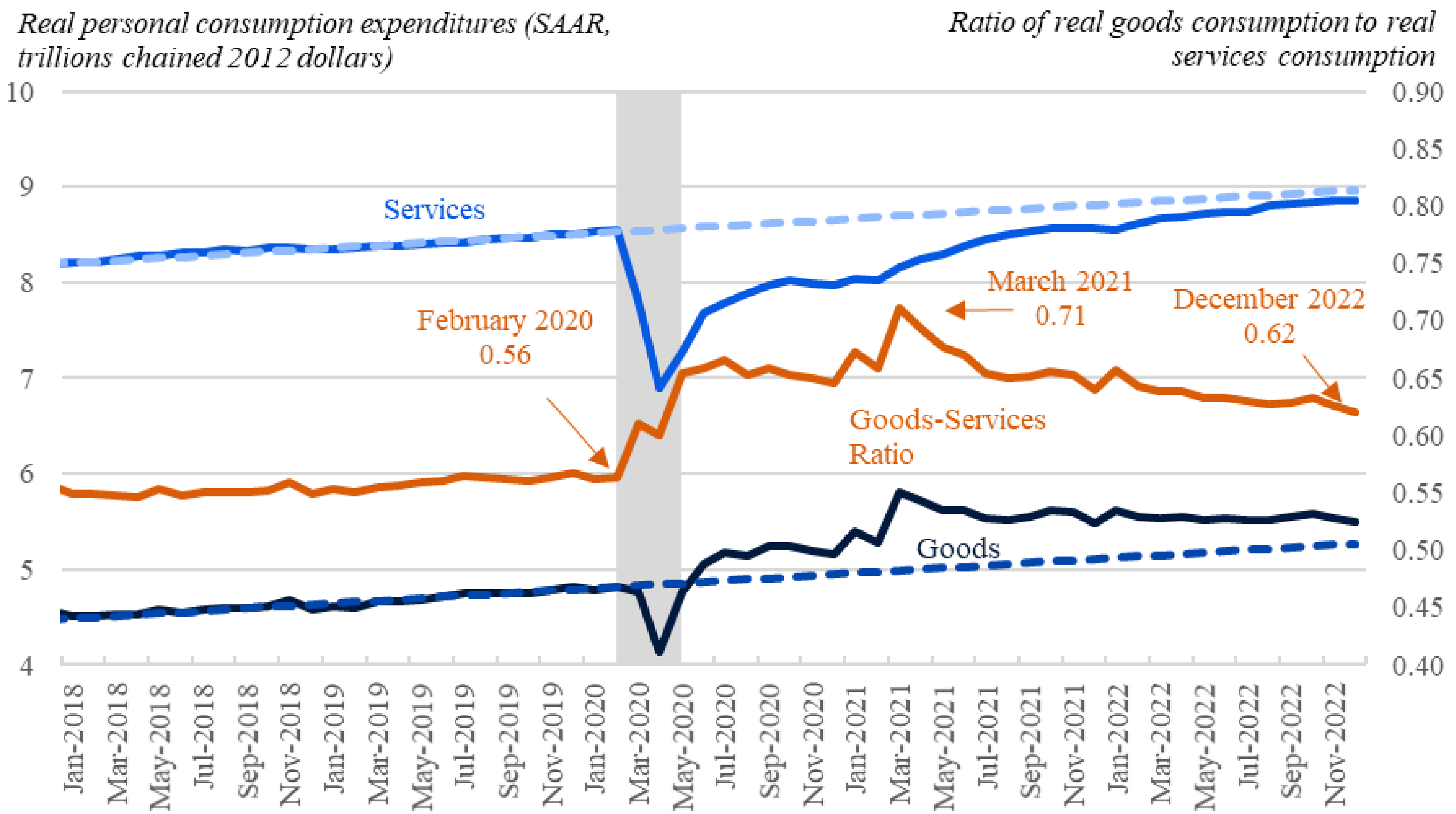
Real Consumption of Goods and Services, 2018-22



Sources: BEA; CEA Calculations.
Note: Dotted lines denote 2015-2019 trend.

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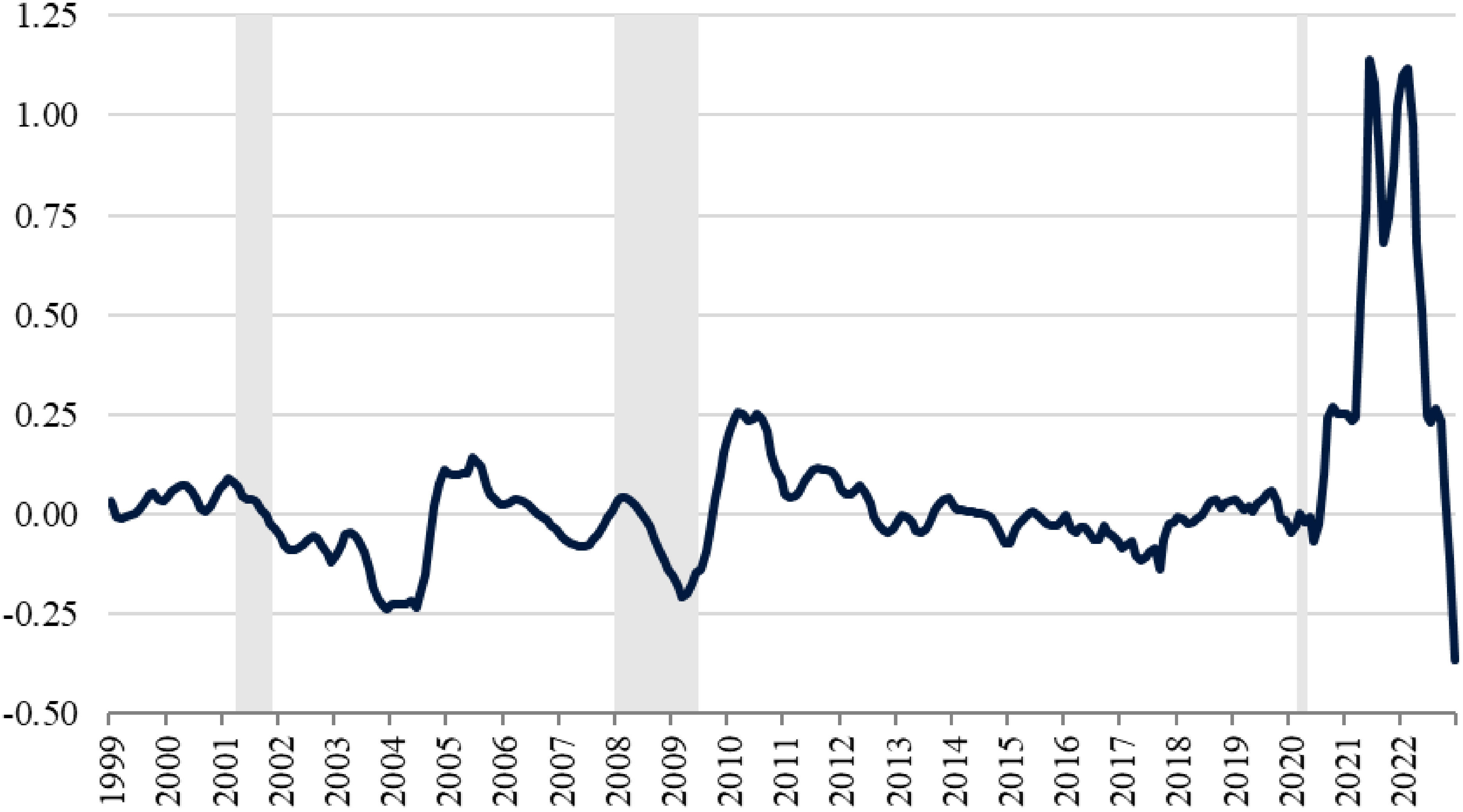
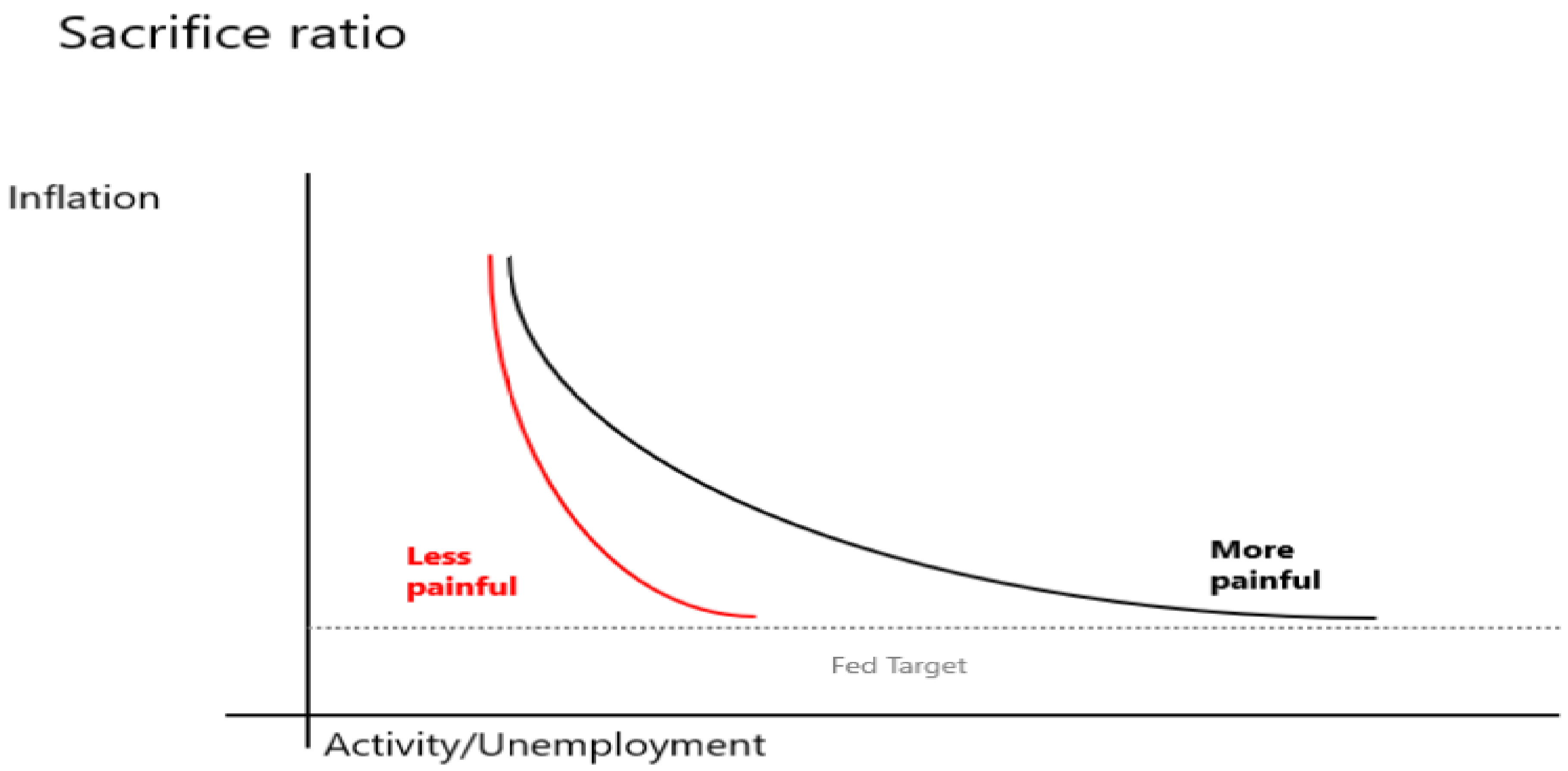
Used Vehicle Contribution to CPI Inflation, 1999–2022

Percentage point contribution, year-on-year



Sources: BLS, CEA Calculations.
Note: Gray bars indicate recessions.

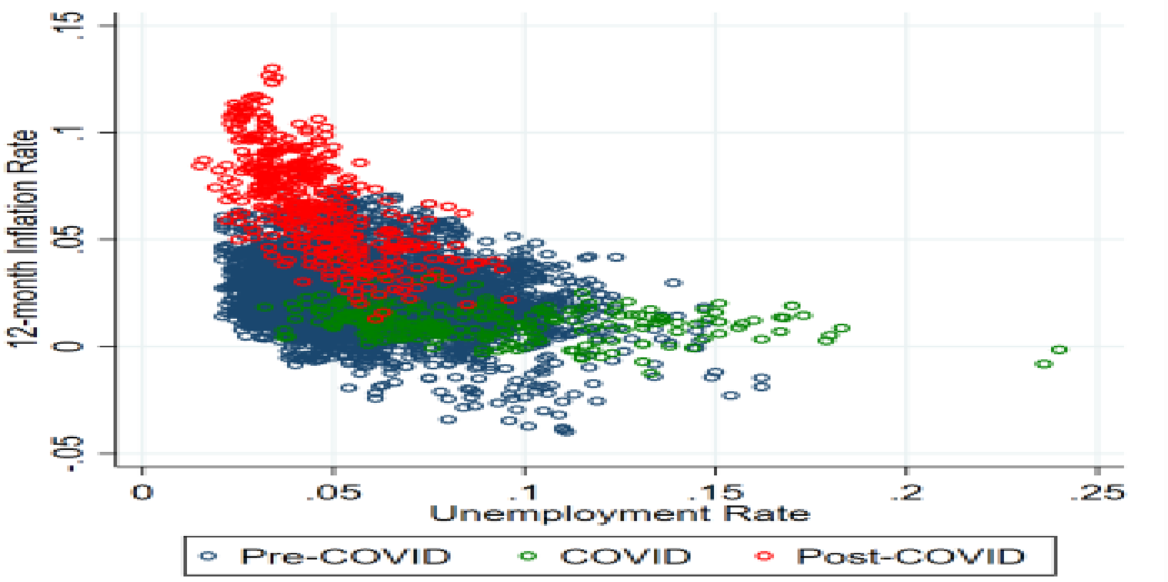
Where we are


Sacrifice ratio
Inflation
Less
painful
More
painful
Fed Target
Activity/Unemployment

Pause: Are non-linearities a characteristic of pandemic economics?

- Joint shocks on supply/demand side, with strong demand proceeding supply-side adjustment.
  - “Dwell times!”
- Sudden capacity constraints drive shifts to vertical parts of curves
- Gagnon, Forbes, Cerrato & Gitti,
  - see figure➔ (slope=-0.85)

Figure 1: The Phillips Correlation Across US Cities



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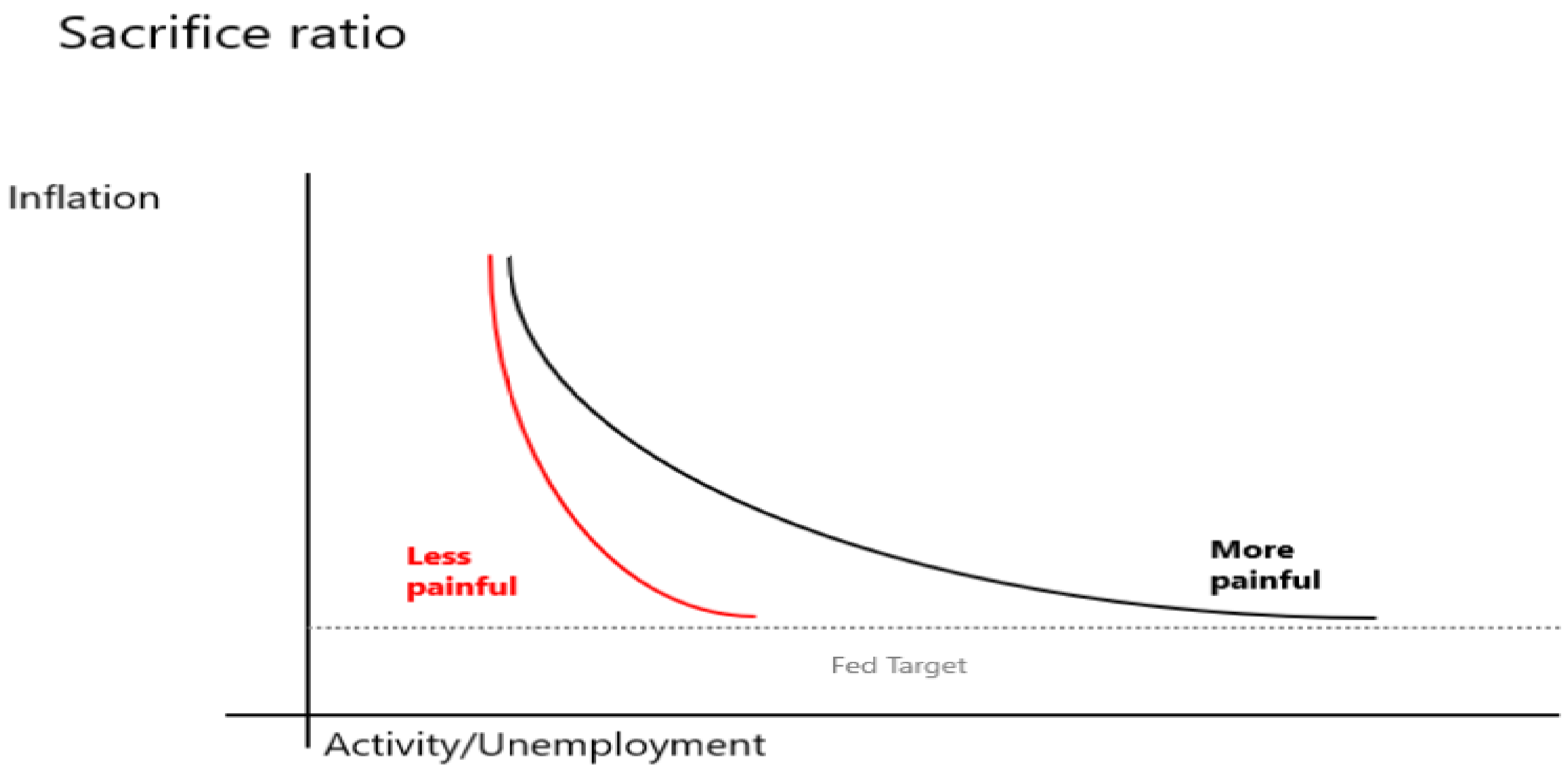
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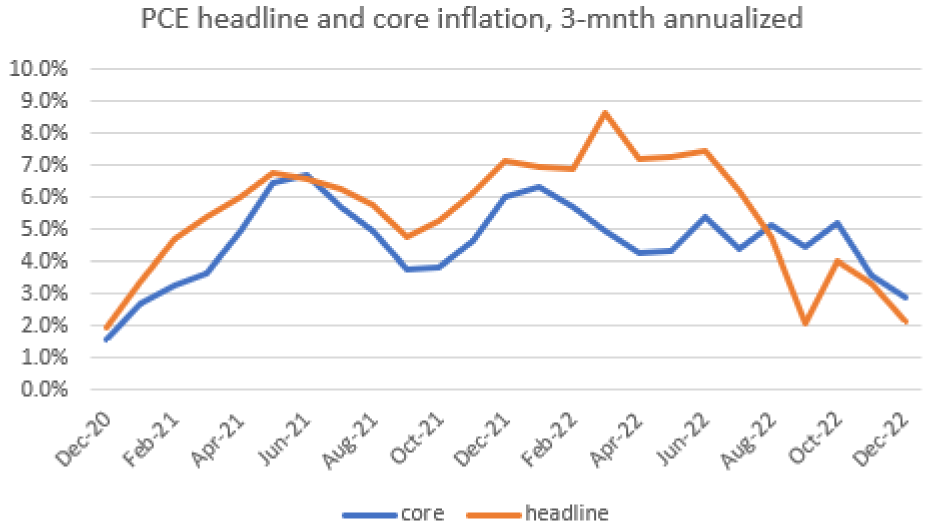
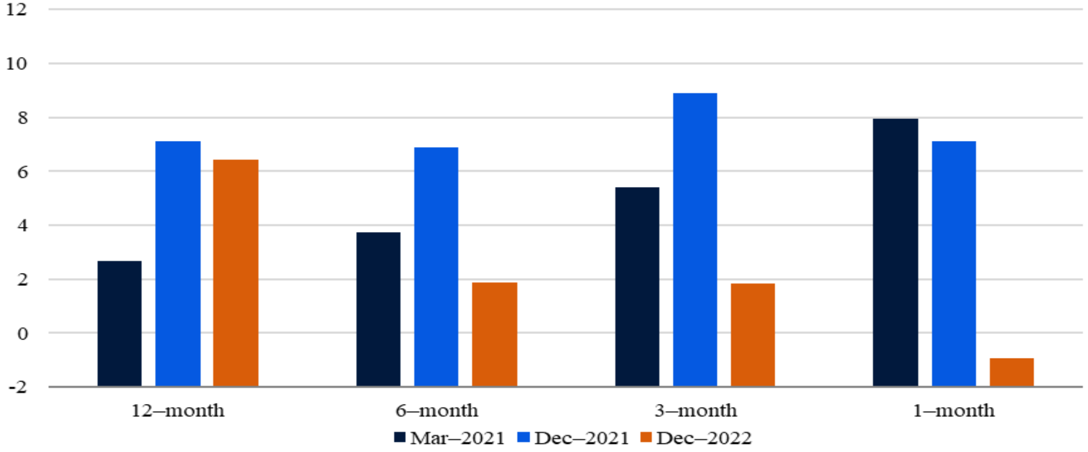


Annualized Headline CPI Inflation, March 2021, December 2021, and December 2022

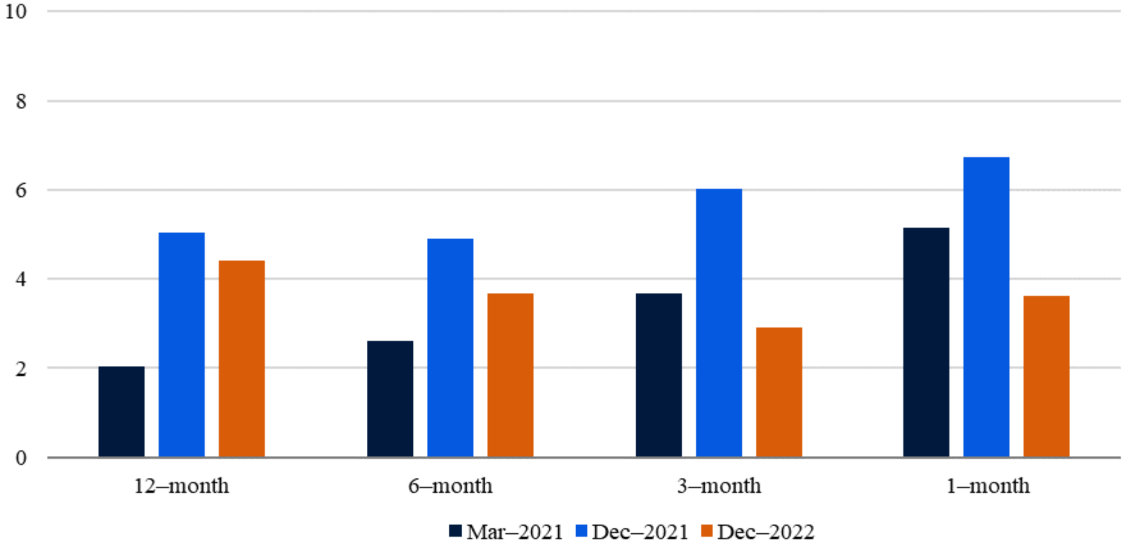
Percent change, annualized



Source: BLS, CEA calculations.

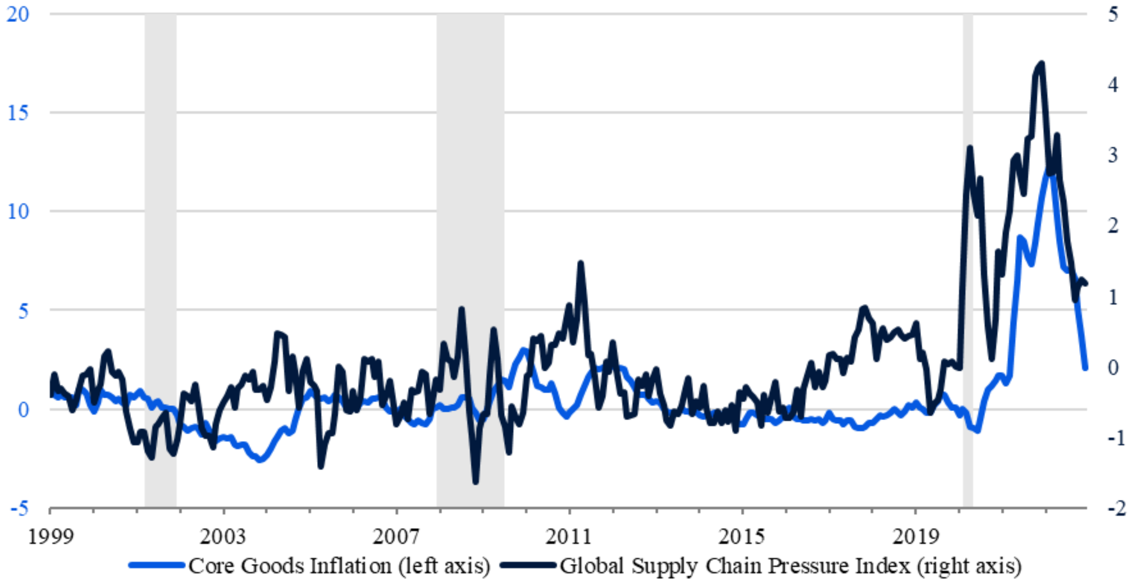
Annualized Core PCE Price Index Inflation, March 2021, December 2021, and December 2022

Percent change, annualized



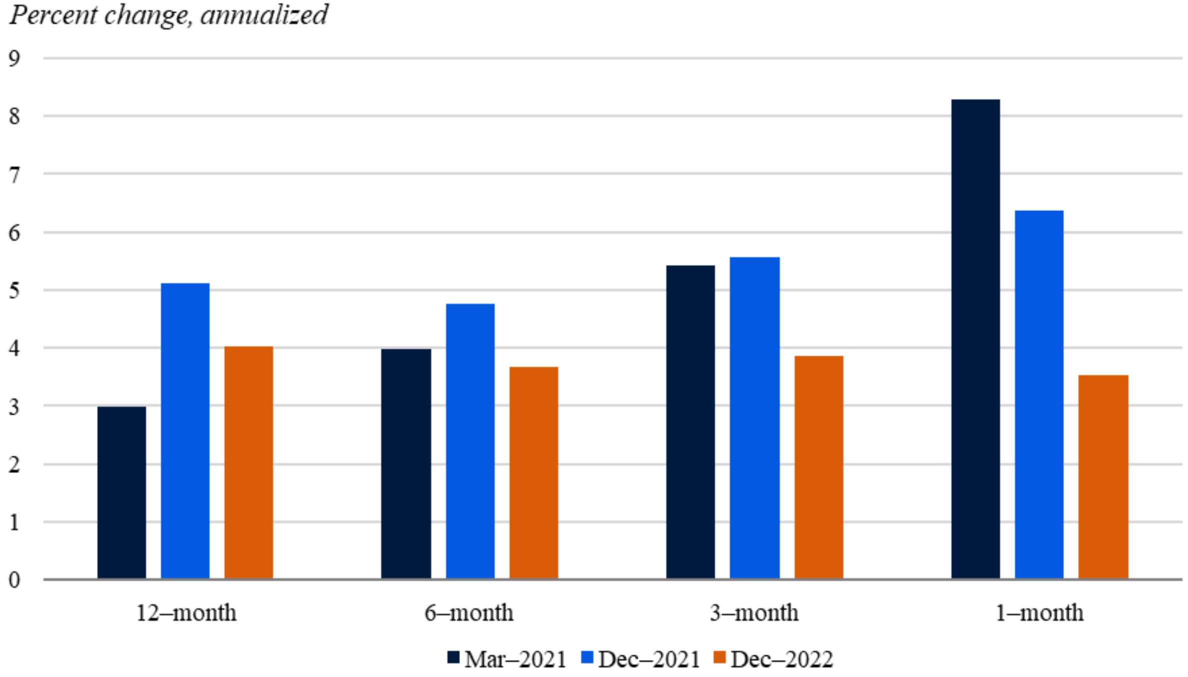
Sources: BEA, CEA calculations.

Core Goods Inflation and Global Supply Chain Pressure Index, 1999-2022



Sources: Bureau of Labor Statistics; Federal Reserve Bank of New York..
Note: Shaded periods indicate recessions. Core goods inflation is from the CPI.

Annualized PCE Core Services Excluding Housing, March 2021, December 2021, and December 2022



Source: BEA, CEA calculations.

Figure 1. NHS AHE Wage Growth

Percent, year-on-year

Source: BLS, CEA analysis.

Out-of-Sample RMSE Forecasting NHS PCE Inflation

2020 Q1-2022 Q3

NHS AHE PNS	**1.304**
ECI Private Wages & Salaries	1.466
ECI Private Services, Wages & Salaries	1.471
Atlanta Fed WGT	1.471
AHE PNS, official	1.521

Forecasting Model

$$\Delta_4 Log(NHS_t) = \beta_0 + \beta_1 * \Delta_4 Log(Wage_{t-4}) + \beta_2 * PTR_{t-4} + \beta_3 * RPIM_{t-4} + \varepsilon$$

Where Δ_4 is the four-quarter difference

Wage = one of the five wage measures tested, NHS = PCE Core Services ex Housing price index, PTR = 10-year SPF PCE expectations, RPIM = Relative import prices in core PCE

Sample: 1997 Q4 – 2019 Q4

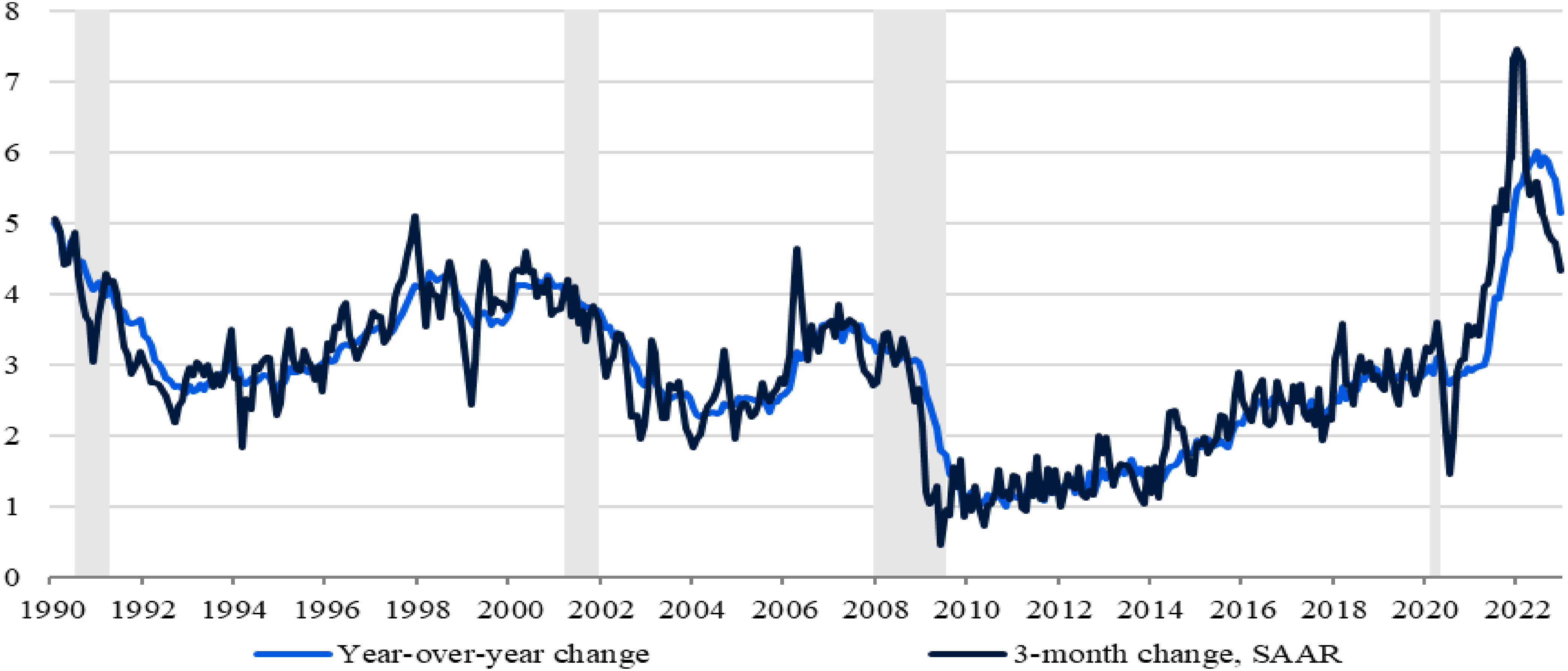
Source: CEA analysis of BLS, BEA data

Riddle me this: Why is nominal wage growth slowing if u<u*?

- u isn’t < u*?
  - V/U sure seems to be >> (V/U)*
  - Some softening in labor demand?
- Wage growth is not slowing: easier to defend *pre*-Dec-ECI release
- Labor share: Bivens: labor share still low
  - Rising labor share, lower markups, source of non-infl wage gains.
  - Brainard: “The compression of these markups as supply constraints ease, inventories rise, and demand cools could contribute to disinflationary pressures.”
- Consistent w Bidenomics.
- Expectations: Jorda et al (2022), higher pass through from inflation expectations in pandemic economy.
  - Near-term expectations data support this hypothesis.
    - Such expectations tend to reflect retail gas price movements.

Common Wage Growth Factors, 1990-2022

Compositionally-adjusted measures (percent)



Sources: Federal Reserve Board of Atlanta, Bureau of Labor Statistics, CEA calculations.
Note: First prncipal component of Atlanta Fed WGT, compositionally-adjusted AHE, and ECI private wages and salaries ex. incentive pay. Projected onto ECI average & standard deviation.

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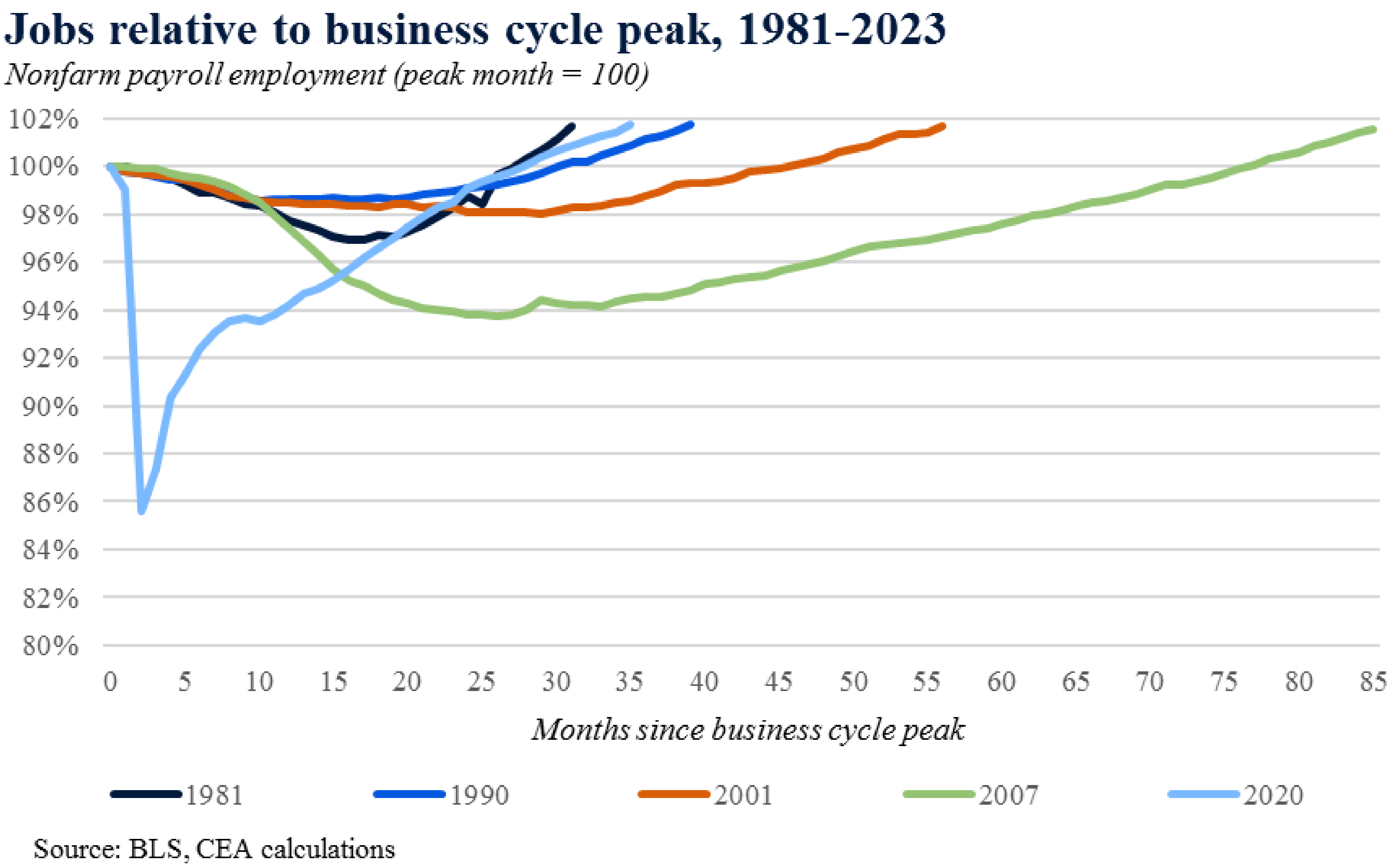
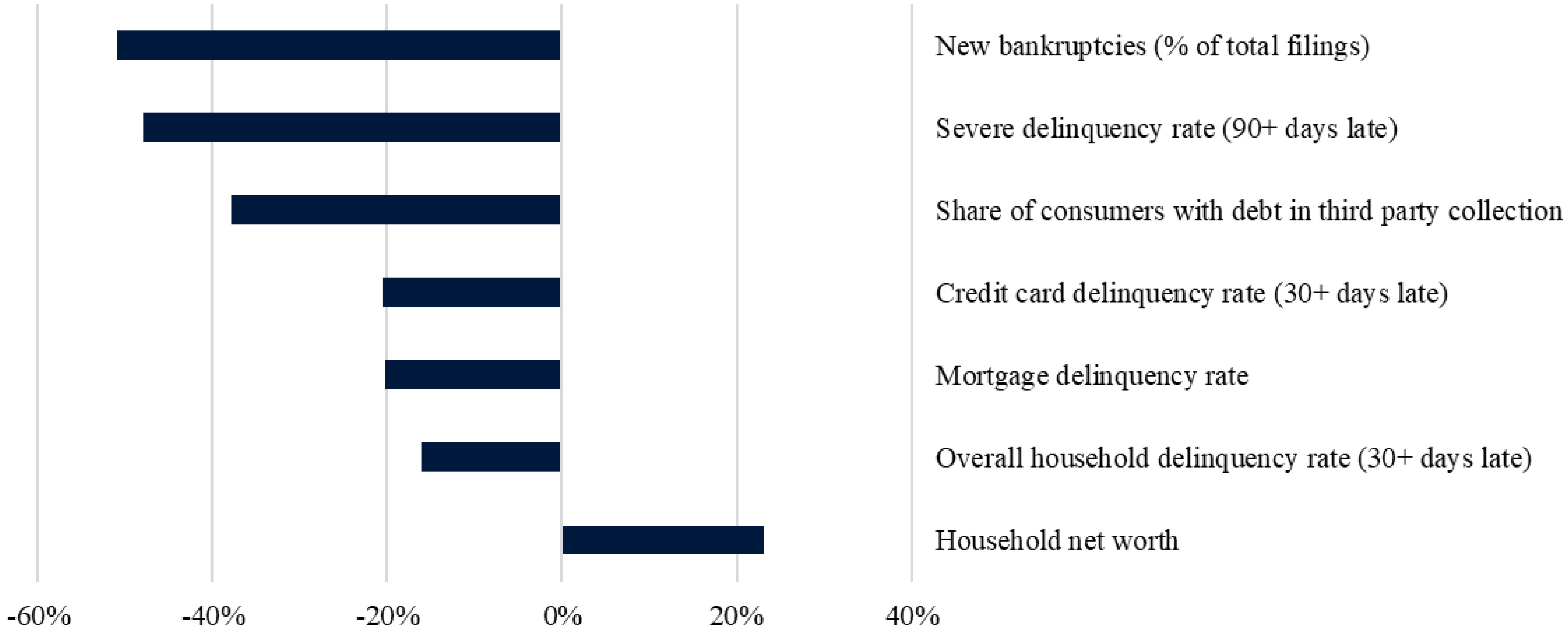

Jobs relative to business cycle peak, 1981-2023
Nonfarm payroll employment (peak month = 100)
102%
100%
98%
96%
94%
92%
90%
88%
86%
84%
82%
80%
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
Months since business cycle peak
1981
1990
2001
2007
2020
Source: BLS, CEA calculations

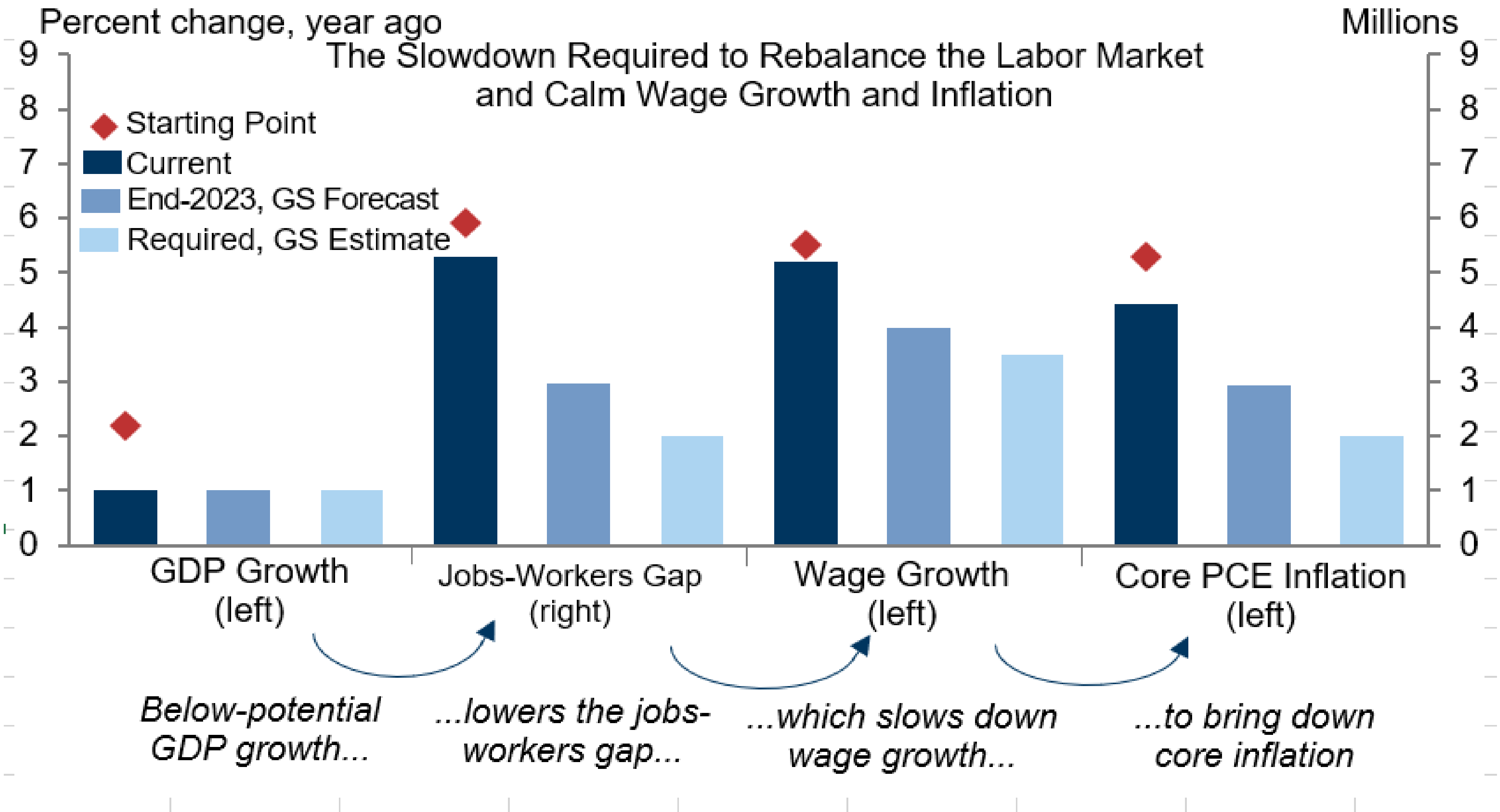
Household Finance Indicators, 2019Q4-2022Q3

Percent change from 2019Q4



Source: Federal Reserve Bank of New York, Federal Reserve Board of Governors, CEA calculations.

Goldman Sachs Flow Model

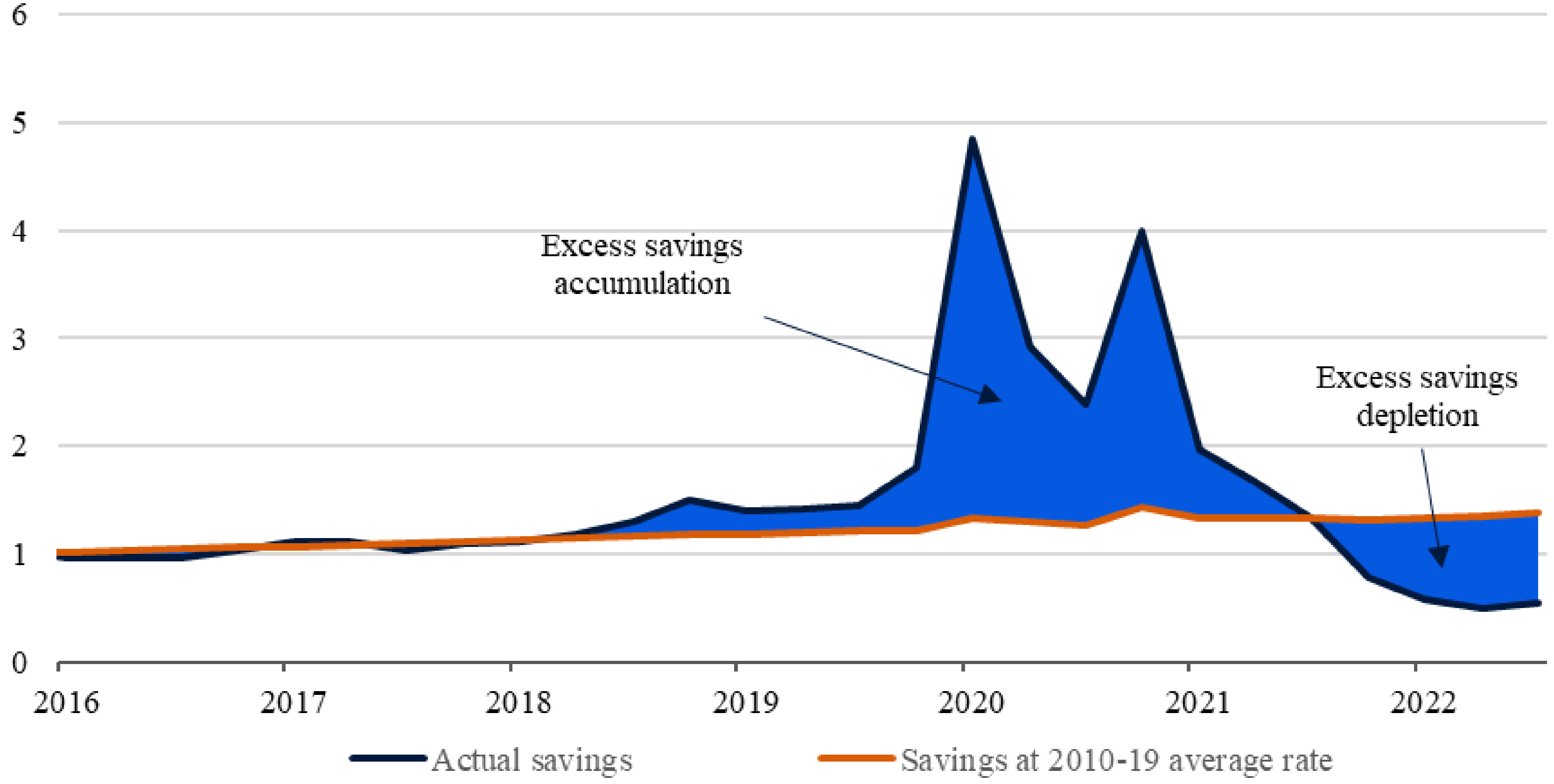


Where we’re headed

- Challenges to transition
  - Fiscal/monetary overshoots; financial conditions
  - High sacrifice ratio
  - Unforeseen shocks (e.g., energy/China, political “own goals”)
  - Wage-price dynamics
- Tailwinds to transition
  - Strongest job market in decades
  - Balance sheets
  - Energy price declines
  - Inflationary pressures improving, expectations channel
  - Learned fiscal and monetary policy

Excess Savings, 2016–22

Dollars (trillions)



Sources: BEA; CEA calculations.
Note: The average saving rate from 2010 to 2019 was 7.3 percent.

Concluding…

- Strong fiscal and monetary responses to the pandemic shock were highly effective.
    - Sui generis pandemic econ: supply AND demand shocks.

- CI! (countercyclical infrastructure; UI, IRS)

- Bidenomics in ‘23 and beyond: The inclusive, bottom-up, middle-out, invest-in-America agenda that you heard about last night!