

# **Perspectives on today's inflation: implications for theory and policy**

**OECD**

**March 15, 2023**

# **This downturn and inflationary episode is different from earlier episodes—and it is important not to draw wrong lessons from past experiences**

- Sectoral issues
- Extreme uncertainty
- Large distributional issues

Will illustrate by US data

Principles are the same

Verification/replication an important OECD agenda

# Key messages

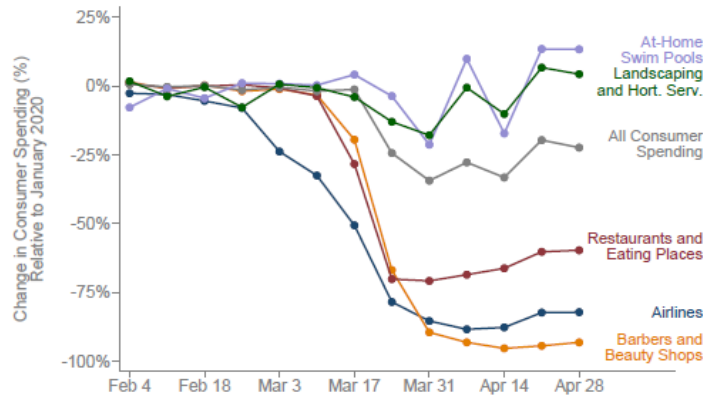
- This inflation is caused not by excess aggregate demand (and especially not caused by excessive pandemic spending), but by supply side shocks and demand shifts related to pandemic and war
- Simple aggregative models of limited help in analyzing either the source of the inflation or the appropriate response
- Raising interest rates is likely to be counterproductive
- There are a range of other policy responses that are likely to be more productive

# A. Sectoral issues

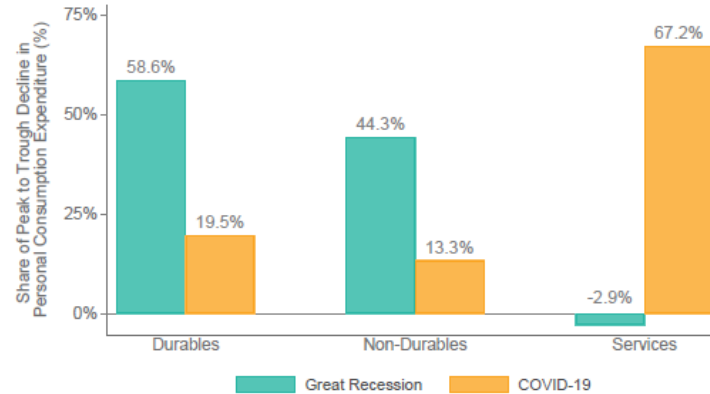
- These were sectoral shocks
  - But so were shocks leading to Great Depression and Great Recession (Delli Gatti *et al* 2012)
  - With large changes in relative prices
  - Can't use simple aggregative model

# The first service-sector recession?

C. Spending Changes by Category



D. Spending Changes by Sector: COVID vs Great Recession

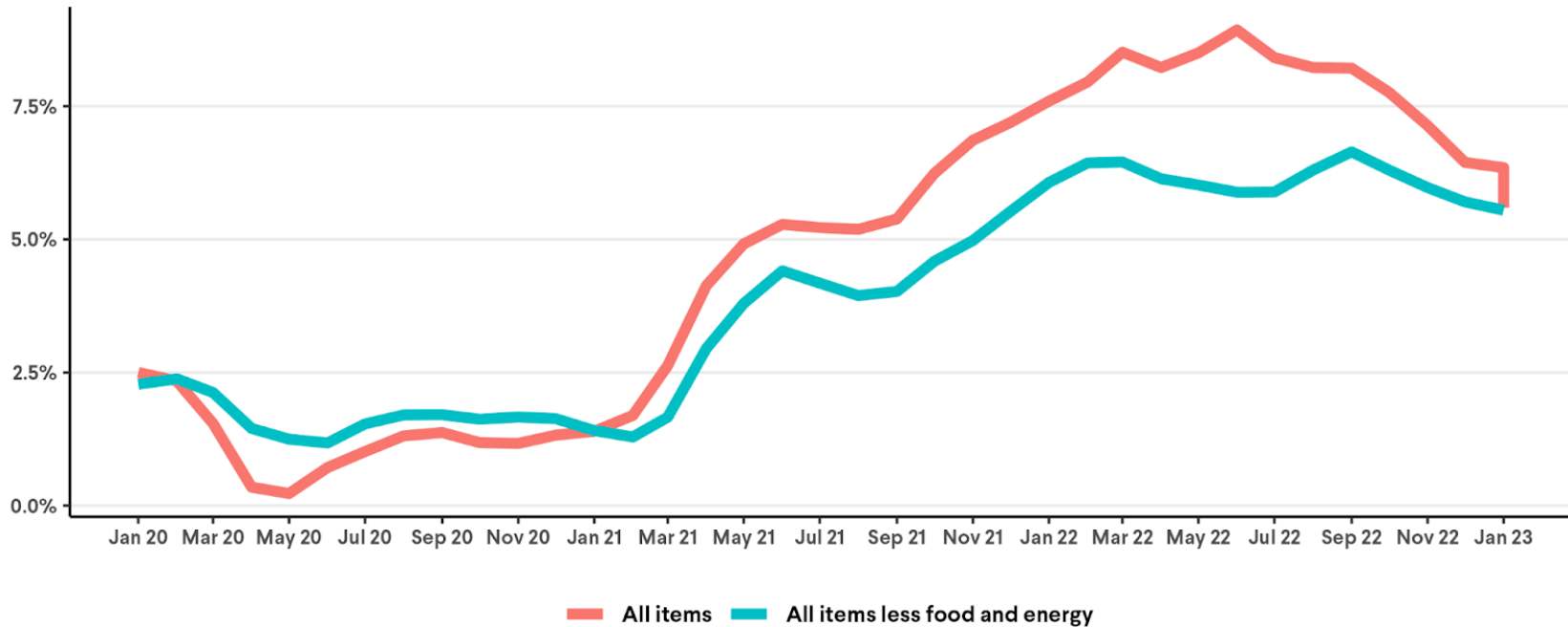


# Source of inflation

- **Pandemic-induced supply side shortages**
  - Interruptions in global supply chains
  - Chip shortages—particularly large effect in auto sector, which played big role in early price surges
- **Demand shifts**, partly induced by pandemic, partly induced by large changes in relative prices, partly induced by supply shortages in other sectors
  - Asymmetric price responses—with shortages leading to greater price increases than excess demands leading to price decreases
    - Exemplified by rental market
- **Unexpected lack of resilience of markets to shocks**—consequence of short-sightedness
- **Exercise of market power**—with prices going up more in sectors and with firms with more market power
  - Phelps/Winter/Greenwald/Stiglitz model predicts greater uncertainty leading to higher mark-ups
  - Contributing to lack of resilience—baby formula
- **All exacerbated by war**
  - **And further exacerbated in Europe by a flawed electricity pricing model**
- Some inflation was “imported”—caused by increases in prices of imported goods (US demand may have played some role)
- **Market is responding—and inflation is falling**
  - US Inflation for last six months has been at an annual rate of just over 2%

## Increase in Prices - Total (All Items) and Core (All Items Less Food and Energy)

Year-over-year change in CPI, all items

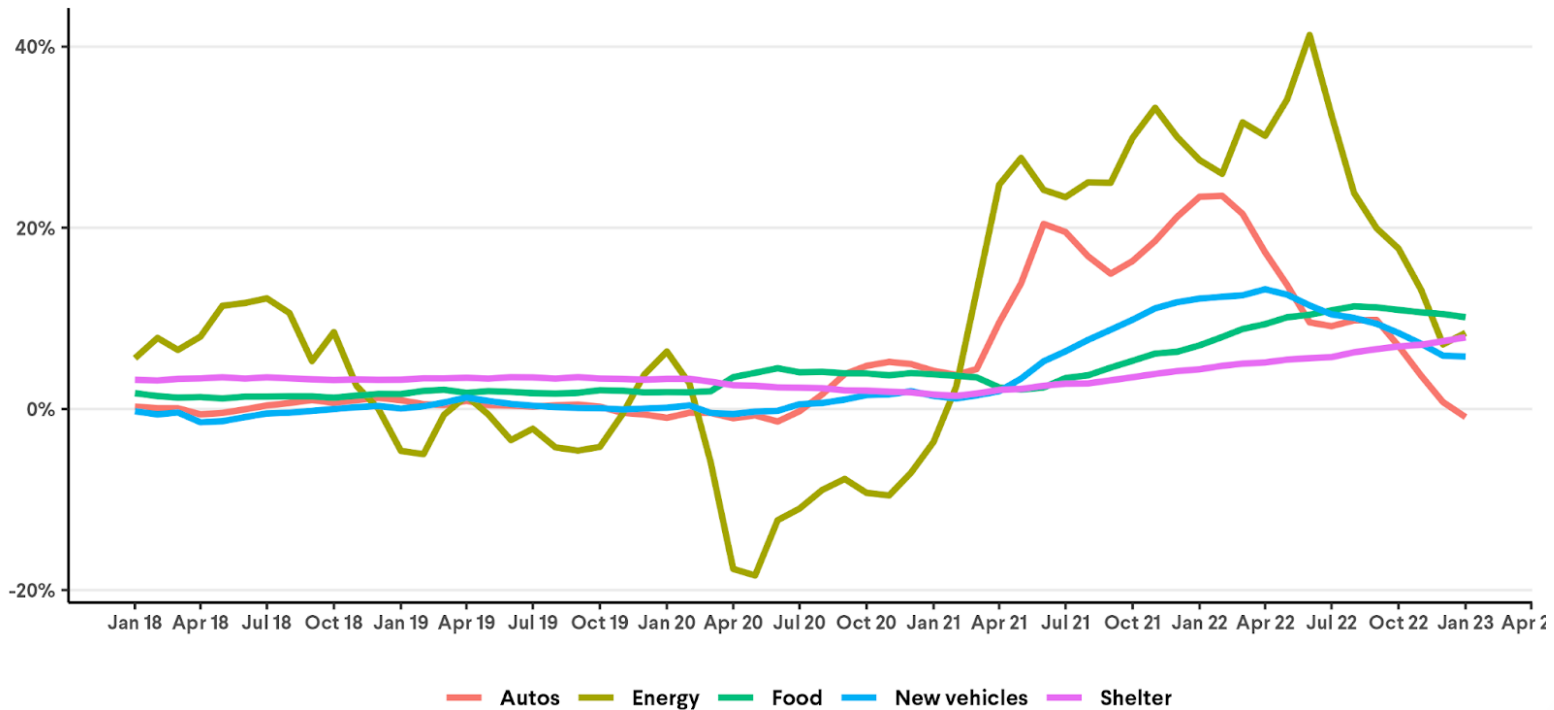


Source: Bureau of Labor Statistics (BLS) Consumer Price Index (CPI)

# Price increases centered on certain sectors and timing not related to gap between aggregate demand and potential output

## Inflation Rate for Select Items, 2018-2022

Year-over-year percent change, Consumer Price Index

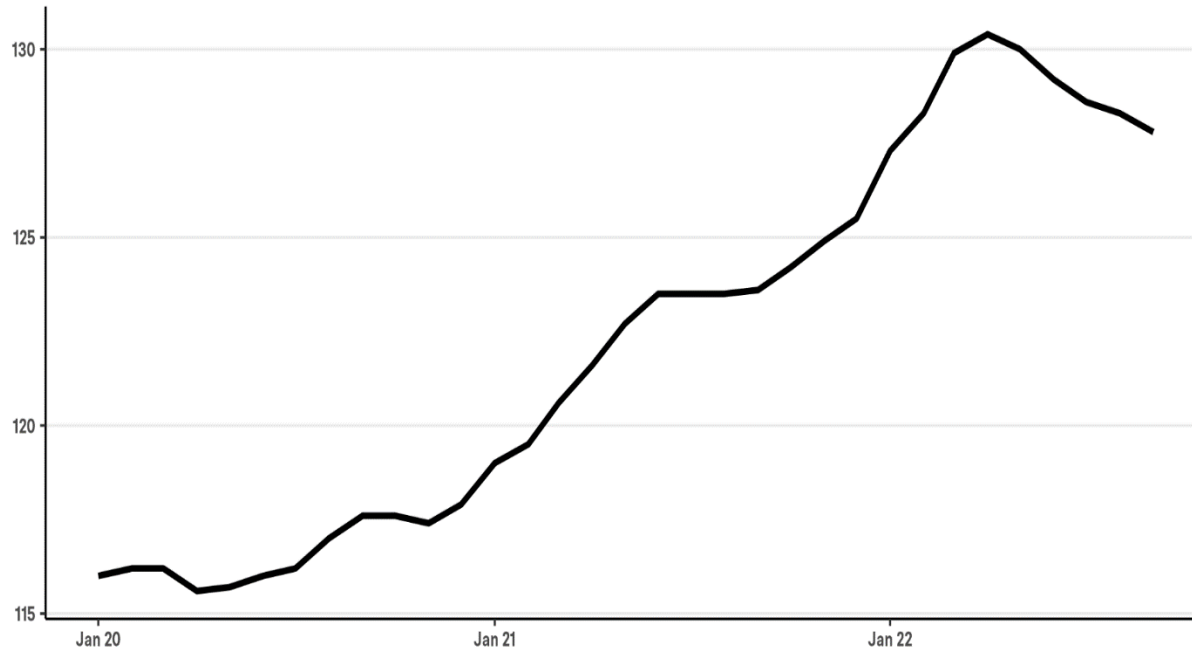


Source: Bureau of Labor Statistics, Consumer Price Index. Authors' Analysis.



# Including imported goods other than fuel

## Non-Fuel Import Prices



U.S. Import Price Indexes For Selected Categories. BLS MXP.

# Service sector different from manufacturing/durable goods sector

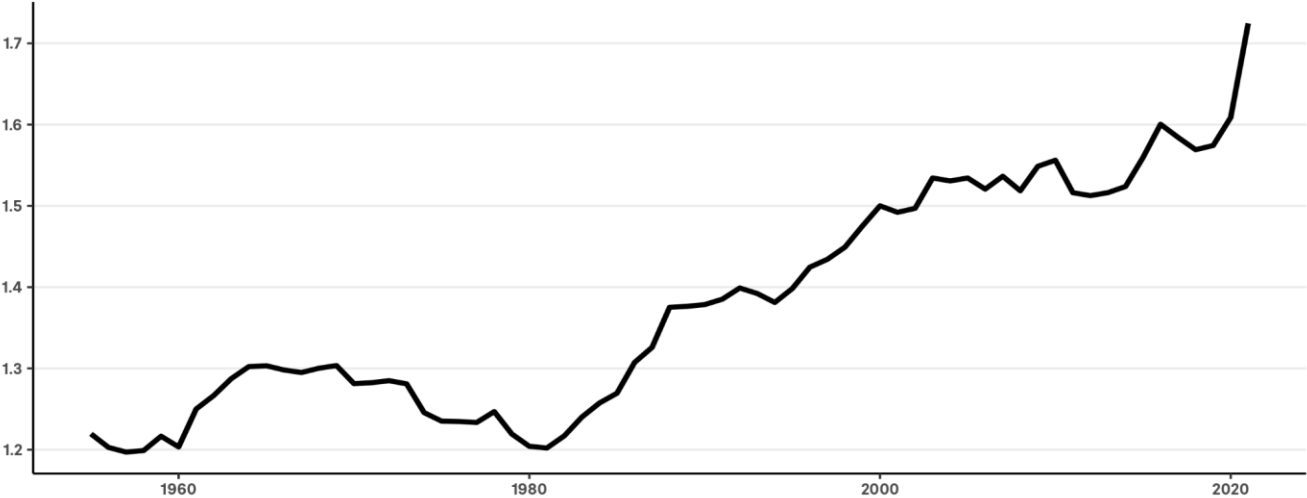
- Local market power—not well described by competitive model
- Price behavior markedly different
  - Durable goods prices surged, and then came down
  - Service sector prices have continued to increase
    - *Not* because of wage momentum—real wages declining through much of period
    - (Service sector is not always labor intensive—barber shop metaphor not a good one)
    - Has to do with market power
    - Changes in market power important change in economy
      - Helps explain differences in sectoral price movements in earlier bouts of inflation and today

# Economic theory predicts service sector will have higher inflation

- Customer market theory says greater uncertainty leads firms to value present over future—raise prices and lower real wages
- Raising interest rates *exacerbates problems*

# Aggregate Markups, 1955-2022

Revenues over cost of goods sold



Source: Konczal and Lusiani 2022.

## Corporate Profits, 2010-2022

(Billions of dollars)



Source: NIPA Table T61600D, Bureau of Economic Analysis.

# Sector shocks require sectoral responses

- Importance of macroeconomic externalities (the macroeconomic manifestations of the pecuniary externalities in the presence of market imperfections explored by Greenwald and Stiglitz (1986))
  - As in the Great Depression
  - Weaknesses in service sector would have been translated to weaknesses in other sectors
  - **Addressing sector bottlenecks that are inducing inflation also generates macroeconomic externalities**
    - Benefits of real supply side fiscal policy responses

## B. Distributional issues

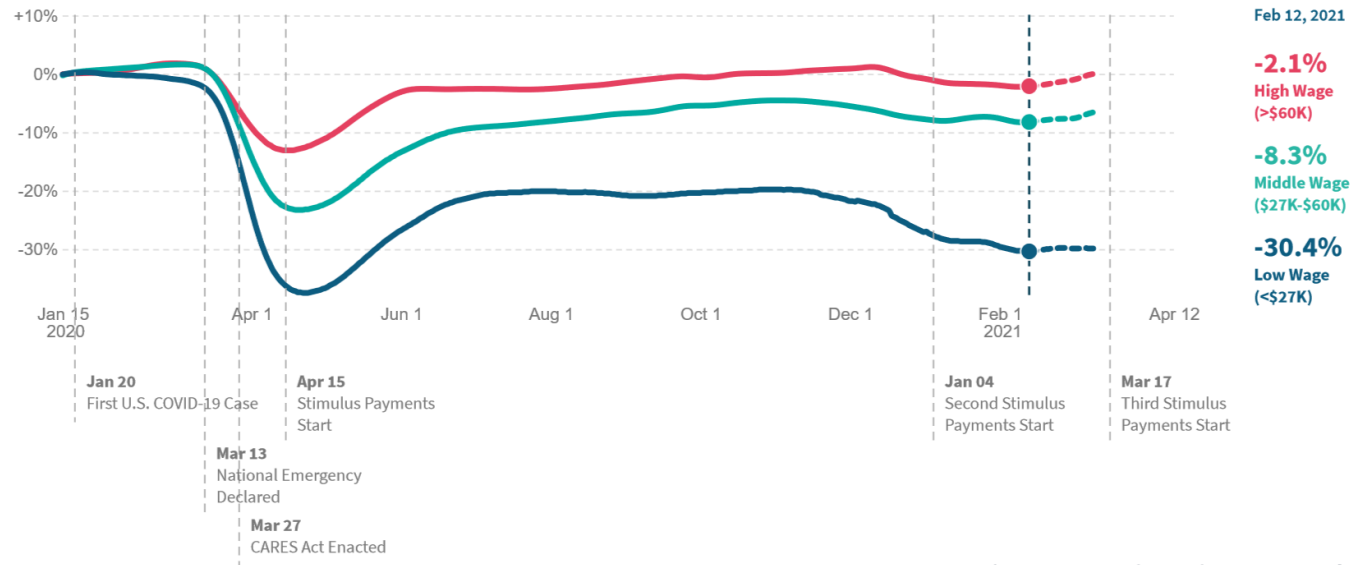
Covid-19 exposed and exacerbated inequalities in society

- Large differences in impacts
- Large differences in impacts of assistance—rich saved; poor spent (large differences in MPC)
  - Models that ignore this are leaving out something important
  - Targeting money on poor not only protecting the most vulnerable, but also most macro-economically effective
  - Should/could have done a better job (politics aside)(but if Trump had had his way, we would have done a much poorer job at targeting)
  - But the failure to target did not have adverse effects claimed by some (such as Summers)

# Economic Impacts of the Pandemic

## Percent Change in Employment\*

In the United States, as of February 12 2021, employment rates among workers in the bottom wage quartile decreased by 30.4% compared to January 2020 (not seasonally adjusted).



data source: Earnings, Intuit, Kronos, Paychex

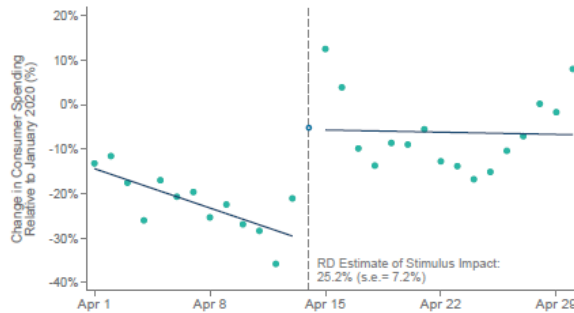
\*Change in employment rates (not seasonally adjusted), indexed to January 4-31, 2020. This series is based on payroll data from Paychex and Intuit, worker-level data on employment and earnings from Earnings, and timesheet data from Kronos. The dotted line is a prediction of employment rates based on Kronos and Paychex data.

last updated: April 12, 2021 next update expected: April 20, 2021

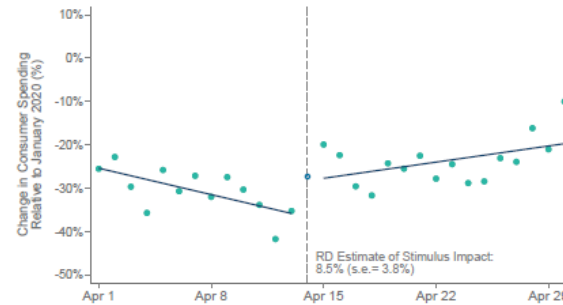


# Stimulus Checks April 15<sup>th</sup> RD

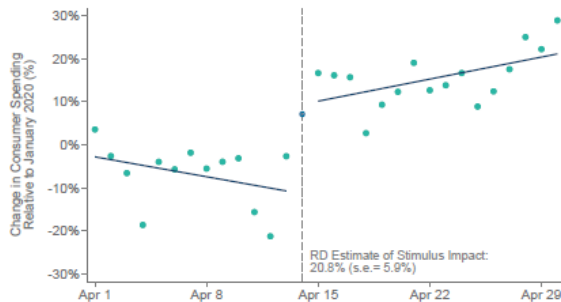
## A. Spending in Lowest Income Quartile ZIP Codes



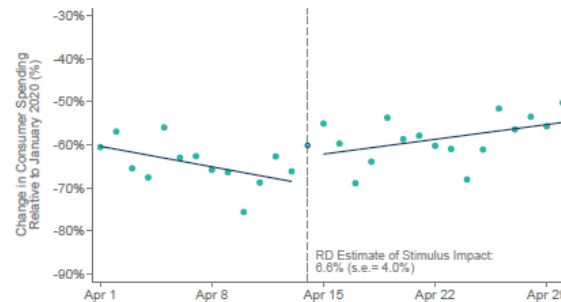
## B. Spending in Highest Income Quartile ZIP Codes



## C. Durable Goods Spending



## D. In-Person Services Spending



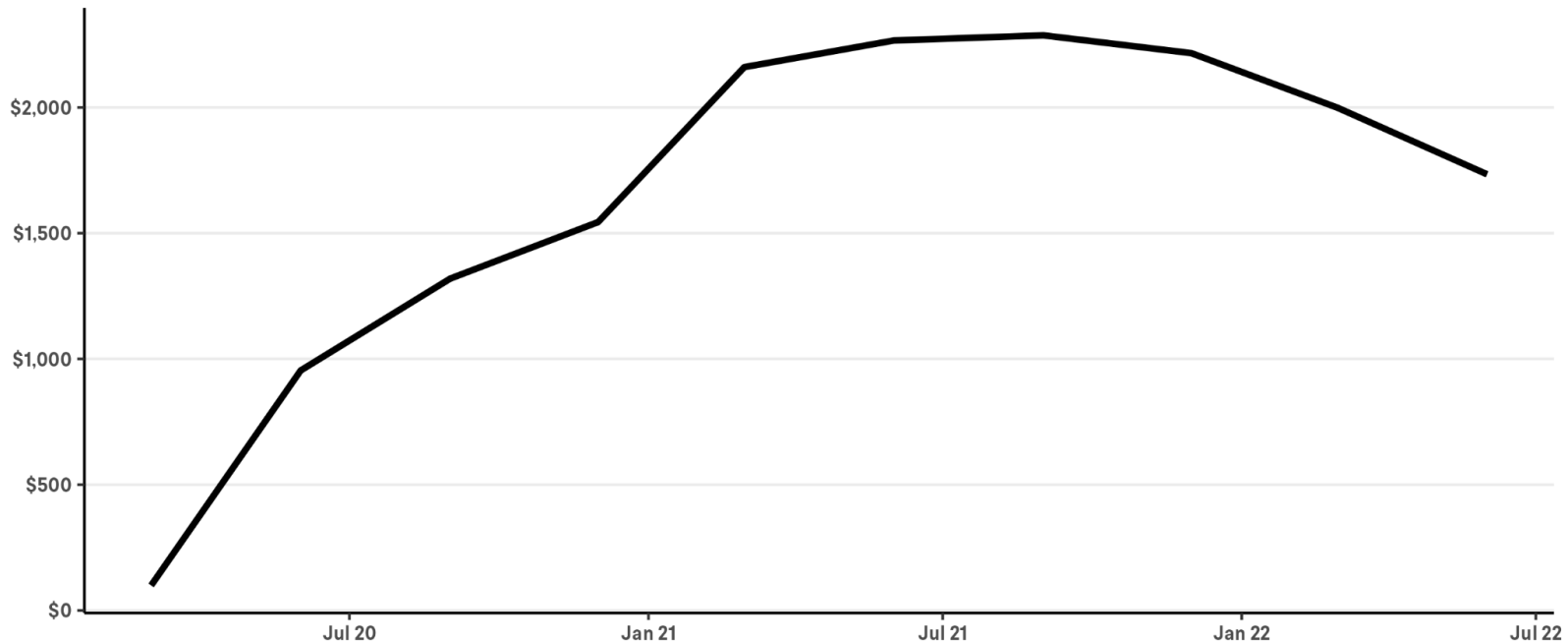
# High aggregate savings

- Not a surprise—given the level of uncertainty: precautionary savings among those who could sustain themselves (higher-income individuals)
- Needed to take that into account in deciding size of fiscal stimulus required to sustain economy
  - US did a better job than most others
  - High savings rate explains why high fiscal spending did not have inflationary effects

# Large increase in “excess savings” which have been spent down only gradually

## Stock of Excess Savings

(Billions of dollars, annual rate)

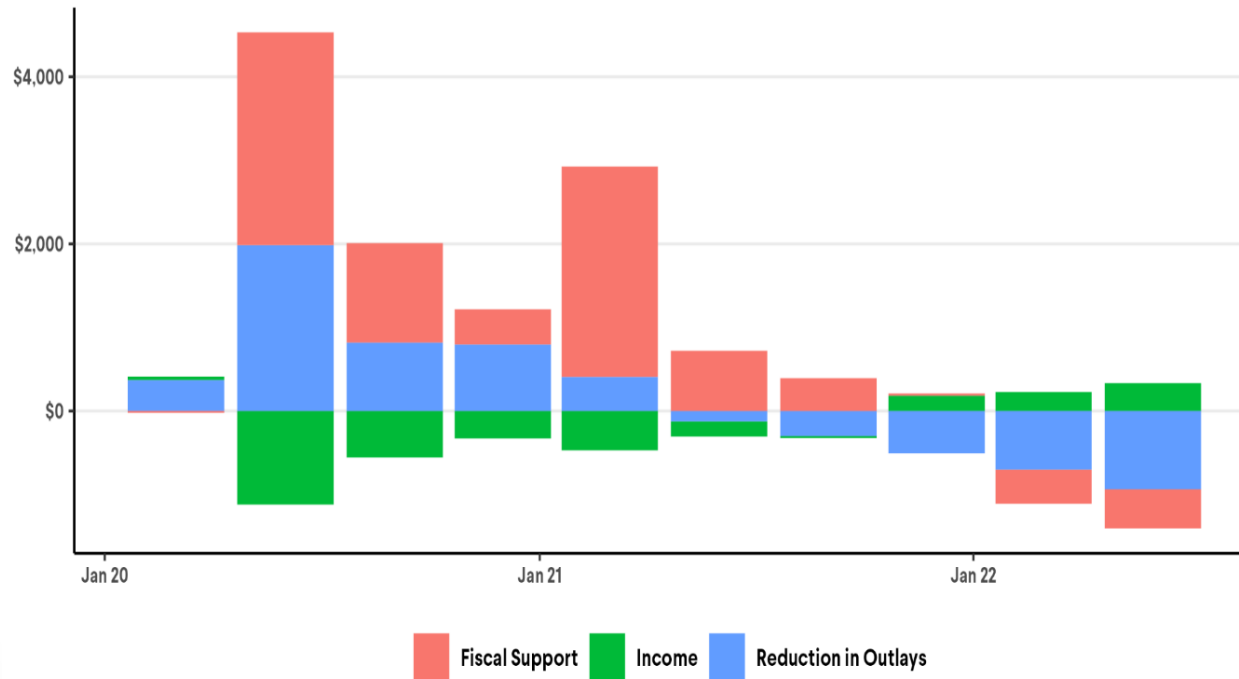


Source: Excess Savings during the COVID-19 Pandemic, Federal Reserve (Aladangady et al. 2022).

# Excess savings was also caused by reduction in outlays—precautionary savings

## Contribution to Excess Savings

(Billions of dollars, annual rate)

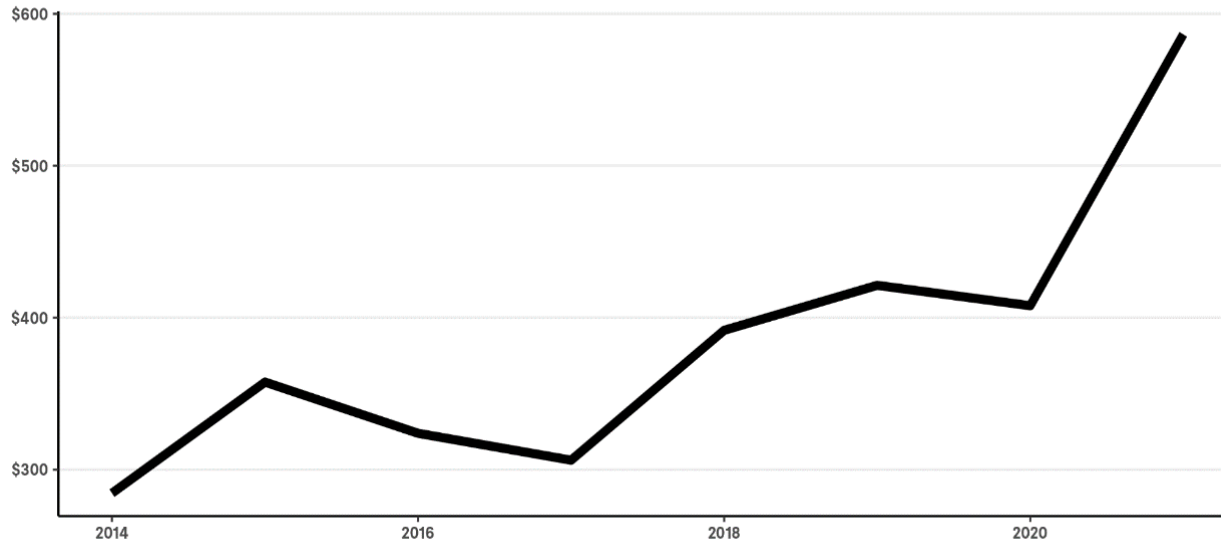


Source: Excess Savings during the COVID-19 Pandemic, Federal Reserve (Aladangady et al. 2022).

# And much of the draw-down was to pay taxes (high level of non-withholding)

## Payment of Non-Withheld Taxes Surged in 2021

(Billions of dollars)



Source: NIPA Table 3.4, Bureau of Economic Analysis. Authors' Analysis.

# Covid-19 enabled clean tests of other hypotheses

How important are labor supply effects (disincentives of UI)?

- Large variation in benefits across states provide clear inference
- Contrary to right-wing rhetoric, incentive effects were very low

But there were worries that large separations of individuals from firms might have longer-run adverse consequences

- Worries proved correct—has taken long time for labor force participation to return to more normal levels
  - But that is now happening
  - Need care in interpreting so-called shifts in Beveridge and Phillips curves—quit rates naturally higher when average duration in jobs is lower
- Europe, New Zealand, others did a much better job in keeping workers attached to firms (keeping unemployment rate low)
  - Further benefits in administration
  - Because so many rely on employer-provided health insurance, it was even more important to keep workers attached to firms in US

# Distributional issues in recovery—assessing future inflationary pressures

- Fall in US aggregate savings rate suggests US is once again on an unsustainable course
  - Bottom part of income distribution seems to be consuming more than 100% of income—without the “housing” piggy bank of earlier years
  - Beginning reports of credit stress

## C. Deep uncertainty

- There were unprecedented shocks
  - Can't use stationary stochastic processes—distinction between risk and uncertainty
  - Uncertainty key—not intertemporal substitution
    - With large precautionary savings



# Responding to unprecedented shocks

- Even though unprecedented, we do know something
  - If there is high unemployment, fiscal policy likely to work
  - Automatic stabilizers can be very effective
- Challenge to identify idiosyncratic aspects of shock, transitory vs. permanent effects, if transitory, how long the effects will last
- Key failure of central banks was not acting too slowly, but not realizing that this inflation was not due to excess aggregate demand
  - May have made matters worse

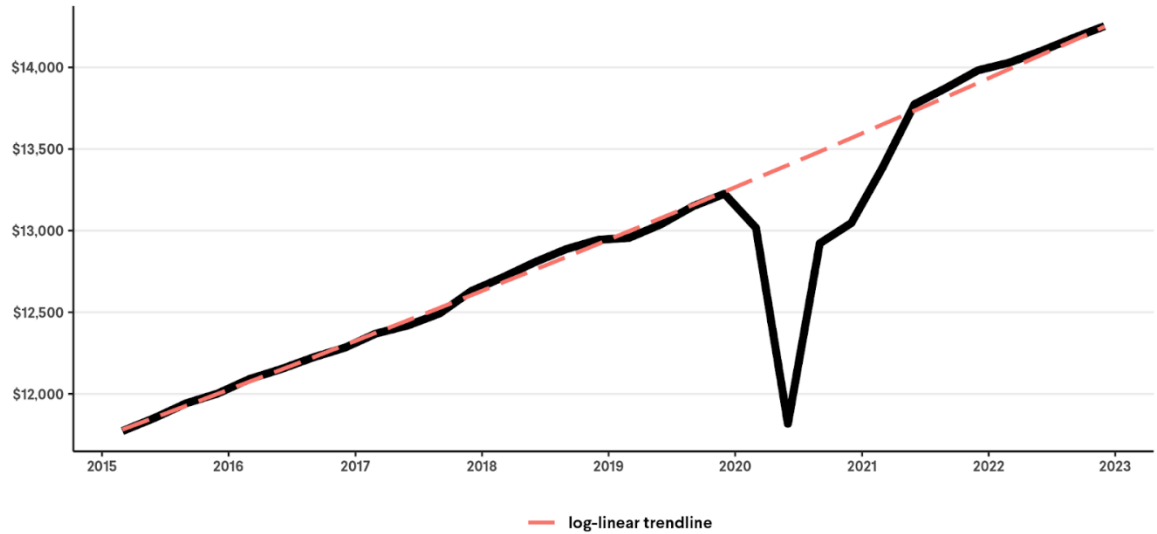
# Inflation not caused by excess demand, or even excess consumption caused by excess pandemic support

- Each of the major components of aggregate demand (including consumption) was below trend
- So that aggregate demand remained below trend and below potential output
- Large accumulation of inventories typically *not* a sign of excess aggregate demand
- US had largest fiscal stimulus, but its inflation is not that much higher than that of other countries, and can be accounted for by other factors

Excess  
consumption  
was not the  
problem

### Consumption is Largely below Trend

Real personal consumption expenditures (billions of chained 2012 dollars)

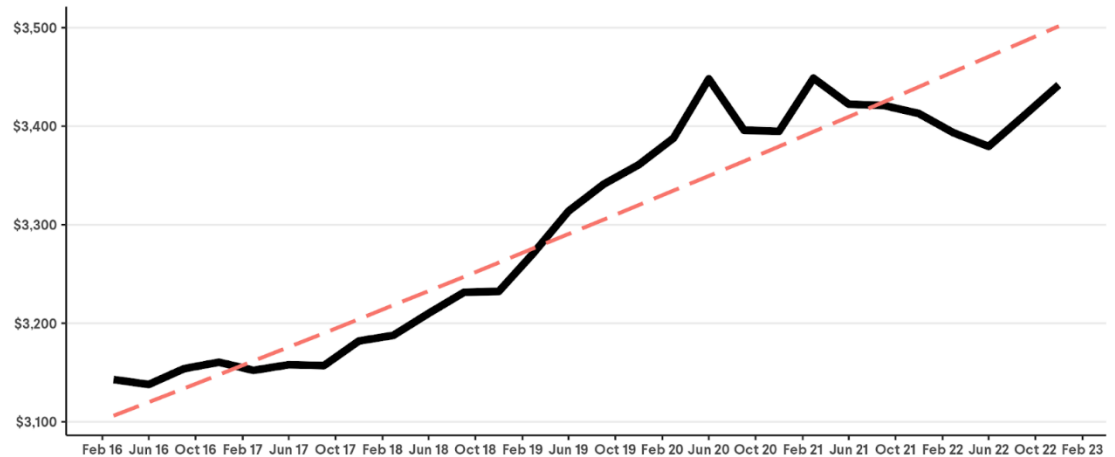


Source: NIPA Table T10106, Bureau of Economic Analysis. Authors' Analysis.

Real  
Government  
Expenditure  
Below Trend

### Real Government Expenditure Rose in Q4 2022

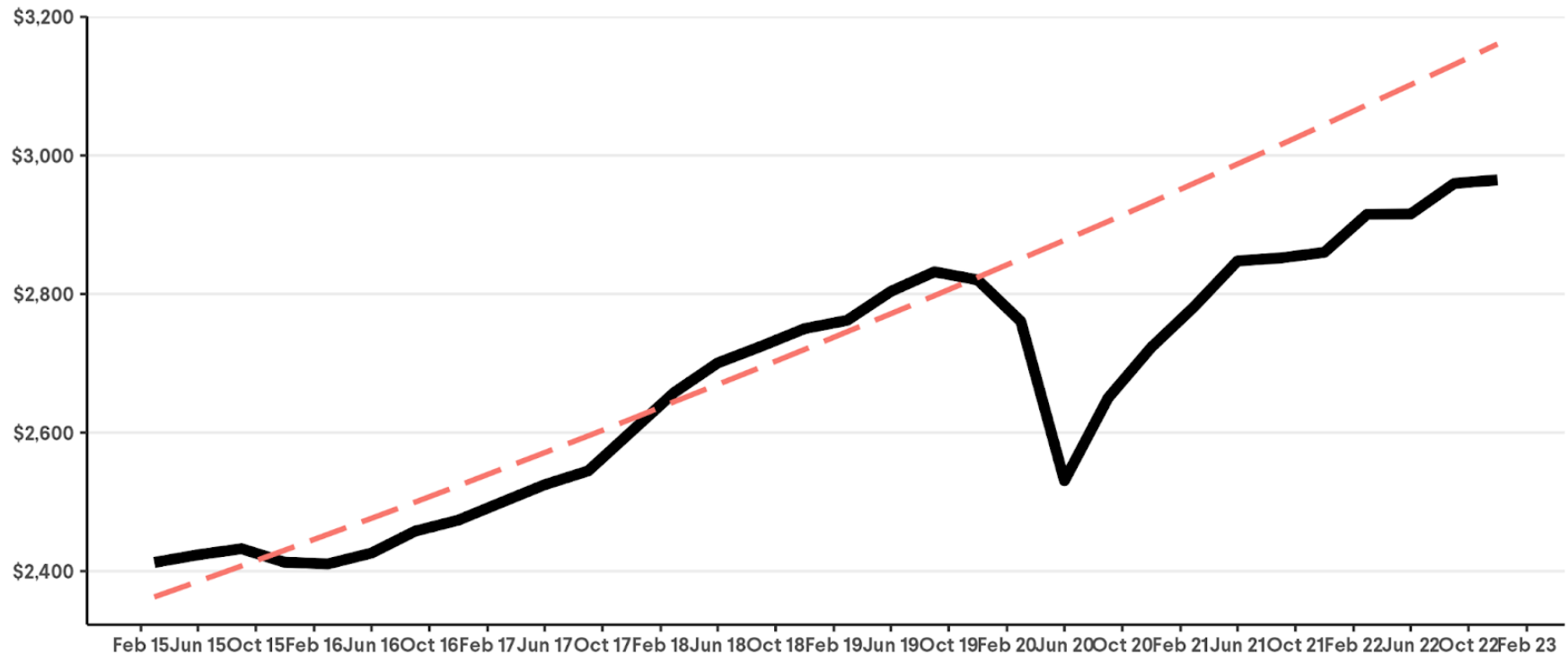
Real government consumption expenditures and gross investment, excluding transfers (billions of chained 2012 dollars)



Source: NIPA Table T30906, Bureau of Economic Analysis. Authors' Analysis.

# Investment in plants and equipment is below trend

Private nonresidential fixed investment (billions of chained 2012 dollars)

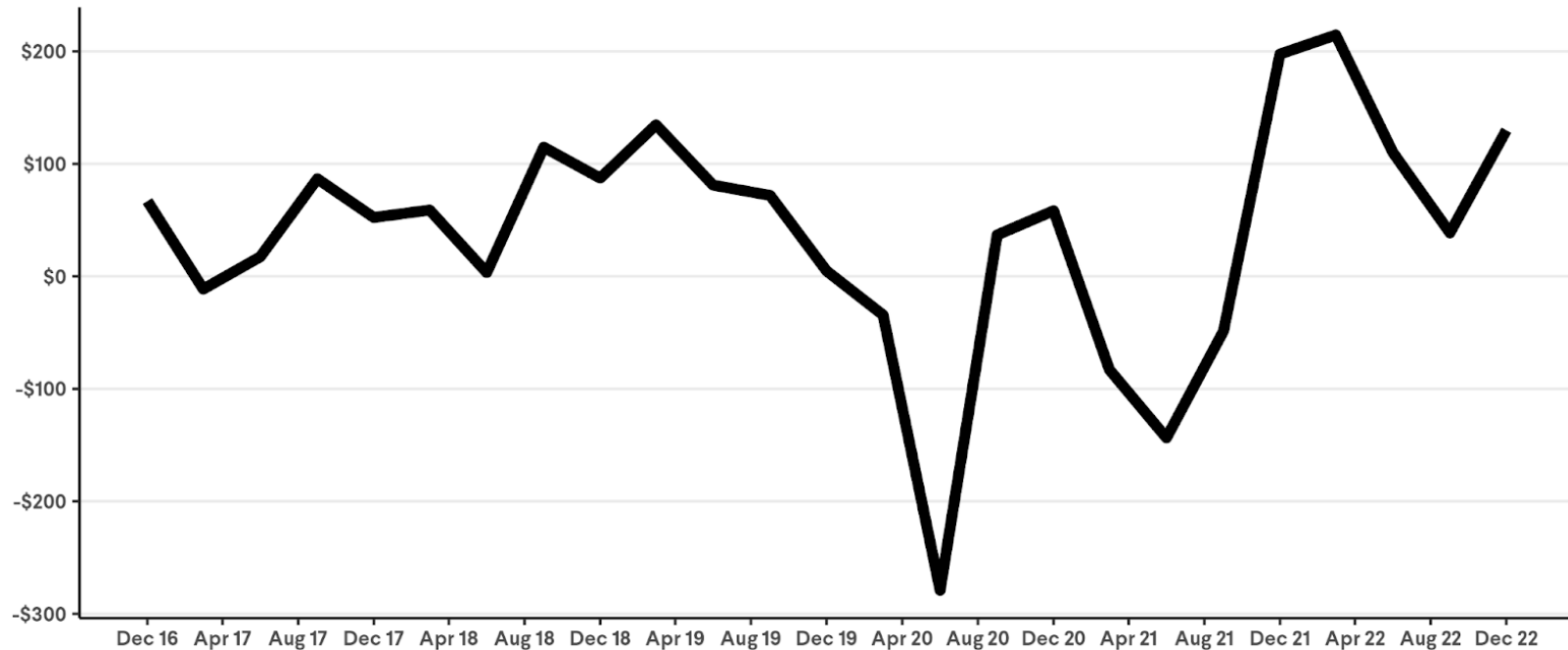


Source: NIPA Table T10106, Bureau of Economic Analysis. Authors' Analysis.

# Large inventory accumulation sign of weak aggregate demand

## Inventory Accumulation Increased in Q4 2022

Change in private inventories (billions of chained 2012 dollars)

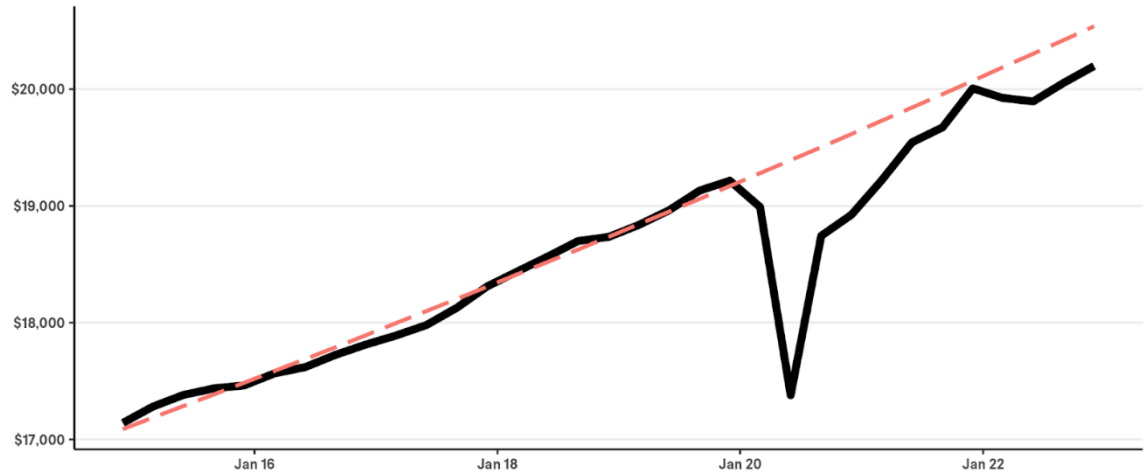


Source: NIPA Table T10106, Bureau of Economic Analysis.

Total Real  
Aggregate  
demand  
below trend

### Real GDP Is Still below Trend

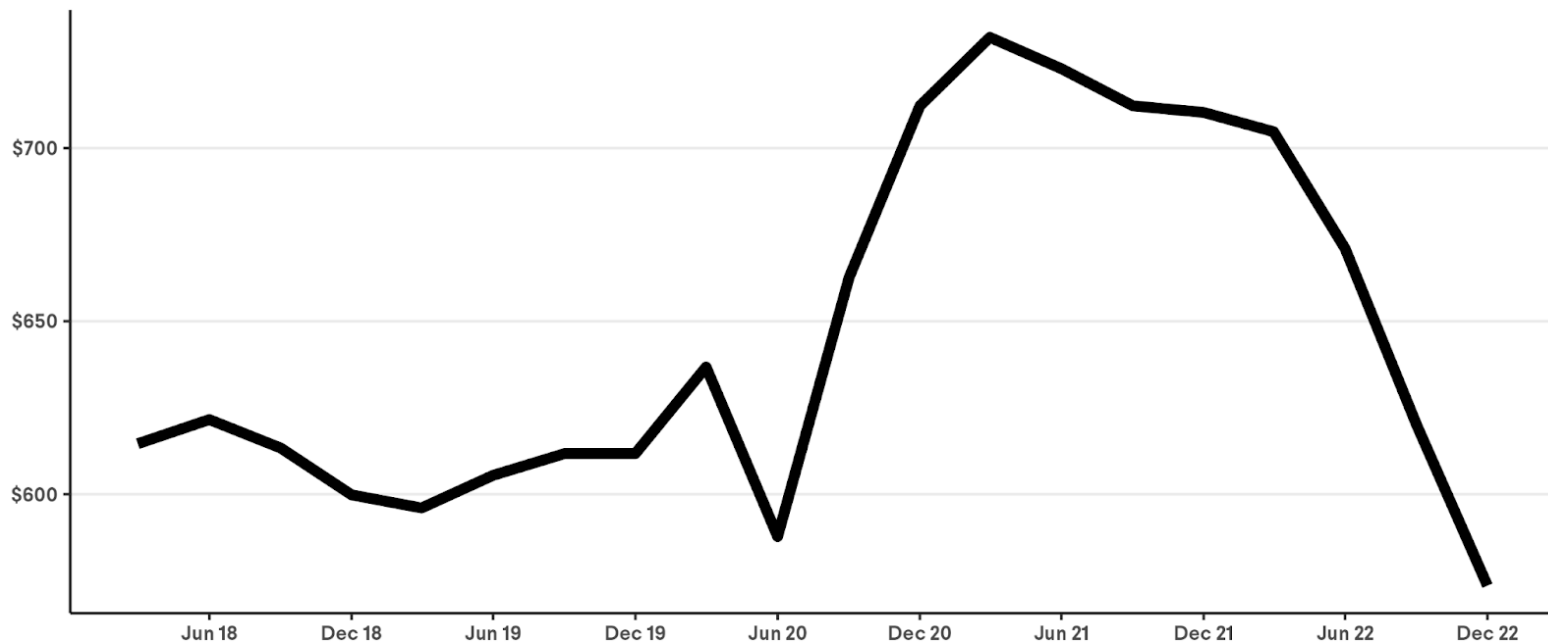
(Billions of chained 2012 dollars)



Source: NIPA Table T10106, Bureau of Economic Analysis. Authors' Analysis.

## Residential Investment Continues to Plummet

Gross private domestic investment: Residential (billions of chained 2012 dollars)



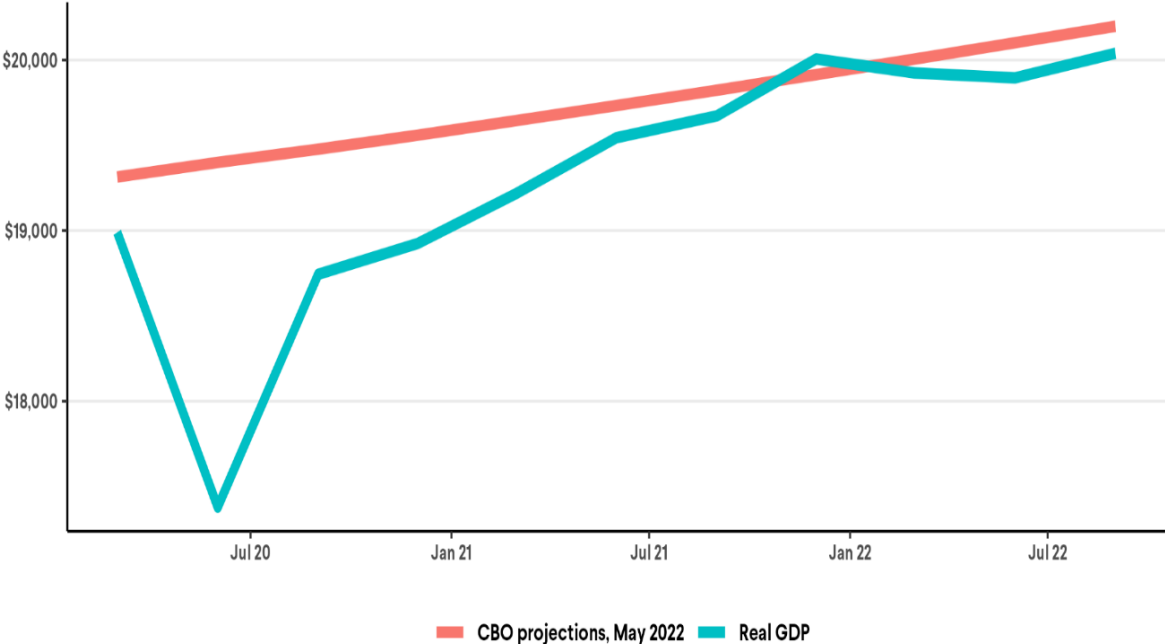
Source: NIPA Table T10106, Bureau of Economic Analysis.



# Real Aggregate Demand below CBO estimate of potential output

## Actual GDP Is Mostly below Recent Potential Estimate

(Billions of chained 2012 dollars)

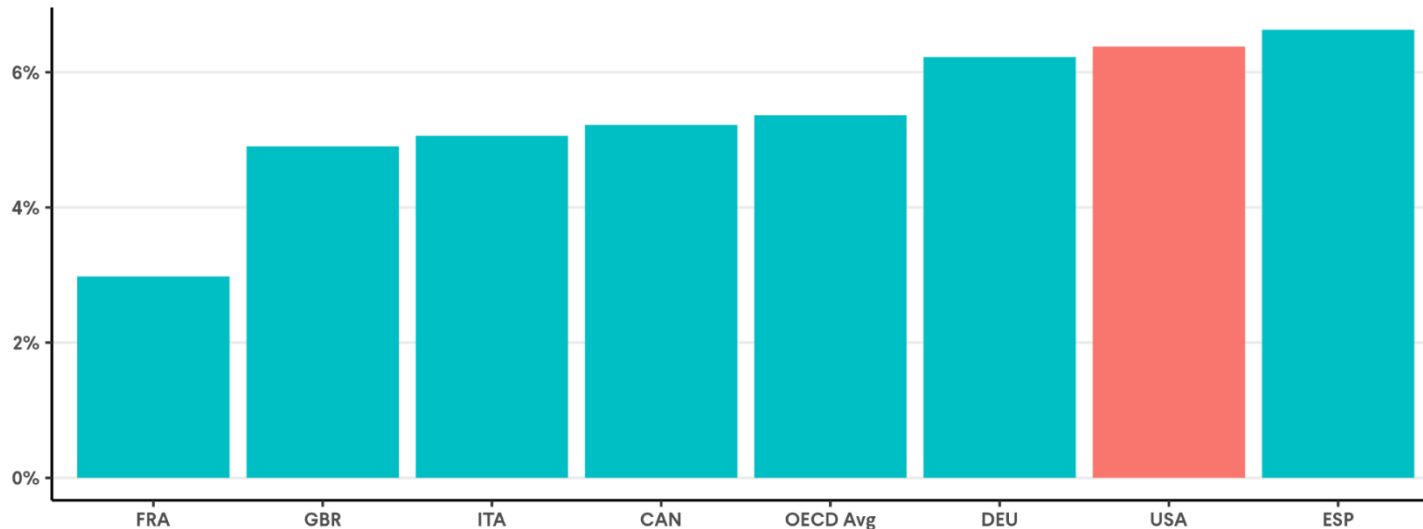


Source: NIPA Table T10106, Bureau of Economic Analysis and CBO.

# Increase in US inflation only slightly higher than other advanced countries

## Increase in Total Inflation (Pre- And Post- Pandemic)

OECD data on annual growth rate of consumer price index



Turkey as an outlier was dropped from OECD average. Change in inflation is determined by calculating the annualized rate of change in CPI from (Dec 2020 to May 2022) and subtracting that from the annualized rate of inflation from December 2017 to December 2019.

# Multiple differences in policies

- Much higher pandemic spending
- Much worse pandemic labor policies (higher unemployment rate)
- Much worse working conditions and job protections
- Much poorer health policies

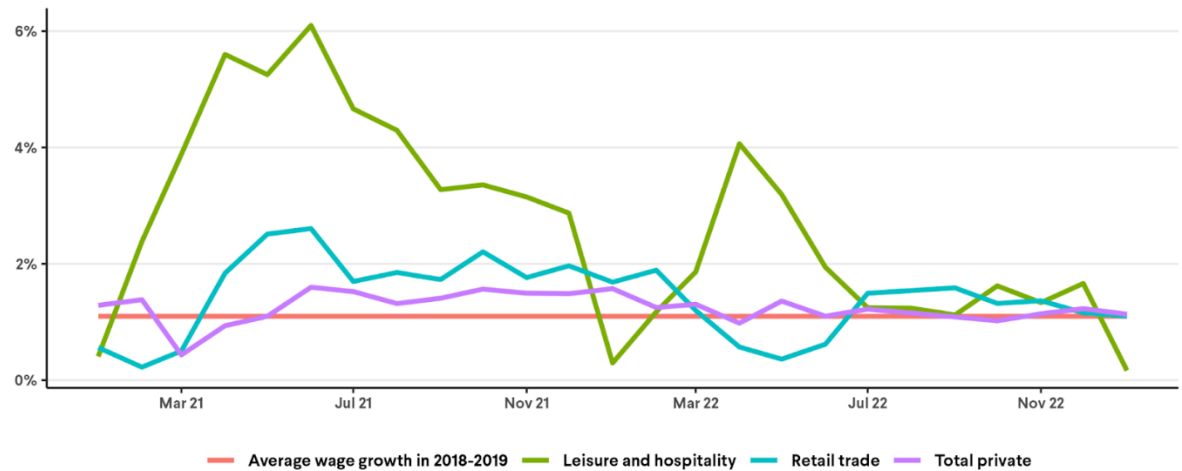
# The labor market and a wage price spiral?

- Wage adjustments initially focused on sectors with very low wages—a “normalization”; this now seems over
- Key issue: How transitory vs. how permanent is shift in Phillips curve and Beveridge curve?
  - Large transitory effects in US: high levels of separation; individuals in new jobs have higher quit rates
  - We’ve already returned large way towards pre-pandemic patterns
- Wages not keeping up with prices—not a sign of tight labor market; in any case, no evidence of out-of-control wage price spiral
  - Limited bargaining power of workers
- Wages can and should increase at pace faster than is in long run sustainable
  - To increase real wages
  - **Mark-ups can and should decrease**

Short-run  
correction in  
low wages in  
some sectors

### Average Hourly Earnings, Three-Month Percent Change

Production and nonsupervisory employees, seasonally adjusted

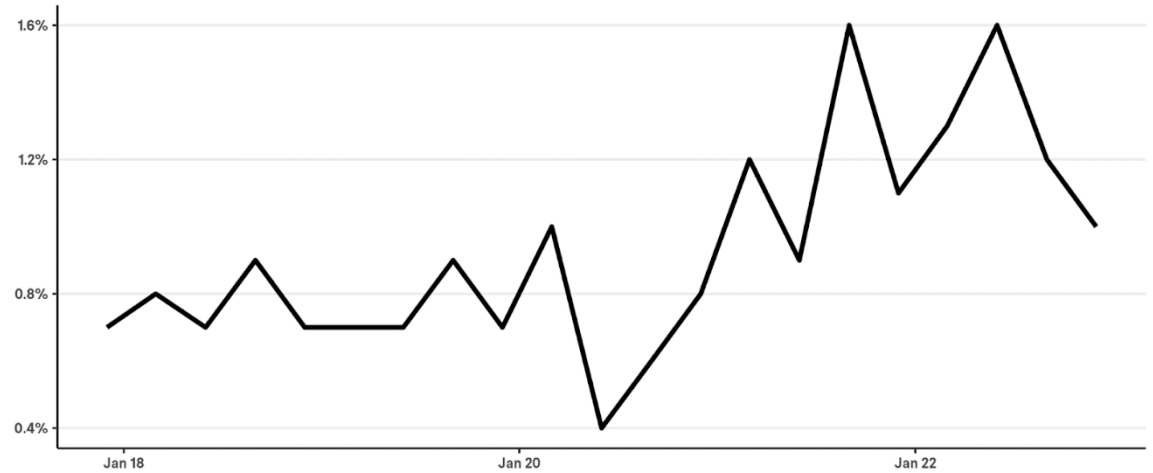


Source: Bureau of Labor Statistics, Authors' Analysis.

# Salaries of Private Workers

## Wages and Salaries for Private Workers, All Industries and Occupations

Employment Cost Index, 3-month percent change, seasonally adjusted



Source: Bureau of Labor Statistics, Authors' Analysis.

# Picture today

- Inflation is being tamed, as pandemic and its effects weaken
  - Bottlenecks being resolved
  - Disinflationary forces at play (oil, cars, etc.) as sectoral prices normalize
- Inflationary expectations remain tame
  - Though models where inflationary expectations play central role are not very persuasive for economies where inflation rates are as low as they have been in US and Europe (highly ad hoc)
- Inflation has seeped into core, there is some price-price inflation, and overall disinflationary process may be slow
  - 2% target totally arbitrary, time to get to target even more arbitrary
  - And cost of getting there quickly may be very high
  - With asymmetries in adjustment (downward rigidities), higher inflation facilitates resource reallocation when (as now) there is need for large structural adjustments

# Why monetary policy is not the right instrument

- Problem not caused by excess of aggregate demand
- Monetary policy doesn't address underlying source of problem—won't resolve supply bottlenecks
  - Would need sectoral credit allocation policies
- May make matters worse
  - Will discourage investment required to resolve them
  - In “customer markets” (Phelps/Winter/Greenwald/Stiglitz) increases in interest rates induce firms to raise prices
  - Some evidence that higher interest rates get passed on in rents
    - Peculiar policy to respond to inflation where housing costs are key by shutting down investment in housing!



# Monetary policy increases inequality

- Increased unemployment
  - Hitting hardest at marginalized groups
  - Significant hysteresis effects
- Globally even more adverse
  - New form of “beggar-thy-neighbor policy”
  - Recessions in Europe, elsewhere will be worse
  - Global debt crisis
    - Increased value of dollar
    - Higher interest rates
    - Slower global growth

# Further problems with monetary policy

- Blunt instrument
- With long and variable lags
- Making it particularly inappropriate in an environment with high uncertainty
- Large financial disruptions—changes in prices of assets
  - Effects now being felt

# There are alternative policies

- Real supply side policies
  - Increasing green energy
  - Increasing food production
  - Increasing labor supply
    - Better childcare, family leave policies
    - Increased wages
    - Immigration reform
  - Stronger and better enforced anti-trust policies
  - In Europe, revisiting policies for pricing electricity
    - Model particularly poorly suited for war-time, with large distributive effects, limited allocative effects
- Better protective policies, partially financed by windfall profits tax
  - Can be designed to discourage price increases
- These policies have long-term benefits, even if inflation turns out to be more transitory than seems to be the case now

# Some references

- D. Delli Gatti, M. Gallegati, B. Greenwald, A. Russo and J. E. Stiglitz, “Mobility Constraints, Productivity Trends, and Extended Crises,” *Journal of Economic Behavior & Organization*, 83(3): 375–393
- B. Greenwald and J. E. Stiglitz, “Externalities in Economies with Imperfect Information and Incomplete Markets,” *Quarterly Journal of Economics*, Vol. 101, No. 2, May 1986, pp. 229-264.
- M. Guzman and J. E. Stiglitz, "Towards a dynamic disequilibrium theory with randomness." *Oxford Review of Economic Policy* 36, no. 3 (2020): 621-674.
- Guzman, Martin, and Joseph E. Stiglitz. “The Pandemic Economic Crisis, Precautionary Behavior, and Mobility Constraints: An Application of the Dynamic Disequilibrium Model with Randomness,” *Industrial and Corporate Change*, Vol. 30, Issue 2, pp. 467–497, April 2021.
- Peter R. Orszag, Robert E. Rubin, and J. E. Stiglitz. “Fiscal Resiliency in a Deeply Uncertain World: The Role of Semiautonomous Discretion,” Peterson Institute for International Economics Policy Brief 21-2, January, 2021. Accessible at: <https://www.piie.com/publications/policy-briefs/fiscal-resiliency-deeply-uncertain-world-role-semiautonomous-discretion>
- J. E. Stiglitz and Bruce Greenwald, *Towards a New Paradigm in Monetary Economics*, Cambridge: Cambridge University Press, 2003.
- J. E. Stiglitz and Ira Regmi, “The Causes of and Responses to Today’s Inflation”, Roosevelt Institute Working Paper, 2023