

FESAC - Measuring and Presenting Inflation

Fiona Greig, June 2023

The stakes for timely inflation measures couldn't be higher.

Fed Confronts Why It May Have Acted Too Slowly on Inflation

Central bankers have been asking whether they should have reacted faster to rising inflation last year — and are learning from the recent past.

Jeanna Smialek
May 10, 2022 NYTimes

Recession Fears Abound, but the Fed Chair Bets This Time Is Different

Jerome H. Powell, the Federal Reserve chair, thinks his central bank can defy history to clinch slower inflation and a soft economic landing.

Jeanna Smialek
May 4, 2023 NYTimes

But setting policy correctly is an economic tightrope act.

Policymakers think that it is paramount to act decisively enough to quickly bring inflation under control — if it is allowed to persist too long, families and businesses could come to expect steadily rising prices. They might then adjust their behavior, asking for bigger raises and normalizing regular price increases. That would make inflation even harder to stamp out.

On the other hand, officials do not want to cool the economy too much, causing a painful recession that proves more punishing than was necessary to return inflation to normal.

Challenges with current measurement

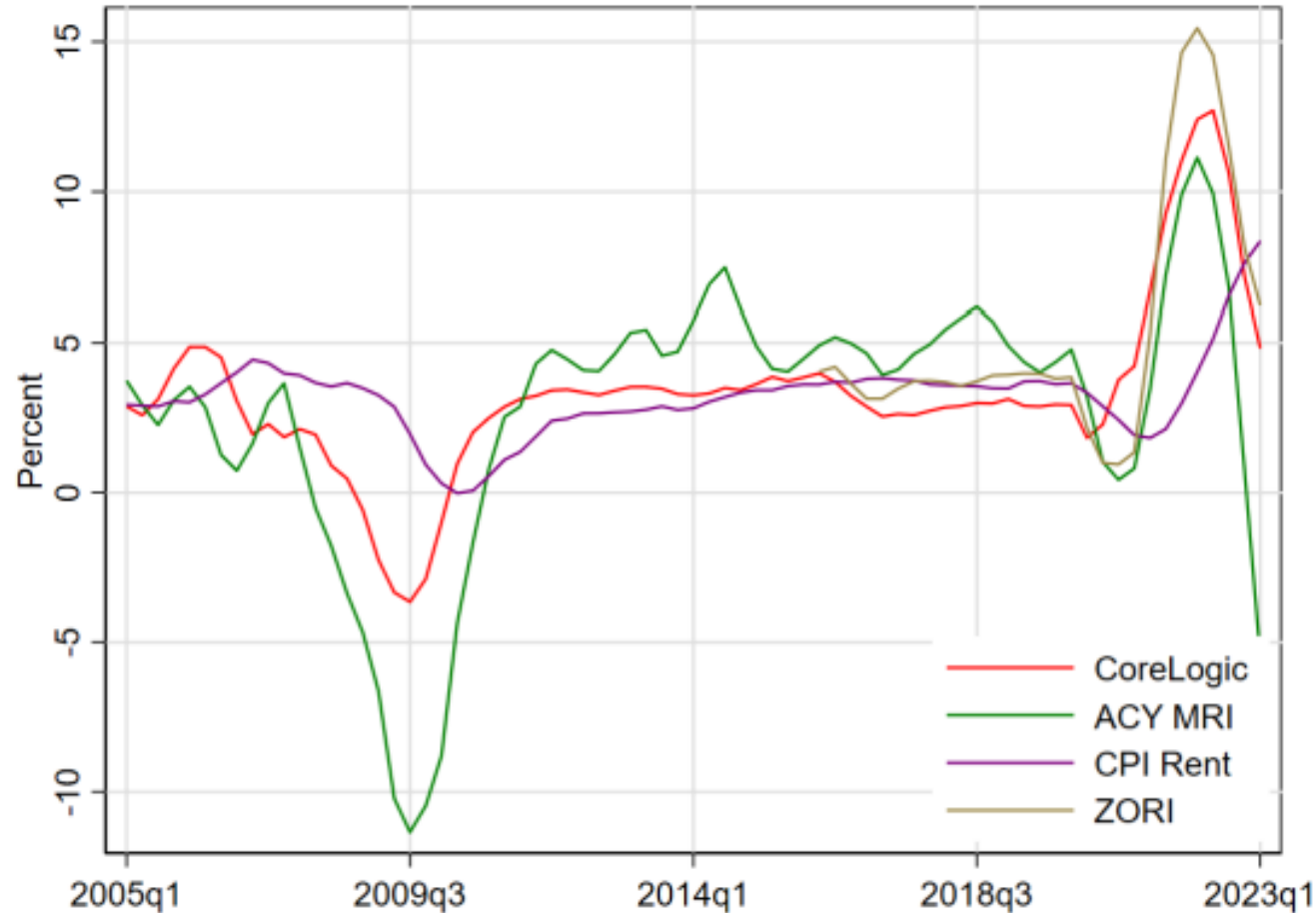
1. Timeliness, especially during high inflation times.

- Example: CPI is a mid-month measure, that doesn't capture changes within the month.

2. Different measures give different readings, some more volatile or forward-looking than others.

- Flexible versus sticky prices (e.g. food and energy vs. services)
- Stocks versus flows (e.g. rental prices for all vs new leases)

Private sector data can help with more forward-looking measures, e.g. rent for new leases



CPI Rent: Measuring either something different, or possibly be the same as the other 3 measures but with a huge lag and less amplitude.

- Rent for all leases

CoreLogic, ACY MRI, ZORI: Similar trends, but different amplitudes.

- Rent for new leases

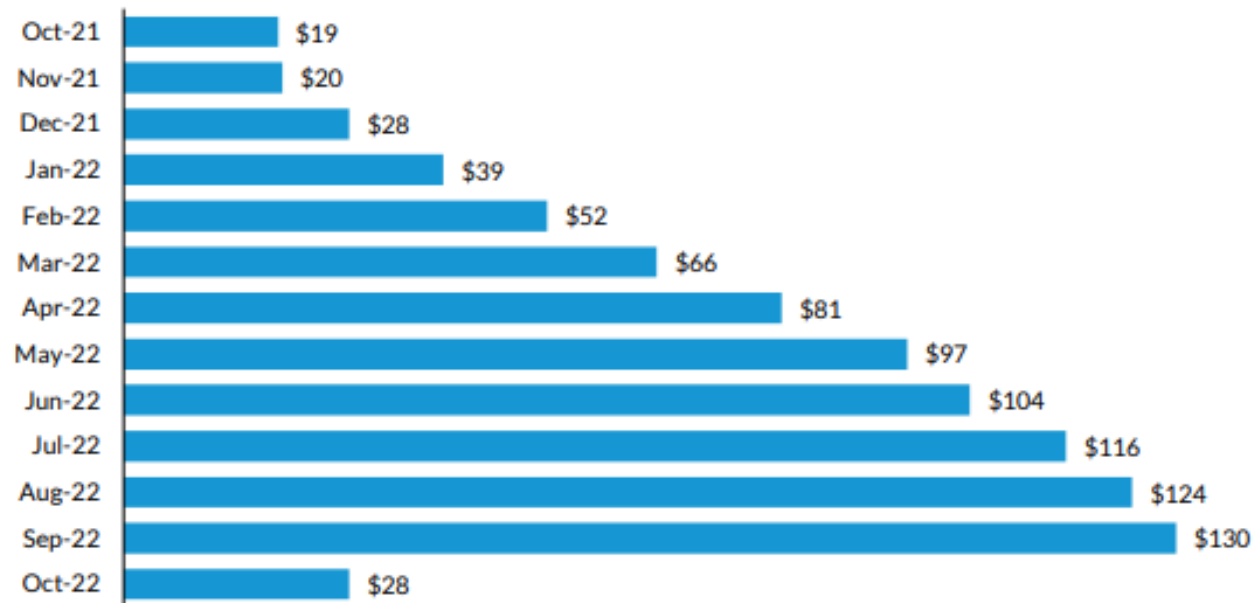
Back to basics: Key policy uses of inflation measures

1. Measure inflationary pressures to **inform monetary policy** – when to pause rate hikes
 - Need to distinguish **transitory versus persistent** inflation so as not to overreact to short-term fluctuations.
2. Measure changes in **household purchasing power and consumer welfare**.
 - Informs **inflationary adjustments for key social assistance programs** and policies, e.g. social security, TANF, EITC, HUD housing vouchers
 - Informs **COLA increases** of many sorts in public sector pay
 - **Minimum wage levels** in 19 states and DC

In practice, adjustments are typically once a year based on a lagged inflation reading.

In an inflationary environment, SNAP benefits literally never keep pace with food prices

Monthly Supplemental Nutrition Assistance Program Inflation Deficit, Family of Four



URBAN INSTITUTE

Source: Authors' calculations based on maximum Supplemental Nutrition Assistance Program monthly benefit for a family of four and monthly Thrifty Food Plan data in states without emergency allotments. "Supplemental Nutrition Assistance Program (SNAP) Fiscal Year (FY) 2022 Maximum Allotments and Deductions," US Department of Agriculture, last updated October 1, 2021, <https://fns-prod.azureedge.us/sites/default/files/media/file/FY22-Maximum-Allotments-Deductions.pdf>; "USDA Food Plans: Cost of Food Reports (Monthly Reports)," US Department of Agriculture, Last updated April 20, 2022, <https://www.fns.usda.gov/cnpp/usda-food-plans-cost-food-reports-monthly-reports>.

SNAP benefits are adjusted each October based on change in food prices over the 12 month period ending in June of the prior year.

Another private sector source: Fiserv card spending data (credit, debit, gift cards)

Advantages:

- Real time, high frequency, full month spending
- Very large data, aggregating across financial institutions

Disadvantages:

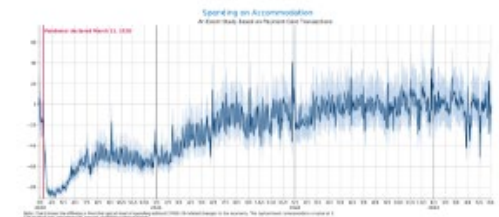
- Spending ($p \cdot q$) not prices (p) alone.
- Merchant- not good-level data. Maybe ok, e.g. gas station?
- Survival bias – only capture spending at merchants that still operate
- Channel bias and switching – slow moving, except during the pandemic.

Daily Spending by Industry

These estimates were last updated on June 7, 2023.



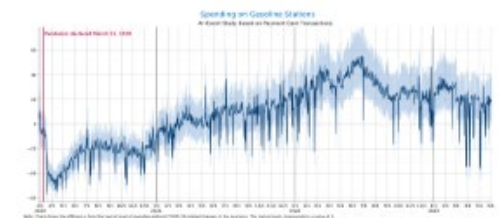
Spending on Food Services and Drinking Places



Spending on Accommodation



Spending at Clothing and Clothing Accessories Stores



Spending on Gasoline Stations



Spending on Food and Beverages



Spending on Ambulatory Health Care Services

Spending at gas stations captures demand and substitution effects of fuel price changes.

Research question: What was the [MPC out of lower gas prices in 2015 compared to 2014?](#)

EIA: Gas prices were **25% lower** in 2015 than 2014.

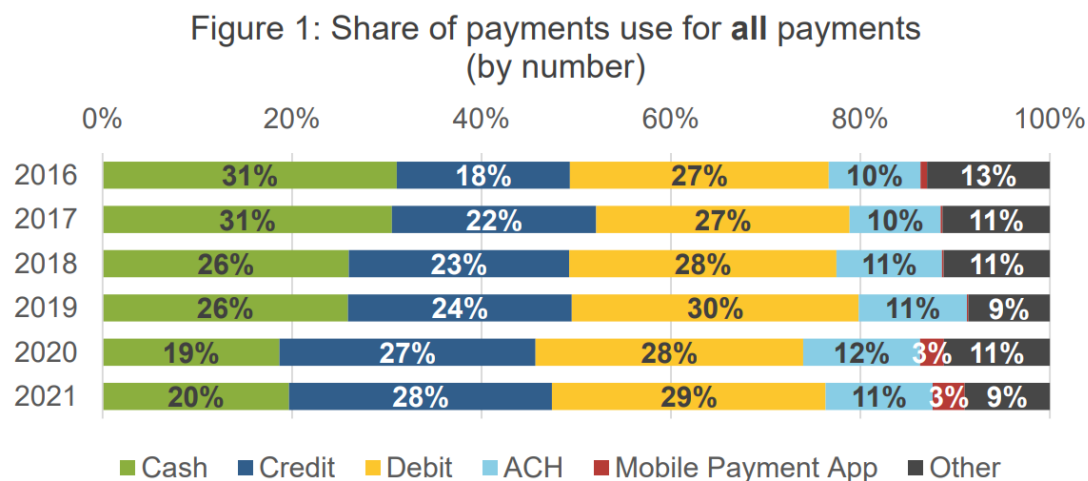
Chase data: Spending at gas stations was only **19% lower** in 2015.

Why?

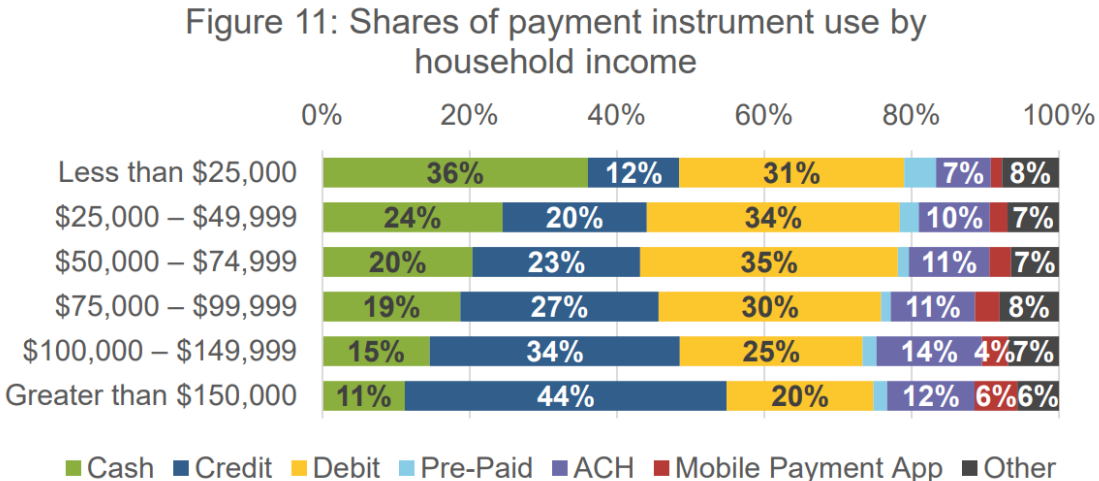
1. There was variation in prices changes and sample bias across **geography** (*more easily resolved*).
 - ✓ Chase footprint more heavily weighted coasts where fuel prices dropped less than Midwest and South.
2. People bought **more gas** (drove more) when prices were low.
 - ✓ Vehicle miles traveled increased 3.5% in 2015 (US DOT, 2015).
3. People switched to **higher quality gas** when prices were low.
 - ✓ People switched to less expensive gas when gas prices increased (Hastings and Shapiro, 2013)
4. People purchased **more coke** at the convenient store.
 - ✓ Share of customers that went inside the store after fueling up increased from 35% to 41% (National Association of Convenience Stores, 2015 & 2016)

Channel effects are non-trivial and bias the lens.

Card usage accelerated during the pandemic...



... and favors higher-income consumers.



Source: Cubides, Emily and Shaun O'Brien. [2022 Findings from the Diary of Consumer Payment Choice](#). Federal Reserve Bank of San Francisco.

Conclusions

- 1. Alternative measures are valuable as a nice complement.**
They can teach us something new – earlier signal of the rate of change, the *acceleration in inflation*.
- 2. Hard but valuable to deconstruct and statistically account for the differences in measures. Bravo BLS.**