Discussion of "Inflation surprises and equity returns" by Antonio Gil de Rubio Cruz & Emilio Osambela & Berardino Palazzo & Francisco Palomino & Gustavo Suarez

Adam Zhang
University of Minnesota

SFS Cavalcade North America 2024

Is stock a hedge against inflation?

Does stock return move one for one with expected inflation and inflation surprises?

- expected inflation shows up in nominal discount rate
- stock is a real asset whose payouts should move with inflation
- real interest rate and risk premia might also change...

What does the data say?

- expected inflation
  - nominal rigidities in tax code (Leombroni-Schneider-Piazzesi-Rogers 2020)
  - nominal ridigities in firm leverage and cashflow (Bhamra-Dorion-Jeanneret-Weber 2023)
  - (suggestive empirical evidence): negative before 2000, positive after 2000
- inflation surprises
  - VAR: negative in the time series
  - this paper

Methodology

- high frequency identification around BLS announcement window
- challenge: market not open at announcement time $\implies$ use futures price of S&P 500

Figure 2. This timeline describes the periods of various returns calculated around an inflation announcement.
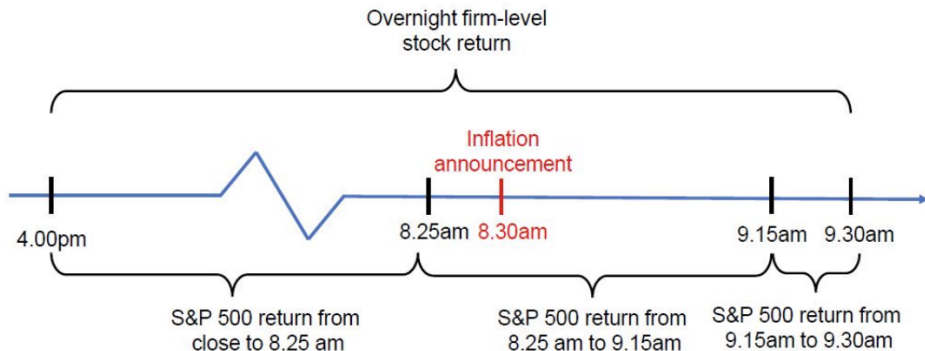
Key findings

- stock price responses are robustly negative
- more so in sectors with less frequent price adjustment
- responses are time varying: tend to be less negative even positive during recessions
- reaction related to firm characteristics: leverage, size, market beta, etc
- might be due to expectations on monetary policy

Discussion

- strategy well executed
- paper is polished and well-written
- comprehensive checks and robustness

recommended to anyone interested! Comments:

- mechanism
- identification

A little structure

How do we make sense of the results?

- current explanation: regress stock returns on 2-year treasury yield, proxy for monetary policy
- but also show heterogeneous responses by frequency of price adjustment by sector

Stock price as discounted cash-flows

- pass-through of inflation innovations to expected inflation
  - slow and incomplete, at least in the cross section (Katz-Lustig-Nielsen 2016)
  - nominal discount rate slow to update

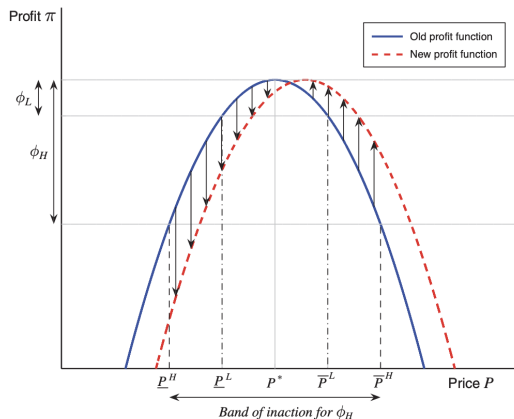 $\implies$ heavy actions on the cash-flows

- alternative explanation: nominal rigidities in the product market

A little structure

Gorodnichenko-Weber 2016: heterogeneous menu cost of price adjustment in NK model

- full dynamic model in the paper but here just a static toy model for illustration
- profit $\pi_i \equiv \pi(P_i, P^*) = \pi_{\max} - \psi(P_i - P^*)^2$
- menu cost ϕ_L and ϕ_H
- inaction region: $(\underline{P}_L, \overline{P}_L)$ and $(\underline{P}_H, \bar{P}_H)$

A little structure

Profit π

Old profit function
New profit function

ϕ_L

ϕ_H

$\underline{P}^H$ $\underline{P}^L$ P^* $\overline{P}^L$ $\overline{P}^H$ Price P

Band of inaction for ϕ_H

- average stock price can go up or down depending on distribution of firms
- time-varying responses: expansions vs. recessions
- $(\Delta \pi_i)^2 = b_1 \times v^2 + b_2 \times v^2 \times \lambda(\phi_i) + b_3 \times \lambda(\phi_i) +$ error $_i$

Comment: control for real earnings surprises

identification assumption: no other systematic news released in the same window

May 2024

| List View

Date	Time	Release
Wednesday, May 1, 2024	10:00 AM	**Job Openings and Labor Turnover Survey** for March 2024
Wednesday, May 1, 2024	10:00 AM	**Metropolitan Area Employment and Unemployment (Monthly)** for March 2024
Thursday, May 2, 2024	08:30 AM	**Productivity and Costs (P)** for First Quarter 2024
Friday, May 3, 2024	08:30 AM	**Employment Situation** for April 2024
Tuesday, May 14, 2024	08:30 AM	**Producer Price Index** for April 2024
Wednesday, May 15, 2024	08:30 AM	**Consumer Price Index** for April 2024
Wednesday, May 15, 2024	08:30 AM	**Real Earnings** for April 2024

- almost always released on the same day at the same time
- (if possible at all) control for surprises on real earnings

Comment: lagged inflation/inflation surprises + disagreement

identification assumption: everything but the inflation surprise has been priced in

---

CONSUMER PRICE INDEX (CPI) FOR APRIL 2024 IS PROJECTED TO RISE 3.4% YEAR-OVER-YEAR

ECONOMICS

By John Butters | May 14, 2024

The median estimate (year-over-year, not seasonally adjusted) for the consumer price index (CPI) for the month of April 2024 is 3.4%.

If 3.4% is the actual year-over-year increase in the CPI, it will mark the first sequential decrease in the number since January 2024 (3.1%).

Last month (March 2024), the consumer price index increased by 3.5% (year-over-year, not seasonally adjusted), compared to the median estimate of 3.4%. Over the past 12 months, the increase in the CPI has surpassed the median estimate in 6 months, matched the median estimate in 1 month, and fallen short of the median estimate in 5 months. Over the past 5 years (60 months), the increase in the CPI has surpassed the median estimate 53% of the time, matched the median estimate 15% of the time, and fallen short of the median estimate 32% of the time.

The median estimate of 3.4% is based on 11 estimates collected by FactSet. These CPI estimates range from a low of 3.30% to a high of 3.50%, for a spread of 20 bps. This spread is lower than the trailing 12-month average spread between the low and high estimate of 42 bps and lower than the 5-year (60 month) average spread between the low and high estimate 49 bps.

The median estimate (year-over-year, not seasonally adjusted) for the consumer price index excluding food & energy (Core CPI) is 3.6%.

The U.S. Bureau of Labor Statistics (BLS) will release the CPI and Core CPI numbers for April tomorrow (May 15).

Comment: lagged inflation/inflation surprises + disagreement

identification assumption: everything but the inflation surprise has been priced in

Bloomberg

● Live TV   Markets ⌄   Economics   Industries   Tech   Politics   Businessweek   Opinion   More ⌄

US Inflation: April Key Takeaways | Core CPI Cools | How Fed Measures Inflation | Rent Obsession | How Pros Misrea

By Chris Anstey
May 15, 2024 at 8:30 AM CDT

🔖 Save   🎧 Listen 1:37

Here are the key takeaways from the US CPI report for April released Wednesday:

- The consumer price index rose 0.3% in April from March, slightly less than forecast, while core CPI, which excludes food and energy, was in line with the median estimate, 0.3%. That marks the smallest monthly core CPI gain so far this year. The annual core CPI gain was 3.6%, the smallest in three years.

Comment: lagged inflation/inflation surprises + disagreement

identification assumption: everything but the inflation surprise has been priced in

- uncertainty/disagreement
- past inflation trajectory

Bottom line

- important question and very much relevant to today's market environment
- cool data and identification strategy
- quite polished and easy to read

Next steps
- a little structure for mechanism
- additional controls