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How Do Monetary Policy Surprises Affect Household Sentiment?

We examine the effect of monetary policy surprises, or unexpected changes in the federal funds rate, on household sentiment. We first assume that the effect of monetary policy surprises does not depend on the state of the economy, as is noted in the literature, and find that household sentiment is not sensitive to monetary policy surprises. We then hypothesize that the effect of monetary policy surprises changes with certain economic environments. We find that when inflation was low in the previous month, an unexpected policy rate hike significantly boosts sentiment. Contrastingly, when inflation is high, an unexpected policy rate hike significantly depresses sentiment in the following month. We interpret this state-dependent effect using the theory of rational inattention and the theory of the information effect of monetary policy.

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Introduction

Aggregate economic indicators (such as GDP growth and the unemployment rate) and household attitudes regarding the economy do not always move in the same direction. The US postpandemic recovery presents one such case. Household sentiment about national economic conditions has not yet returned to the prepandemic highs of 2017–2019, despite real GDP growth's averaging about 2.5 percent and the unemployment rate's staying at or below 4.5 percent since the beginning of 2022. While many factors shape household attitudes, this *Economic Commentary* studies how household sentiment responds to unexpected changes in monetary policy, or monetary policy surprises.¹

We measure household sentiment using the University of Michigan Consumer Sentiment Index (MCSI). The MCSI reflects American consumers' attitudes regarding their own personal finances and overall US economic outlook.² Under conventional economic intuition, unexpected monetary policy tightening will induce a deterioration in household financial conditions and economic outlook. Importantly, this thinking assumes that households are fully informed about the state of the economy. In the real world, however, information frictions (delays, costs, or other obstacles in gaining or processing information) are prevalent in the household sector. Previous empirical studies on how households respond to macroeconomic and monetary policy news yield mixed results. Lewis, Makridis, and Mertens (2020) use Gallup's US Daily Survey Poll and find that an unexpected policy tightening leads to an immediate deterioration in household sentiment. Using daily data from the Federal Reserve Bank of New York's Survey of Consumer Expectations, Binder, Campbell, and Rynngaert (2024) find that macroeconomic news and Federal Open Market Committee (FOMC) announcements jointly move expectations, but they also note that "target rate cuts may have large positive, large negative, or near zero treatment effects on inflation expectations."³ Some scholars find evidence suggesting households are largely inattentive to macroeconomic information, in contrast to professional forecasters and financial market participants.⁴

To study the effects of monetary policy surprises on household sentiment, we first follow the literature in assuming that sentiment responds in a linear fashion to monetary policy surprises for all months in our sample.⁵ Using data from the University of Michigan Surveys of Consumers, we find that monetary policy surprises do not have a significant effect on household sentiment, irrespective of controlling for other macroeconomic news.

We then study whether the effect of monetary policy surprises depends on the state of the economy and find that the effect of these surprises appears to interact with inflation. More specifically, when inflation is low in the month prior to a survey, a positive monetary policy surprise (when the actual policy rate is higher than the expected policy rate) appears to boost household sentiment. When inflation is high in the month prior to a survey, a positive monetary policy surprise appears to dampen household sentiment. These state-dependent results are consistent with rational inattention theory and the presence of a monetary policy "information effect." When inflation is low and stable,

households pay little attention to macroeconomic news. In this case, monetary policy surprises convey information about the broader state of the economy, and unexpected policy tightening could be interpreted as a signal that the economy is stronger than previously thought, thereby bolstering household sentiment. On the other hand, if inflation is high, households have already been paying close attention to aggregate economic conditions. In this case, an unexpected rate hike simply increases household borrowing costs and does not convey additional information about the state of the economy, thereby depressing sentiment.

Data and Methodology

We use three sources of data to assess the relationship between household sentiment and monetary policy surprises. First, we measure household sentiment using the University of Michigan Consumer Sentiment Index (MCSI) at a monthly frequency. Second, we use high-frequency monetary policy surprises estimated by Nakamura and Steinsson (2018) to measure changes in monetary policy in a 30-minute window around which the statements of FOMC meetings are released.⁶ Any expected change in monetary policy would have been priced in by financial markets shortly before the meeting, so this high-frequency identification method isolates the unexpected change, or surprise, in monetary policy. Finally, we follow Bauer and Swanson (2023) in controlling for other macroeconomic news to avoid conflating the impact of an unexpected change in monetary policy on household sentiment with the effect of other unexpected changes in macroeconomic conditions. Macroeconomic news is defined as the difference between the released value and the market consensus estimate of major economic indicators, including headline and core CPI, nonfarm payrolls, the unemployment rate, core retail sales, and existing home sales. These macroeconomic “surprises” are constructed using market consensus estimates from Action Economics, which gathers predictions from professional forecasters for a variety of economic indicators leading up to the indicators’ official releases.⁷

Our sample period ranges from May 2004 through November 2024. We calculate the mean and standard deviation for the month-over-month percent change in the MSCI and for the monetary policy surprise series. Table 1 shows that the average change in the MSCI is lower in the post-pandemic-recession period of April 2021 through November 2024 than when averaged across the entire sample.⁸ In addition, the average monetary policy surprise is positive—meaning that actual monetary policy is tighter than expected—during the post-pandemic-recession period, albeit not statistically different from zero.

TABLE 1: SAMPLE MEANS (FULL SAMPLE VERSUS POSTPANDEMIC PERIOD)

	(1) May 2004–Nov 2024	(2) Apr 2021–Nov 2024
%Δ in MSCI	0.048	-0.144
	(5.71)	(6.95)
Monetary policy surprises	0.001	0.011
	(0.027)	(0.028)

Note: Standard deviation in parentheses.

Results

Linear Regression Model

We first follow the literature and use a linear regression model to study the effect of monetary policy surprises on household sentiment. A linear regression model assumes that the effect of monetary policy surprises on sentiment is independent of the state of the economy, including the prevailing level of inflation.

We regress the percent change in household sentiment from the previous month on the monetary policy surprise, conditional on an FOMC meeting occurring in the given month.⁹ Table 2, column 1, shows that monetary policy surprises do not significantly alter household sentiment in this linear regression framework. In Table 2, column 2, we control for other macroeconomic news, including surprises to headline CPI, core CPI, nonfarm payrolls, unemployment rate, core retail sales, and existing home sales. Both with and without these controls, we find no evidence that monetary policy surprises affect household sentiment in a linear regression model. As a robustness check, we repeat this exercise with a subsample excluding the COVID-19 pandemic recession and its immediate aftermath (March 2020 to March 2021). Table 1, columns 3 and 4 confirm that monetary policy surprises do not have a significant effect on household sentiment in a linear regression framework.

TABLE 2: DO MONETARY POLICY SURPRISES HAVE A LINEAR EFFECT ON HOUSEHOLD SENTIMENTS?

Dependent variable %Δ in MSCI	(1) Full sample	(2) Full sample	(3) Ex COVID	(4) Ex COVID
Monetary policy surprise	0.07	0.26	0.08	0.29
	(0.57)	(0.53)	(0.57)	(0.53)
Headline CPI surprise		-7.91		-8.46*
		(4.95)		(4.96)
Core CPI surprise		1.95		2.23
		(5.29)		(5.45)
Nonfarm payrolls surprise		-0.15		-0.34
		(0.14)		(0.37)
Unemployment rate surprise		-3.16		-2.91
		(2.09)		(3.49)
Core retail sales surprise		0.14		0.63
		(0.34)		(0.62)
Existing home sales surprise		-3.32		-2.35
		(2.22)		(2.19)
Observations	159	159	151	151
R-squared	0.000	0.064	0.000	0.056

Notes: Robust standard errors in parentheses. Data on nonfarm payrolls are in hundreds of thousands, and data on existing home sales are in millions. Data on headline CPI, core CPI, the unemployment rate, and core retail sales are in percentage points. Data on monetary policy surprises are in standard deviation units and sourced from Acosta, Brennan, and Jacobson (2024). The “ex COVID” sample excludes data from March 2020 to March 2021. *** p<0.01, ** p<0.05, * p<0.1.

Does the Effect of Monetary Policy Surprises Depend on the State of the Economy?

We now examine whether the effect of monetary policy surprises on household sentiment depends on the state of the economy. We first consider the possibility that the relationship between monetary policy surprises and household sentiment changed in the aftermath of the COVID-19 recession. We regress the percent change in household sentiment from the previous month on 1) the monetary policy surprise for the current month, 2) an indicator for the post-pandemic-recession period, and 3) the interaction between the monetary policy surprise and the indicator.¹⁰ We control for all macroeconomic news variables in this specification. Table 3 shows that separating the prepandemic and postpandemic responses does not make a difference: the coefficient on both the monetary policy surprise term and the interaction term are not statistically different from zero, meaning that monetary policy surprises do not have an impact on consumer sentiment before or after the pandemic.

TABLE 3: HAS THE SENSITIVITY OF HOUSEHOLD SENTIMENT TO MONETARY POLICY SURPRISES CHANGED IN THE AFTERMATH OF THE COVID-19 PANDEMIC?

Dependent variable	%Δ in MSCI
Monetary policy surprise	0.34
	(0.55)
Postpandemic indicator	-0.50
	(1.90)
Monetary policy surprise × postpandemic indicator	-0.34
	(1.91)
Observations	159
R-squared	0.066

Notes: Robust standard errors in parentheses. Data on monetary policy surprises are in standard deviation units and sourced from Acosta, Brennan, and Jacobson (2024). The postpandemic indicator includes all observations dated after March 2021. All specifications control for surprises to headline CPI, core CPI, nonfarm payrolls, the unemployment rate, core retails sales, and existing home sales. *** p<0.01, ** p<0.05, * p<0.1y

We then consider the possibility that the effect of monetary policy surprises interacts with inflation. We define a month as a “high-inflation” month if the month-over-month change in headline CPI is above 0.2 percent.¹¹ We regress the percent change in household sentiment from the previous month on 1) the monetary policy surprise, 2) an indicator variable for whether the previous month was a high-inflation month, and 3) the interaction between the monetary policy surprise and the high-inflation indicator.¹² We also include all macroeconomic news variables as controls.

Table 4 demonstrates that the inflation environment impacts how monetary policy surprises affect household sentiment. Column 1 presents the baseline result, showing that both the estimated coefficient of the monetary policy surprise and the estimated coefficient of the interaction term are statistically significant. When inflation was low during the previous month, a one-standard-deviation-size unexpected policy rate hike is associated with a 1.43 percent increase in the MSCI (the coefficient of monetary policy surprises). When inflation was high during the previous month, a one-standard-deviation increase in the monetary policy surprise is associated with a 1.38 percent decline in the MSCI ($1.43 - 2.81 = -1.38$). If we use some alternative definitions of what constitutes a high-inflation environment, we get similar results. Table 4, column 2 shows that the estimated relationships are similar when a high-inflation month means that the month-over-month change in headline CPI is greater than 0.3 percent. Table 4, column 3 uses an indicator for “accelerating” inflation, defined as a month in which headline CPI inflation is 0.2 percentage points higher than that of the previous month. In this specification, the estimated coefficient on monetary policy surprises diminishes, but the coefficient on the interaction term is still significantly negative.

TABLE 4: IS HOUSEHOLD SENTIMENT SENSITIVITY TO MONETARY POLICY SURPRISES
CONTINGENT ON THE INFLATION ENVIRONMENT?

Dependent variable %Δ in MSCI	(1) CPI > 0.2	(2) CPI > 0.3	(3) ΔCPI > 0.2
Monetary policy surprise (MPS)	1.43**	1.55***	0.97*
	(0.67)	(0.64)	(0.54)
High-inflation indicator (HII)	-0.11	2.27	-0.53
	(1.37)	(1.42)	(1.03)
MPS × HII	-2.81***	-3.00***	-2.65**
	(1.04)	(1.02)	(1.26)
Observations	159	159	159
R-squared	0.154	0.168	0.152

Notes: Robust standard errors in parentheses. Data on monetary policy surprises are in standard deviation units and sourced from Acosta, Brennan, and Jacobson (2024). Specifications (1) and (2) control for periods in which the month-over-month change in headline CPI was greater than 0.2 percent and 0.3 percent, respectively. Specification (3) controls for periods in which the change in month-over-month headline CPI growth was greater than 0.2 percentage points. All specifications control for month-over-month growth in headline CPI, surprises to headline CPI, and the interaction of the headline CPI surprise with the high-inflation indicator. Controls are also included for surprises to core CPI, nonfarm payrolls, the unemployment rate, core retails sales, and existing home sales. *** p<0.01, ** p<0.05, * p<0.1.

Discussion

To explain our findings, we draw insights from two economic theories. The first is rational inattention theory (Sims, 2003), which posits that households will not be attentive to inflation news when inflation is low and stable because the benefits of being informed are low. In contrast, when inflation is high, households become more attentive to inflation news because the benefits of being informed are larger relative to the costs. Thus, when inflation is high, households are more likely to pay attention to every piece of macroeconomic news (inflation, GDP growth, employment, and so on) leading up to an FOMC meeting. If the FOMC announces a policy rate that is higher than the expected rate, households perceive this piece of news as new information about the stance of monetary policy only.

Since households have relatively precise information about the state of the economy and the change in the interest rate, the prediction of a standard New Keynesian model applies. A tightening of monetary policy increases household borrowing costs (especially for durable goods, a key component of the MSCI) and therefore lowers sentiment.

When inflation is low, however, households have likely been paying little attention to macroeconomic news, according to rational inattention theory. Scholars have proposed that when households have relatively little information about the state of the economy, such as during low inflation periods, unexpected monetary policy decisions could have an “information effect.”¹³ That is, households could believe the central bank has better information than they do, so they infer information about the state of the economy from monetary policy decisions. For example, if the FOMC unexpectedly raises the policy rate, households may infer from such a decision that the FOMC believes that the economy is stronger than people thought. In other words, higher interest rates may be a good thing. Consequently, household sentiment improves.

Conclusion

We find that the effect of monetary policy surprises on household sentiment depends on the inflation rate in the month immediately prior to the surprise. These findings are consistent with the theory of rational inattention and the presence of a monetary policy information effect. An unexpected rate hike may depress household sentiment in a high-inflation environment, when households are attentive and informed about macroeconomic news. In this case, the unexpected rate hike only increases borrowing costs and does not change expectations about the economic outlook. On the other hand, an unexpected rate hike could boost household sentiment in a low inflation environment when households are relatively inattentive to macroeconomic news. In this case, a tightening of monetary policy is perceived as a signal that the FOMC believes the economy is stronger than people thought.

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Endnotes

1. A “monetary policy surprise” is the difference between the financial market’s expectation of the monetary policy decision and the actual policy decision announced at FOMC meetings. [Return to 1](#)
2. The MCSI is computed from respondents’ answers to five questions about their financial situation over the past year, their expected financial situation in the next 12 months, their expectations of aggregate business conditions over the coming year, their expectations of economic conditions during the next five years, and whether they think now is a good time to buy durable goods and other “major household items.” See sca.isr.umich.edu/  for a detailed description and recent updates to the MCSI. [Return to 2](#)
3. The authors estimated a separate treatment effect of each individual news event to allow for events of the same type to affect households’ expectations differently. [Return to 3](#)
4. See, for example, Carroll (2003), Coibion et al. (2020), and Coibion et al. (2023). [Return to 4](#)
5. See, for example, Nakamura and Steinsson (2018); Lewis, Makridis, and Mertens (2020); and Bauer and Swanson (2023). [Return to 5](#)
6. We use an updated version of this data series constructed by Acosta, Brennan, and Jacobson (2024). [Return to 6](#)
7. Action Economics, LLC. [Return to 7](#)
8. We define the post-pandemic-recession period as beginning in April 2021 through November 2024, the end of the sample. Note that although the pandemic was ongoing in April 2021 and that some aid programs continued after 2023, the US economy had started to recover by April 2021, as suggested by macroeconomic indicators such as rebounding consumer spending and higher inflation rates. We thus use April 2021 as the starting month. [Return to 8](#)
9. We drop non-FOMC months from the regression. [Return to 9](#)

10. The interaction term is the product of the monetary policy surprise and the indicator variable (which takes the value 1 if the month is in the postpandemic period and 0 otherwise). [Return to 10](#)
11. Our data on both the consensus forecasts and the actual values of monthly CPI are reported to one decimal place in percentage terms. We chose 0.2 percent as the threshold for a high-inflation month because this growth rate corresponds to roughly 2.4 percent annualized growth in CPI. [Return to 11](#)
12. We use the CPI from the previous month (and not the current month) to define the high-inflation indicator because the CPI of the current month is released in the next month. [Return to 12](#)
13. The information effect of monetary policy was first proposed in Romer and Romer (2000) and was later explored in Nakamura and Steinsson (2018) and Jia (2023). The information effect is also referred to as the Fed's "signaling effect" in other papers, including Tang (2015) and Melosi (2017). [Return to 13](#)

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