The Effects of Monetary Policy on Macroeconomic Expectations: High-Frequency Evidence from Prediction Markets*

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Abstract

When the Federal Reserve raises interest rates, standard macroeconomic models and VARs predict that output, employment, and inflation should fall over the next several quarters. However, monthly-frequency professional macroeconomic forecast revisions are sometimes positively correlated with Fed interest rate changes, leading to a debate about what could explain these puzzling correlations. We bring to bear new high-frequency data on this question from macroeconomic event contracts traded on Kalshi, a CFTC-licensed, U.S.-based event trading exchange and prediction market. These high-frequency event contracts allow us to isolate and estimate the effects of monetary policy and other announcements on Kalshi market-implied macroeconomic expectations. Our results are consistent with standard transmission channels from monetary policy to the macroeconomy, with little or no role for a "Fed Information Effect".

Keywords: *Inflation Expectations, Prediction Market*
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1. Introduction

When the Federal Reserve raises interest rates, standard macroeconomic models and VARs predict that output, employment, and inflation should fall over the next several quarters (e.g., Christiano, Eichenbaum, and Evans, 2005). It is somewhat surprising, then, that monthly-frequency private-sector professional forecasts of these variables often seem to respond positively to Federal Reserve interest rate surprises. These puzzling results have led to a debate in the literature about what might possibly explain them. On the one hand, the "Fed Information Effect" literature argues that the Fed's monetary policy surprises communicate new information to the private sector about the current state of the economy that the private sector didn't previously have.(see, e.g., Romer and Romer, 2000; Campbell, Evans, Fisher, and Justiniano, 2012; Nakamura and Steinsson, 2018). The idea is that when the Fed raises interest rates, private-sector forecasters infer from that action that the underlying economy must be stronger than they thought. If this Fed Information Effect is strong enough, it can even overcome the standard channel of monetary policy transmission to the economy and lead private-sector forecasters to revise their forecasts in the opposite direction to what standard macroeconomic models would predict.

More recently, however, Bauer and Swanson (2023a) argue that these puzzling regression results are due to the macroeconomic forecast data being available only at a relatively low, monthly frequency. Over the course of an entire month, a great deal of economic news is released to the public beyond just the Fed's monetary policy decision: for example, the U.S. Employment Report, CPI report, auto sales, housing starts, etc. are released every month, and stock market, commodity price, and credit spread data are released continuously throughout each month. Bauer and Swanson (2023a,b) present substantial evidence that this incoming, publicly available news about the economy and financial markets causes *both* the Federal Reserve to change interest rates by more than markets expected *and* macroeconomic forecasters to revise their predictions for macroeconomic variables. For example, when incoming news about the economy is stronger than expected, it tends to be followed both by Federal Reserve monetary policy tightening and by positive private-sector forecast revisions for GDP, employment, and inflation, leading to a positive regression coefficient. Bauer and Swanson refer to this effect as the "Fed Response to News" channel in monthly-frequency forecast regressions.

In this paper, we present new evidence on this debate in the form of macroeconomic forecasts that are available at intradaily frequency from Kalshi, a new, U.S.-based event trading exchange and prediction market that began operating in 2021. In contrast to some smaller-scale, unlicensed predecessors like Intrade and PredictIt, Kalshi has a license from

Figure 1. Kalshi 2022:Q3 GDP Contract Price around June 15, 2022



the U.S. Commodities Futures Trading Commission (CFTC), which allows U.S. financial institutions and investors to participate in the market, permits those participants to take much larger positions (up to $7 million per contract), and lets affiliated companies act as liquidity-providing market makers, all of which enhance market functioning and should improve the accuracy of contract prices for predicting future events.[1] We focus in particular on the most heavily-traded macroeconomic event contracts on the Kalshi exchange: contracts covering the Federal Reserve's federal funds rate announcements and the U.S. CPI, GDP, unemployment rate, and nonfarm payrolls releases.

Because the Kalshi macroeconomic event contracts are traded every day (and typically many times each day), we have access to high-frequency macroeconomic forecast data that was not available to the authors cited above. Rather than running macroeconomic forecast response regressions at monthly frequency, we can run those same regressions at daily frequency and better isolate the effects of monetary policy announcements on the Kalshi market-implied forecasts of macroeconomic variables like CPI inflation, GDP, and unemployment.

Figure 1 provides an example of the Kalshi market response to one such event, the Federal Reserve's 75bp interest rate hike on June 15, 2022, which was the first time the Fed

[1]Polymarket is another recent entrant into the prediction market space and is a close competitor to Kalshi. Throughout our sample, Polymarket did not have a license from the CFTC and thus U.S. financial institutions and investors were blocked from trading on Polymarket's platform. That changed in November 2025, when Polymarket obtained a CFTC license, allowing U.S. investors to participate going forward. We discuss Polymarket and other recent entrants into the event trading space in greater detail below.

had raised the federal funds rate by such a large amount since 1994. The price plotted in the figure is for the contract on whether the next-quarter 2022:Q3 GDP release would be greater than 2.0 percent. Note first that the Kalshi market in this contract is fairly liquid, with multiple trades every day before and after the Fed's announcement. In response to the Fed tightening on June 15, the Kalshi market-implied probability of the Q3 2022 GDP release being above 2 percent fell significantly, from about 50 percent to about 35 percent, suggesting that, on this day, traders viewed the monetary policy tightening as contractionary. This response is consistent with the predictions of standard macroeconomic models and VARs, and inconsistent with the presence of a strong "Fed Information Effect" that would drive private-sector forecasters to revise their forecasts in the opposite direction.

In this paper, we investigate to what extent this finding is true more generally: When the Fed changes monetary policy, how do private-sector market-implied expectations of macroeconomic variables like GDP, unemployment, and inflation react? The high-frequency nature of our Kalshi forecast data allows us to provide new insights into this question.

After surveying the related literature, the remainder of our paper proceeds as follows. In Section 2, we provide the background for the Kalshi market and detailed descriptions of the Kalshi market data. In Section 3, we show that Kalshi contract trading volumes increase substantially around the times of major monetary policy and macroeconomic announcements. In Section 4, we conduct high-frequency regressions of Kalshi market-implied expectations of macroeconomic variables on monetary policy announcements and show that those effects are generally consistent with standard macroeconomic models, with no need for a "Fed Information Effect" to explain the results. Section 5 provides additional discussion and Section 6 concludes. An Appendix provides additional tables of results and robustness checks for the analysis conducted in the main text.

Related Literature

Our work is related to two major strands of the literature: studies of prediction markets and studies of the Fed Information Effect. Gürkaynak and Wolfers (2005) provide an early survey of prediction markets for macroeconomic data releases in the days before Kalshi and Polymarket. More recently, Diercks, Katz, and Wright (2026) study the liquidity, trading dynamics, accuracy, and distributional properties of the Kalshi market and its market-implied expectations. Consistent with our results below, they find that the Kalshi market provides a useful and accurate high-frequency measure of macroeconomic forecasts. In contrast to the present paper, they do not study the implications of the Kalshi market responses for the Fed Information Effect and instead focus on a wider range of forecasting

and distributional implications. Bürgi, Deng, and Whelan (2026) discuss and model a potential favorite vs. long-shot bias in the Kalshi market data. Eichengreen, Viswanth-Natraj, Wang, and Wang (2026) analyze Polymarket data and study how Polymarket participants' beliefs about the probability of Fed Chair Powell being removed from office affect their expectations of future U.S. monetary policy and macroeconomic outcomes.

For the Fed Information Effect, Sargent and Wallace (1975) and Barro (1976) present early theoretical models in which the central bank may possess superior information about the economy, but Romer and Romer (2000) is the first paper to argue that this effect is empirically important. They find evidence that the Fed had information about future inflation that private sector forecasters did not have, and that the Fed's interest rate changes could be used to infer some of that information. However, Faust, Swanson, and Wright (2004) show that FOMC announcements did not significantly affect private-sector forecasts of the very next macroeconomic data releases (e.g., GDP, retail sales, CPI, etc.), while other macroeconomic data releases such as the employment report, did. They conclude that there is little evidence of a Fed Information Effect in the data. They also show that the Romer and Romer (2000) results for inflation were due to the Volcker disinflation in the early 1980s; excluding that one episode, the Fed's inflation forecasts were no better than those of the private sector.

Campbell, Evans, Fisher, and Justiniano (2012) study how Fed monetary policy announcements affect Blue Chip forecasts of unemployment and inflation. Consistent with Faust et al. (2004) and contrary to Romer and Romer (2000), they find no evidence that Fed announcements contain significant information about inflation. However, they find that monetary policy tightenings are associated with a significant *downward* revision in Blue Chip unemployment rate forecasts, which they attribute to a Fed information effect. Nakamura and Steinsson (2018) find that monetary policy tightenings are associated with a significant *upward* revision in Blue Chip GDP forecasts, and like Campbell et al. (2012), appeal to a Fed Information Effect to explain this puzzle.

However, Bauer and Swanson (2023a) present a variety of evidence against the Fed Information Effect and in support of their alternative "Fed Response to News" explanation. In particular, they show that the Fed's internal Greenbook forecasts are no more accurate than Blue Chip forecasts, that Blue Chip forecasters do not revise their forecasts in response to FOMC announcements in a way consistent with the Fed Information Effect, and that previous authors' results supporting the Fed Information Effect are well explained by an omitted variables bias due to the omission of major macroeconomic data releases and financial market changes from their regressions. Similar to Bauer and Swanson (2023a),

we show here that Kalshi market forecasters also do not generally revise their forecasts in the way that the Fed Information Effect literature predicts.

Finally, Jarocinski and Karadi (2020) and Cieslak and Schrimpf (2019) decompose monetary policy surprises into "pure monetary policy" and "information" shocks, depending on whether stock prices move in the opposite direction or same direction as interest rates, respectively. Jarocinski and Karadi (2020) estimate that pure monetary policy shocks are much more important in the U.S. than information shocks (cf. their Figure 1), that pure monetary policy shocks cause future GDP to decline, and information shocks cause future GDP to increase. Cieslak and Schrimpf (2019) find a relatively small role for information shocks in FOMC announcements, but a larger role for those shocks in FOMC minutes releases and speeches by the Fed Chair. Consistent with these studies, we also find at most a small role for information shocks in FOMC announcements, but a potentially larger role in FOMC minutes releases.

2. Data and Background

Prediction markets have emerged as a powerful mechanism for aggregating dispersed information and forecasting future events. Unlike traditional survey-based forecasts that rely on periodic polling of experts, prediction markets operate continuously and incentivize accuracy through real monetary stakes. Early prediction markets, such as the Iowa Electronic Market, demonstrated success in forecasting political outcomes, while Intrade expanded into broader domains including economic indicators. However, regulatory constraints and limited liquidity often hindered the effectiveness of these early markets. The recent approval of regulated prediction market platforms by U.S. financial regulators represents a significant development, enabling institutional participation, larger position limits, and professional market-making services that enhance price discovery and informativeness. This regulatory advancement has created new opportunities for researchers to study how expectations evolve in real time around important economic events.

Kalshi is a U.S.-based event trading exchange and prediction market that began operating in July 2021. The term "kalshi" is Arabic for "everything" and, consistent with its name, the platform offers event contracts across a wide variety of subjects, including economic data releases, election results, pop culture events, music and film awards, sporting event outcomes, and many others. Unlike some previous and current prediction market alternatives, such as Intrade and PredictIt, Kalshi has obtained regulatory approval from the U.S. Commodities Futures Trading Commission. This allows U.S. financial institutions to participate on the platform and allows Kalshi to operate on a much larger scale than competing

alternatives—for example, traders on Kalshi can take positions of up to $7 million in any one contract, while those on the nonprofit research platform PredictIt are limited to a maximum position of $850.[2] Note that Polymarket, the largest current competitor to Kalshi, did not have regulatory approval from the CFTC during our sample period and, as a result, was forced to exclude all U.S. investors from trading on its platform. However, that situation is changing quickly as Polymarket obtained regulatory approval from the CFTC in November 2025 and several other trading platforms have also recently announced plans to enter the event contract space.[3]

One of the advantages of having a CFTC license is that U.S. financial institutions can participate on the platform. To enhance liquidity in its markets, Kalshi has an affiliated trading company, Kalshi Trading, which performs market-making services; those market-making services are now further enhanced by the Susquehanna International Group, one of the largest derivative market makers.[4]

2.1. Event Contracts

Event contracts on Kalshi are generally issued a few months before the relevant events and typically have a binary outcome: "yes" or "no". Each binary contract is essentially a binary option, offering only two possible payoff outcomes: if the specific yes-or-no event is true at expiration, the buyer receives a fixed amount, typically $1; otherwise, the buyer receives zero.

For example, a Federal Funds Rate event contract is a binary contract that settles based on the upper bound of the Federal Reserve's target federal funds rate range after a specified FOMC meeting. The contracts are written as "Will the target federal funds rate be above $[x]$% following the Federal Reserve's meeting on [date t]?", with the underlying based on the numbers published on the Federal Reserve's official website on date t. The contract expires at the end of date t and settles at the end of that same date. Note that for each FOMC date t, there are many such Kalshi contracts, one for each different value of x, spaced 0.25 percentage points apart.

For our analysis, we obtained every trade on Kalshi from July 2021 to January 2025 for

[2] See Funt (2022) and the detailed contract specifications for individual contracts at https://www.kalshi.com.

[3] For example, Robinhood has partnered with Kalshi to offer Kalshi contract trading on its platform; Coinbase has announced plans to do the same; CME Group is rolling out its FanDuel platform; and Cboe Global Market Inc. and Gemini Space have announced plans to offer event contract trading on their platforms.

[4] See Pound (2022), https://kalshi.com/blog/article/liquid-prediction-markets-are-finally-here, and https://www.bloomberg.com/news/articles/2024-04-03/susquehanna-starts-trading-desk-for-event-contracts-on-kalshi.

the five most heavily traded economic event contracts: the federal funds rate, the Consumer Price Index (CPI), the unemployment rate, nonfarm payrolls, and real Gross Domestic Product (GDP). A summary of these contract specifications is as follows:

- Federal Funds Rate: The "Will the target federal funds rate be above [x]%?" contract is summarized above. The underlying instrument is the upper end of the federal funds target range published by the Federal Reserve on its official website on the date specified in the contract.
- CPI: The "Will the Consumer Price Index (CPI) increase more than [x]%?" contract corresponds to the percentage change in the value of the Consumer Price Index (CPI). The underlying instrument is the signed one-month percent change in the seasonally adjusted Consumer Price Index for All Urban Consumers (CPI-U) published by the Bureau of Labor Statistics for the month specified in the contract.
- Unemployment Rate: The "Will the unemployment rate (U-3) be above [x]%?" contract corresponds to the current U.S. unemployment rate. The underlying instrument is the seasonally adjusted unemployment rate (U-3) reported by the Bureau of Labor Statistics Monthly Employment Situation Report for the month specified in the contract.
- Nonfarm Payrolls: The "Will the jobs numbers be above [x]?" contract corresponds to the total nonfarm payroll employment number. The underlying instrument is the change in total nonfarm payroll employment reported by the Bureau of Labor Statistics Monthly Employment Situation Report for the month specified in the contract.
- GDP: The "Will real GDP increase by more than [x]%?" contract corresponds to the growth rate of U.S. real GDP. The underlying instrument is the Advance Estimate of the seasonally adjusted percentage change (at an annual rate) in quarterly U.S. real GDP released by the Bureau of Economic Analysis for the quarter specified in the contract.

Note that all of these contracts expire and are settled at the end of the date on which the corresponding statistics are first released, so future revisions to the data do not affect contract settlement or payouts. Kalshi also often lists other variations of the contracts above that are available for trading—for example, in addition to the above contract for the CPI, investors can purchase binary options for the core CPI (the CPI core contract), the 12-month percentage change in the CPI (the CPI YoY contract), and the 12-month percentage change

in the core CPI (the Core CPI YoY contract), among others. For each of the five variables listed above (federal funds rate, CPI, unemployment rate, nonfarm payrolls, and GDP), we focus our analysis on the Kalshi contract that is the most heavily traded over our sample, which is the contract described above.

Also note that for each economic event above and each date, there are multiple binary options contracts traded on Kalshi. For example, for the May 2025 Federal Funds Rate, there ae 11 binary options contracts available, one for each of 11 different strikes: 2.75%, 3%, 3.25%, . . . , 5.25%. (For comparison, the spot federal funds rate in March 2025 was 4.33%.) Of course, the contracts that lie toward the extremes of this strike range are traded much less heavily than those that are closest to being at the money.

2.2. Contract Trading and Liquidity

Traders can buy and sell contracts on Kalshi continuously for 24 hours every day, 7 days each week, except on Thursdays from 3–5am U.S. Eastern Time, when the platform is closed for maintenance.[5]

The Kalshi market for the five economic event contracts described above is generally fairly liquid. (Moreover, the market liquidity increases substantially around relevant macroeconomic news announcements, as we show and discuss below.) Table 1 reports summary trading statistics for each of the five event contracts described above. The first three columns of the table report daily trading statistics for each contract, the middle three columns report trading statistics for each contract over its entire history, and the last three columns report trading statistics for each event (e.g., the September 2024 Federal Funds Rate). Recall that, for each event, there are multiple binary options contracts available on Kalshi, so the number of contracts is roughly nine times larger than the number of events.

[5] See https://help.kalshi.com/trading/what-are-trading-hours for more details.

Table 1. Kalshi Contract Trading: Summary Statistics

Summary statistics for trading activity in Federal Fund Rate, CPI, Unemployment Rate, Nonfarm Payrolls, and GDP event contracts on the Kalshi exchange. The first three columns report the number of trades, total trading volume, and total dollar trading volume per contract per trading day; the next three columns report the same statistics at the per-contract level, and the last three columns report the statistics at the per-event level. Sample: July 2021 to December 2025. See text for details.

	Per Contract Per Day			Per Contract			Per Event		
	Trades	Volume	$Volume	Trades	Volume	$Volume	Trades	Volume	$Volume
				Federal Funds Rate					
N	10,621	10,621	10,621	314	314	314	36	36	36
Mean	6.3	2,336.2	1,207.3	214.7	79,021.3	40,835.8	1,872.9	689,241.2	356,178.8
s.d.	16.7	7,112.3	4,042.1	426.4	176,824.5	92,491.7	1,852.7	629,910.8	331,675.3
Min	1.0	1.0	0.01.0	1.0	1.0	0.02	23.0	2,704.0	2,093.7
P25	1.0	100.0	24.0	10.0	1,902.0	988.8	106.5	37,341.0	26,780.5
P50	2.0	468.0	164.0	56.5	14,074.0	7,623.6	1,632.0	606,885.0	295,772.9
P75	5.0	1,644.0	770.0	192.0	62,082.0	31,910.8	2,671.0	1,184,522.0	634,619.6
Max	500.0	183,495.0	112,286.4	2,995.0	1,349,824.0	740,191.0	7,853.0	2,382,158.0	1,272,458.3
				CPI					
N	6,683	6,683	6,683	317	317	317	44	44	44
Mean	6.0	872.2	456.2	126.7	18,387.3	9,616.7	912.5	132,472.3	69,283.8
s.d.	9.2	1,567.1	921.7	142.1	18,635.5	9,695.3	932.1	123,396.6	64,995.8
Min	1.0	1.0	0.02	1.0	1.0	0.02	10.0	537.0	203.3
P25	1.0	70.0	22.9	16.0	2,094.0	1,000.0	209.0	37,611.0	19,352.0
P50	3.0	295.0	114.8	74.0	13,154.0	7,374.4	593.0	89,654.5	49,894.8
P75	7.0	1,002.0	468.3	191.0	29,352.0	15,451.9	1,277.5	193,488.0	95,367.1
Max	248.0	22,698.0	14,241.2	826.0	87,135.0	48,507.3	3,703.0	479,551.0	253,865.4
				Unemployment Rate					
N	2,914	2,914	2,914	298	298	298	43	43	43
Mean	3.5	427.4	261.1	34.1	4,179.1	2,552.9	236.4	28,962.0	17,691.9
s.d.	5.5	1,845.9	1,456.5	58.0	8,925.0	6,545.8	226.7	40,856.8	27,179.9
Min	1.0	1.0	0.06	1.0	5.0	0.1	41.0	1,850.0	976.2
P25	1.0	25.0	9.5	5.0	432.0	223.7	89.0	5,122.0	2,954.3
P50	2.0	100.0	47.7	18.0	1,781.5	1,136.8	176.0	16,134.0	9,616.6
P75	4.0	347.0	180.0	41.0	4,736.0	2,795.3	322.0	34,643.0	21,540.1
Max	133.0	86,525.0	70,731.8	697.0	118,491.0	99,022.5	1,363.0	230,396.0	163,063.1
				Nonfarm Payrolls					
N	1,896	1,896	1,896	162	162	162	23	23	23
Mean	4.3	917.8	530.7	50.5	10,741.5	6,211.0	355.8	75,657.2	43,747.0
s.d.	6.2	1,977.0	1,287.3	46.7	10,874.4	6,396.8	175	41,979.9	23,899.8
Min	1.0	1.0	0.1	1.0	4.0	3.9	75.0	7,191.0	3,997.1
P25	1 .0	30.0	15.4	14.0	2,028.0	1,210.8	252.0	40,338.0	21,791.3
P50	2.0	200.0	94.1	40.5	7,854.0	4,405.6	322.0	74,660.0	42,870.8
P75	5.0	986.5	499.8	73.0	15,866.0	8,658.7	416.0	123,259.0	62,135.6
Max	95.0	30,799.0	18,167.0	275.0	49,376.0	35,446.1	825.0	147,531.0	94,068.0
				GDP					
N	3,305	3,305	3,305	113	113	113	15	15	15
Mean	3.5	397.0	208.0	102.1	11,611.6	6,084.1	769.0	87,474.2	45,833.2
s.d.	5.8	927.8	509.6	114.3	13,161.0	6,861.7	346.5	51,275.7	27,465.6
Min	1.0	1.0	0.02	1.0	5.0	0.7	135.0	7,271.0	4,494.8
P25	1.0	25.0	9.6	25.0	3,302.0	1,586.1	573.0	58,801.0	28,808.9
P50	2.0	106.0	48.6	58.0	8,036.0	4,494.8	769.0	77,326.0	45,167.2
P75	4.0	384.0	185.9	131.0	14,989.0	7,319.8	965.0	107,865.0	53,786.6
Max	163.0	19,402.0	9,592.4	585.0	66,773.0	32,928.4	1,445.0	197,240.0	104,148.1

For example, for the Federal Funds Rate contracts, there are 36 events in our sample (36 FOMC meetings from July 2021 to December 2025), and there are on average 1,873 trades per event, with an average volume of 689,241 contracts traded, for a dollar value of $356,179, a nontrivial amount. On a per contract per day basis, there are on average 6.3 trades per day, with an average volume of 2,336 contracts traded, for a dollar value of $1,207. Although these daily averages might not seem very large, recall that many contracts toward the extremes of the distribution are not heavily traded, and that all contract trading volumes are relatively thin when the contract is first introduced but ramp up dramatically as the expiration date approaches, as can be seen in Figure 2. The average daily trading statistics in Table 1 are for all contracts on all days.[6]

Trading statistics for the other contracts listed in Table 1 are generally similar to those for the Federal Funds Rate contracts, although the values for the Nonfarm Payrolls and GDP contracts are somewhat smaller. Kalshi only introduced Nonfarm Payrolls event contracts in March 2023, so there is a shorter sample for those contracts. Similarly, the Kalshi GDP event contracts have expirations only once per quarter because the advance estimate of U.S. real GDP is released only once per quarter; as a result, there are fewer events (data releases) over our sample and average trading volumes per contract can be a little lower since trading tends to increase closer to contract expiration.

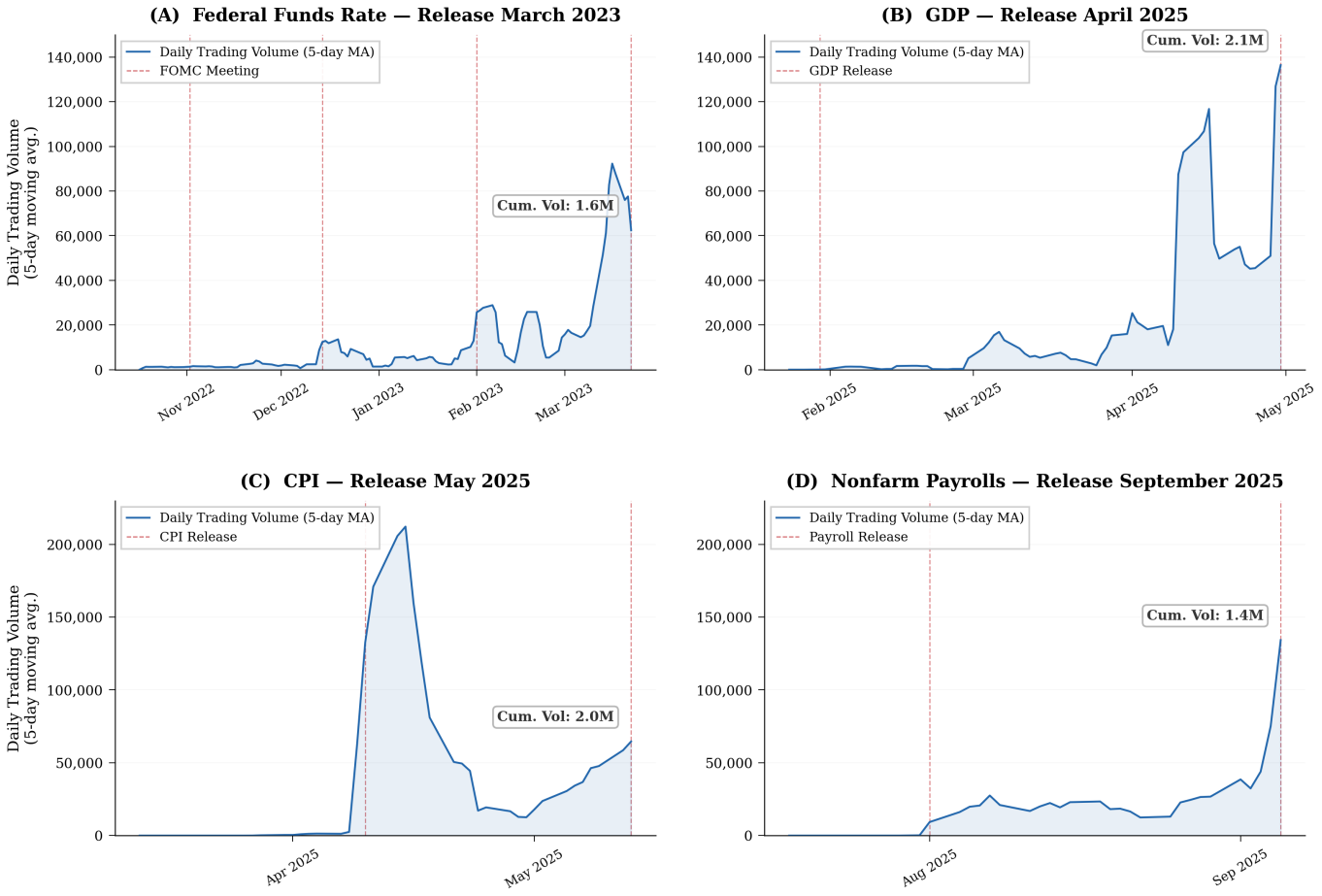
Reflecting their generally high liquidity, bid-ask spreads on these five event contracts are relatively small, typically 1 cent for contracts that are close to being at the money, although contracts at the extremes of the strike distribution can sometimes have wider bid-ask spreads.

Figure 2 plots the trading volumes for four examples of Kalshi market trading volumes for four different types of events: the Federal Funds Rate contract expiring in March 2023 (Panel A), the GDP contract expiring in April 2025 (Panel B), the CPI contract expiring in May 2025 (Panel C), and the Nonfarm Payrolls contract expiring in September 2025 (Panel D). Each panel plots the 5-day moving average of daily trading volume (summed across all strikes) for a single contract expiration, identified by its release date. The cumulative trading volume for each contract is reported in the inset box in each panel.

There are a few points to take away from Figure 2. First, note that trading volumes are generally large in each of these examples, well over one million total contracts traded in each panel. Second, trading volumes generally increase as the expiration date approaches. Finally, in each panel, a vertical dashed red line denotes the dates of previous releases of

[6]Note that we do not include a contract in our sample on days when there is no trading in that contract. Thus, the minimum values in Table 1 are nonzero.

Figure 2. Trading Volume Patterns across Event Contract Types



Note: Each panel plots the 5-day moving average of daily trading volume (summed across all strikes) for a single contract expiration, identified by its release date. Vertical dashed lines mark relevant macro announcement dates: FOMC meetings (panel A), GDP releases (panel B), CPI releases (panel C), and Nonfarm Payrolls releases (panel D). The cumulative trading volume over the life of each contract is annotated in each panel.

the contracted event (i.e., FOMC announcements in Panel A, GDP releases in Panel B, etc.), and trading volumes often spike around the times of those releases, as well as other related macroeconomic and monetary policy events, discussed further below.

Further evidence of the liquidity of these contracts is provided in Figure 3. The left-hand panel reports the Kalshi market price of the July 2022 Federal Funds Rate above 2.25% contract from May 3, 2022, to its expiration on July 27, 2022. The right-hand panel reports market prices for the corresponding federal funds futures contract from the Chicago Mercantile Exchange over the same period.[7] The Kalshi contract in Figure 3 is

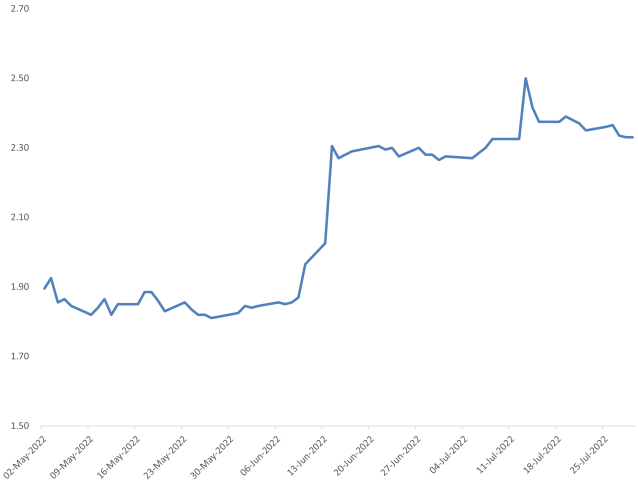
[7]There are two technical points to note in Figure 3: First, federal funds futures contracts settle based on the average daily federal funds rate over the entire contract month. Since the FOMC announcement in this example was on July 27, the right-hand panel of Figure 3 reports fed funds futures rates for the August 2022

Figure 3. Kalshi Federal Funds Rate Contract vs. Federal Funds Futures

(A) Kalshi July 2022 Federal Funds Rate



(B) CME Federal Funds Futures Rate



a binary option while the CME fed funds futures rate is essentially an expected value, but the behavior of the two contracts clearly track each other closely. In May 2022, the upper bound of the Fed's target federal funds rate range was 1%, and markets expected additional Fed tightening at the June 15 and July 27 FOMC meetings, as evidenced by the August CME fed funds futures rate of about 1.8% in the right-hand panel. However, the probability of the fed funds rate being greater than 2.25% by the end of July was relatively low, only about 10% according to the Kalshi contract in the left-hand panel. On June 15, the FOMC raised the federal funds rate target by a greater-than-expected 75 basis points (bp), which led to significant moves on both the CME and Kalshi markets within minutes of the announcement—the August federal funds futures rate increased to about 2.3%, while the Kalshi probability of the rate being above 2.25% rose to about 80%. After June 15, as the July 27 FOMC meeting approached, both the fed funds futures rate and the Kalshi probability drifted upward a bit further.

The example in Figure 3 is a little unusual in terms of the size of the movements in the Kalshi and federal funds futures prices, but the point that Kalshi contracts and federal funds futures co-move closely holds in general throughout our sample. In particular, the five types of Kalshi contracts we study (Federal Funds Rate, CPI, Unemployment Rate, Nonfarm Payrolls, and GDP) are heavily traded and market prices respond quickly to news such as

contract, which fully reflects the federal funds rate that will be announced on July 27 and take effect on July 28. Second, fed funds futures contracts pay $100 - r$ at expiration, where r is the average federal funds rate just mentioned. Thus, the federal funds futures contract price p on date t implies an expected federal funds rate of $r = 100 - p$. The right-hand panel of Figure 3 plots the implied rate r on each date rather than the contract price p.

macroeconomic data releases, as we verify empirically in Section 3, below.

2.3. Kalshi Market-Implied Expectations

In some of our analysis below, we report the Kalshi market-implied expectation of a given macroeconomic event (federal funds rate, CPI release, etc.). The prices of the Kalshi contracts are closely tied to the probabilities of the underlying events, and the contracts are heavily traded, so it's relatively straightforward to construct a daily measure of the market-implied risk-neutral probability distribution for the event—i.e., the probability distribution taking market prices as being risk-neutral.[8] From that probability distribution, we can compute the corresponding market-implied expectation.

In particular, let r_h denote the realized value of an event at date h, such as the federal funds rate or CPI release. Let p_{ths} denote the price at time t for an event contract expiring at date h with a strike value of s: that is, the contract pays off \$1 if $r_h > s$ and zero otherwise. For each strike value s, we observe

$$cdf_{th}(s) = 1 - p_{ths}, \tag{1}$$

where $cdf_{th}(x)$ denotes the market-implied cumulative distribution function for the realization r_h.

Let s_{thi}, $i = 1, \ldots, K$, denote the set of strikes that are traded at date t for realization r_h, sorted in increasing numerical order, so $s_{thi} < s_{thj}$ for $i < j$. We define $pdf_{th0} \equiv cdf_{th}(s_{th1})$, $pdf_{thK} \equiv 1 - cdf_{th}(s_{thK})$, and

$$pdf_{thi} \equiv cdf_{th}(s_{th,i+1}) - cdf_{th}(s_{thi}), \tag{2}$$

for $i = 1, \ldots, K-1$. We also define $s_{th0} \equiv s_{th1} - (s_{th2} - s_{th1})$, and $s_{th,K+1} \equiv s_{thK} + (s_{thK} -$

[8] We first aggregate the trade-level data into into a daily-frequency data set by calculating the last trade of each day, which we use as the default specification in our analysis. We also consider an alternative daily price measure — the volume weighted average prices using all traded contracts throughout the day as a robustness check. If a contract does not trade on a given day, we use the previous day's value (this happens mostly for contracts at the lower or upper end of the range of strikes, or for contracts that are far from expiration). For a given event (e.g., August 2024 CPI), we drop days on which there are no trades for any contracts related to that event. Note that this implies we would include a contract with zero trading as long as during that day other contracts for the same event were being traded.

$s_{th,K-1}$).[9] We then compute the Kalshi market-implied expected value of r_h as

$$E_t[r_h] \equiv \sum_{i=0}^{K} pdf_{thi} \cdot \left(\frac{s_{thi} + s_{th,i+1}}{2}\right). \tag{3}$$

Note that contracts at the very low and very high end of the range of strikes are typically much less liquid than contracts near the middle and can have larger bid-ask spreads. We found that these extreme contracts sometimes introduced excess volatility into the expectation measure (3), so for our baseline results below we compute the expectation (3) excluding the highest strike and lowest strike.[10] Results using the full range of strikes for the expectation are reported as a robustness exercise in the Appendix.

2.4. Accuracy of Kalshi Market-Implied Expectations

We check the accuracy of our Kalshi market-implied expectations measures by comparing them to survey-based forecasts for macroeconomic variables from the Blue Chip Survey of Forecasters (BC) and the Philadelphia Fed's Survey of Professional Forecasters (SPF). The results are reported in Figure 4 for the four macroeconomic variables in our analysis: CPI inflation, the unemployment rate, nonfarm payrolls, and real GDP. Each panel of Figure 4 reports the mean forecast error of the market or survey forecast as a function of the number of days until the underlying macroeconomic statistic is released.[11] Forecast errors are computed as the released value of the macroeconomic statistic minus the market-implied expectation or the survey-based forecast. The dark blue line in each panel plots the mean forecast error of the Kalshi market-implied expectations, while the lighter dotted blue lines report ± 2-standard-error bands around these mean forecast errors. The red line in each

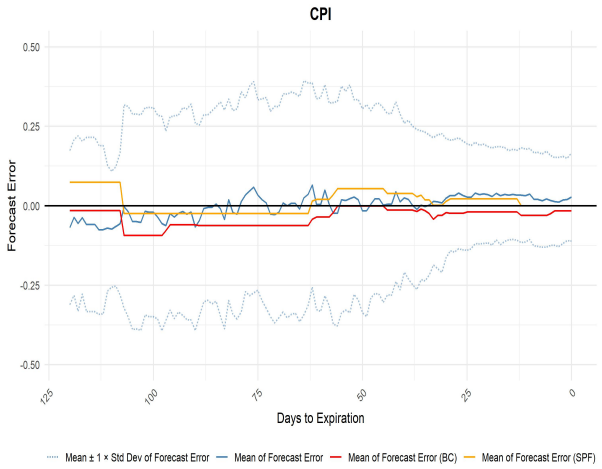
[9] Note that pdf_{th0} and pdf_{thK} are usually very small, so the exact values of s_{th0} and $s_{th,K+1}$ usually do not have a noticeable effect on the calculation. Also note that in the data there exist cases where the price for a contract with higher strike is traded at a higher price than that of an adjacent contract with a lower strike. In those cases, the procedure in equations (1)–(2) would result in a negative implied PDF, which is undesirable for our implied expectation calculation. To address this issue, we estimate prices for all contracts traded on each date using isotonic regression, which ensures monotonicity of prices along the strikes and therefore a positive implied PDF. Specifically, the isotonic regression approach chooses fitted values $\hat{p}_{ths}$ to minimize the weighted sum of squared errors $\sum_s w_{ths}(p_{ths} - \hat{p}_{ths})^2$ subject to the monotonicity constraints $\hat{p}_{ths_1} \geq \hat{p}_{ths_2} \geq \ldots \geq \hat{p}_{ths_K}$ when $s_1 < s_2 < \ldots < s_K$. We use the trading volume of each contract to compute the weights w_{ths}.

[10] For each contract on a given trading day, if there are five or more strikes available, we exclude the smallest and largest strikes and rescale the implied PDFs to ensure that they sum to 1. If there are fewer than five strikes available, then we use all strikes in the expectation calculation.

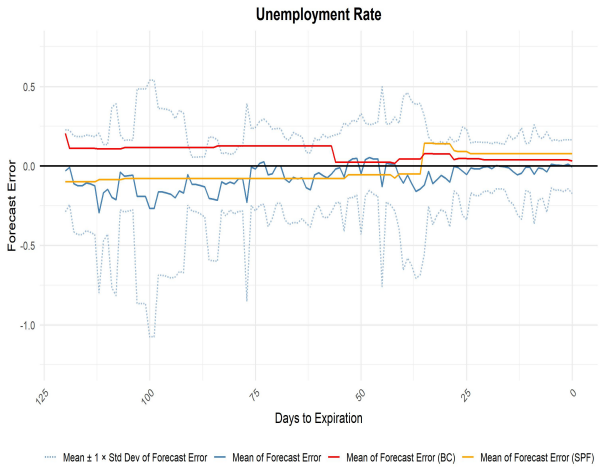
[11] Recall that Nonfarm Payrolls contracts were not listed on Kalshi until more recently than the other statistics and there was almost no trading in those contracts more than 45 days before expiration, which is why the horizontal axis for those contracts in panel (c) covers a shorter time window than for the other three panels.

Figure 4. Forecast Errors: Kalshi vs. Blue Chip and SPF

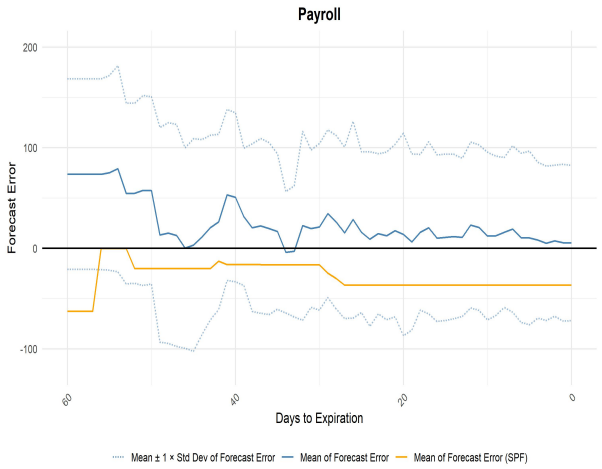
(a) CPI



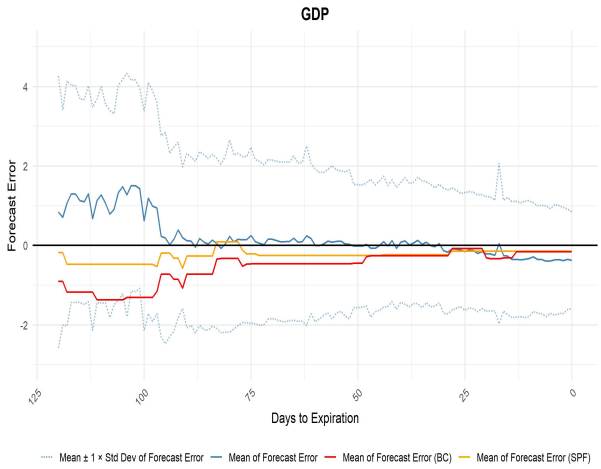
(b) Unemployment Rate



(c) Nonfarm Payrolls



(d) GDP



Note: Mean forecast errors for Kalshi market-implied forecasts vs. Blue Chip and Survey of Professional Forecasters survey-based forecasts, plotted as a function of days until each macroeconomic statistic is released. Dashed lines indicated +/-2 standard errors.

panel reports the mean Blue Chip forecast error for the same macroeconomic variable, and the yellow line reports the mean SPF forecast error for that variable.

There are several points to take away from Figure 4. First, the Kalshi market-implied forecast errors generally get smaller in absolute value as the number of days to expiration decreases. This is reassuring, since the market forecasts should presumably improve as time passes and more related data comes in. Second, the Kalshi market-implied forecasts

fluctuate at much higher frequency than the Blue Chip and SPF forecasts, as evidenced by the higher-frequency movements in the dark blue line in each panel relative to the red and yellow lines. Again, this is as expected given that the Blue Chip survey of forecasters is only conducted once per month and the SPF is only conducted once per quarter, giving these survey-based forecasts measures a much lower frequency than the Kalshi market-based forecasts. Third, the Kalshi market-implied forecasts compare very favorably to the Blue Chip and SPF forecasts, with forecast errors that are generally very similar in magnitude, or are even smaller in many cases for the Kalshi-based forecasts. We conclude from this figure that the Kalshi market-implied expectations are generally at least as good as the more traditional, survey-based measures while at the same time being available at much higher, daily frequency.

Note that Diercks et al. (2026) also analyze the accuracy of Kalshi market-implied expectations and forecasting distributions and similarly conclude that those contracts provide high-quality, high-frequency forecasts of macroeconomic outcomes, comparable in accuracy to traditional forecast measures like federal funds futures, SOFR options, the New York Fed's Survey of Market Expectations, and Bloomberg's Consensus forecast.

Finally, note that the high-frequency nature of the Kalshi market-implied forecasts allows us to track how market expectations evolve essentially in real time, capturing responses to incoming information that are essentially impossible to observe between the monthly Blue Chip or quarterly SPF survey dates.

2.5. Macroeconomic and Monetary Policy Announcements

In addition to the five main macroeconomic events described above—the federal funds rate announcement, CPI release, unemployment rate release, nonfarm payrolls release, and GDP release—we also consider how our Kalshi contracts respond to other major macroeconomic and monetary policy announcements, summarized in Table 2. To determine which additional macroeconomic announcements to consider, we use Bloomberg's "relevance score", which is computed by Bloomberg based on the ratio of the number of alerts set on Bloomberg terminals for a given macroeconomic event relative to the sum of all alerts set for the universe of all U.S. macroeconomic announcements. We include announcements with a Bloomberg relevance score of 80 or more, and classify those announcements according to whether they primarily provide information about the CPI, the unemployment rate/nonfarm payrolls, or GDP.[12] For additional monetary policy announcements, we use

[12]We group the unemployment rate and nonfarm payrolls employment together here because news about the labor market in general is very relevant for both of these statistics.

Table 2. Other Macroeconomic Announcements

Event	Definition	Obs
	Panel A: Federal Funds Rate	
Fed Speeches	Speeches and testimony by the Federal Reserve Chair	36
FOMC Minutes Releases	Detailed minutes from previous FOMC meeting	30
	Panel B: CPI	
Producer Price Index (PPI) for Final Demand	BLS report on the change in prices received by domestic producers for their goods and services sold for personal consumption, capital investment, government, and export	37
University of Michigan 1-year Inflation Expectations	University of Michigan Survey of Consumers Report on Inflation Expectations	73
PCE Core Price Index MoM	BEA report on the change in prices that U.S. consumers, or those purchasing on their behalf, pay for goods and services	28
	Panel C: Unemployment Rate and Nonfarm Payrolls	
U.S. Initial Jobless Claims	Department of Labor report on the number of workers applying for unemployment benefits for the first time following job loss	161
ADP Employment Change	Automatic Data Processing Inc., the largest payroll processor, estimate of the number of people employed in the U.S. private sector	35
	Panel D: GDP	
Retail Sales Advance MoM	BEA report on the change in total value of sales at the retail level, a timely indicator of consumer spending, which is itself the largest component of GDP	37

Note: Additional macroeconomic announcements that are likely to affect the Federal Funds Rate, CPI, Unemployment Rate, Nonfarm Payrolls, and GDP Kalshi event contracts. The macroeconomic events are selected based on having a Bloomberg relevance score greater than 80. We classify the macroeconomic events into four categories.

monetary policy-related speeches and testimony by the Federal Reserve Chair, which were found by Swanson and Jayawickrema (2025) to be a very important source of news about U.S. monetary policy.

For example, the most relevant CPI-related events are the Producer Price Index (PPI) for final demand, the University of Michigan 1-year Inflation Expectations survey, and the Personal Consumption Expenditures (PCE) Core Price Index, each of which is described briefly in Table 2.

2.6. Federal Funds Futures and Eurodollar Futures Rates

Finally, for some of our analysis below, we use federal funds futures and Eurodollar futures to compute high-frequency monetary policy surprises around FOMC announcements and Federal Reserve Chair speeches. We follow Gürkaynak, Sack, and Swanson (2005) and compute both a federal funds rate target surprise and a forward guidance surprise for each of these announcements, using a rotation of the first two principal components of federal funds futures and Eurodollar futures with maturities up to 12 months (see Gürkaynak et al., 2005, for details). The advantage of considering both a short-horizon (target) and longer-horizon (forward guidance) monetary policy surprise is that it facilitates comparison to Kalshi federal funds rate contracts with a short vs. longer time to expiration.

3. Kalshi Trading Volume Responses to Macroeconomic Events

We first estimate the effects of macroeconomic and monetary policy announcements on Kalshi contract trading volumes. Kalshi contracts are traded essentially every day, so we expect trading volumes of macroeconomic and monetary policy event contracts to increase substantially around the times of relevant macroeconomic and monetary policy announcements.

Table 3 reports the effects of a variety of macroeconomic and monetary policy announcements on Kalshi Federal Funds Rate contract daily trading volumes. The dependent variable in these regressions is the logarithm of daily trading volume for three types of Fed Funds Rate contracts: the front-month contract (column 1), the next-month contract (column 2), and longer-term contracts (column 3), which includes all other Federal Funds Rate contracts after the front- and next-month contracts. The independent variables in these regressions are indicator variables that take on the value 1 on days on which the corresponding event in each row is released, and 0 otherwise. Note that the unemployment rate and nonfarm payrolls are always released on the same day, so there is a single indicator variable for those two releases. The Other CPI News, Other Unemployment/Nonfarm Payrolls News, and Other GDP News releases are indicator variables for the events listed in Table 2. Recall that trading volumes are also negatively correlated with time to maturity of the contracts (see Figure 2), so we include the logarithm of months to maturity as an additional control variable. Standard errors are reported in parentheses below each coefficient and are two-way clustered by trading date and contract expiration date.

Table 3. Kalshi Federal Funds Rate Contract Trading Volume Responses to News

Regressions of log daily Kalshi trading volumes in Federal Funds Rate Contracts on dummy variables for macroeconomic and monetary policy events. The dependent variable is the log of trading volume for three types of Fed Funds Rate contracts: the front-month contract (column 1), the next-month contract (column 2), and longer-term contracts (column 3), which includes all other Federal Funds Rate contracts after the front- and next-month contracts. Independent variables are dummies that take on the value 1 on the day of release of the corresponding event in each row. Other CPI News, Other Unemployment/Nonfarm Payrolls News, and Other GDP News releases correspond to the events reported in Table 2. Standard errors are clustered by trading date and reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Sample: July 2021 to December 2025. See text for details.

	(1)	(2)	(3)
	Front Contract	Next Contract	Longer Contracts
FOMC Announcement	0.219	**3.160*****	**1.785*****
	(0.554)	(0.341)	(0.478)
Fed Chair Speech	**0.873*****	**1.040****	**0.826****
	(0.332)	(0.413)	(0.399)
FOMC Minutes	**1.131*****	0.481	**0.749****
	(0.314)	(0.315)	(0.319)
CPI	**1.448*****	**1.563*****	**1.135*****
	(0.319)	(0.360)	(0.339)
Other CPI News	0.326	**0.586*****	**0.565*****
	(0.236)	(0.211)	(0.190)
Unemployment Rate/Nonfarm Payrolls	**1.639*****	**2.309*****	**1.510*****
	(0.328)	(0.375)	(0.358)
Other Unemployment/NFP News	**0.957*****	**1.178*****	**0.670*****
	(0.190)	(0.195)	(0.149)
GDP	0.485	-0.832	0.243
	(0.529)	(0.604)	(0.554)
Other GDP News	0.536	**0.657***	0.329
	(0.398)	(0.353)	(0.325)
log Months to Maturity	-0.495	$-$**2.271*****	$-$**2.311*****
	(0.386)	(0.648)	(0.150)
Expiration Day Fixed Effects	Yes	Yes	Yes
Observations	1,518	1,511	7,136
R^2	0.552	0.546	0.275
Adjusted R^2	0.540	0.533	0.270

As expected, due to the direct connection between Kalshi Federal Funds Rate contracts and FOMC meetings, trading activity increases very significantly on days when a Federal Open Market Committee (FOMC) announcement occurs. Over our sample from July 2021 to December 2025, the largest effect is observed for the next-month contract, with a coefficient of about 3.16, implying that trading volumes are about $e^{3.16} = 23.6$ times higher on those dates, relative to dates on which no other announcements occurred. This effect is highly statistically significant, with a t-statistic greater than 9. Results for the front-month and longer-term Federal Funds Futures contracts are also very large and highly statistically significant.

Kalshi Federal Funds Rate contract trading volumes also increase substantially on other Fed-related event days, such as the dates of speeches by the Federal Reserve Chair and FOMC minutes releases. The magnitudes here are a bit less than for FOMC announcements themselves, with trading volumes about 2 or 3 times larger than on non-event days, but the magnitudes and statistical significance are still large.

Kalshi Federal Funds Rate contracts are also traded heavily on other major macroeconomic announcement dates. For example, CPI and unemployment rate/nonfarm payrolls announcements lead to an increase in Fed Funds Rate contract trading volumes by a factor of about 3 to 10, relative to non-event days, and other CPI news (i.e., the PPI and PCE inflation announcements) and other unemployment/nonfarm payrolls news lead to increases of about 38 to 225 percent.

Finally, trading volumes are lower the greater the time to contract maturity, with a doubling in months to maturity causing a decrease in trading volumes by a factor of about 1.4 for the front contract, and about 4.9 for the next-month and longer-term contracts.

Overall, the results in Table 3 confirm that Kalshi Federal Funds Rate contract trading volumes respond very substantially to relevant monetary policy and macroeconomic announcements.

In Table 4, we repeat this analysis for the responses of daily Kalshi contract trading volumes for the CPI, Unemployment Rate, Nonfarm Payrolls, and GDP contracts to the same set of announcements. The dependent variables in these regressions are the logarithms of daily trading volumes for the front CPI contract, longer-term CPI contracts, front Unemployment Rate contract, longer-term Unemployment Rate contracts, longer-term Nonfarm Payrolls contracts, and the front GDP contract, where the "longer-term" contracts include all event contracts after the front contract. The independent variables and standard errors in Table 4 are exactly analogous to those in Table 3.

Table 4. Kalshi Macroeconomic Contract Trading Volume Responses to News

Regressions of log daily Kalshi trading volumes in CPI, Unemployment Rate, Nonfarm Payrolls, and GDP contracts on dummy variables for macroeconomic and monetary policy events. "Front" contract refers to the contract nearest to maturity, while "Longer-term" contracts include all contracts beyond the front contract. For Nonfarm Payrolls contracts, the front contract is defined as contracts with 30 or fewer days to the release date. Independent variables are dummies that take on the value 1 on the release dates of the events in each row. Other CPI News, Other Unemployment/Nonfarm Payrolls News, and Other GDP News releases correspond to the events listed in Table 2. Standard errors are clustered by trading date and reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Sample: January 2022 to February 2026, except for Nonfarm Payrolls contracts, which start from March 2023. See text for details.

	CPI		Unemployment Rate		Nonfarm Payrolls		GDP	
	Front	Longer-term	Front	Longer-term	Front	Longer-term	Front	Longer-term
FOMC Day	**0.905*****	0.380	**0.710****	0.425	0.786	0.261	**1.100*****	**1.627***
	(0.344)	(0.268)	(0.296)	(0.378)	(0.501)	(0.442)	(0.358)	(0.964)
Fed Chair Speech	0.574	0.389	0.457	0.482	0.366	1.506	0.385	**1.351***
	(0.360)	(0.295)	(0.345)	(0.382)	(0.523)	(1.260)	(0.403)	(0.771)
FOMC Minutes	**1.119*****	0.191	0.120	−0.168	**1.085*****	0.863	0.309	0.810
	(0.246)	(0.265)	(0.300)	(0.224)	(0.290)	(0.906)	(0.330)	(0.569)
CPI	**0.912*****	**2.195*****	**0.880*****	**0.441***	**1.448*****	0.011	0.481	0.485
	(0.306)	(0.413)	(0.304)	(0.255)	(0.448)	(0.723)	(0.326)	(0.670)
Other CPI News	**0.667*****	0.031	**0.504****	0.072	0.306	**0.719***	**0.666*****	0.112
	(0.181)	(0.147)	(0.201)	(0.176)	(0.259)	(0.374)	(0.199)	(0.294)
Unemployment Rate/Nonfarm Payrolls	**0.785*****	**0.297***	**1.313*****	**3.036*****	**2.211*****	**1.415****	**0.717****	−0.051
	(0.287)	(0.169)	(0.357)	(0.371)	(0.246)	(0.606)	(0.340)	(0.351)
Other Unemployment/NFP News	**0.309****	**0.320****	**0.904*****	0.109	**0.758*****	0.226	**0.548*****	0.047
	(0.155)	(0.134)	(0.165)	(0.173)	(0.217)	(0.259)	(0.168)	(0.218)
GDP	0.156	−0.388	−0.113	0.566	**0.912***	0.760	0.836	**3.184*****
	(0.399)	(0.244)	(0.569)	(0.497)	(0.516)	(0.745)	(0.668)	(0.814)
Other GDP News	0.453	0.069	0.336	−0.127	0.139	−0.376	**1.525*****	−0.238
	(0.364)	(0.244)	(0.335)	(0.199)	(0.429)	(0.575)	(0.305)	(0.512)
log Months to Maturity	−**1.969*****	−**1.947*****	−**3.982*****	−0.102	−**4.988*****	−**2.127***	−**1.618*****	−**2.649*****
	(0.298)	(0.129)	(0.331)	(0.169)	(0.413)	(1.190)	(0.171)	(0.571)
Exp. Day Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,518	3,245	1,482	1,085	951	701	1,490	367
R^2	0.501	0.379	0.486	0.457	0.449	0.521	0.367	0.449
Adjusted R^2	0.480	0.369	0.465	0.433	0.423	0.493	0.356	0.414

As expected, CPI contract trading volumes spike on the days of CPI data releases, Unemployment Rate and Nonfarm Payrolls contract volumes spike on the days of unemployment rate and nonfarm payrolls releases, and GDP contract volumes spike on the days of GDP releases. These responses are all highly statistically significant, with the exception of the front GDP contract. CPI contract trading volumes also increase substantially in response to almost all of the other event days listed in Table 4, and Unemployment Rate, Nonfarm Payrolls, and GDP contract trading volumes also increase substantially on many of the other event days as well. Finally, as in Table 3, trading volumes decrease substantially as time to contract maturity increases.

Overall, the results in Table 4 are consistent with the results in Table 3 and show a substantial increase in Kalshi macroeconomic event contract trading volumes around relevant data releases. This is reassuring for our analysis below, because even several weeks or months prior to contract expiration, when liquidity is lower, liquidity increases substantially exactly when we are most interested in the Kalshi contract prices—around the times of other major macroeconomic data releases and monetary policy announcements.

4. Kalshi Market Expectations of Monetary Policy's Effects on the Macroeconomy

We now turn to one of the central research questions of this paper: How do the Kalshi market-implied expectations of future inflation, unemployment, nonfarm payrolls, and GDP respond to monetary policy announcements? As discussed above, standard survey-based data on market expectations of macroeconomic variables, such as the Blue Chip or SPF surveys of forecasters, are only collected and released at a monthly or quarterly frequency. As a result, it's very difficult to measure how those expectations respond to specific events like monetary policy announcements, because so much other confounding information is released every month, leading to the omitted variables problem discussed at length in Bauer and Swanson (2023a). In contrast, the high frequency of our Kalshi contract data allows us to effectively isolate the effects of particular events, like FOMC announcements or Fed Chair speeches, and see how they affect market expectations. For example, Figure 1 in the Introduction provided a good example of the Kalshi market-implied forecast for GDP around the Federal Reserve's major monetary policy tightening announcement on June 15, 2022.

To estimate the effects of monetary policy announcements on Kalshi market-implied

expectations, we run regressions of the form:

$$\Delta Y_{i,t} = \lambda'_{ffr}(\Delta FFR_t \times FOMCDays_t) + \lambda'_{fg}(\Delta FG_t \times FedDays_t) + \alpha_i + \varepsilon_{i,t} \quad (4)$$

where $\Delta Y_{i,t}$ denotes the daily change in the Kalshi market-implied expectation for a given macroeconomic variable (CPI, unemployment, nonfarm payrolls, or GDP) in contract i on day t, ΔFFR_t measures the surprise change in the current federal funds rate target based on the 30-minute change in federal funds futures rates, ΔFG_t measures the surprise change in forward guidance based on intradaily changes in federal funds futures and SOFR futures rates, $FOMCDays_t$ is an indicator variable for the days of FOMC announcements, $FedDays_t$ is a set of three indicator variables for each of the three types of Fed event days (FOMC announcements, Fed Chair speeches, and FOMC minutes releases), α_i is a contract-specific fixed effect, and $\varepsilon_{i,t}$ is a regression residual.[13] Recall that the current federal funds rate target is only changed along with an FOMC announcement in our sample, so the ΔFFR_t variable is only nonzero on FOMC announcement days. In contrast, there can be significant forward guidance news for markets on any of FOMC announcements days, Fed Chair speech days, and FOMC minutes release days.

Our primary parameters of interest are the λ coefficients, which measure the relationship between daily changes in the expected federal funds rate on Fed announcement days and daily changes in macroeconomic expectations. For example, for GDP expectations, a negative estimate of λ would imply that the market associates tighter monetary policy news with weaker future GDP, consistent with standard macroeconomic model predictions, while a positive estimate of λ would imply that the market associates tighter monetary policy with *stronger* future GDP, consistent with the literature on the "Fed Information Effect".

Table 5 presents our estimates of λ for the Kalshi market-implied CPI, Unemployment Rate, Nonfarm Payrolls, and GDP expectations. As in Table 4, the "front" contract refers to the contract that is closest to expiration, while "longer-term" contracts include all contracts with expirations beyond the front contract. An advantage of distinguishing between the front and longer-term contracts here is that a change in monetary policy might be expected to take some time to affect these macroeconomic variables, so that we might see little or no effect of monetary policy on the front contract but a more substantial effect on the

[13]For FOMC announcements, we measure ΔFFR_t and ΔFG_t using exactly the same methods as the "target" and "path" factors from Gürkaynak et al. (2005) and Swanson and Jayawickrema (2025), based on 30-minute changes in federal funds futures and SOFR futures rates around those announcements. For FOMC press conferences, Fed Chair speeches and FOMC minutes releases, we measure ΔFG_t using exactly the same methods as Swanson and Jayawickrema (2025), based on intradaily changes in federal funds futures and SOFR futures around the corresponding announcements. The value of ΔFG_t on FOMC announcement days is the sum of the ΔFG_t values for the FOMC announcement itself and for the post-FOMC press conference.

longer-term contracts. The coefficients in Table 5 are in units of percentage point change in expectations per percentage point change in the given interest rate, with the exception of Nonfarm Payrolls, which is in units of millions of jobs per percentage point change in the interest rate.

Looking first at the effects of FOMC announcements (including post-FOMC press conferences) in the first two rows of Table 5, we estimate a strong and significantly negative response of Kalshi market-implied CPI expectations to federal funds rate and forward guidance changes, but only for the longer-term CPI contracts. Consistent with the intuition discussed above, this is reasonable if we think monetary policy takes some time to affect inflation, so that the front CPI contract is not affected but later contracts are. We estimate a similar negative response for Nonfarm Payrolls expectations, albeit one that is statistically significant only for the front contracts. Finally, we estimate a large, negative, and statistically significant response of Kalshi market-implied GDP expectations to federal funds rate surprises, but only for the longer-term GDP contracts.[14]

All of these estimates are consistent with standard macroeconomic models and VARs, with tighter monetary policy leading to a weaker economy and lower prices going forward, and are generally not consistent with the Fed Information Effect story, which has typically been invoked to explain positive coefficient estimates for these variables in lower-frequency, monthly regressions (e.g., Romer and Romer, 2000; Campbell et al., 2012; Nakamura and Steinsson, 2018). Note, however, that our findings here do not completely rule out the possible existence of a Fed Information Effect, only that any such information effect is dominated over our sample and in the views of Kalshi market participants by the standard transmission channels of monetary policy.

The results are fairly similar for Fed Chair speeches, with statistically significant negative effects on the Kalshi market-implied longer-term CPI and GDP expectations.[15] Again, these estimates all support the standard transmission channels from monetary policy to the economy, and are generally not consistent with the standard Fed Information Effect story.

[14]The estimated GDP response is very large, suggesting a negative 10 percentage point revision in GDP expectations per percentage point change in interest rates. Discuss that large GDP coefficient here.

[15]Again, the estimated GDP response is quite large, and is due to two observations: On March 7, 2023, Chair Powell's semiannual monetary policy testimony to Congress led to about a 10bp increase in near-term interest rate expectations, a large drop in the stock market, and a 1.2% decrease in Kalshi GDP expectations; and on October 19, 2023, Chair Powell gave a speech to the Economic Club of New York that led to a 1bp decrease in near-term interest rate expectations and there was a 1% increase in Kalshi GDP expectations. Although the coefficient is probably implausibly large, its standard errors are also very large and the reasons for it seem to be genuine and consistent with the standard transmission mechanisms from monetary policy to the economy.

Table 5. Kalshi Market-Implied Expectations Responses to Monetary Policy News

Responses of Kalshi market-implied expectations of macroeconomic variables to monetary policy announcements. "Front" contract refers to the contract nearest to maturity, while "Longer-term" contracts include all contracts beyond the front contract. "FFR Target Surprise" is the surprise change in the current federal funds rate, which is non-zero only on FOMC announcement days; "Forward Guidance" is computed as in Gürkaynak et al. (2005) and Swanson and Jayawickrema (2025). Standard errors are clustered at the trading date level and reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Sample: July 2021 to December 2025, except for Nonfarm Payrolls contracts, which begin in March 2023. See notes to Table 4 and text for details.

	CPI		**Unemployment Rate**		**Nonfarm Payrolls**		**GDP**	
	Front	Longer-term	Front	Longer-term	Front	Longer-term	Front	Longer-term
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FFR Target Surprise x FOMC Announcement	0.079	**−0.986*****	0.055	−1.589	**−0.400****	−0.085	0.188	**−10.188***
	(0.127)	(0.348)	(0.273)	(1.281)	(0.167)	(0.192)	(1.815)	(5.213)
Forward Guidance x FOMC Announcement	−0.005	**−0.390****	0.117	−1.208	**−0.340****	0.024	−0.459	−1.232
	(0.088)	(0.167)	(0.131)	(0.934)	(0.160)	(0.067)	(0.727)	(1.886)
Forward Guidance x Fed Chair Speech	0.015	**−0.165****	−0.031	0.113	−0.123	−0.020	−2.020	**−8.921****
	(0.183)	(0.080)	(0.142)	(0.173)	(0.134)	(0.037)	(1.649)	(3.762)
Forward Guidance x FOMC Minutes	0.069	**0.417****	**0.493***	−0.265	**0.524***	−0.175	0.483	−1.671
	(0.075)	(0.180)	(0.258)	(0.222)	(0.272)	(0.224)	(1.012)	(2.230)
Contract FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,519	3,253	1,484	1,095	955	709	1,493	372
R^2	0.009	0.013	0.005	0.068	0.018	0.050	0.003	0.071
Adjusted R^2	−0.027	−0.003	−0.032	0.028	−0.021	0.002	−0.011	0.027

Interestingly, FOMC minutes releases are estimated to have a significant positive effect on both the CPI and Nonfarm Payrolls expectations. The longer-term CPI contracts respond significantly positively to forward guidance changes around FOMC minutes releases, as do the front Nonfarm Payrolls contracts. Our data does not identify the exact reasons for these positive coefficients, but those estimates are consistent with the Fed Information Effect story, whereby the FOMC minutes may release information to the market about the state of the economy (e.g., CPI and Nonfarm Payrolls) that the market did not previously have. Thus, if one wanted to look for a Fed Information Effect in the data, our results suggest that there is more evidence of it in the FOMC minutes releases than in the FOMC announcements themselves or the Fed Chair's speeches. However, note that the positive response of unemployment rate expectations to FOMC minutes releases is consistent with the standard channels of monetary policy transmission, so the evidence of a Fed Information Effect in the FOMC minutes releases is mixed.

Finally, note that we find generally insignificant results for the unemployment rate, with the main exception of the significant positive response to FOMC minutes releases just mentioned. This may reflect the fact that the unemployment rate is the least variable and most stable of the statistics considered in Table 5, so that there is just not enough variation over our relatively short sample to find statistically significant effects.

4.1. Pooled Results

To provide a concise summary of how monetary policy affects macroeconomic expectations, we pool the four macroeconomic contracts together and analyze the overall effects through pooled regressions.

Recognizing that different macroeconomic variables have inherently different average sensitivities to interest rate changes (Swanson and Williams, 2014; Elenev, Law, Song, and Yaron, 2024), we start by estimating the average sensitivity of each macro variable m (CPI, Unemployment Rate, Nonfarm Payrolls, GDP) to interest rate changes, based on contract-level panel data using our whole sample:

$$\Delta Y_{i,t}^{m,h} = a_i^{m,h} + \beta_{near}^{m,h} \Delta FFR_t^{near} + \beta_{far}^{m,h} \Delta FFR_t^{far} + \varepsilon_{i,t}^{m,h} \tag{5}$$

where ΔFFR_t^{near} and ΔFFR_t^{far} denote the daily changes in the near-term (FF2) and longer-term (SOFR4) interest rates, respectively, $\Delta Y_{i,t}^{m,h}$ is the standardized daily change in contract-implied expectations for macro variable m and contract horizon h (front or longer-term), and the regression is estimated separately for each macro variable and horizon.

Intuitively, to evaluate monetary policy effects on different macroeconomic variables on an equal footing, we should down-weight a macro variable if it is on average more responsive to interest rate changes. We construct the following weight for macro variable m (and horizon h, when running horizon-specific regressions):

$$\omega^{m,h} = \frac{1}{\left|\overline{\beta}^{m,h}\right|} \tag{6}$$

where $\overline{\beta}^{m,h} = \frac{1}{2}(\hat{\beta}^{m,h}_{near} + \hat{\beta}^{m,h}_{far})$ is the average of the estimated near-term and longer-term rate sensitivities for macro variable m at horizon h. For the pooled regression across all horizons (column 1 of Table 6), we further average across horizons to obtain $\omega^m = 1/|\overline{\beta}^m|$, where $\overline{\beta}^m$ averages over both rate types and both horizons. We report these estimated sensitivities and the resulting weights in Appendix Table A.3.

The pooled regression mirrors the specification in Table 5, with the target surprise interacted with FOMC announcement days and the forward guidance factor interacted with all three types of Fed information days:

$$\Delta\widetilde{Y}^m_{i,t} = \lambda_{ffr}(\Delta FFR_t \times FOMCDays_t) + \lambda'_{fg}(\Delta FG_t \times FedDays_t) + \alpha_i + \varepsilon^m_{i,t} \tag{7}$$

where $\Delta\widetilde{Y}^m_{i,t}$ denotes the standardized daily change in macroeconomic expectations (divided by each series' standard deviation), ΔFFR_t and ΔFG_t are the target surprise and forward guidance factors from Gürkaynak et al. (2005) as computed in Swanson and Jayawickrema (2025), and α_i denotes contract-by-macro-series fixed effects. The coefficients of interest, λ, can be interpreted as the number of standard deviations by which macroeconomic expectations change on the corresponding Fed event days, per percentage point change in the interest rate factor.

Table 6 reports the results. Consistent with the individual contract-level results in Table 5, the pooled regressions show that tighter monetary policy leads to significant downward revisions in macroeconomic expectations, and that these effects are concentrated in longer-term contracts. Target rate surprises on FOMC announcement days are associated with a significant decline in longer-term expectations (-12.1 standard deviations per percentage point, column 3), while the effect on front contracts is essentially zero (column 2). Forward guidance surprises on FOMC days show a similar pattern, with a significant negative effect on longer-term contracts but no effect on front contracts.

Table 6. Kalshi Market-Implied Expectations Responses to Monetary Policy Events: Pooled Regression Results

Pooled regression estimates of the effects of monetary policy events on Kalshi market-implied expectations of macroeconomic variables, stacking CPI, Unemployment Rate, Nonfarm Payrolls, and GDP contracts. The dependent variable is the standardized daily change in market-implied expectations (divided by each series' standard deviation). "Front" contract refers to the contract nearest to maturity, while "Longer-term" contracts include all contracts beyond the front contract. "FFR Target Surprise" is the surprise change in the current federal funds rate, which is non-zero only on FOMC announcement days; "Forward Guidance" is computed as in Gürkaynak et al. (2005) and Swanson and Jayawickrema (2025). Standard errors are clustered at the trading date level and reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Sample: July 2021 to December 2025, except for Nonfarm Payrolls contracts, which begin in March 2023. See notes to Table 5 and text for details.

	Standardized Daily Changes in Macroeconomic Expectations		
	All Horizons	**Front**	**Longer-term**
	(1)	(2)	(3)
FFR Target Surprise x FOMC Announcement	**−6.415****	0.551	**−12.057*****
	(2.899)	(1.488)	(3.890)
Forward Guidance x FOMC Announcement	−2.723	0.009	**−4.695****
	(1.695)	(0.717)	(1.971)
Forward Guidance x Fed Chair Speech	**−1.774*****	−1.524	**−1.990****
	(0.631)	(1.551)	(0.986)
Forward Guidance x FOMC Minutes	**3.040****	**2.608***	**4.285****
	(1.329)	(1.463)	(1.978)
Contract FE	Yes	Yes	Yes
Observations	10,880	5,451	5,429
R^2	0.005	0.005	0.017
Adjusted R^2	−0.011	−0.024	−0.009

Forward guidance changes around Fed Chair speeches also have a significant negative effect on macroeconomic expectations, both in the pooled sample overall (column 1) and for longer-term contracts (column 3), consistent with the individual results for CPI and GDP in Table 5.

FOMC minutes releases, by contrast, are associated with significant *positive* revisions in macroeconomic expectations across all horizons. This is consistent with the individual contract-level results, where CPI and Nonfarm Payrolls expectations respond positively to forward guidance changes around minutes releases, and with a potential Fed Information Effect in which the FOMC minutes reveal information about the state of the economy that the market did not previously have.

5. Discussion

Overall, our estimates in the previous section are consistent with the usual transmission mechanism from monetary policy to the economy in standard macroeconomic models and VARs, in which higher interest rates lead to lower output and employment and lower inflation. Thus, our results here provide substantial new evidence against the very large and strong "Fed Information Effect" that has been proposed by some previous authors (e.g., Romer and Romer, 2000; Campbell et al., 2012; Nakamura and Steinsson, 2018) to explain puzzling positive coefficients in lower-frequency, monthly versions of regression equation (4) above.

Previous authors could only estimate lower-frequency versions of regression (4) because standard data on macroeconomic expectations, like the Blue Chip survey or the Survey of Professional Forecasters, is only available at a monthly or quarterly frequency. The problem with running regressions like (4) at monthly or lower frequency is that there is a great deal of macroeconomic and financial information released every month beyond just the Fed's monetary policy announcements. As argued by Bauer and Swanson (2023a,b), those other macroeconomic and financial releases are very important omitted variables in those monthly regressions and could be driving the puzzling, positive results estimated by previous authors. In fact, when Bauer and Swanson (2023a,b) include those omitted variables in the monthly forecast revision regression, they get a vastly larger R^2 and show that the puzzling positive values for λ estimated by previous authors is reversed, consistent with standard macroeconomic models and VARs.

Our use of high-frequency data from Kalshi's prediction markets provides us with a significant advantage over these previous studies and a new perspective on their results.

Unlike the Blue Chip survey or Survey of Professional Forecasters, Kalshi contracts are traded much more frequently, typically multiple times per day. This high frequency enables us to essentially isolate the effects of specific economic events like monetary policy announcements on those Kalshi market-implied expectations with minimal confounding influences. As shown in Tables 3 and 4, Kalshi trading volumes increase substantially around major macroeconomic and monetary policy announcements, suggesting that market participants actively revise their expectations in response to new information. Thus, in contrast to Bauer and Swanson (2023a,b), we don't even need to control for other variables on the right-hand side of (4) because the narrow, one-day forecast change on the left-hand side already effectively excludes other macroeconomic and financial news releases.

While Bauer and Swanson (2023a,b) run monthly version of regression (4) with additional controls on the right-hand side for macroeconomic and financial data, and estimate negative values of λ, we run regressions (4) at daily frequency—which then requires no additional right-hand side controls—and estimate similarly negative values for λ. Our results thus complement and provide an additional perspective on those of Bauer and Swanson (2023a,b).

It's important to note, however, that these results do not completely rule out the possibility of a "Fed Information Effect" more generally. Our evidence here, and that in Bauer and Swanson (2023a,b), only rules out the extremely strong information effects that would generate positive coefficients λ in regressions like (4). More generally, monetary policy announcements by the Fed could potentially reveal some information to the private sector about the state of the economy that the private sector didn't previously have, but the amount of that information might be so small that it does not change the sign of the coefficients λ estimated in regression (4). Alternatively, the Fed Information Effect might be small on average—consistent with our estimates above—but might be large on a small number of isolated dates. This latter version of the Fed Information Effect is the one promoted by Jarocinski and Karadi (2020) and Lunsford (2020), and our results here, and those in Bauer and Swanson (2023a,b), do not completely rule this possibility out.

Moreover, our results for FOMC minutes releases were somewhat more supportive of the Fed Information Effect story, with positive estimated effects on Kalshi market-implied expectations of the CPI and Nonfarm Payrolls. In contrast to FOMC announcements, the FOMC minutes are much longer—about 20 pages of text—and contain extensive discussion of the Fed's view of the state of the economy and the likely future path of monetary policy, which does suggest the possibility of more information about the economy being transmitted to market participants at the time of the minutes release. Romer and Romer

(2000), Campbell et al. (2012), and Nakamura and Steinsson (2018) focused only on FOMC announcements and did not consider FOMC minutes releases, but Cieslak and Schrimpf (2019) did consider the FOMC minutes releases and found more support for an information effect in those releases than in the FOMC announcements themselves, consistent with our findings here.

6. Conclusions

We use high-frequency data from Kalshi event contracts to investigate how monetary policy announcements affect market-implied expectations of macroeconomic variables. We show first that Kalshi's prediction markets are sufficiently liquid to provide meaningful signals regarding macroeconomic expectations, with trading volumes spiking significantly around relevant macroeconomic data releases and monetary policy announcements. The very high-frequency nature of the Kalshi market data—with typically many trades per event per day—allows us to more directly test competing theories of monetary policy transmission without relying on potentially problematic survey-based measures. This constitutes a significant methodological advancement and a new perspective in the literature estimating monetary policy's effects on macroeconomic variables and macroeconomic expectations.

Our findings strongly support the standard transmission channels from monetary policy to the economy, consistent with standard macroeconomic models and VARs—that is, higher interest rates cause output, employment, and inflation to fall—and are generally not consistent with a strong "Fed Information Effect". Some previous authors (e.g. Romer and Romer, 2000; Campbell et al., 2012; Nakamura and Steinsson, 2018) have proposed the latter to justify a puzzling, positive coefficient in monthly regressions of macroeconomic forecast revisions on interest rate changes around monetary policy announcements.

Although Bauer and Swanson (2023a) present substantial evidence against this strong Fed Information Effect story, our approach in this paper is much more direct. Here, we directly regress high-frequency, daily changes in market-implied expectations of macroeconomic variables on interest rate changes around monetary policy announcements, so we are able to exclude from our regressions all of the macroeconomic and financial confounding factors that Bauer and Swanson (2023a,b) argued were contaminating the monthly regressions studied by previous authors and driving the puzzling positive coefficients in their results. Our findings indicate that market reactions align with the predictions of standard macroeconomic models and VARs, with no significant evidence of a large Fed Information Effect. These results highlight the efficacy of high-frequency data in clarifying the immediate impacts of monetary policy on macroeconomic forecasts, thereby contributing to a

better understanding of the transmission channels of monetary policy.

The alignment of our results with standard macroeconomic models is particularly compelling, as it is derived from market-based expectations rather than researchers' interpretations of survey data. The direct nature of our testing approach obviates the need to control for omitted economic news, a common limitation of monthly-frequency analyses. By examining expectation changes in the immediate vicinity of monetary policy announcements, we provide a cleaner identification of policy effects than has been possible in most previous studies, allowing for a more definitive resolution of the ongoing debate on how monetary policy influences private-sector macroeconomic expectations.

All that said, we note that our results do not entirely rule out the possibility of a smaller "Fed Information Effect", or one that is significant only on a small number of isolated dates, as proposed by some previous authors (e.g., Jarocinski and Karadi, 2020; Lunsford, 2020). If that were the case, the Fed Information Effect could be small enough on average that it would not significantly bias our negative coefficient estimates of the relationship between monetary policy surprises and output, employment, and inflation. Our results only rule out the very large and ubiquitous information effects that have been proposed by the other authors cited above. A further investigation of whether a smaller Fed Information Effect does or does not exist would thus be an interesting avenue for future research.

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A Summary Statistics Kalshi Events

Appendix Table A.1. Kalshi Target Events Summary

Summary of monetary policy and macroeconomic announcement events. Sample: July 2021 to January 2025.

Event Type	No. of Events	Event Frequency
FOMC Day	28	0.061
Chair Speech Day	30	0.065
Fed. Minutes Day	47	0.102
CPI MoM.	43	0.093
CPI Other	129	0.279
GDP. QoQ	42	0.091
GDP Other	43	0.093
U3 MoM	42	0.091
Unemp. Other	217	0.470

B Pooled Regression Weights

Appendix Table A.2. Trading Volume and Contract Maturity by Event Type

Summary statistics for trading activity and contract maturity across event types. Sample: July 2021 to May 2024.

Panel A: Fed Fund Rate Contracts					
	Mean	P25	Median	P75	N
Abs. 1-day change in volume	2,693.168	0	16	1,333.5	7,771
(log) abs. 1-day change	3.617	0.000	2.833	7.196	7,771
Days to expiration	186.478	90	170	266	7,771
Panel B: CPI Contracts					
	Mean	P25	Median	P75	N
Abs. 1-day change in volume	1,267.117	0	0	400	4,424
(log) abs. 1-day change	2.657	0.000	0.000	5.994	4,424
Days to expiration	80.162	14	56	127	4,424
Panel C: GDP Contracts					
	Mean	P25	Median	P75	N
Abs. 1-day change in volume	747.150	0	100	600.8	1,626
(log) abs. 1-day change	3.828	0.000	4.615	6.400	1,626
Days to expiration	54.892	20	49	83	1,626
Panel D: Unemployment Rate Contracts					
	Mean	P25	Median	P75	N
Abs. 1-day change in volume	421.472	0	2	172	2,318
(log) abs. 1-day change	2.616	0.000	1.099	5.153	2,318
Days to expiration	42.544	8	22	66	2,318

Appendix Table A.3. Average Sensitivity of Contract-Implied Macro Expectations to Interest Rate Changes and Pooled Regression Weights

		Near-Term Rate (FF2)		Longer-Term Rate (SOFR4)			
Macro Series	**Horizon**	Sensitivity	Weight	Sensitivity	Weight	**N**	**Adj. R^2**
CPI	Front	0.503	8.0%	0.013	91.2%	1,519	−0.001
		(0.362)		(0.221)			
	Longer-term	0.329	39.9%	−0.130	38.3%	3,257	−0.000
		(0.240)		(0.143)			
Unemployment	Front	0.063	63.4%	−0.260	4.6%	1,484	−0.001
		(0.390)		(0.180)			
	Longer-term	**1.269*****	10.3%	−0.136	36.8%	1,095	0.001
		(0.396)		(0.289)			
GDP	Front	−0.146	27.4%	**0.405****	2.9%	1,494	−0.000
		(0.180)		(0.180)			
	Longer-term	0.279	47.0%	0.222	22.5%	400	−0.004
		(0.436)		(0.437)			
Payroll	Front	**3.436****	1.2%	−**0.968*****	1.2%	955	0.006
		(1.587)		(0.348)			
	Longer-term	−**4.893***	2.7%	**2.072*****	2.4%	709	0.013
		(2.901)		(0.783)			

Note: This table reports OLS estimates of the average sensitivity of standardized daily changes in contract-implied macro expectations to the near-term interest rate (FF2) and the longer-term interest rate (SOFR4). The dependent variable is $\Delta\tilde{y}_{i,t}/\text{SD}_i$, where SD_i is the unconditional standard deviation of daily changes for series i. Standard errors (in parentheses) are two-way clustered by trading day and contract expiration month. "Weight" is the normalized inverse absolute sensitivity ($1/|\hat{\beta}|$), summing to 100% within each horizon × rate type group. Higher weights are assigned to series with lower average sensitivity, so that each macro series contributes more equally in terms of expected response magnitude in the pooled regressions. For the horizon-specific pooled regressions in Table 6 (columns 2 and 3), the weight for each macro series is constructed by averaging the FF2 and SOFR4 sensitivities at that horizon and then inverting: $\omega^{m,h} \propto 1/|\frac{1}{2}(\hat{\beta}^{m,h}_{FF2} + \hat{\beta}^{m,h}_{SOFR4})|$. For the all-horizons pooled regression (column 1), the weight further averages across both horizons. Significance levels: $^{*}p < 0.10$; $^{**}p < 0.05$; $^{***}p < 0.01$. Bold denotes significance at the 10% level or better.

C Summary Statistics

Appendix Table A.4. Summary Statistics — Traded Contracts Only (Volume > 0)

Summary statistics for the sample of contract-day observations used in the main analysis (Tables 5 and 6), restricted to days on which at least one trade was executed (volume > 0). "Front" refers to the contract nearest to maturity; "Long-term" includes all contracts beyond the front contract. The dependent variable is the standardized 1-day change in the contract-implied macro target. Sample: July 2021 to February 2026, except for Nonfarm Payrolls contracts, which start in March 2023.

	CPI (Front)	CPI (Long-term)	U3 (Front)	U3 (Long-term)	GDP (Front)	GDP (Long-term)	Payroll (Front)	Payroll (Long-term)
Observations	1,519	3,253	1,484	1,095	1,493	372	955	709
Unique Contracts	51	48	50	42	18	14	33	31
Unique Trading Days	1,519	935	1,484	433	1,493	332	911	333
Contracts per Day: Mean	1.0	3.48	1.0	2.53	1.0	1.12	1.05	2.13
Contracts per Day: Std	0.0	2.94	0.0	1.68	0.0	0.33	0.21	2.07
Sample Start	2021/12/27	2022/02/10	2021/12/27	2022/02/04	2021/12/27	2022/03/22	2023/03/10	2023/08/06
Sample End	2026/02/22	2026/02/13	2026/02/11	2026/01/09	2026/02/22	2025/07/30	2026/01/08	2026/02/22
FOMC Days	32	19	32	9	32	8	21	5
Chair Speech Days	34	23	34	11	33	5	22	4
Fed Info Days (Minutes etc.)	48	31	47	16	47	14	29	5
Days to Release: Median	15	101	16	75	47	124	15	98
Days to Release: Min	0	26	0	24	0	90	0	31
Days to Release: Max	42	369	90	230	145	219	30	381
Daily Volume: Mean	138,157	3,746	33,749	2,506	132,907	1,359	79,225	19,688
Daily Volume: Min	288	1	1	5	172	10	1	1
Daily Volume: Max	2,000,239	676,989	522,506	122,073	2,110,113	147,103	1,375,561	895,983

Appendix Table A.5. Summary Statistics — All Contracts Including Bid-Ask Prices

Summary statistics for the expanded sample that includes all contract-day observations with available bid-ask prices, regardless of whether any trades were executed. This sample is used in the robustness analysis reported in Appendix Tables A.6 and A.7. "Front" refers to the contract nearest to maturity; "Long-term" includes all contracts beyond the front contract. The dependent variable is the standardized 1-day change in the contract-implied macro target. Sample: July 2021 to February 2026, except for Nonfarm Payrolls contracts, which start in March 2023.

	CPI (Front)	CPI (Long-term)	U3 (Front)	U3 (Long-term)	GDP (Front)	GDP (Long-term)	Payroll (Front)	Payroll (Long-term)
Observations	1,519	3,952	1,488	2,404	1,493	583	985	1,579
Unique Contracts	51	49	50	46	18	14	33	38
Unique Trading Days	1,519	1,232	1,488	727	1,493	427	931	505
Contracts per Day: Mean	1.0	3.21	1.0	3.31	1.0	1.37	1.06	3.13
Contracts per Day: Std	0.0	3.08	0.0	2.51	0.0	0.48	0.23	4.05
Sample Start	2021/12/27	2022/02/10	2021/12/27	2022/02/04	2021/12/27	2022/03/22	2023/03/10	2023/07/07
Sample End	2026/02/22	2026/02/13	2026/02/11	2026/01/09	2026/02/22	2025/07/30	2026/01/08	2026/02/22
FOMC Days	32	27	32	13	32	9	21	9
Chair Speech Days	34	30	34	21	33	8	22	7
Fed Info Days (Minutes etc.)	48	39	47	25	47	17	30	10
Days to Release: Median	15	102	16	94	47	143	15	132
Days to Release: Min	0	26	0	24	0	90	0	31
Days to Release: Max	42	383	90	315	145	306	30	417
Daily Volume: Mean	138,157	3,084	33,658	1,141	132,907	867	76,812	8,840
Daily Volume: Min	288	0	0	0	172	0	0	0
Daily Volume: Max	2,000,239	676,989	522,506	122,073	2,110,113	147,103	1,375,561	895,983

Appendix Table A.6. Kalshi Market-Implied Expectations Responses to Monetary Policy Events — All Contracts Including Bid-Ask Prices

Same specification as Table 5, but using all contract-days with available bid-ask prices, regardless of whether any trades were executed. "Target Surprise" is the surprise change in the current federal funds rate, which is non-zero only on FOMC announcement days; "Forward Guidance" is the Gürkaynak et al. (2005) "path" factor as computed in Swanson and Jayawickrema (2025). Standard errors are clustered at the trading date and contract expiration month level and reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Sample: July 2021 to December 2025, except for Nonfarm Payrolls contracts, which start in March 2023. See text for details.

	CPI		**Unemployment Rate**		**Nonfarm Payrolls**		**GDP**	
	Front	Longer-term	Front	Longer-term	Front	Longer-term	Front	Longer-term
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FFR Target Surprise x FOMC Announcement	0.079	**−0.827****	0.041	−2.128	**−0.412****	0.082	0.184	**−8.751****
	(0.127)	(0.330)	(0.279)	(1.393)	(0.171)	(0.119)	(1.814)	(3.844)
Forward Guidance x FOMC Announcement	−0.005	**−0.324****	0.106	−1.452	**−0.345****	−0.023	−0.460	−1.307
	(0.088)	(0.163)	(0.134)	(1.006)	(0.162)	(0.035)	(0.727)	(1.701)
Forward Guidance x Fed Chair Speech	0.015	**−0.164****	−0.030	−0.163	−0.126	−0.355	−2.036	−0.836
	(0.183)	(0.066)	(0.158)	(0.317)	(0.128)	(0.289)	(1.652)	(0.980)
Forward Guidance x FOMC Minutes	0.069	**0.390****	**0.472***	0.273	**0.383****	−0.024	0.485	−4.379
	(0.075)	(0.167)	(0.260)	(0.382)	(0.189)	(0.037)	(1.012)	(3.299)
Contract FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,519	3,952	1,488	2,404	985	1,579	1,493	583
R^2	0.009	0.008	0.004	0.016	0.015	0.028	0.003	0.024
Adjusted R^2	−0.027	−0.005	−0.033	−0.004	−0.022	0.003	−0.011	−0.006

Appendix Table A.7. Kalshi Market-Implied Expectations Responses to Monetary Policy Events: Pooled Regression Results — All Contracts Including Bid-Ask Prices

Same specification as Table 6, but using all contract-days with available bid-ask prices, regardless of whether any trades were executed. Weights are based on traded-only sample sensitivity estimates. Standard errors are clustered at the trading date level and reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Sample: July 2021 to December 2025, except for Nonfarm Payrolls contracts, which begin in March 2023. See text for details.

	Standardized Daily Changes in Macroeconomic Expectations		
	All Horizons	**Front**	**Longer-term**
	(1)	(2)	(3)
Target Surprise x FOMC Announcement	$-$**6.160****	0.455	$-$**10.150*****
	(2.608)	(1.415)	(3.762)
Forward Guidance x FOMC Announcement	$-$**2.730***	$-$0.115	$-$**3.932****
	(1.530)	(0.670)	(1.939)
Forward Guidance x Fed Chair Speech	$-$**1.777*****	$-$1.509	$-$**1.984****
	(0.543)	(1.575)	(0.892)
Forward Guidance x FOMC Minutes	**2.635****	**2.168***	**3.790****
	(1.198)	(1.284)	(1.741)
Contract FE	Yes	Yes	Yes
Observations	14,003	5,485	8,518
R^2	0.004	0.004	0.008
Adjusted R^2	$-$0.008	$-$0.024	$-$0.009

Appendix Table A.8. Kalshi Market-Implied Expectations Responses to Monetary Policy Events: Unweighted Pooled Regression Results

Same specification as Tables 6 and A.7, but without weighting across macro series (all series receive equal weight). Columns (1)–(3) use traded contracts only (volume > 0); columns (4)–(6) use all contracts including bid-ask prices. Standard errors are clustered at the trading date level and reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). Sample: July 2021 to December 2025, except for Nonfarm Payrolls contracts, which begin in March 2023. See text for details.

	Standardized Daily Changes in Macroeconomic Expectations					
	Traded Contracts Only			**All Contracts (Bid-Ask)**		
	All Horizons	Front	Longer-term	All Horizons	Front	Longer-term
	(1)	(2)	(3)	(4)	(5)	(6)
Target Surprise x FOMC Announcement	−**5.494****	−0.194	−**10.015*****	−**4.691****	−0.333	−**6.635***
	(2.411)	(1.380)	(3.679)	(2.371)	(1.356)	(3.563)
Forward Guidance x FOMC Announcement	−**2.559***	−0.622	−**3.994***	−2.306	−0.742	−2.685
	(1.450)	(0.758)	(2.064)	(1.433)	(0.740)	(1.986)
Forward Guidance x Fed Chair Speech	−**1.636*****	−1.563	−**1.630***	−**1.850*****	−1.578	−2.004
	(0.618)	(1.665)	(0.863)	(0.681)	(1.680)	(1.261)
Forward Guidance x FOMC Minutes	**3.074****	**3.484***	2.393	**2.736****	**3.036***	2.157
	(1.310)	(1.812)	(1.482)	(1.186)	(1.551)	(1.413)
Contract FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	10,880	5,451	5,429	14,003	5,485	8,518
R^2	0.005	0.006	0.029	0.004	0.006	0.011
Adjusted R^2	−0.011	−0.023	0.004	−0.008	−0.023	−0.006