Under Pressure? Central Bank Independence Meets Blockchain Prediction Markets

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Abstract

Employing data from Polymarket, a blockchain-based prediction market where users trade on Federal Reserve rate decisions and scenarios related to central bank independence, we construct a hawk–dove score for wallets and link beliefs to monetary policy expectations. Users who believe President Trump will fire Fed Chair Powell, and who expect stronger political pressure on the central bank, hold more dovish views and expect lower short-term rates than other users. They also expect higher long-term Treasury yields and higher inflation, consistent with reduced policy credibility. The findings indicate that political events affect expectations through perceived threats to central bank independence.

JEL Codes: D72, D84, E52, E58, G14

Keywords: central bank independence, monetary policy expectations, prediction markets, Polymarket, blockchain, decentralized finance

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1 Introduction

> *Donald J. Trump: "This would be a PERFECT time for Fed Chairman Jerome Powell to cut interest rates . . . CUT INTEREST RATES, JEROME, AND STOP PLAYING POLITICS!"*[1]

A foundational principle of modern central banking is central bank independence (CBI). A large literature shows that political influence weakens the credibility of monetary policy and raises both inflation bias and long-term nominal yields (Kydland and Prescott, 1977; Barro and Gordon, 1983; Rogoff, 1985; Cukierman et al., 1992; Alesina and Summers, 1993; Cukierman, 1994).

This paper uses investor-level data from Polymarket, a decentralized blockchain-based prediction platform, to study how beliefs about CBI relate to expectations of monetary policy and macroeconomic outcomes.[2] Our analysis is motivated by two ideas. If investors perceive that CBI is under threat, they should expect a more accommodative near-term interest rate path. At the same time, threats to CBI should raise longer-run macroeconomic risk, reflected in higher long-term yields, inflation risk, and recession risk.

These concerns are particularly salient when political pressure targets the leadership of the central bank. Although legal frameworks are designed to safeguard monetary policy autonomy, de jure and de facto independence may differ. Binder (2021b) finds that around ten percent of central banks face overt political pressure each year, typically toward more accommodative policy. Public statements questioning the independence of Jerome Powell, the Chair of the Federal Reserve, provide a recent U.S. example, with past precedent in presidential influence on Federal Reserve policy during the Nixon–Burns era (Drechsel, 2025) and financial market reactions to President Trump's public calls for rate cuts in 2018 (Bianchi et al., 2023). Our contribution is to link beliefs about the potential removal of the Federal Reserve Chair to investor-level positions in interest rate and macroeconomic prediction markets, and to study how political communication impacts these beliefs.

[1] Truth Social, April 4, 2025. Post link.

[2] Polymarket elicits incentive-compatible beliefs backed by real money and updates continuously in real time. Trades are recorded on a public blockchain and indexed by wallet identifiers, which allow positions to be linked across contracts and over time at the level of individual market participants, offering a degree of granularity not available in survey-based measures of expectations.

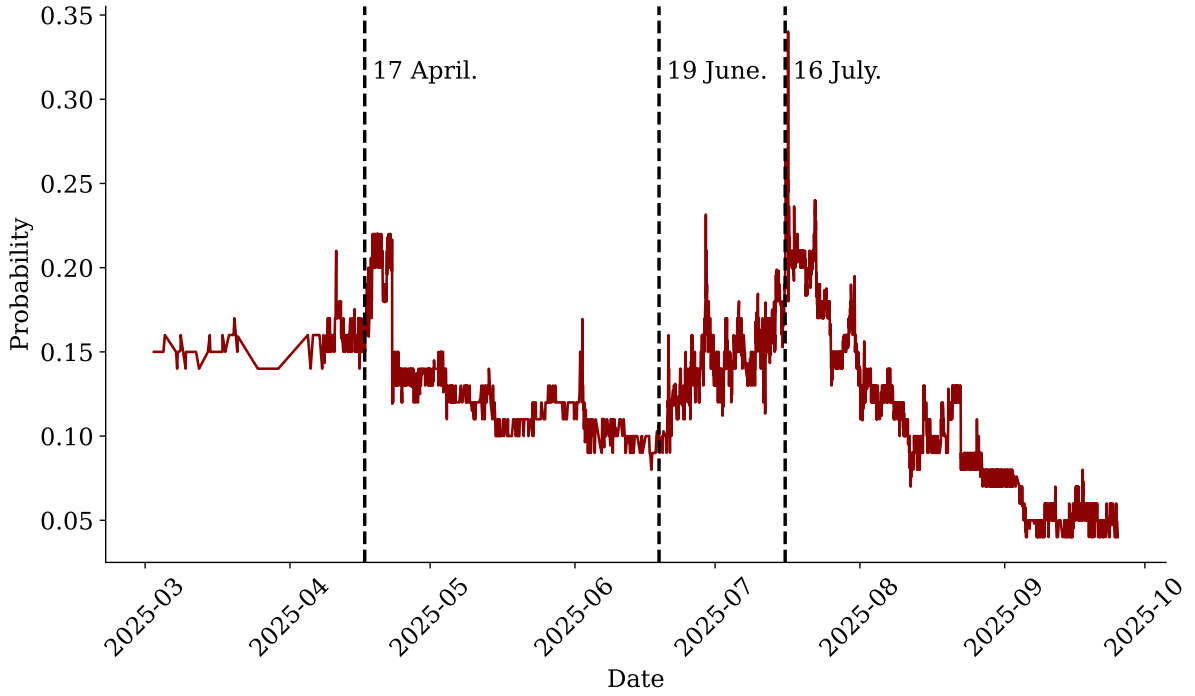
Polymarket provides the institutional foundation for this analysis by hosting prediction markets that map directly into monetary policy and CBI-related outcomes. Since November 2024, it has listed contracts for each scheduled Federal Open Market Committee (FOMC) meeting tied to discrete policy rate outcomes, and since January 2025 it has also listed a binary contract on whether Powell will leave his position as Federal Reserve Chair in 2025. The Powell contract reflects renewed political pressure on the Federal Reserve during the 2024 election cycle and following President Trump's return to office, including repeated public calls for lower interest rates and statements questioning Powell's tenure.[3] Together, these markets allow us to measure monetary policy expectations and beliefs about central bank leadership within a unified trading environment. We validate that Polymarket-based measures capture meaningful policy expectations. FOMC probabilities implied by Polymarket prices closely track those extracted from CME federal funds futures at high frequency, and investor-level measures of policy stance co-move with inflation expectations in a manner consistent with Taylor-rule reasoning, in which policy rate expectations respond systematically to changes in inflation expectations. We then use the same measures to study how beliefs about CBI shape expectations.

To motivate our analysis, Figure 1 shows how these threats were priced in real time. The figure plots the Polymarket-implied probability that Powell would be removed in 2025 alongside key political events. Trump's statements in April and June urging Powell to resign or be removed coincide with sharp increases in the implied removal probability. The largest repricing occurs around July 16, 2025, when press reports indicated that Trump had displayed a draft termination letter for Powell during a meeting with House Republicans and, at 13:11, a member of Congress publicly stated that the President was "firing" Powell. Around this time-stamped shock to perceived CBI, the Powell-removal contract repriced sharply, prediction markets for the July FOMC meeting shifted toward higher probabilities of a rate cut, and traditional financial markets experienced dollar depreciation, lower short-term Treasury yields, and a modest steepening of the yield curve.

[3]For example, on April 4, 2025, Trump posted on Truth Social urging Powell to cut rates, and in June 2025 he posted a handwritten note stating that Powell was "costing the USA a fortune" and that interest rates "should be 1 percent, or better." See Post link.

This episode indicates that markets interpret credible threats to CBI as increasing the likelihood of near-term easing and weakening longer-run policy credibility.[4]

Figure 1: President Trump and Federal Reserve Independence



Notes. This figure plots the price of the "Yes" token in the market "Jerome Powell out as Fed Chair in 2025?". Key political events are annotated: on April 17, 2025, Trump stated, "Oh, he'll leave. If I ask him, he'll be out of there." [5] On June 19, 2025, Trump stated, "Too Late—Powell is the WORST. A real dummy, who's costing America Billions! ...Powell should cut rates or quit."[6] On July 16, 2025, Trump reportedly waved a draft letter firing Jerome H. Powell during a meeting in the Oval Office with House Republicans. [7]

We present three empirical tests. First, we examine how cross-sectional beliefs about CBI relate to expectations of short-term interest rates. To measure heterogeneity in monetary policy views at the investor level, we construct hawk–dove scores from positions in prediction markets for scheduled FOMC meetings. We treat each wallet identifier as an investor identifier and measure each investor's net directional exposure to discrete policy rate outcomes around meeting dates.[8] To summarize an investor's stance across meetings,

[4]In the weeks following the July 16 episode, the implied removal probability declines as labor-market conditions soften and expectations of monetary easing increase, reducing the perceived conflict between the administration's demands and the likely Federal Reserve policy path.

[8]A wallet is a blockchain address that can hold and trade digital assets and is publicly observable on the blockchain. In our data, trades are indexed by wallet address, which allows us to follow the same participant across Polymarket contracts.

we implement a latent-variable model that infers policy preferences from trading behavior. Following the ideal-point framework of Clinton et al. (2004) and its application to central banking in Eijffinger et al. (2018), we estimate a continuous score that places investors along a spectrum from favoring tighter to looser policy. Investors who bet on Powell's dismissal hold more dovish policy expectations than those who bet against removal or remain neutral, even after controlling for trading volume and overall activity.

Second, we examine whether beliefs about Powell's removal extend to expectations about longer-run macroeconomic outcomes. Using markets tied to long-term Treasury yield thresholds, U.S. recession risk in 2025, and inflation outcomes, we find that investors who expect Powell's dismissal assign greater probability to adverse macroeconomic scenarios and hold larger net positions that pay off when long-term yields rise or when a recession occurs. In inflation markets, investors who do not expect Powell's removal tend to hold low-inflation views, while those anticipating his dismissal are more likely to hold high-inflation views.

Finally, we address identification concerns in the cross-sectional evidence on CBI. Divergence in beliefs about Powell's removal may reflect broader views about Trump-era economic policy, heterogeneous macroeconomic outlooks, or investor-specific trading styles. To isolate the effect of perceived political pressure on the Federal Reserve, we construct a high-frequency measure of shocks to CBI using the precise timing of Trump's Truth Social posts. For each post that criticizes Powell, calls for lower interest rates, or discusses his possible removal, we measure changes in the Powell-removal probability within a narrow window and interpret these changes as CBI surprises. Local projections show that these surprises increase the implied probability of rate cuts for upcoming FOMC meetings, depreciate the dollar against other G9 currencies, and modestly steepen the ten-year minus three-month term spread.

Roadmap Section 2 reviews the related literature. Section 3 describes the institutional setting, data, and construction of investor-level policy stance measures. Section 4 presents the main hypotheses. Section 5 reports the empirical results. Section 6 concludes.

2 Related Literature

This paper contributes to several strands of literature. Most directly, we relate to work on the theory and empirical measurement of CBI. CBI addresses the time-inconsistency problem in which policymakers may pursue short-run stimulus at the cost of higher long-run inflation (Kydland and Prescott, 1977; Barro and Gordon, 1983). Institutional independence is therefore viewed as a commitment device for price stability. Recent structural work quantifies these mechanisms. Debortoli and Lakdawala (2016) estimate that the Federal Reserve operates under a loose-commitment regime, and Lakdawala and Wu (2017) show that lower credibility raises medium-term yields and steepens the yield curve.

A second literature studies how legal and institutional arrangements shape central bank behavior. Early research introduced measures of de jure CBI and documented that greater independence is associated with lower and more stable inflation (Cukierman et al., 1992; Alesina and Summers, 1993). Later work documents increasing formal independence over time (Cukierman, 1994; Eijffinger and Geraats, 2006; Walsh, 2008; Dincer and Eichengreen, 2018; Dincer et al., 2024; Romelli, 2022, 2024; Jung et al., 2025). At the same time, de jure and de facto independence often diverge, and political influence remains common (Binder, 2021b,a; Bianchi et al., 2023; Drechsel, 2025; Pagliuca, 2025). Examples include presidential communication influencing monetary policy in the Nixon–Burns era (Drechsel, 2025) and political alignment between FOMC members and the administration (Pagliuca, 2025). Closest to our work, Bianchi et al. (2023) show that Trump's public criticism of the Federal Reserve in 2018–19 coincided with shifts in interest rate futures. We contribute by developing a market-based, investor-level measure of beliefs about such interference. While Bianchi et al. (2023) study aggregate price reactions in futures markets, we link individual investors' CBI beliefs to their own FOMC rate expectations at the wallet level. This allows us to characterize the cross-sectional distribution of perceived CBI threats and test directly whether heterogeneity in these beliefs generates corresponding heterogeneity in monetary policy and macroeconomic expectations, which is not possible with aggregate data alone.

A third strand examines FOMC voting behavior and the classification of policymakers as hawks or doves. Researchers infer these stances from voting records, forecasts, or public communication (Eijffinger et al., 2018; Istrefi, 2019; Bordo and Istrefi, 2023), often using roll-call scaling models (Clinton et al., 2004). Recent work highlights substantial heterogeneity. Inflation experiences predict hawkishness (Malmendier et al., 2021), and dissent patterns and forecast revisions reveal underlying preferences (Filippou et al., 2023; Burghartz, 2025; Bobrov et al., 2025). We extend this framework to a new setting by applying similar ideal-point estimation techniques to investor behavior on Polymarket, allowing us to recover belief-based monetary policy stances outside formal institutional settings.

A fourth strand examines how monetary policy expectations relate to macroeconomic fundamentals and how these expectations differ across agents. Taylor-type rules imply systematic responses of interest rates to inflation and output (Taylor, 1993, 2012; Lakdawala, 2016), and the shift toward rule-based policy is linked to improved macroeconomic stability (Taylor, 2013). Lakdawala (2016) show that the Volcker-era Federal Reserve placed greater weight on inflation, while Carvalho and Nechio (2014) find that household expectations co-move with inflation and unemployment in line with simple policy heuristics. Related work documents substantial heterogeneity in household and investor expectations, often reflecting political identity (Coibion et al., 2020; Mian et al., 2023; Binder et al., 2024; DiGiuseppe et al., 2025; Kay et al., 2025). For example, households aligned with the incumbent party tend to hold more optimistic views (Coibion et al., 2020), and political affiliation shapes forecaster optimism in WSJ surveys (Kay et al., 2025). Our contribution differs by focusing on monetary policy expectations and by showing that heterogeneity arises not only from macroeconomic views but also from perceived political pressure on the Federal Reserve.

Finally, we add to a small but growing literature using decentralized prediction markets to study investor beliefs. These platforms provide transparent, high-frequency, incentive-compatible individual expectations. Recent work uses Polymarket to study beliefs about political, macroeconomic, and financial outcomes (Chernov et al., 2025; Ng et al., 2025;

Chen et al., 2025). Ng et al. (2025) find that Polymarket outperformed polls in predicting the 2024 US election, and Chen et al. (2025) document partisan variation in election expectations. Our contribution is twofold. We construct wallet-level hawk–dove scores using FOMC rate markets, and we link these scores to beliefs about CBI via the Powell-dismissal contract, providing a new setting to study perceived political pressure on the Federal Reserve.

3 Institutional Details and Data

We divide this section into four parts. Section 3.1 provides an overview of the key institutional details of Polymarket, including its trading mechanism. Section 3.2 explains how we access and use Polymarket data. Section 3.3 describes the procedure used to construct investor-level hawk–dove scores that measure monetary policy stance. Finally, Section 3.4 presents validation tests showing that investors on Polymarket behave like informed market participants, by benchmarking prediction-market prices to CME futures and documenting behavior consistent with Taylor-rule reasoning, whereby investors' inflation expectations are systematically related to their stance on interest rates.

3.1 Polymarket

Polymarket is the largest decentralized prediction market platform, enabling participants to financialize their beliefs about real-world outcomes. Traders deposit USDC on the Polygon blockchain and trade tokenized claims on future events. As of June 2025, the platform recorded monthly trading volume of $1.17 billion, with peak activity reaching $2.4 billion during the 2024 U.S. presidential election.[9]

Polymarket structures trading around two elements: **events** and **markets**. An **event** corresponds to an uncertain real-world occurrence, such as whether the Federal Reserve will change policy at the March 2025 FOMC meeting or whether President Trump will remove the Federal Reserve Chair. Each event is decomposed into one or more **markets**,

[9] `https://defillama.com/protocol/dexs/polymarket`

where each market represents a specific binary outcome.

Binary payoff structure. Each Polymarket market consists of a fully collateralized pair of 'Yes" and 'No" tokens. Let X denote the underlying outcome. The payoff of each token is given by

$$\pi_{\text{Yes}} = \begin{cases} 1 & \text{if } X \text{ occurs,} \\ 0 & \text{otherwise,} \end{cases} \qquad \pi_{\text{No}} = 1 - \pi_{\text{Yes}}. \tag{1}$$

This structure applies to markets with inherently binary outcomes, such as 'Will President Trump fire Jerome Powell?" or 'Will there be a recession in 2025?"

Events with multiple mutually exclusive outcomes. Other events feature several mutually exclusive possibilities, each implemented as a separate binary market. The FOMC meetings studied in this paper, as well as monthly inflation markets, take this form. For the March 2025 FOMC meeting, Polymarket listed four distinct policy-rate outcomes: (i) a 25 bp increase, (ii) no change, (iii) a 25 bp decrease, and (iv) a 50 bp decrease.

Let an event have K mutually exclusive outcomes indexed by $k = 1, \ldots, K$, and let the realized outcome be R. Polymarket represents the event as a vector of K binary markets, each associated with its own 'Yes" token. The payoff vector is

$$\boldsymbol{\pi}_{\text{Yes}}^{\text{Event}}(R) = \begin{pmatrix} \pi_{\text{Yes}}^{(1)} \\ \pi_{\text{Yes}}^{(2)} \\ \vdots \\ \pi_{\text{Yes}}^{(K)} \end{pmatrix} = \begin{pmatrix} 1 \text{ if } R = 1, \text{ else } 0 \\ 1 \text{ if } R = 2, \text{ else } 0 \\ \vdots \\ 1 \text{ if } R = K, \text{ else } 0 \end{pmatrix}. \tag{2}$$

For example, in the '25 bp cut" market for the March 2025 FOMC event, if R denotes the realized target-rate change, the payoff reduces to the standard binary form

$$\pi_{\text{Yes}}^{\text{FOMC, 25bp cut}} = \begin{cases} 1 & \text{if } R = -25 \text{ bp,} \\ 0 & \text{otherwise,} \end{cases} \qquad \pi_{\text{No}} = 1 - \pi_{\text{Yes}}. \tag{3}$$

Thus, a multi-outcome Polymarket event is implemented as a system of binary contracts, each corresponding to one element of the payoff vector.

Prices and collateralization. Let P_{Yes} and P_{No} denote the prices of a market's two outcome tokens. Because each 'Yes" and 'No" pair is fully collateralized by 1 USDC, prices satisfy the identity

$$P_{\text{Yes}} + P_{\text{No}} = 1. \tag{4}$$

This condition reflects a no-arbitrage condition. If $P_{\text{Yes}} + P_{\text{No}} < 1$, traders can buy both tokens and redeem the matched pair for 1 USDC at resolution, generating a riskless profit. Conversely, if $P_{\text{Yes}} + P_{\text{No}} > 1$, traders can mint a matched pair by depositing 1 USDC and sell the tokens at prevailing prices.

Traders can buy or sell individual tokens, mint matched pairs by depositing 1 USDC, or redeem matched pairs for 1 USDC. Prices adjust via a continuous limit-order book operated off-chain, while settlement and token accounting occur on-chain. Upon market resolution, the winning token pays out 1 USDC and the losing token becomes worthless.[10]

Implementation. Polymarket implements binary markets using the Conditional Tokens Framework (CTF). Tokens can be minted, merged, and redeemed in complete sets, and all market resolutions operate through conditional claims tied to a specific event outcome. Appendix A provides additional detail and transaction-level examples.

3.2 Data

Subgraph API. We rely on data from the Polymarket Subgraph API to trace transactions and obtain account-level information.[11]

Each transaction on Polymarket is fully traceable via the Subgraph API. For every trade, we observe the transaction price (denominated in USDC), trade size (in USDC), timestamp, and the identities of both counterparties (buyer and seller IDs).[12] For all

[10] USDC is a fiat-backed stablecoin issued by Circle and backed by reserves held primarily in cash and short-term U.S. Treasuries. See `https://www.circle.com/transparency`.

[11] Available at `https://docs.polymarket.com/developers/subgraph/overview`.

[12] The Subgraph records each transaction twice. In one of these records, the taker ID corresponds to

traders on Polymarket, we also obtain trader-specific information on cumulative trading volume, trading profit, and the number of markets in which they have participated.

Markets and Events. Table 1 lists the Polymarket prediction markets used in our analysis. We group these markets into three categories: Federal Reserve independence, macroeconomic fundamentals, and FOMC policy decisions.

The central market used to proxy beliefs about political pressure is the binary contract *"Jerome Powell out as Fed Chair in 2025?"*. A long position pays 1 USDC if Powell is removed or resigns before the end of 2025. We interpret positions in this market as reflecting beliefs that Federal Reserve independence may be compromised. We treat this contract as a proxy for the broader perceived threat to Federal Reserve independence.

To capture macroeconomic fundamentals, we use markets on recession risk, inflation, and long-term interest rates. Recession risk is measured using the *"U.S. recession in 2025?"* binary contract, which pays 1 USDC if either the NBER declares a recession in 2025 or real GDP falls for two consecutive quarters. Long-term interest rate expectations are captured by the categorical market *"How high will the 10-year Treasury yield go in 2025?"*, which pays 1 USDC if yields meet or exceed specified thresholds. Inflation expectations are proxied using several categorical markets on year-on-year CPI outcomes. The *"How high will inflation get in 2025?"* market pays 1 USDC if the maximum CPI print observed in any month of 2025 reaches or exceeds the listed threshold. We supplement this with month-specific markets for February, April, May, June, July, and August inflation, each paying 1 USDC if CPI exceeds the stated threshold in the corresponding month. These markets allow us to align inflation expectations with the timing of FOMC decisions.

Monetary policy expectations are extracted from categorical markets on FOMC rate decisions in March, May, and June 2025. Each contract offers outcome-specific tokens such as *"Hold"*, *"+25bps"*, or *"-25bps"*, with payoffs of 1 USDC for the realized policy outcome announced at the corresponding FOMC meeting. We use wallet-level positions in these contracts to estimate investor-specific monetary policy stance scores.

the wallet ID of the CTF Exchange contract. To avoid double counting, we drop records for which the taker ID is the CTF Exchange contract wallet (0xc5d563a36ae78145c45a50134d48a1215220f80a).

Market Liquidity. The final column of Table 1 reports total trading volume as a proxy for market liquidity. Liquidity varies substantially across contracts, with FOMC markets consistently attracting the highest participation and depth. For example, the March 2025 FOMC contract attracted over 27,000 unique users and generated $78 million in cumulative trading volume. The March, May, and June 2025 meetings each exceeded $75 million in trading volume, while the September 2025 contract surpassed $190 million. This depth reflects the salience of interest rate decisions and the relatively short horizon to contract resolution.

Macroeconomic outcome markets are generally less liquid. The recession risk market reached approximately $9 million in trading volume, while inflation-related markets ranged from roughly $0.6 to $1 million depending on the month and contract design. The long-term Treasury yield market exhibited moderate activity, with around $3 million in total volume. The Powell dismissal market, which we use to measure beliefs about political pressure, was among the more liquid non-FOMC contracts, with trading volume of approximately $10 million.

Overall, while macroeconomic markets are less liquid than FOMC contracts, they still provide meaningful cross-sectional variation in expectations for our analysis.

Participation rates and trading behavior are consistent with these liquidity patterns. Appendix B, Table B.1, shows that FOMC markets attract large numbers of unique traders; for example, over 21,000 agents participated in the January 2025 *+25bps* market. Net positions in these markets, measured in USDC, also exhibit wide dispersion, with standard deviations exceeding 14,000 in some cases, reflecting substantial heterogeneity in beliefs and trading intensity.

CME 30-Day Federal Funds Futures. We use high-frequency data on CME 30-Day Federal Funds Rate futures from Databento, sampled at 5-minute intervals from October 2024 to September 2025. These contracts settle on the basis of the average effective federal funds rate for a given calendar month and are widely used to infer market expectations about monetary policy decisions. We use these prices to construct implied probabilities of target rate changes at upcoming FOMC meetings, which serve as a benchmark for

Table 1: Polymarket Events and Market Details

	Event	URL	Payout Structure	Volume
Federal Reserve Independence	Jerome Powell out as Fed Chair in 2025?	Link	Binary: \$1 if Powell steps down before 2026.	\$10 million
Macroeconomic Fundamentals	Will the U.S. enter a recession in 2025?	Link	Binary: \$1 if NBER declares recession or two consecutive quarters of negative GDP growth in 2025.	\$9 million
	How high will 10-year Treasury yield go in 2025?	Link	Categorical: \$1 if the Treasury 10-year yield reaches or is higher than the listed value in 2025.	\$3 million
	How high will inflation get in 2025?	Link	Categorical: \$1 for bin if any month in 2025 CPI $\geq$ listed value.	\$1.2 million
	February Inflation - Annual	Link	Categorical: \$1 for bin if corresponding month's CPI $\geq$ listed value.	\$0.6 million
	April Inflation - Annual	Link	Categorical: \$1 for bin if corresponding month's CPI $\geq$ listed value.	\$1 million
	May Inflation - Annual	Link	Categorical: \$1 for bin if corresponding month's CPI $\geq$ listed value.	\$0.9 million
	June Inflation - Annual	Link	Categorical: \$1 for bin if corresponding month's CPI $\geq$ listed value.	\$0.6 million
	July Inflation - Annual	Link	Categorical: \$1 for bin if corresponding month's CPI $\geq$ listed value.	\$0.6 million
	August Inflation - Annual	Link	Categorical: \$1 for bin if corresponding month's CPI $\geq$ listed value.	\$0.8 million
FOMC	Fed decision in November 2024?	Link	Categorical: Multiple tokens (e.g., "No Change", "+25bps", "-25bps", "-50bps"), \$1 payout per winning outcome.	\$190 million
	Fed decision in December 2024?	Link	Categorical: Same format as above.	\$59 million
	Fed decision in January 2025?	Link	Categorical: Same format as above.	\$191 million
	Fed decision in March 2025?	Link	Categorical: Same format as above.	\$78 million
	Fed decision in May 2025?	Link	Categorical: Same format as above.	\$88 million
	Fed decision in June 2025?	Link	Categorical: Same format as above.	\$107 million
	Fed decision in July 2025?	Link	Categorical: Same format as above.	\$137 million
	Fed decision in September 2025?	Link	Categorical: Same format as above.	\$220 million

Note: Table reports prediction markets on Polymarket used in our analysis. Events cover monetary policy, macroeconomic indicators, and politically salient outcomes. All markets resolve based on publicly verifiable sources such as the Federal Reserve, BLS, and U.S. Treasury. URLs link to corresponding Polymarket event pages. Volume is the total trading volume.

comparison with investor expectations on Polymarket.

Foreign Exchange Rates, U.S. Treasury Yields, and Overnight Index Swaps. We use high-frequency data from LSEG Tick History on foreign exchange rates, U.S. Treasury yields, and U.S. dollar Overnight Index Swap (OIS) rates, sampled at 1-minute intervals from January to September 2025. The exchange rate sample covers the G9 currencies: the Australian dollar (AUD), Canadian dollar (CAD), euro (EUR), Japanese

yen (JPY), New Zealand dollar (NZD), Norwegian krone (NOK), Swedish krona (SEK), Swiss franc (CHF), and British pound (GBP), all vis-à-vis the U.S. dollar. Treasury yield and OIS data include maturities of 1 month, 3 months, 1 year, 5 years, 10 years, and 30 years.

3.3 Measuring Monetary Policy Stance: Hawk–Dove Scores

We develop a latent variable model to infer monetary policy preferences from agent-level trading behavior in FOMC-related prediction markets. We treat agents' net positions in markets tied to specific interest rate outcomes as revealed beliefs. The core assumption is that an agent's likelihood of taking a position in a given market depends on the alignment between their latent monetary policy stance, captured by a hawk–dove score, and the directional implication of the market. The model follows the framework of Clinton et al. (2004), which uses roll-call voting behavior to infer legislators' latent policy preferences, and is closely related to Eijffinger et al. (2018), who apply a similar approach to FOMC voting behavior.

In our setup, an agent's probability of betting in a given FOMC market depends jointly on agent-specific ideological traits and market-specific parameters. By imposing monotonic ordering constraints on market slopes across policy-rate categories, we ensure a consistent ideological interpretation across FOMC events and obtain a structured and interpretable measure of heterogeneous monetary policy stances.

A FOMC event k, such as the March 2025 meeting, contains multiple markets corresponding to different policy outcomes, including '25-bps rate increase' and '50-bps rate decrease.' These contracts allow agents to bet on future FOMC decisions and express expectations about policy rate changes. For each market j under event k, we calculate net positions for every agent i by aggregating their purchases and sales of 'Yes' and 'No' tokens.

Trading data are truncated one day prior to the FOMC meeting date. This timing serves two purposes. First, it captures the full cross-section of active traders immediately before the policy decision, when participation is highest. Second, it avoids capturing

position unwinding and resolution-related trading that occurs close to or at the policy announcement, which may reflect mechanical portfolio adjustments rather than agents' underlying policy beliefs.[13] Using these net positions, we construct an agent-by-market matrix y_{ijk} that reflects each participant's net exposure to policy outcomes for event k.

Latent variable model. For each agent i and FOMC market j at event k, we define a latent utility function

$$U_{ijk} = \alpha_{jk} + \beta_{jk} x_{ik}, \tag{5}$$

where x_{ik} is a latent variable representing agent i's hawk–dove score at event k, α_{jk} is a market-specific intercept, and β_{jk} is a slope coefficient capturing the ideological loading of market j.

We do not observe U_{ijk} directly. Instead, we observe a binary indicator

$$y_{ijk} = \begin{cases} 1, & \text{if agent } i \text{ holds a net positive position in market } j \text{ at event } k, \\ 0, & \text{otherwise.} \end{cases} \tag{6}$$

The probability that agent i takes a net positive position in market j is modeled as a logistic function of the latent utility,

$$\Pr(y_{ijk} = 1) = \sigma(U_{ijk}) = \frac{1}{1 + e^{-(\alpha_{jk} + \beta_{jk} x_{ik})}}, \tag{7}$$

or equivalently,

$$\operatorname{logit}\big(\Pr(y_{ijk} = 1)\big) = \alpha_{jk} + \beta_{jk} x_{ik}. \tag{8}$$

The linear utility specification is a simplifying assumption. Our objective is to recover an ordering of agents along a hawkish–dovish dimension rather than to estimate cardinal utilities. As a result, identification relies on monotonicity rather than functional-form assumptions: any strictly increasing transformation of the latent utility would preserve the rank ordering of agents' monetary policy stances.

[13] In unreported results, we show that our findings remain robust to alternative cutoff dates several days prior to the meeting.

We categorize markets into four ordered policy-rate outcomes: a 25-bps increase (inc25), no change (nochg), a 25-bps decrease (dec25), and a 50-bps decrease (dec50). To ensure a consistent interpretation across events, we impose a strictly monotonic ordering constraint on the slope coefficients,

$$\beta_{\text{inc25},k} < \beta_{\text{nochg},k} < \beta_{\text{dec25},k} < \beta_{\text{dec50},k}. \tag{9}$$

This constraint ensures that as markets become more dovish, the loading on the hawk–dove score increases monotonically. Agents with higher scores are therefore more likely to take positions in rate-decrease markets, while agents with lower scores favor rate-increase markets.

Implementing the ordering constraint. The ordering constraint on β_{jk} is implemented via a parameterization with strictly positive increments. For each event k, we draw a baseline slope

$$\beta_{\text{inc25},k} = \eta_k, \qquad \eta_k \sim \mathcal{N}(0,1),$$

and three independent increment parameters

$$\delta_{1k}, \delta_{2k}, \delta_{3k} \sim \text{HalfNormal}(1),$$

where a HalfNormal(1) distribution is the distribution of the absolute value of a $\mathcal{N}(0,1)$ random variable, restricted to be strictly non-negative. We then construct the remaining slopes as

$$\begin{aligned}
\beta_{\text{nochg},k} &= \beta_{\text{inc25},k} + \delta_{1k}, \\
\beta_{\text{dec25},k} &= \beta_{\text{nochg},k} + \delta_{2k}, \\
\beta_{\text{dec50},k} &= \beta_{\text{dec25},k} + \delta_{3k}.
\end{aligned}$$

Because each $\delta_{\ell k}$ is positive by construction, this parameterization automatically enforces $\beta_{\text{inc25},k} < \beta_{\text{nochg},k} < \beta_{\text{dec25},k} < \beta_{\text{dec50},k}$, while allowing the data to determine the magnitude

of the gaps between policy-rate categories.

Estimation and priors. Each agent's latent score x_{ik} is estimated to maximize the joint likelihood of their observed choices across all markets within event k. Estimation of x_{ik}, along with market-level intercepts α_{jk} and slope coefficients β_{jk}, is conducted using Markov Chain Monte Carlo (MCMC).[14] We place a mixture-of-Gaussians prior on x_{ik} to allow for clustering of agents into dovish, centrist, and hawkish groups, while α_{jk} receives a standard normal prior.[15]

The resulting posterior means of x_{ik} provide the wallet-level hawk–dove scores used in the empirical analysis, normalized to percentiles for comparability across FOMC events. A higher hawk–dove score means the agent expects lower policy rates; a lower score means the agent expects higher rates.

Monetary Policy Stance. The latent variable model allows us to estimate the monetary policy stance of agents who participate in FOMC-related markets. This estimation is based solely on trading behavior in FOMC markets and does not incorporate information from agents' activity in other markets, such as those related to CBI, inflation, or recession risk. This separation ensures that subsequent tests of the channels shaping monetary policy preferences are not mechanically driven by the construction of the hawk–dove scores themselves.

Figure 2 shows the distribution of hawk–dove scores across eight FOMC meetings from November 2024 to September 2025, with higher scores indicating a more dovish stance and lower scores reflecting a more hawkish stance. The shape of the distributions varies substantially over time, with earlier meetings (e.g., November–December 2024) displaying more polarized views, while later meetings (e.g., March–June 2025) exhibit more even distributions.

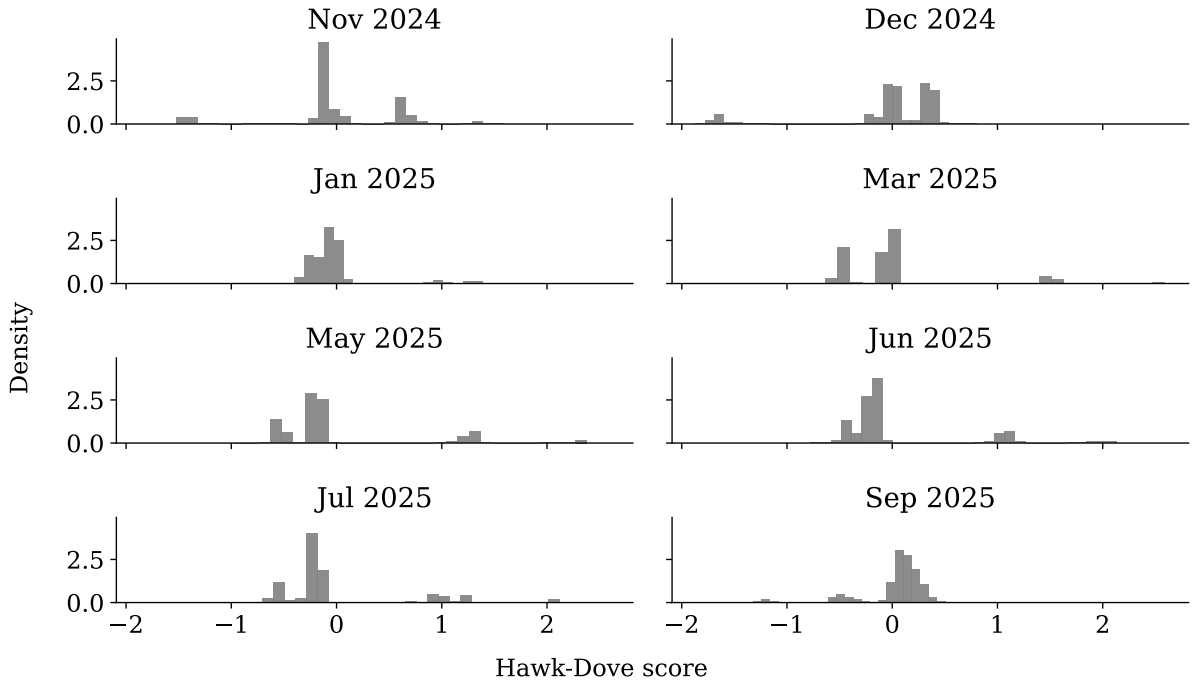
[14] We sample from the posterior using the No-U-Turn Sampler (NUTS), a variant of Hamiltonian Monte Carlo, with 500 tuning iterations and 500 posterior draws across four parallel chains, setting the target acceptance probability to 0.98. Results are robust to alternative numbers of iterations and posterior draws.

[15] For each x_{ik} we use a finite mixture of three normals: $\mathcal{N}(1,1)$, $\mathcal{N}(0,1)$, and $\mathcal{N}(-1,1)$, with weights $[0.3, 0.4, 0.3]$, corresponding to dovish, centrist, and hawkish types, respectively. Market intercepts α_{jk} are drawn from $\mathcal{N}(0,1)$, and the baseline slope parameter η_k is drawn from $\mathcal{N}(0,1)$. Results are robust to alternative prior choices.

Panel A of Table 2 summarizes key characteristics of agents trading on Polymarket. On average, agents participate in approximately 16 markets, with substantial heterogeneity across the sample. The median agent stakes collateral corresponding to a log trading volume of around 8, and average profitability is close to zero, although the distribution of profits is highly dispersed. These statistics highlight both the breadth of market participation and the diversity of trading outcomes among Polymarket users, motivating our focus on wallet-level heterogeneity in beliefs and behavior.

Panel B of Table 2 reports summary statistics for agents' raw hawk–dove scores. Because interpretation of these raw scores depends on FOMC-meeting-specific slope parameters β_{jk}, we rescale hawk–dove scores in the subsequent analysis to a percentile scale ranging from -50 to 50, where -50 corresponds to the most hawkish 1st percentile and 50 to the most dovish 99th percentile based on the cross-sectional distribution of scores for each FOMC event. This normalization allows for consistent comparisons across meetings, regardless of shifts in the underlying distribution of monetary policy views over time.

Figure 2: Hawk-dove Score.



Notes. The plot shows the distribution of hawk-dove scores for the November 2024, December 2024, January 2025, March 2025, May 2025, June 2025, July 2025, and September 2025 FOMC meeting, respectively. A positive hawk-dove score indicates a dovish stance, while a negative score indicates a hawkish stance.

Table 2: Summary Statistics

	Panel A: Polymarket Agent Summary Statistics							
	N	mean	SD	1%	25%	50%	75%	99%
volume	1299649	27937.66	6360095.34	0.00	207.77	989.86	4062.45	160569.63
profit	1299649	-4714.20	324379.80	-16354.63	-100.40	-15.66	-0.91	200.65
# markets	1299649	15.09	18.75	0.00	3.00	9.00	19.00	100.00
	Panel B: Monetary Policy Stance							
	N	mean	SD	1%	25%	50%	75%	99%
November 2024	15823	0.00	0.56	-1.46	-0.14	-0.09	0.56	1.37
December 2024	16705	0.00	0.53	-1.71	-0.03	0.04	0.34	0.47
January 2025	39643	-0.00	0.38	-0.36	-0.19	-0.07	-0.00	1.36
March 2025	27201	-0.00	0.58	-0.55	-0.44	-0.05	-0.00	2.33
May 2025	16849	-0.00	0.68	-0.61	-0.26	-0.20	-0.15	2.30
June 2025	22451	-0.00	0.56	-0.49	-0.24	-0.18	-0.13	2.02
July 2025	27910	-0.00	0.61	-0.63	-0.25	-0.20	-0.14	2.05
September 2025	31464	0.00	0.37	-1.51	0.02	0.10	0.19	0.40

Notes. Panel A reports the summary statistics for Polymarket agents. We report the number of agents (*N*), the average (*mean*), standard deviation (*SD*), and percentiles of agents' total collateral volume on Polymarket (*volume*), agent's total profit (*profit*), and the number of markets the agent has bet on (*# markets*). Panel B reports summary statistics for agents' monetary policy stance, measured using the hawk-dove score, for the November 2024, December 2024, January 2025, March 2025, May 2025, June 2025, July 2025, and September 2025 FOMC meeting, respectively. In the main analysis, we use the hawk-dove percentile as the primary measure of monetary policy stance. The hawk-dove percentile rescales the raw hawk-dove score to a percentile scale ranging from -50 to 50, where -50 corresponds to the most hawkish 1st percentile and 50 to the most dovish 99th percentile based on the distribution of hawk-dove scores.

3.4 Validation Tests: Informed Trading on Polymarket

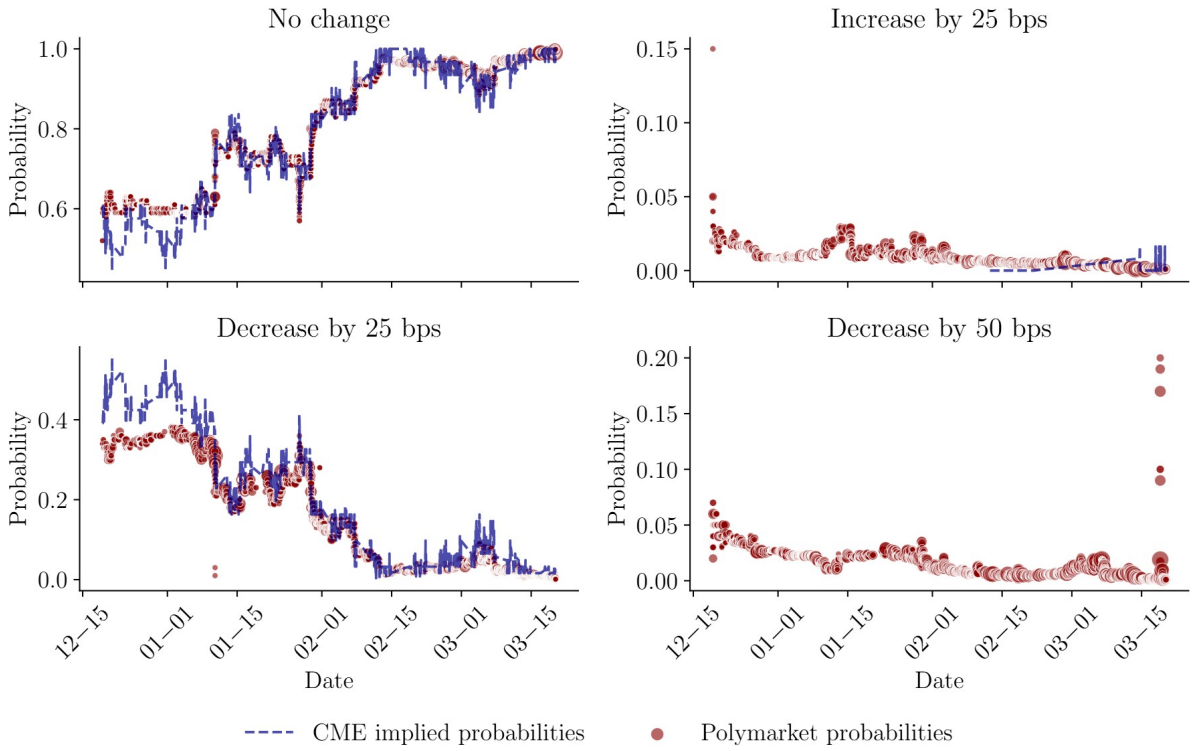
This section presents validation tests showing that trading on Polymarket reflects informed belief formation. We first benchmark Polymarket-implied FOMC probabilities against CME Federal Funds futures to assess whether prices incorporate public information. We then examine whether inferred hawk–dove scores co-move systematically with inflation expectations.

3.4.1 Polymarket and CME Implied FOMC Probabilities

A first validation test examines whether Polymarket traders benchmark their beliefs to publicly available information. We compare Polymarket-implied FOMC probabilities with those derived from CME 30-Day Federal Funds Rate futures. Using high-frequency price data from Databento, we construct intraday meeting probabilities at five-minute

intervals following the methodology of the CME FedWatch Tool.[16] This yields a real-time benchmark that mirrors the FedWatch calculation but at higher frequency.

Figure 3: CME and Polymarket Implied FOMC probabilities: March 2025 meeting



Notes. The plot shows the CME 30-day federal funds futures–implied FOMC probabilities and the corresponding Polymarket probabilities for the March 2025 meeting. The CME-implied probabilities are calculated following the methodology in Appendix C.1, using 5-minute frequency 30-day federal funds rate futures data. The Polymarket probability is the price of the 'Yes' token in the respective market. Each dark red dot represents a 'Yes' token transaction, with the dot size proportional to the transaction size.

Figure 3 plots Polymarket-implied probabilities for the four outcome buckets, based on "Yes" token prices, together with CME futures-implied probabilities aggregated to the same categories. The two series move closely together throughout the sample, indicating that Polymarket incorporates similar information about expected policy outcomes as the traditional futures market. At high frequencies, Polymarket-implied probabilities appear slightly less noisy, which may reflect differences in market structure, liquidity, or participant composition. This close alignment with CME pricing suggests that Polymarket

[16]Appendix C.1 provides implementation details.

participants actively incorporate publicly available information about monetary policy into their trading. There is growing evidence that prediction markets serve as effective venues for price discovery: Ng et al. (2025) show that Polymarket prices outperformed traditional polls in predicting the outcome of the 2024 U.S. presidential election, pointing to informed participation even outside institutional settings. Taken together, the CME benchmarking and cross-market evidence suggest that Polymarket positions carry meaningful information about participants' beliefs on monetary policy and CBI.

Appendix C.2 extends this comparison to six FOMC meetings between January and September 2025, examining both full probability distributions and implied expected rate changes. Across all meetings, tight tracking confirms that Polymarket provides a reliable, real-time measure of market expectations about monetary policy. An additional advantage for empirical work is that probability distributions are directly observable, unlike CME futures, which require multi-step extraction procedures.

3.4.2 Monetary Policy Expectations and Inflation Beliefs

A second validation exercise examines whether Polymarket users form interest rate expectations using simple and systematic monetary policy heuristics. As described in Section 3, hawk–dove scores are derived from agents' trading behavior in FOMC rate markets and reflect the latent monetary policy stance implied by their portfolio positions. Scores are normalized to a percentile scale from −50 (most hawkish) to +50 (most dovish) within each FOMC meeting, allowing for consistent comparisons across meetings.

Forward-looking agents should anticipate how the Federal Reserve responds to expected inflation and expected real activity. A convenient representation is the expectations-based Taylor rule:

$$i^e_{t+1} = r^* + \pi^e_{t+1} + \phi_\pi\big(\pi^e_{t+1} - \pi^*\big) + \phi_y\, y^e_{t+1}, \tag{10}$$

where i^e_{t+1} denotes the expected policy rate, π^e_{t+1} expected inflation, y^e_{t+1} the expected output gap, and $\phi_\pi, \phi_y > 0$.

Taylor (2013) argues that U.S. monetary policy has increasingly followed systematic,

rule-like behavior over time.[17] At the micro level, Carvalho and Nechio (2014) show that households' expectations of future policy rates co-move with their inflation and unemployment expectations in a manner consistent with a Taylor-rule interpretation. This suggests that even non-expert agents frequently apply simple but coherent heuristics when forming monetary policy beliefs.

We examine whether similar heuristics apply to Polymarket traders by testing whether inflation beliefs, revealed through positions in monthly CPI markets, are systematically related to inferred monetary policy stance. Demonstrating such a link would indicate that trading on Polymarket reflects macroeconomic reasoning rather than purely technical or arbitrage-driven behavior.

To implement this test, we first describe how inflation beliefs are identified from Polymarket positions. Polymarket inflation markets are defined over year-on-year headline CPI inflation for a specific calendar month. Contracts resolve based on the official CPI release from the Bureau of Labor Statistics (BLS), with the realized year-on-year inflation rate rounded to one decimal place.

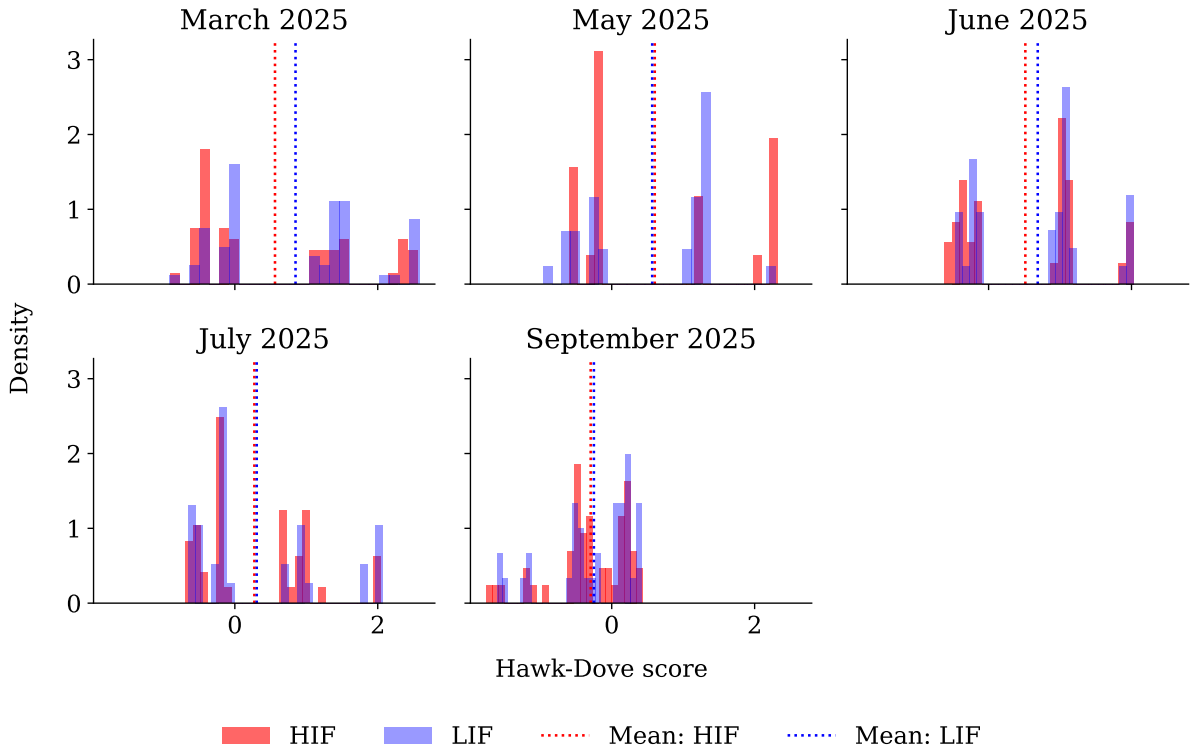
Consider the August 2025 inflation contract, which partitions outcomes into mutually exclusive buckets: one bucket for $\pi^{\text{Aug}} \leq 2.6\%$, three single-point buckets for 2.7%, 2.8%, and 2.9%, and one bucket for $\pi^{\text{Aug}} \geq 3.0\%$. A trader is classified as a low-inflation agent (LIF) if they hold a positive net "Yes" position in the $\leq 2.6\%$ bucket, and as a high-inflation agent (HIF) if they hold a positive net position in the $\geq 3.0\%$ bucket. Traders positioned only in intermediate buckets are excluded because such positions do not reveal a clear directional view on inflation.

We repeat this procedure for all inflation markets preceding the March, May, June, July, and September 2025 FOMC meetings, adjusting thresholds to match each contract's bucket structure. By matching these inflation-based classifications to hawk–dove scores inferred from FOMC prediction markets, we test whether higher expected inflation is associated with more hawkish interest rate beliefs, as implied by an expectations-based Taylor rule.

[17] Taylor (2013) links the early Great Moderation to a shift toward more predictable, rules-based policy, which he argues contributed to improved macroeconomic stability.

Figure 4 plots the distribution of hawk–dove scores for HIF and LIF agents across meetings, restricting attention to traders who participate in both inflation and FOMC markets. LIF agents tend to exhibit more dovish scores, while HIF agents are either more hawkish or closer to the center of the distribution, depending on the meeting.

Figure 4: Hawk-dove Score and Inflation



Notes. The plot shows the distribution of hawk-dove scores for agents with high inflation expectation (*HIF*) and low inflation expectation (*LIF*). *HIF* (*LIF*) is a dummy variable equal to one if a Polymarket agent holds a positive net "Yes" position on high (low) inflation for the relevant month. Specifically, high (low) inflation is defined as: *February* inflation $> 3.1\%$ ($\leq 2.7\%$), *April* inflation $\geq 2.7\%$ ($\leq 2.3\%$), *May* inflation $\geq 2.6\%$ ($\leq 2.2\%$), *June* inflation $\geq 2.6\%$ ($\leq 2.2\%$), and *August* inflation $\geq 3.0\%$ ($\leq 2.6\%$) corresponding to the FOMC meeting months of March, May, June, July, September 2025, respectively. A positive hawk-dove score indicates a more dovish stance, while a negative score indicates a more hawkish stance.

To formalize this relationship, we estimate:

$$HawkDove_{i,t} = \alpha + \beta_1 \cdot HIF_{i,t} + \beta_2 \cdot LIF_{i,t} + \beta_3 \cdot SOP_i + \beta_4 \cdot (HIF_{i,t} \times SOP_i) + \beta_5 \cdot (LIF_{i,t} \times SOP_i) + \gamma_1 \log(volume_i) + \gamma_2 \cdot profit_i + \gamma_3 \cdot \#markets_i + \varepsilon_{i,t}. \quad (11)$$

Here, SOP_i identifies high-activity traders, those in the top 1% of profitability and active in more than five markets, who are more likely to engage in arbitrage or technical trading strategies. We include this indicator as a control because such behavior may mechanically affect positions without reflecting macroeconomic belief updating.

Table 3: Monetary Policy Stance and Inflation

	March 2025		May 2025		June 2025		July 2025		September 2025	
HIF	0.555	-2.653	9.714	4.529	4.488	4.597	8.076	9.691*	-14.373***	-10.993**
	(5.840)	(6.031)	(7.156)	(6.251)	(6.491)	(6.993)	(5.019)	(5.476)	(4.843)	(5.068)
LIF	22.479***	20.680***	12.272**	6.398	21.475***	21.235***	7.070	10.769*	-6.843	-3.986
	(3.950)	(4.192)	(5.999)	(6.230)	(4.681)	(4.827)	(5.831)	(5.909)	(5.727)	(6.136)
$HIF \times SOP$		31.064***		0.000		17.089**		7.340		-13.941**
		(8.449)		(0.000)		(7.634)		(7.923)		(5.757)
$LIF \times SOP$		1.441		19.850***		4.555		-37.396***		-11.546
		(11.667)		(6.947)		(5.720)		(6.051)		(8.709)
log(volume)		0.417***		1.728***		-1.805***		0.066		-0.901***
		(0.112)		(0.128)		(0.113)		(0.107)		(0.096)
profit		0.000*		0.000***		-0.000		-0.000		-0.000
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
#markets		-0.002		-0.019*		0.123***		-0.058***		0.018**
		(0.009)		(0.010)		(0.010)		(0.008)		(0.007)
SOP		9.012***		7.511***		9.042***		5.509***		-3.473**
		(2.622)		(2.538)		(1.347)		(1.355)		(1.429)
const	-0.049	-3.278***	-0.030	-13.038***	-0.044	9.903***	-0.020	1.276	0.036	6.670***
	(0.175)	(0.804)	(0.222)	(0.855)	(0.193)	(0.758)	(0.173)	(0.823)	(0.163)	(0.691)
R-squared Adj.	0.001	0.003	0.000	0.019	0.001	0.017	0.000	0.003	0.000	0.004
N	27205	27205	16855	16855	22457	22457	27916	27916	31471	31471

Notes. The table reports coefficients from regressions of the hawk-dove percentile on agents' stance toward inflation, along with a set of control variables. *HIF* (*LIF*) is a dummy variable equal to one if a Polymarket agent holds a positive net "Yes" position on high (low) inflation for the relevant month. Specifically, high (low) inflation is defined as: *February* inflation $> 3.1\%$ ($\leq 2.7\%$), *April* inflation $\geq 2.7\%$ ($\leq 2.3\%$), *May* inflation $\geq 2.6\%$ ($\leq 2.2\%$), *June* inflation $\geq 2.6\%$ ($\leq 2.2\%$), and *August* inflation $\geq 3.0\%$ ($\leq 2.6\%$), corresponding to the FOMC meeting months of March, May, June, July, and September 2025, respectively. *SOP* is a dummy variable indicating whether a Polymarket agent is a sophisticated investor, defined as being in the top 1% in terms of profit on Polymarket and having invested in more than five markets. *log(volume)* is the log of an agent's total collateral volume on Polymarket. *profit* is the agent's total profit, and *# markets* is the number of markets the agent has bet on. White heteroscedasticity-robust standard errors are reported in parentheses. *, **, and *** denote 10%, 5%, and 1% significance levels, respectively.

Table 3 reports the results. The coefficient on *LIF* is positive and statistically significant in several meetings, indicating that traders who expect lower inflation tend to hold more dovish monetary policy views, consistent with Taylor-rule logic. These results remain robust when controlling for high-activity traders and their interactions, suggesting that the relationship is not driven by arbitrage-oriented trading.

Coefficients on *HIF* are smaller in absolute value and less systematically related to hawk–dove scores. Overall, inflation beliefs are reflected in monetary policy expectations primarily

on the dovish side: low-inflation expectations are associated with more accommodative policy views, while high-inflation expectations do not always translate into correspondingly more hawkish forecasts.

Taken together, these results indicate that Polymarket users form monetary policy expectations in a manner consistent with simple, fundamentals-based heuristics.

Recession Risk. A further validation exercise, detailed in Appendix D.1, examines how recession beliefs relate to monetary policy expectations. While cross-sectional differences are small, exploiting within-agent variation around the Liberation Day tariff episode shows that increases in perceived recession risk are associated with shifts toward more dovish monetary policy expectations on average, after controlling for high-activity traders.

4 Research Hypotheses

4.1 CBI and Monetary Policy Expectations

CBI is widely regarded as essential for credible monetary policy. In the United States the Federal Reserve has instrument independence but not goal independence. Congress sets the dual mandate while the FOMC retains autonomy over policy tools. Despite this structure, recent research shows that political actors can still influence policy outcomes. Public criticism has been linked to unexpectedly accommodative decisions (Binder, 2021b) and historical evidence identifies episodes such as the Nixon–Burns period where political pressure delayed needed tightening (Drechsel, 2025). Political alignment also affects voting behavior (Pagliuca, 2025), which suggests that institutional safeguards do not fully insulate the Fed from partisan dynamics.

These concerns resurfaced during the 2025 presidential campaign. President Trump repeatedly criticized Chair Jerome Powell and called for lower interest rates. Reporting indicated that advisers explored ways to remove or sideline Powell if re-elected.[18] Even if formal constraints limit such actions, markets may rationally revise expectations when

[18] *Financial Times*, "Trump spooks markets with threat to sack Fed chair Powell," July 17, 2025.

such threats appear credible. Chair Powell publicly reaffirmed the Federal Reserve's autonomy, but such assurances may not fully dispel concerns when political pressure is salient.

If investors expect political interference that favors easier financial conditions, these expectations should be reflected in beliefs about short-term rates.

Political pressure can depress rate expectations through two channels. The *extensive margin* operates through the likelihood of leadership change: investors who expect Powell to be replaced anticipate that a more politically aligned and accommodative successor would adopt a lower rate path.[19] The *intensive margin* operates when investors expect Powell to remain in office but succumb to political pressure and lower rates anyway, without a formal leadership change (Drechsel, 2025). Our empirical tests are based on the Powell-removal contract and therefore primarily capture the extensive margin. The two channels are not mutually exclusive, and both predict lower expected rates when perceived CBI threats are high.

> **H1 (CBI and Rate Expectations)** *Investors who bet on Powell's removal expect lower short-term interest rates than those who do not, reflecting concerns that political interference would shift the Federal Reserve toward a more accommodative stance.*

4.2 CBI and Long-Run Macroeconomic Beliefs

In addition to short-term interest rate expectations, threats to CBI can extend to inflation expectations and other macroeconomic outcomes. The time-inconsistency problem of monetary policy arises when governments have incentives to pursue short-run stimulus even when doing so undermines long-run price stability (Kydland and Prescott, 1977; Barro and Gordon, 1983; Rogoff, 1985). A central bank with weak or uncertain independence is more vulnerable to these pressures, which weakens its credibility and therefore shapes how

[19] Press reporting identified several potential replacements, including Federal Reserve Governor Christopher Waller and others seen as more amenable to politically motivated easing. See *Financial Times*, "Who could replace Jay Powell as Federal Reserve chair?," `https://www.ft.com/content/88c7be12-abc0-4ecf-8f39-9684b1fe95ca`.

investors form long-run macroeconomic expectations. Lower CBI is typically associated with higher long-run inflation and greater difficulty in anchoring expectations (Alesina and Summers, 1993; Cukierman, 1994; Binder et al., 2024). Financial markets also price higher long-term interest rates when central bank credibility is impaired, both because inflation risk increases and because uncertainty about future economic policy rises.

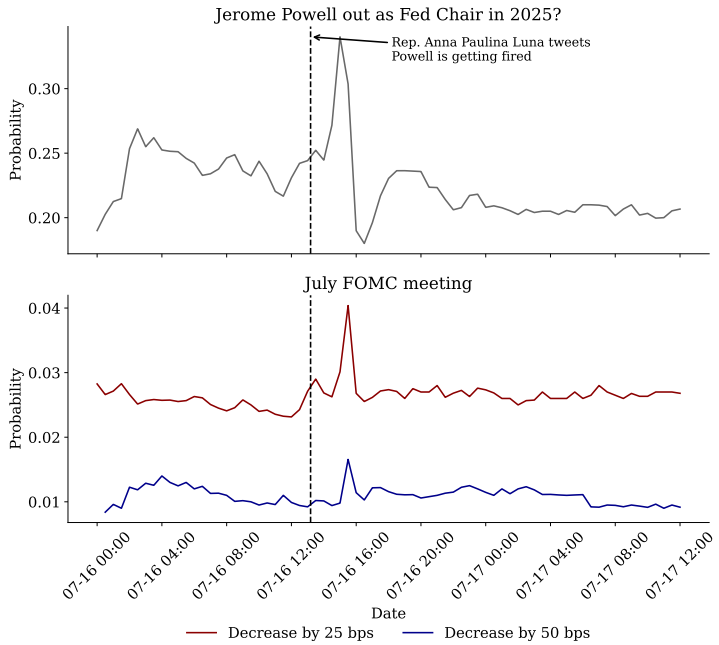
These mechanisms apply directly when threats to Federal Reserve independence become salient. Investors who expect political leadership to influence monetary decisions may anticipate easier policy in the near term and weaker commitment to inflation control in the long run. This combination raises the expected path of future nominal rates and the compensation required for long-run inflation risk, even if measured inflation expectations remain moderately anchored.

Thus, investors who perceive a reduction in CBI should hold macroeconomic beliefs consistent with the classic credibility trade-off, in which lower policy rates in the short run are paired with higher expected inflation and higher long-term yields.

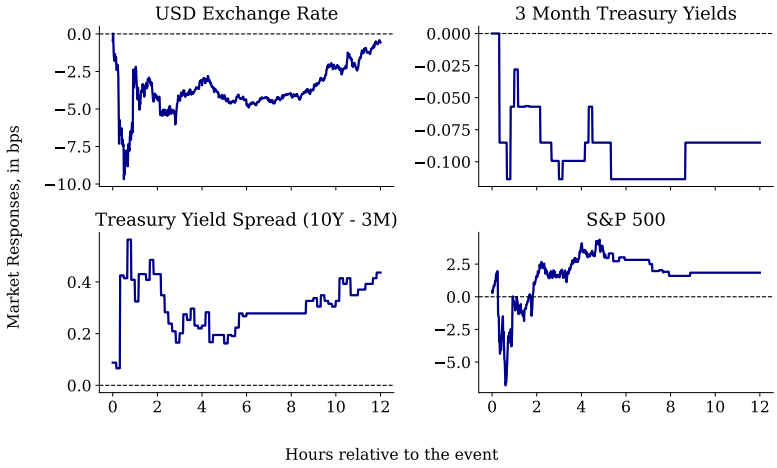
> **H2 (CBI and Long-Run Macroeconomic Beliefs)** *Agents who expect lower CBI anticipate looser short-term monetary policy, higher long-run inflation, and elevated long-term interest rates that reflect reduced policy credibility.*

Figure 5: Trump's Draft Firing Letter and Market Responses

Panel A: Polymarket Responses



Panel B: Foreign Exchange, Treasury Yields, and Equity Market Responses



Notes. This figure displays market responses to the news of President Trump's draft letter to remove Jerome H. Powell as Chair of the Federal Reserve. Panel A shows Polymarket-implied probabilities for the market titled "Jerome Powell out as Fed Chair in 2025?" (upper panel), and for 25-basis-point and 50-basis-point rate cuts at the July 2025 FOMC meeting (lower panel). The vertical dashed line marks July 16, 2025, at 13:11, when Rep. Anna Paulina Luna tweeted that President Trump was "firing" Jerome H. Powell (`https://x.com/RepLuna/status/1945291045744378153`). The tweet referenced a reported event in which President Trump waved a draft letter firing Powell during a meeting in the Oval Office with House Republicans. Panel B shows the responses of key financial markets over a 12-hour window following the event: the USD exchange rate, 3-month U.S. Treasury yields, the Treasury yield spread (10-year minus 3-month), and the S&P 500 index. All responses are measured in basis points.

5 Empirical Evidence: CBI and Investor Expectations

This section examines how beliefs about CBI shape investor expectations. We proceed in four steps. Section 5.1 presents a high-frequency case study that motivates the analysis by illustrating how markets respond to a salient political shock to perceived Federal Reserve independence. Section 5.2 uses investor-level data to test whether beliefs about Powell's removal are systematically related to monetary policy expectations, providing a formal test of **H1**. Section 5.3 examines whether these beliefs extend to broader macroeconomic expectations, including long-term interest rates, recession risk, and inflation, testing **H2**. Finally, Section 5.4 exploits the timing of President Trump's social media posts to construct high-frequency shocks to perceived CBI and trace their dynamic effects across asset prices.

5.1 Case Study: 16 July 2025

We begin the empirical analysis by studying a high-frequency case study that motivates our investigation of CBI. On 16 July 2025, investors received an unexpected and highly visible shock to perceptions of Federal Reserve independence. Press reports indicated that President Trump displayed a draft termination letter for Federal Reserve Chair Jerome H. Powell during a meeting with House Republicans. At 13:11, Representative Anna Paulina Luna publicly posted that the President was "firing" Powell, explicitly referencing the existence of this letter.[20] This post represented the first public indication of a potential attempt to remove the sitting Fed Chair and constituted a clear, unanticipated shock to CBI.

Panel A of Figure 5 plots the intraday responses of several Polymarket contracts. Immediately following the post, the implied probability of Powell's removal increased sharply, alongside higher implied probabilities of a 25 basis point and 50 basis point rate cut at the upcoming July FOMC meeting. These synchronized movements indicate that market participants interpreted the perceived threat to CBI as raising the likelihood of near-term monetary accommodation, consistent with **H1**.

[20] https://x.com/RepLuna/status/1945291045744378153

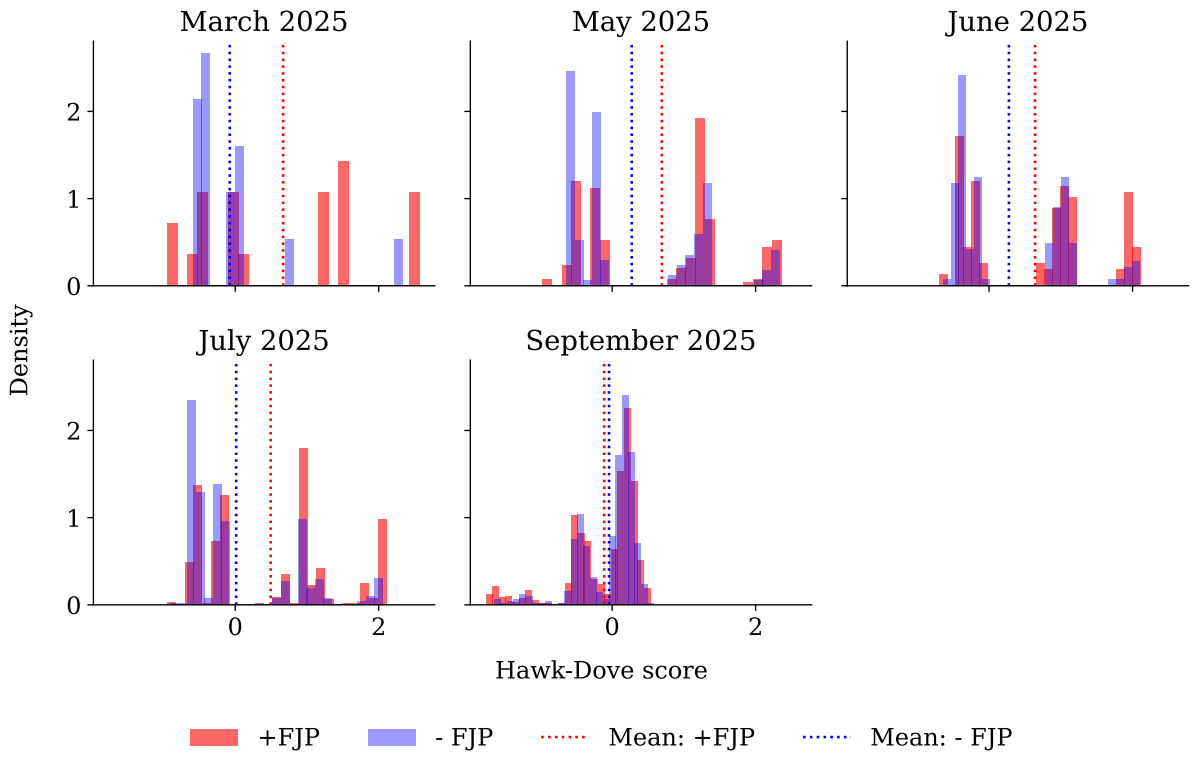
Panel B of Figure 5 shows corresponding movements in traditional financial markets. The U.S. dollar depreciated by approximately 9 basis points and the 3-month Treasury yield declined, patterns consistent with expectations of easier monetary policy. At longer maturities, the 10-year minus 3-month Treasury spread widened by around 0.5 basis points, suggesting that investors also revised upward their assessment of long-run inflation risk or reduced policy credibility, in line with **H2**. Equity markets exhibited a brief decline of roughly 5 basis points before partially recovering. Taken together, these intraday responses indicate that perceived threats to CBI are reflected both in short-term rate expectations and in longer-run credibility premia.

5.2 Monetary Policy Expectations and CBI

The case study above provides aggregate evidence that investors revise their expectations when threats to CBI become salient. We now turn to investor-level data to examine whether beliefs about Federal Reserve independence are systematically related to monetary policy stance. This subsection provides a formal test of **H1** using the hawk–dove scores introduced in Section 3.3 as a measure of each agent's expected policy path. By linking these scores to directional positions in the Powell-removal market, we test whether agents who expect Trump to remove Chair Powell hold more dovish views on future interest rates.

Figure 6 plots the distribution of hawk–dove scores for agents who hold a net "Yes" position (*+FJP*) or a net "No" position (*-FJP*) in the Polymarket contract *"Will Trump remove Jerome Powell in 2025?"* for each of the March, May, June, July, and September 2025 FOMC meetings. A higher hawk–dove score corresponds to more dovish monetary policy expectations. The figure includes only wallets that both traded in at least one FOMC prediction market and held a directional position in the Powell-removal market, allowing us to directly link beliefs about CBI to monetary policy stance. In each meeting, the mean hawk–dove score is higher for *+FJP* agents than for *-FJP* agents, providing preliminary support for **H1**.

Figure 6: Hawk-dove Score and Federal Reserve Independence



Notes. The plot shows the distribution of hawk-dove scores for agents with a positive (+FJP) or negative (-FJP) net 'Yes' position in the market 'Will Trump remove Jerome Powell in 2025?' as of the corresponding FOMC meeting date—for the March, May, June, July, and September 2025 FOMC meetings, respectively. A positive hawk-dove score indicates a more dovish stance, while a negative score indicates a more hawkish stance.

To formalize this relationship, we estimate the following regression specification, which parallels the approach used in Section 3.4.2 for relating hawk–dove scores to inflation expectations:

$$HawkDove_{i,t} = \alpha + \beta_1 \cdot +FJP_{i,t} + \beta_2 \cdot -FJP_{i,t} + \beta_3 \cdot SOP_i + \beta_4 \cdot (+FJP_{i,t} \times SOP_i) + \beta_5 \cdot (-FJP_{i,t} \times SOP_i) + \gamma_1 \log(volume_i) + \gamma_2 \cdot profit_i + \gamma_3 \cdot \#markets_i + \varepsilon_{i,t}. \quad (12)$$

The dependent variable, $HawkDove_{i,t}$, is the hawk–dove percentile score of wallet i at FOMC meeting t. The indicators $+FJP_{i,t}$ and $-FJP_{i,t}$ capture whether the agent holds a net "Yes" or net "No" position in the Powell-removal market, respectively. The omitted category consists of agents who trade in FOMC markets but do not take a directional

position on Powell's removal.

As in the inflation-expectations regressions, SOP_i identifies high-activity traders, those in the top 1 percent of profitability and active in more than five markets. These agents are more likely to engage in arbitrage, hedging, or technical trading strategies that need not reflect macroeconomic belief updating. We therefore include SOP_i and its interactions as controls, allowing us to isolate the relationship between CBI beliefs and monetary policy expectations for the marginal agent whose trades are more likely to reflect information and beliefs rather than mechanical trading.

Baseline specification: full sample. Table 4 reports estimates of equation (12) for the full sample of matched wallets across the March, May, June, July, and September 2025 FOMC meetings. **H1** predicts that, all else equal, agents who expect Trump to remove Powell ($+FJP$) should exhibit more dovish policy stances than agents who either bet against removal ($-FJP$) or do not take a position.

The estimates are consistent with this prediction for the central part of the sample. For the May, June, and July 2025 meetings, the coefficient on $+FJP$ is positive and statistically significant at the one percent level, with magnitudes between 11.9 and 16.4 percentile points. In contrast, the coefficients on $-FJP$ over this period are small and typically insignificant, and for July they are negative and statistically significant, indicating that agents who bet against Powell's removal tend to hold more hawkish views. For the March and September meetings, neither coefficient is statistically significant, suggesting weaker or no systematic differences. To gauge economic significance, note that hawk–dove scores are normalized to percentiles ranging from -50 (most hawkish) to $+50$ (most dovish). The cross-sectional standard deviation of these scores is approximately 29 percentile points under a near-uniform distribution (Panel B, Table 2). A gap of 12–16 percentile points between $+FJP$ agents and the reference group therefore corresponds to roughly 0.4–0.6 standard deviations of the distribution, a meaningful difference in monetary policy expectations.

These patterns reflect both political salience and prevailing policy expectations. Ahead of the March, May, June, and July meetings, Polymarket assigned probabilities above

90 percent to "no change" in the policy rate, and political pressure on the Fed was most salient. There are two candidate explanations for the insignificant September estimates. First, the implied probability of Powell's removal had fallen to approximately 10 percent by September 17, down from a peak of roughly 30 percentage points at the July 16 episode when a draft termination letter was reportedly displayed to House Republicans; with the threat largely resolved, cross-sectional variation in $+FJP$ positions had narrowed substantially, reducing the power of the test. Second, a 25 basis point rate cut was already the modal market expectation ahead of September, driven by softening macroeconomic conditions; in this environment, cross-sectional differences in rate expectations more plausibly reflect heterogeneous macro forecasts than differences in CBI threat perceptions.

The timing of Trump's communications reinforces this interpretation. Appendix Table B.3 shows that social-media pressure on the Fed intensified after March, peaked between June and August, and was relatively muted earlier in the year. Together, these factors imply that our tests are most informative for meetings in which political pressure is salient and "no change" is the baseline expectation.

Importantly, the estimated relationship between Powell-removal beliefs and monetary policy stance remains robust after controlling for high-activity traders. Even-numbered columns include interactions with SOP_i. While some interaction terms are statistically significant, the main effect of $+FJP$ remains positive and economically meaningful for the May, June, and July meetings. This indicates that the association between diminished CBI and dovish policy expectations is not driven solely by arbitrage-oriented or mechanical trading.

A remaining concern is that some agents may use the Powell-removal and FOMC markets to hedge rather than to express directional beliefs about how threats to CBI affect monetary policy. Appendix D.2 classifies wallets based on their joint positions in the Powell-removal and FOMC markets, distinguishing directional traders from potential hedgers. Directional traders, those whose positions imply a coherent mapping from CBI beliefs to rate expectations, account for a majority of matched wallets in the March through July meetings. Their share declines in September, when a rate cut is already

the modal market expectation. The results excluding potential hedgers are reported in Appendix Table D.4 and Appendix Figure D.3; the implied hawk–dove gap between *+FJP* and *-FJP* traders widens substantially, consistent with hedging activity attenuating the baseline estimates.

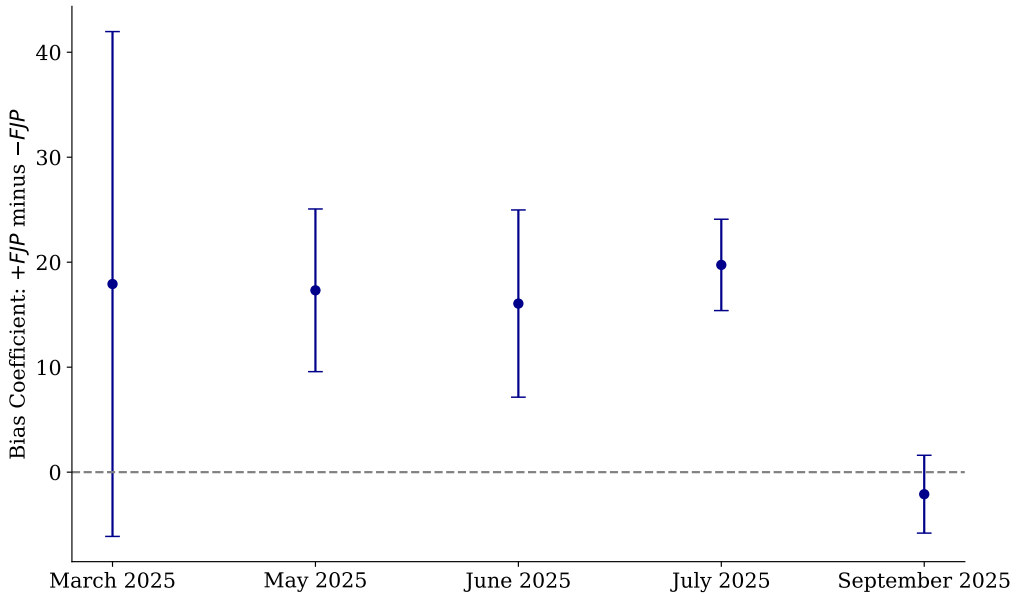
Overall, these results support **H1**. Investors who expect diminished CBI hold systematically more dovish expectations about the future path of interest rates.

Table 4: Monetary Policy Stance and Federal Reserve Independence

	March 2025		May 2025		June 2025		July 2025		September 2025	
$+FJP$	12.195	8.497	16.417***	14.418***	16.274***	15.971***	11.960***	13.872***	-1.295	-0.114
	(8.601)	(8.871)	(2.448)	(2.521)	(2.950)	(3.026)	(1.416)	(1.442)	(1.275)	(1.323)
$-FJP$	-7.692	-9.427	1.490	-2.904	0.181	-0.089	-7.857***	-5.870***	-0.082	1.985
	(8.494)	(8.535)	(2.978)	(3.085)	(3.242)	(3.461)	(1.699)	(1.742)	(1.391)	(1.421)
$+FJP \times SOP$		23.267**		-32.646**		15.451**		-4.928		6.103
		(9.205)		(15.641)		(7.384)		(8.592)		(6.948)
$-FJP \times SOP$		-0.000***		16.319*		12.982		16.344*		-25.750***
		(0.000)		(9.523)		(9.330)		(9.908)		(7.357)
log(*volume*)	0.440***	0.440***	1.724***	1.724***	-1.816***	-1.816***	0.049	0.049	-0.923***	-0.923***
	(0.112)	(0.112)	(0.127)	(0.127)	(0.113)	(0.113)	(0.107)	(0.107)	(0.096)	(0.096)
profit	0.000*	0.000*	0.000***	0.000***	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
#markets	-0.000	-0.000	-0.023**	-0.023**	0.120***	0.120***	-0.063***	-0.063***	0.016**	0.016**
	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.008)	(0.008)	(0.007)	(0.007)
SOP	10.174***	10.174***	7.872***	7.872***	8.777***	8.777***	5.312***	5.312***	-3.367**	-3.367**
	(2.556)	(2.556)	(2.609)	(2.609)	(1.362)	(1.362)	(1.370)	(1.370)	(1.459)	(1.459)
const	-3.489***	-3.489***	-13.010***	-13.010***	10.046***	10.046***	1.392*	1.392*	6.848***	6.848***
	(0.805)	(0.805)	(0.854)	(0.854)	(0.759)	(0.759)	(0.824)	(0.824)	(0.695)	(0.695)
Adj. R^2	0.002	0.002	0.021	0.021	0.018	0.018	0.009	0.009	0.004	0.004
N	27205	27205	16855	16855	22457	22457	27916	27916	31471	31471

Notes. This table reports coefficients from regressions of the *hawk–dove* percentile on agents' stance toward Federal Reserve independence across the March, May, June, July, and September 2025 FOMC meetings, using the full sample of matched Polymarket wallets. *+FJP* (*-FJP*) indicates a positive (negative) net *Yes* exposure to "Will Trump remove Jerome Powell in 2025?" as of the relevant FOMC meeting. *SOP* identifies sophisticated agents (top 1% in profitability and participation in more than five markets). White heteroscedasticity-robust standard errors are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Appendix Table D.4 repeats the specification excluding potential hedgers.

Figure 7: Bias Coefficient: Monetary Policy Stance and Fed Independence



Notes. This figure shows the estimated bias coefficient—defined as the difference between the coefficients for *+FJP* and *−FJP* from the baseline specification in Table 4—for the March, May, June, July, and September 2025 FOMC meetings. Vertical bars represent 95% confidence intervals calculated using the Delta method. Appendix Figure D.3 repeats the exercise excluding potential hedge traders.

Alternative CBI Measure: Lisa Cook Contract. Our baseline measure of political pressure is the Powell-removal contract. As an additional robustness check, we also examine beliefs about the potential removal of other Federal Reserve officials. In August 2025, Polymarket opened a contract on whether President Trump would remove Fed Governor Lisa Cook. Appendix D.3 reports results for the September 2025 FOMC meeting, which is the only meeting in our sample that follows the opening of this market. We find that agents who bet on Cook's removal tend to hold more dovish monetary policy expectations on average. As with the Powell-removal contract, the effect is modest and statistically insignificant in the full sample, but becomes large and statistically significant once we exclude hedging agents.

5.3 CBI and Macroeconomic Beliefs

We now examine whether beliefs about CBI are systematically reflected in investors' expectations about broader macroeconomic fundamentals. This provides a formal test of **H2**, which predicts that agents who expect reduced CBI should anticipate higher long-term interest rates, greater recession risk, and a higher probability of elevated inflation.

To measure cross-sectional macroeconomic beliefs, we use each agent's net positions as of 1 August 2025 in several of Polymarket's most liquid macro-related markets. These include markets on whether the 10-year U.S. Treasury yield will reach elevated levels in 2025, the U.S. recession market for 2025, and the event *"How high will inflation get in 2025?"*. All positions are measured prior to the September 2025 FOMC meeting, ensuring that beliefs are captured before resolution.

Expectations about long-term interest rates are identified using Polymarket's ladder-style market *"How high will the 10-year Treasury yield go in 2025?"*, which consists of a set of threshold contracts (e.g. 4.6%, 4.8%, 5.0%, 5.2%, 5.5%, and higher). Each contract resolves to "Yes" if the 10-year Treasury yield reaches or exceeds the stated level on any trading day between April 9 and December 31, 2025, based on the Department of the Treasury's *Daily Treasury Par Yield Curve Rates* for the 10-year maturity.[21]

We focus on the 5.5% threshold to classify beliefs about long-term yields. This cutoff lies close to the median of the available yield bins and attracts meaningful trading volume, making it a natural benchmark for elevated long-term rate expectations. Agents with a net "Yes" position in the 5.5% contract are classified as expecting *high long-term yields*. We do not define a corresponding low-yield category, as **H2** concerns upward pressure on long-term rates following diminished CBI.

Inflation expectations are identified using Polymarket's event *"How high will inflation get in 2025?"*, which consists of threshold markets at increasing inflation levels (e.g. inflation above 3%, 4%, 5%, and higher). Each contract resolves to "Yes" if year-on-year CPI inflation exceeds the stated threshold in any month of 2025, based on the official

[21] Resolution is based on the official Treasury data series "Daily Treasury Par Yield Curve Rates," column "10 Yr."

monthly Bureau of Labor Statistics CPI releases.[22]

For classification, we focus on the most liquid inflation thresholds. Agents with a net "No" position in the >3% market are treated as expecting *low inflation*, while agents with a net "Yes" position in the >4% market are treated as expecting *high inflation*. We do not pool information across higher thresholds (e.g. >5%, >6%) because many wallets take range-specific positions, which would complicate interpretation. Agents without a directional position in the relevant threshold markets are excluded from the corresponding classifications.

To test whether beliefs about Powell's removal translate into differences in macroeconomic expectations, we estimate

$$\log^*(\text{Position}_{im}) = \alpha + \beta_1(+FJP_i) + \beta_2(-FJP_i) + \gamma' X_i + \varepsilon_{im}, \tag{13}$$

where $\log^*(\cdot)$ denotes the sign-preserving logarithm of agent i's net "Yes" exposure in market m. We run separate regressions for high 10-year Treasury yields, recession risk, low inflation ($\leq 3\%$), and high inflation ($\geq 4\%$). The main explanatory variables are indicators for net "Yes" ($+FJP$) and net "No" ($-FJP$) positions in the Powell-removal market. The control vector includes total trading volume, cumulative profits, the number of markets traded, and an indicator for high-activity traders (SOP).

Table 5 reports the results. Agents who expect Powell's removal ($+FJP$) are significantly more likely to take long positions in high 10-year Treasury yield markets and in recession-risk markets. These patterns are consistent with the credibility mechanism in **H2**, whereby diminished CBI raises perceived long-term interest rates and macroeconomic instability. By contrast, $-FJP$ agents are significantly less likely to take positions consistent with either outcome.

Inflation markets exhibit a related pattern. $-FJP$ agents are more likely to take the "No" side of the >3% market, indicating confidence that inflation will remain contained. Conversely, $+FJP$ agents are significantly more likely to take "Yes" positions in the >4%

[22]Inflation is measured as the 12-month percentage change in CPI, reported to one decimal place. A "Yes" outcome in the >3% market requires a CPI inflation reading of 3.1% or higher. Markets that do not resolve to "Yes" may not resolve to "No" until the December 2025 CPI report is issued.

market, implying a higher perceived probability of elevated inflation.

In summary, beliefs about Powell's removal are systematically associated with expectations of higher long-term yields, greater recession risk, and a higher probability of elevated inflation. These results provide clear support for **H2**.

Table 5: Central Bank Independence and Macroeconomic Fundamentals

	High 10 Year Yield		Recession Risk (2025)		Low Inflation ($\leq 3\%$)		High Inflation ($\geq 4\%$)	
$+FJP$	0.355**	0.609***	0.342***	0.404***	-0.322**	-0.608***	0.574***	0.599***
	(0.181)	(0.197)	(0.128)	(0.132)	(0.155)	(0.167)	(0.126)	(0.136)
$-FJP$	-0.910***	-0.672***	-0.673***	-0.572***	-0.091	-0.388**	-0.494***	-0.467***
	(0.179)	(0.192)	(0.134)	(0.138)	(0.153)	(0.168)	(0.124)	(0.136)
$+FJP \times SOP$		-0.544		-0.229		1.540**		-0.064
		(0.740)		(0.821)		(0.635)		(0.515)
$-FJP \times SOP$		-0.177		0.734		1.715**		-0.159
		(0.960)		(1.096)		(0.745)		(0.605)
$log(volume)$		-0.044**		0.026*		0.028		-0.018
		(0.017)		(0.015)		(0.017)		(0.014)
$profit$		0.000		0.000***		0.000		0.000
		(0.000)		(0.000)		(0.000)		(0.000)
$\#markets$		-0.001		-0.002**		0.002**		0.002*
		(0.001)		(0.001)		(0.001)		(0.001)
SOP		0.464		0.131		-0.370		-0.503**
		(0.374)		(0.237)		(0.277)		(0.225)
$const$	-0.035*	0.321***	0.334***	0.221**	0.001	-0.296**	0.040**	0.121
	(0.020)	(0.115)	(0.033)	(0.103)	(0.024)	(0.116)	(0.019)	(0.094)
Adj.R^2	0.004	0.005	0.003	0.008	0.001	0.007	0.011	0.012
N	7557	7557	9540	9540	3355	3355	3355	3355

Notes. The table reports coefficients from regressions in which the dependent variable is the sign-preserving logarithm of an agent's net "Yes" position in two groups of markets: (i) high 10-year Treasury yields (aggregated across markets such as "Will the 10-year Treasury yield hit 5.5% (or higher) in 2025?"), (ii) recession risk ("U.S. recession in 2025?"), (iii) low inflation ($\leq 3\%$), proxied by the net "No" position in the market "Will inflation reach more than 3% in 2025?", and (iv) high inflation ($\geq 4\%$), proxied by the net "Yes" position in the market "Will inflation reach more than 4% in 2025?". Each specification relates these transformed positions to the central-bank-independence indicator, controlling for the full set of covariates described in the main text. *+FJP* (*–FJP*) is a dummy variable equal to one if a Polymarket agent holds a positive net "Yes" position in the market "Will Trump remove Jerome Powell in 2025?". *SOP* is a dummy variable indicating whether a Polymarket agent is a sophisticated investor, defined as being in the top 1% in terms of profit on Polymarket and having invested in more than five markets. *log(volume)* is the log of an agent's total collateral volume on Polymarket. *profit* is the agent's total profit, and *# markets* is the number of markets the agent has bet on. Standard errors are reported in parentheses. *, **, and *** denote 10%, 5%, and 1% significance levels, respectively. McFadden's $R2$ is reported. The sample period ends on 2025-09-25.

5.4 Trump Social Media Posts and CBI Shocks

The preceding analysis shows that agents who believe CBI is at risk are more likely to expect lower short-term interest rates (supporting **H1**) and assign higher probabilities to recession,

elevated long-term yields, and high inflation (supporting **H2**). These results are based on cross-sectional differences between agents with different beliefs about Powell's removal. However, such differences may arise for reasons unrelated to perceived threats to CBI, reflecting broader views about Trump-era economic policy, heterogeneous macroeconomic outlooks, or differences in trading styles, so the estimates capture average associations rather than clean causal effects. A further limitation is that the Powell-removal contract identifies only agents concerned about the *extensive* margin of political pressure, i.e. formal replacement of Powell. Agents who expect Powell to remain but lower rates under political pressure, the intensive margin, would appear in the reference group, so the cross-sectional gap understates the full effect of CBI threats on rate expectations. These limitations motivate the complementary high-frequency approach in this section.

To address these concerns, we construct a high-frequency measure of shocks to perceived CBI that exploits the timing of President Trump's public statements on Truth Social. As documented in Table B.3, Trump issued a series of posts in 2025 criticizing Powell, calling for interest rate cuts, and explicitly discussing his removal. The timing and content of these posts were not pre-announced and are unlikely to coincide systematically with scheduled macroeconomic releases, which makes them a useful source of short-run variation in perceived threats to Federal Reserve autonomy. By focusing on narrow windows around these posts, we can observe how markets update expectations in response to CBI shocks, independent of slow-moving investor characteristics.

Our identification strategy proceeds in two steps. First, following the high-frequency monetary policy literature (Gürkaynak et al., 2005), we use Polymarket's contract *'Will Trump remove Jerome Powell in 2025?'* to construct an event-based CBI shock. For each Trump post in Table B.3 that criticizes Powell or calls for lower rates, we define

$$\theta_t^{CBI} = p_{t+50}^{\text{FJP}} - p_{t-10}^{\text{FJP}}, \tag{14}$$

where p_t^{FJP} is the price of the "Yes" token in the Powell-removal market at time t. The CBI shock θ_t^{CBI} measures the 60-minute change in the market-implied probability of Powell's removal in a window beginning 10 minutes before the post and ending 50 minutes after

it. The pre-window helps verify price stability before the post, while the post-window provides time for markets to incorporate new information.

This construction rests on two assumptions. First, within these narrow windows, Trump's posts are the principal source of news about CBI, so movements in p_t^{FJP} can be interpreted as changes in beliefs about Powell's tenure. Second, the posts must update market beliefs about CBI. Figure 8 supports this assumption by plotting the average response of the Powell-removal probability around Trump's posts. The probability jumps sharply within minutes and then partially mean-reverts, indicating that markets view these messages as meaningful signals about the likelihood of Powell's removal.[23]

In the second step, we estimate the dynamic response of a range of outcome variables to these CBI shocks using a long-difference local projection:

$$\Delta y_{i,t+h} = y_{i,t+h} - y_{i,t} = \alpha_i^h + \beta^h \theta_t^{CBI} + \varepsilon_{i,t+h}, \tag{15}$$

where $y_{i,t}$ denotes the level of variable i (such as FOMC-implied rate probabilities, Treasury yields, exchange rates, or equity prices) at time t, and $\Delta y_{i,t+h}$ is the cumulative change from t to $t+h$. The coefficient β^h captures the response of y_i to a one percentage point increase in the Powell-removal probability. We estimate (15) separately for each horizon and outcome, including event fixed effects α_i^h.

Figure 9 reports the responses of FOMC rate expectations for the June, July, and September 2025 meetings. Across all three meetings, CBI shocks coincide with immediate shifts toward more accommodative policy: the probability of a 25 basis point cut rises and the probability of no change falls by a similar amount. The effects are strongest for the July meeting, when Trump's criticism of Powell was most intense, and remain sizeable and persistent for the September meeting. They imply that a one percentage point increase in the Powell-removal probability raises the likelihood of a 25 basis point cut by roughly 1.5 to 2 percentage points within 12 hours, providing high-frequency evidence consistent with **H1**.

[23] See also Bianchi et al. (2023) on the role of presidential communication as a source of perceived pressure on the Federal Reserve.

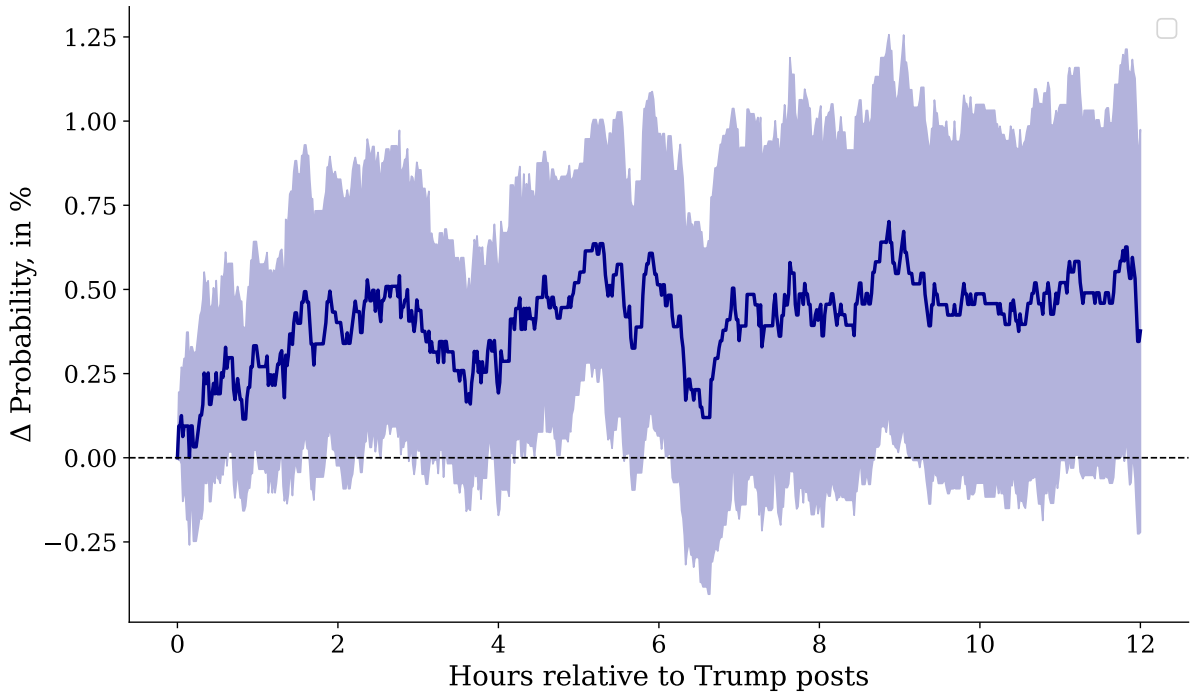
Figure 10 summarizes the responses of major asset classes. In foreign exchange markets, CBI shocks lead to dollar depreciation. A one percentage point increase in the Powell-removal probability is associated with a decline in the broad dollar index of around 10 basis points, consistent with investors revising down expected U.S. interest rates. Appendix Figure D.5 shows that this pattern is broad-based across bilateral dollar exchange rates against other G9 currencies.

Treasury yields respond in a manner consistent with the credibility mechanism in **H2**. Short-term three-month yields decline, reflecting expectations of near-term rate cuts, while the 10-year minus 3-month Treasury spread steepens by about 2 basis points over a 12-hour window, although the effect is not statistically significant at the 5% level. This steepening suggests that markets interpret political pressure on the Fed as lowering expected policy rates in the short run while increasing required compensation for long-run inflation or policy risk. Appendix Figures D.7 and D.8 show that OIS rates and the OIS–Treasury spread do not react systematically to CBI shocks, indicating that the effects operate partly through term and risk premia in Treasury yields.

Equity markets exhibit only limited reactions. The point estimates show a small initial decline followed by partial recovery (bottom-right panel of Figure 10), but the responses are statistically weak and not significant at conventional levels.

In summary, the high-frequency evidence indicates that CBI shocks shift FOMC rate expectations in a dovish direction, consistent with **H1**, and have directionally consistent effects on exchange rates and the term structure, consistent with reduced policy credibility, in line with **H2**. The impact on equity markets is limited.

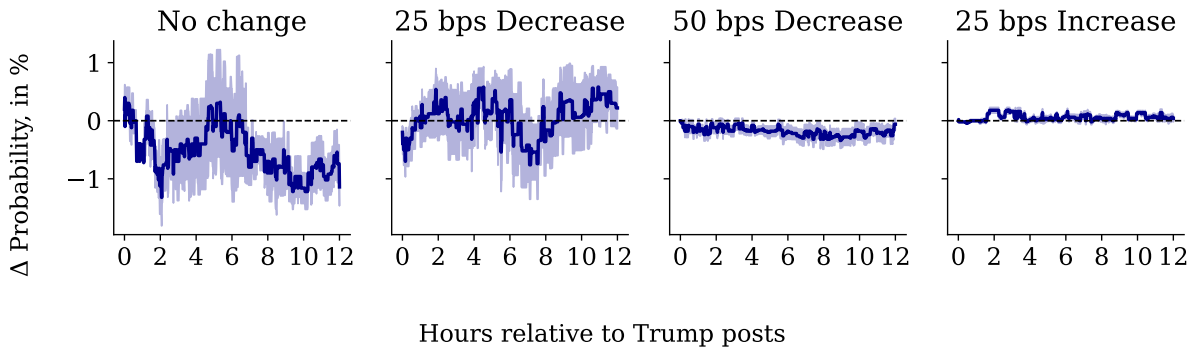
Figure 8: Trump Social Media posts and CBI



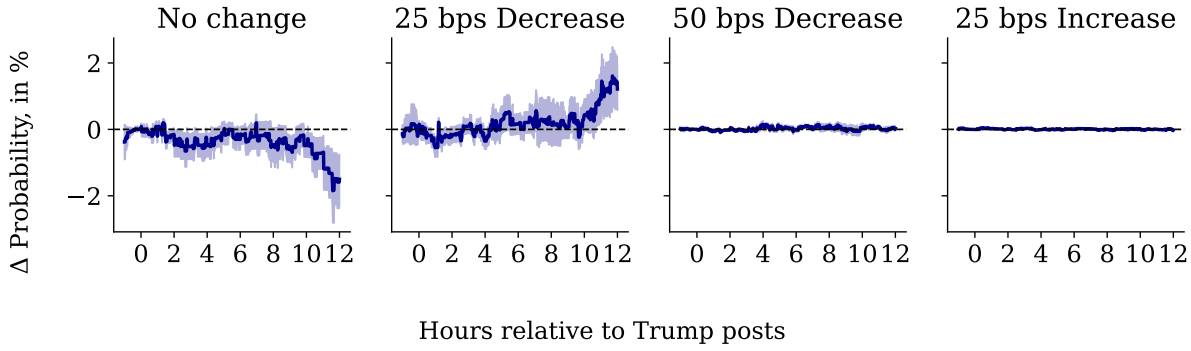
Notes. This figure shows the responses of Polymarket-implied probabilities for the market "Jerome Powell out as Fed Chair in 2025?" to Trump's posts on Truth Social. Probabilities are in percentage points. Shaded areas indicate 95% confidence intervals, based on heteroskedasticity-autocorrelation robust standard errors. The sample period is from 2025-01-30 to 2025-09-25.

Figure 9: Trump Social Media posts and FOMC

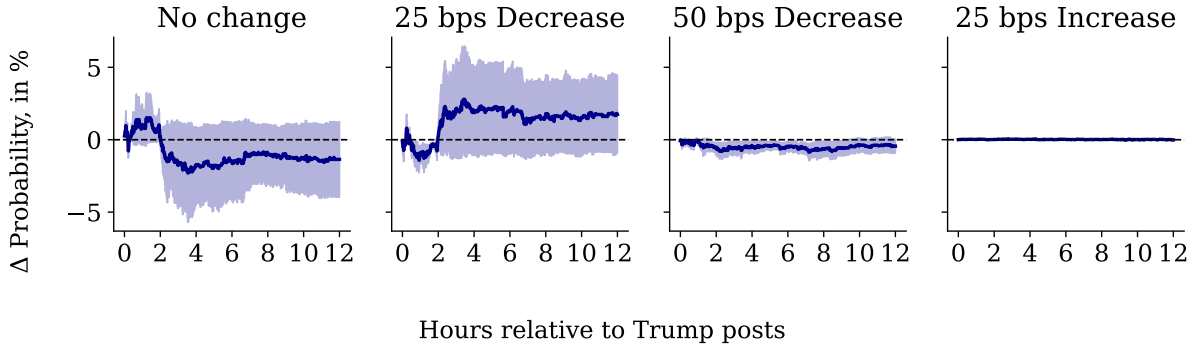
Panel A: June 2025



Panel B: July 2025

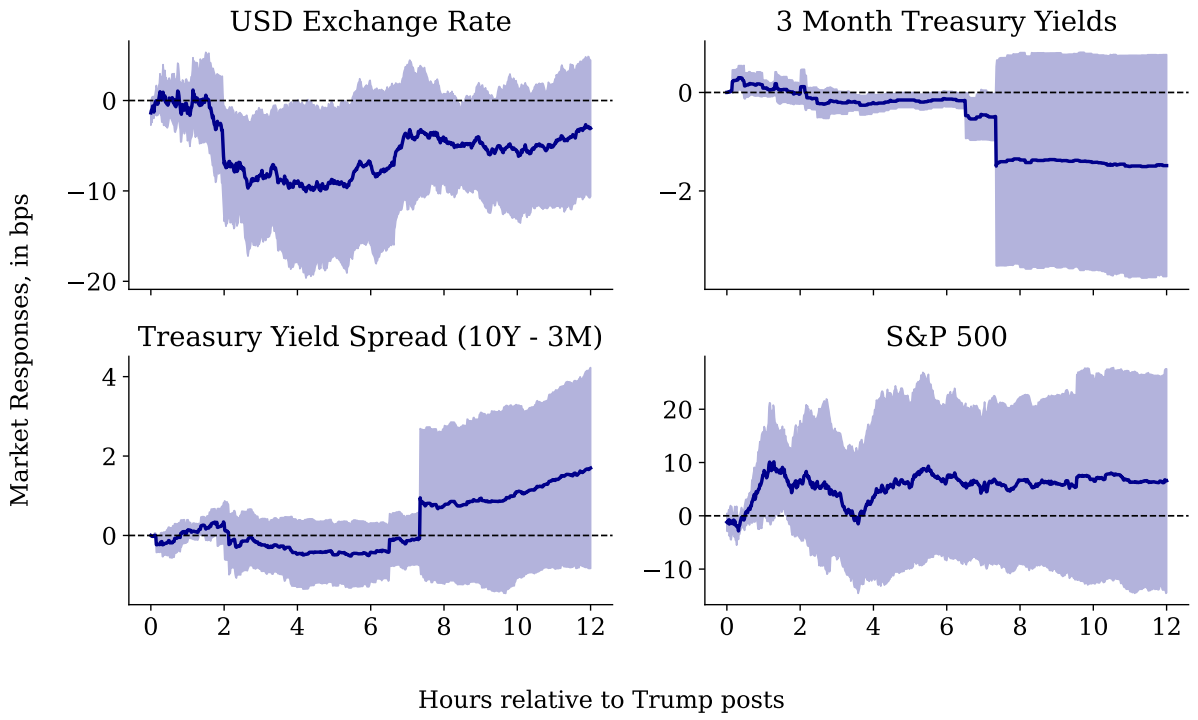


Panel C: September 2025



Notes. These figures show the responses of Polymarket-implied probabilities for Federal Reserve rate decisions to Trump's posts on Truth Social regarding the potential replacement of Jerome Powell as Fed Chair in 2025. The three panels examine three FOMC meetings in 2025: Panel A (June 2025), Panel B (July 2025), and Panel C (September 2025). Probabilities are expressed in percentage points. Shaded areas represent 95% confidence intervals, based on heteroskedasticity- and autocorrelation-robust standard errors. The sample period is from 2025-06-17 to 2025-07-28 for the June FOMC, 2025-05-06 to 2025-06-16 for the July FOMC, and 2025-07-29 to 2025-09-15 for the September FOMC.

Figure 10: Trump Social Media posts, Foreign Exchange, Yields, and Equity



Notes. These figures show the market responses to Trump's posts on Truth Social regarding the potential replacement of Jerome Powell as Fed Chair in 2025. Each figure reports the response in a key financial market: (i) the USD exchange rate (measured as the equally weighted average of the log price of AUD, CAD, CHF, EUR, GBP, JPY, NOK, NZD, and SEK per USD), (ii) the 3-month U.S. Treasury yield, (iii) the Treasury yield spread (defined as the difference between the 10-year and 3-month U.S. Treasury yields), and (iv) the S&P 500 (proxied by the ishares S&P 500 core ETF). Responses are in basis points. Shaded areas denote 95% confidence intervals, based on heteroskedasticity- and autocorrelation-robust standard errors. The sample period is from 2025-01-30 to 2025-09-25.

6 Conclusion

This paper studies how beliefs about CBI relate to investor expectations of monetary policy and macroeconomic outcomes using high-frequency, wallet-level data from Polymarket prediction markets. The central contribution is to link beliefs about the potential removal of the Federal Reserve Chair to investor-level positions in interest rate and macroeconomic prediction markets, and to study how political communication affects these beliefs in real time.

We present three empirical tests. First, we examine how cross-sectional beliefs about CBI relate to expectations of short-term interest rates. Using investor-level positions in prediction markets for scheduled FOMC meetings, we construct hawk–dove scores that summarize individual monetary policy views. Investors who assign a higher probability to the removal of the Federal Reserve Chair hold systematically more dovish policy expectations.

Second, we examine whether beliefs about CBI extend to expectations about longer-run macroeconomic outcomes. Investors who expect the removal of the Federal Reserve Chair are more likely to hold positions that pay off in adverse macroeconomic states, including higher long-term yields, elevated recession risk, and higher inflation outcomes.

Third, we address identification concerns by exploiting high-frequency variation in political communication. Using the precise timing of President Trump's Truth Social posts, we construct shocks to perceived CBI and show that these shocks lead to immediate revisions in policy rate expectations, depreciation of the U.S. dollar, and a modest steepening of the yield curve.

Taken together, perceived political pressure on central bank leadership is priced into monetary policy expectations and broader macroeconomic beliefs, highlighting the importance of institutional independence in anchoring expectations and maintaining policy credibility.

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Internet Appendix to

Under Pressure? Central Bank Independence Meets Blockchain Prediction Markets

(Not for publication)

We provide a roadmap of each section of our Appendix.

1. Appendix A documents the structure of Polymarket's trading and settlement system, including the hybrid off-chain order-matching architecture and the Conditional Tokens Framework used for execution and token merging.

2. Appendix B reports additional descriptive statistics, including net position summaries, cross-market trader overlap, and Truth Social posts related to central bank independence.

3. Appendix C details the construction of FOMC probabilities from CME Fed funds futures and compares these to Polymarket-implied rate changes, reporting tracking-error statistics across FOMC meetings.

4. Appendix D presents additional empirical tests. These include: (i) a recession-risk-based validation of Taylor-rule-consistent behavior, including a within-agent case study around the Liberation Day tariffs; (ii) robustness checks that exclude hedging agents in the Powell-removal and FOMC markets; (iii) an alternative measure of threats to CBI based on the Polymarket contract on Lisa Cook's removal as Fed Governor; and (iv) further evidence on asset-price responses to Trump's social media posts.

A Polymarket: Supplementary Material

Polymarket's Central Limit Order Book (CLOB) operates on a hybrid-decentralized model where an off-chain operator manages order matching and organization, while trade settlement and execution occur on-chain non-custodially.

The off-chain operator in Polymarket is essentially the matching engine and order book manager (i.e., an off-chain service provided by the platform). This operator is the off-chain component responsible for receiving and organizing user orders, matching buyers and sellers, and scheduling trades. It provides the functionality of a centralized exchange's order book without taking custody of assets.

The on-chain component is built on a Conditional Tokens Framework (CTF) Exchange contract designed for binary markets [24], facilitating atomic swaps between binary outcome tokens (ERC1155 outcome tokens) and collateral tokens (ERC20 collateral tokens). The CTF Exchange contract supports operations such as minting and merging complementary tokens, which allows 'unification' of order books such that orders are matched with an outcome token and its complement token.

In the rest of this section, we outline the key aspects of the CTF Exchange contract.

Assets/Tokens

- A: ERC1155 outcome token, 'Yes' outcome token.
- A': ERC1155 outcome token, complement of A, 'No' outcome token.
- C: ERC20 collateral token, USDC.

Relationship between Outcome Tokens and a Collateral Token.

$$A + A' = C$$

1 unit of outcome token A and 1 unit of its complement A' can always be merged into 1

[24] See `https://github.com/Polymarket/ctf-exchange/blob/main/docs/Overview.md` for the Polymarket official document on the CTF exchange contract.

unit of collateral token C. 1 unit of C can always be split into 1 unit of A and 1 of its complement A'.

Three matching scenarios can occur under the CTF exchange contract, called Normal, Mint, and Merge.

Scenario 1 - Normal [25]

- Maker order: participant 1 buy 100 outcome token A at \$0.50 with 50 collateral token C.
- Taker order: participant 2 sell 50 outcome token A at \$0.50.
- Match operations:
    1. Transfer 50 A from participant 2 to CTF Exchange.
    2. Transfer 25 C from participant 1 to CTF Exchange.
    3. Transfer 50 A from CTF Exchange to participant 1.
    4. Transfer 25 C from CTF Exchange to participant 2.
- Net Transfer:
    1. Transfer 50 A from participant 2 to participant 1;
    2. Transfer 25 C from participant 1 to participant 2.

Scenario 2 - Mint [26]

- Maker order: participant 1 buy 100 outcome token A at \$0.50 with 50 collateral token C.
- Taker order: participant 2 buy 50 complement outcome token A' at \$0.50 with 25 collateral token C.

[25] See `https://polygonscan.com/tx/0xd91ef1f997b52821bb73958f62bcbdc36827a6632ffab7cbf0a7f48b1cf421f6` for an example of a Normal match scenario.

[26] See `https://polygonscan.com/tx/0xfed830660fd8896d5b53027f18dec0a61f9ce5c9c26e13b3cd867e5a28d6c4e5` for an example of a Mint match scenario.

- Match operations:

    1. Transfer 25 C from participant 1 to CTF Exchange.
    2. Transfer 25 C from participant 2 to CTF Exchange.
    3. Mint 50 outcome token sets with 50 collateral tokens (50 C = 50 A + 50 A')
    4. Transfer 50 A from CTF Exchange to participant 1.
    5. Transfer 50 A' from CTF Exchange to participant 2.

- Net Transfer:

    1. Participant 1 and participant 2 both transfer 25 C to CTF Exchange.
    2. Participant 1 receives 50 A from CTF Exchange and participant 2 receives 50 A' from CTF Exchange.

Scenario 3 - Merge [27]

- Maker order: participant 1 sell 50 outcome token A at \$0.50.
- Taker order: participant 2 sell 100 complement outcome token A' at \$0.50.
- Match operations:

    1. Transfer 50 A from participant 1 to CTF Exchange.
    2. Transfer 50 A' from participant 2 to CTF Exchange.
    3. Merge 50 outcome token sets into 50 collateral tokens (50 A + 50 A' = 50 C)
    4. Transfer 25 C from CTF Exchange to participant 1.
    5. Transfer 25 C from CTF Exchange to participant 2.

- Net Transfer:

    1. Participant 1 transfers 50 A to CTF Exchange and participant 2 transfers 50 A' to CTF Exchange.
    2. Participant 1 and participant 2 both receive 25 C from CTF Exchange.

[27] See `https://polygonscan.com/tx/0x4c2cc98fc2277cf13d09001556112782d285649420a59b8720307cf7efbb2776` for an example of a Merge match scenario.

B Additional Statistics

B.1 Summary Statistics: Net Positions of Different Markets

Table B.1: Summary Statistics: Net Positions

Event	Market	N	Mean	SD	1%	25%	50%	75%	99%
Jerome Powell out as Fed Chair in 2025?	Yes/No	3266	0.00	8003.40	-10163.62	-10.00	4.00	51.94	9512.21
Will the U.S. enter a recession in 2025?	Yes/No	8926	0.00	3910.22	-2071.65	-2.77	0.00	7.25	2391.17
10Y Treasury Yield	$\geq 5.5\%$	120	-0.00	1742.92	-5130.64	-21.52	-2.08	6.25	6722.29
	$\geq 5.7\%$	878	0.00	853.14	-428.25	-0.85	0.00	0.96	167.99
	$\geq 6.0\%$	381	0.00	721.90	-1498.51	-2.81	0.00	0.67	275.40
2025 Annual Inflation	$\geq 3\%$	260	0.00	4361.95	-7566.71	-11.69	1.19	17.33	9844.36
February 2025 Inflation	$\leq 2.7\%$	486	-0.00	332.28	-1076.59	-1.09	-0.19	-0.01	1264.19
	$\geq 3.1\%$	356	0.00	412.12	-1156.48	-1.90	-0.10	1.06	1096.80
April 2025 Inflation	$\leq 2.3\%$	265	0.00	595.49	-2223.49	-5.60	0.23	10.60	1504.37
	$\geq 2.7\%$	531	-0.00	404.69	-927.55	-9.28	-0.11	4.54	457.21
May 2025 Inflation	$\leq 2.2\%$	310	0.00	1115.41	-3162.53	-10.42	-0.40	2.34	5260.84
	$\geq 2.6\%$	170	0.00	1371.72	-3042.30	-20.78	-0.45	6.79	4266.06
June 2025 Inflation	$\leq 2.2\%$	203	0.00	487.77	-1361.73	-5.00	-0.05	0.11	795.34
	$\geq 2.6\%$	214	-0.00	989.44	-2317.54	-17.33	-0.20	18.61	3603.91
August 2025 Inflation	$\leq 2.6\%$	228	-0.00	1333.16	-4953.12	-25.82	-0.53	5.33	3651.79
	$\leq 3.0\%$	155	0.00	1493.81	-6951.66	-22.57	-0.24	42.57	5789.12
November 2024 FOMC	+25bps	8856	-0.00	2324.40	-200.09	0.02	0.09	0.32	188.64
	−25bps	3657	-0.00	6642.35	-2483.86	-1.24	0.20	2.57	2373.20
	−50bps	3274	0.00	5489.70	-5222.12	-0.02	0.19	20.00	5394.60
	No change	2176	-0.00	6973.06	-5355.79	0.00	3.09	42.07	6738.93
December 2024 FOMC	+25bps	4860	-0.00	1553.78	-421.95	0.01	0.05	0.25	853.11
	−25bps	8195	-0.00	3467.89	-925.67	-1.68	0.66	6.53	1376.75
	−50bps	3634	0.00	3700.33	-1622.00	-0.03	0.10	30.38	3509.36
	No change	2784	-0.00	4042.95	-1660.17	-0.00	5.00	43.11	4252.78
January 2025 FOMC	+25bps	21086	0.00	2423.64	-53.74	-0.02	-0.01	0.13	746.26
	−25bps	5323	0.00	14212.14	-735.43	-0.09	-0.02	4.99	8163.27
	−50bps	16876	-0.00	2288.59	-49.74	-0.02	-0.00	0.01	508.02
	No change	12849	-0.00	19323.58	-1920.58	-5.19	0.07	1.70	1309.19
March 2025 FOMC	+25bps	5908	-0.00	2656.73	-330.16	-0.02	0.00	0.37	974.85
	−25bps	4650	0.00	23708.51	-2053.81	-0.17	0.06	21.48	9675.96
	−50bps	9546	0.00	5402.51	-1126.99	-0.04	0.00	0.56	1638.12
	No change	12579	-0.00	14759.01	-1066.16	-3.63	0.05	1.18	651.85
May 2025 FOMC	+25bps	5251	-0.00	2475.08	-233.69	-0.01	0.03	0.47	494.05
	−25bps	3833	0.00	33369.33	-4913.41	-0.07	2.02	42.48	32454.91
	−50bps	5326	0.00	6595.93	-1034.08	-0.15	-0.00	1.55	4355.58
	No change	4912	-0.00	27735.55	-9726.31	-5.19	0.07	1.13	10827.04
June 2025 FOMC	+25bps	6749	-0.00	3789.33	-81.47	-0.02	0.00	0.25	468.03
	−25bps	5637	-0.00	19162.50	-2939.11	-0.06	0.13	28.03	10992.45
	−50bps	7624	-0.00	3387.36	-566.08	-0.14	-0.02	0.35	947.60
	No change	5513	0.00	25651.15	-16825.46	-8.03	0.13	5.00	11279.53
July 2025 FOMC	+25bps	10223	-0.00	2067.30	-86.04	-0.02	-0.00	0.18	196.67
	−25bps	6434	-0.00	27826.26	-1520.44	-0.24	2.52	35.42	13315.41
	−50bps	9138	-0.00	9238.19	-2834.44	-0.32	0.00	1.94	5073.47
	No change	6254	0.00	28067.32	-12412.32	-7.32	0.22	5.00	10554.36
September 2025 FOMC	+25bps	9348	-0.00	7627.15	-1049.54	-0.05	-0.01	0.35	3179.91
	−25bps	7478	0.00	17087.74	-4902.52	-3.65	1.31	15.00	11907.50
	−50bps	13528	-0.00	17038.01	-2948.08	-4.07	0.03	18.99	7269.37
	No change	6902	-0.00	18026.04	-10499.33	-1.27	5.00	75.42	19578.97

Notes. This table reports summary statistics of agents' net positions across a range of Polymarket events. For each market, we report the number of unique agents (N), the mean, standard deviation (SD), and selected percentiles (1%, 25%, 50%, 75%, 99%) of net positions, denominated in USDC.

B.2 Summary Statistics: Cross-Market Trader Overlap

Table B.2: Cross-Market Trader Overlap: FOMC Events vs. Macro Event Markets

Panel A: Share of Macro Traders Who Also Traded on FOMC Meeting								
Event	November 2024	December 2024	January 2025	March 2025	May 2025	June 2025	July 2025	September 2025
Jerome Powell out as Fed Chair in 2025?	0.037	0.055	0.072	0.088	0.125	0.114	0.221	0.257
Will the U.S. enter a recession in 2025?	0.035	0.047	0.054	0.077	0.109	0.105	0.123	0.139
10Y Treasury Yield	0.012	0.014	0.014	0.023	0.029	0.063	0.093	0.185
2025 Annual Inflation	0.017	0.023	0.025	0.040	0.055	0.096	0.114	0.228
February 2025 Inflation	0.035	0.075	0.384	0.232	0.142	0.120	0.104	0.082
April 2025 Inflation	0.029	0.041	0.060	0.089	0.165	0.300	0.208	0.157
May 2025 Inflation	0.066	0.097	0.097	0.164	0.230	0.358	0.314	0.339
June 2025 Inflation	0.060	0.086	0.114	0.150	0.194	0.312	0.400	0.400
August 2025 Inflation	0.059	0.088	0.104	0.112	0.160	0.204	0.280	0.487
Panel B: Share of FOMC Traders Who Also Traded on Macro Market								
Event	November 2024	December 2024	January 2025	March 2025	May 2025	June 2025	July 2025	September 2025
Jerome Powell out as Fed Chair in 2025?	0.013	0.018	0.010	0.018	0.041	0.028	0.043	0.045
Will the U.S. enter a recession in 2025?	0.021	0.027	0.013	0.027	0.062	0.044	0.042	0.042
10Y Treasury Yield	0.006	0.006	0.003	0.006	0.013	0.021	0.025	0.044
2025 Annual Inflation	0.004	0.005	0.002	0.005	0.011	0.014	0.014	0.024
February 2025 Inflation	0.003	0.006	0.012	0.010	0.010	0.007	0.005	0.003
April 2025 Inflation	0.002	0.003	0.002	0.004	0.011	0.015	0.009	0.006
May 2025 Inflation	0.002	0.003	0.001	0.003	0.007	0.009	0.006	0.006
June 2025 Inflation	0.002	0.003	0.001	0.003	0.006	0.007	0.007	0.006
August 2025 Inflation	0.002	0.003	0.001	0.002	0.005	0.005	0.005	0.008

Notes. Panel A reports, for each macro event, the share of its unique traders who also traded the corresponding FOMC event. Panel B reports the reverse: the share of FOMC traders who also traded the macro event. Overlap is computed at the wallet level.

B.3 Trump Social Media Posts on Central Bank Independence

Table B.3: Donald Trump's Posts on Interest Rates and Powell (Truth Social)

Timestamp	Post Content
2025-01-29 16:17	*Because Jay Powell and the Fed failed to stop the problem they created with Inflation, I will do it by unleashing American Energy production, slashing Regulation, rebalancing International Trade, and reigniting American Manufacturing, but I will do much more than stopping Inflation, I will make our Country financially, and otherwise, powerful again! The Fed has done a terrible job on Bank Regulation. Treasury is going to lead the effort to cut unnecessary Regulation, and will unleash lending for all American people and businesses. If the Fed had spent less time on DEI, gender ideology, "green" energy, and fake climate change, Inflation would never have been a problem. Instead, we suffered from the worst Inflation in the History of our Country!*
2025-04-04 11:08	*This would be a PERFECT time for Fed Chairman Jerome Powell to cut Interest Rates. He is always "late," but he could now change his image, and quickly. Energy prices are down, Interest Rates are down, Inflation is down, even Eggs are down 69%, and Jobs are UP, all within two months - A BIG WIN for America. CUT INTEREST RATES, JEROME, AND STOP PLAYING POLITICS!*
2025-04-17 06:12	*The ECB is expected to cut interest rates for the 7th time, and yet, "Too Late" Jerome Powell of the Fed, who is always TOO LATE AND WRONG, yesterday issued a report which was another, and typical, complete "mess!" Oil prices are down, groceries (even eggs!) are down, and the USA is getting RICH ON TARIFFS. Too Late should have lowered Interest Rates, like the ECB, long ago, but he should certainly lower them now. Powell's termination cannot come fast enough!*
2025-04-21 09:41	*"Preemptive Cuts" in Interest Rates are being called for by many. With Energy Costs way down, food prices (including Biden's egg disaster!) substantially lower, and most other "things" trending down, there is virtually No Inflation. With these costs trending so nicely downward, just what I predicted they would do, there can almost be no inflation, but there can be a SLOWING of the economy unless Mr. Too Late, a major loser, lowers interest rates, NOW. Europe has already "lowered" seven times. Powell has always been "Too Late," except when it came to the Election period when he lowered in order to help Sleepy Joe Biden, later Kamala, get elected. How did that work out?*
2025-05-08 06:31	*"Too Late" Jerome Powell is a FOOL, who doesn't have a clue. Other than that, I like him very much! Oil and Energy way down, almost all costs (groceries and "eggs") down, virtually NO INFLATION, Tariff Money Pouring Into the U.S. — THE EXACT OPPOSITE OF "TOO LATE!" ENJOY!*
2025-05-13 13:43	*No Inflation, and Prices of Gasoline, Energy, Groceries, and practically everything else, are DOWN!!! THE FED must lower the RATE, like Europe and China have done. What is wrong with Too Late Powell? Not fair to America, which is ready to blossom? Just let it all happen, it will be a beautiful thing!*

Continued on next page

Table B.3 – continued from previous page

Timestamp	Post Content
2025-05-17 11:11	*THE CONSENSUS OF ALMOST EVERYBODY IS THAT, "THE FED SHOULD CUT RATES SOONER, RATHER THAN LATER." Too Late Powell, a man legendary for being Too Late, will probably blow it again - But who knows???*
2025-05-28 23:16	*"FHFA Director Pulte calls on Powell to lower interest rates"* `https://www.housingwire.com/articles/fhfa-director-pulte-calls-on-powell-to-lower-interest-rates/`
2025-06-04 08:21	*ADP NUMBER OUT!!! "Too Late" Powell must now LOWER THE RATE. He is unbelievable!!! Europe has lowered NINE TIMES!*
2025-06-04 14:00	*https://thehill.com/business/5320379-us-housing-finance-chief-tells-powell-to-lower-interest-rates/*
2025-06-18 23:56	*Too Late—Powell is the WORST. A real dummy, who's costing America $Billions!* *"Fannie, Freddie regulator: Powell should cut rates or quit"* `https://www.nationalmortgagenews.com/news/fannie-mae-freddie-mac-regulator-to-powell-cut-or-quit`
2025-06-19 10:04	*"Too Late" Jerome Powell is costing our Country Hundreds of Billions of Dollars. He is truly one of the dumbest, and most destructive, people in Government, and the Fed Board is complicit. Europe has had 10 cuts, we have had none. We should be 2.5 Points lower, and save $BILLIONS on all of Biden's Short Term Debt. We have LOW inflation! TOO LATE's an American Disgrace!*
2025-06-20 17:58	*"Too Late" Powell complains about costs, much of which were produced by the Biden Fake "Government," but he could do the biggest and best job for our Country by helping to lower Interest Rates and, if he reduced them to the number they should be, 1% to 2%, that "numbskull" would be saving the United States of America up to $1 Trillion Dollars per year. I fully understand that my strong criticism of him makes it more difficult for him to do what he should be doing, lowering Rates, but I've tried it all different ways. I've been nice, I've been neutral, and I've been nasty, and nice and neutral didn't work! He's a dumb guy, and an obvious Trump Hater, who should have never been there, I listened to someone that I shouldn't have listened to, and Biden shouldn't have reappointed him. We have virtually No Inflation, our Economy is doing really well, and will soon be doing, with the tremendous Tariff Income coming in, and Factories being built all over the Country, better than it has ever done before. If he was concerned about Inflation or anything else, then all he has to do is bring the Rate down, so we can benefit on Interest Costs, and raise it in the future when and if these "other elements" happen (which I doubt they will!). Don't say that you think there will be Inflation sometime in the future, because there isn't now but, if there is, raise the Rates! We should be at the TOP of the attached List, not the bottom. I don't know why the Board doesn't override this Total and Complete Moron! Maybe, just maybe, I'll have to change my mind about firing him? But regardless, his Term ends shortly!*

Continued on next page

Table B.3 – continued from previous page

Timestamp	Post Content
2025-06-24 01:32	*"Too Late" Jerome Powell, of the Fed, will be in Congress today in order to explain, among other things, why he is refusing to lower the Rate. Europe has had 10 cuts, we have had ZERO. No inflation, great economy - We should be at least two to three points lower. Would save the USA 800 Billion Dollars Per Year, plus. What a difference this would make. If things later change to the negative, increase the Rate. I hope Congress really works this very dumb, hardheaded person, over. We will be paying for his incompetence for many years to come. THE BOARD SHOULD ACTIVATE. MAKE AMERICA GREAT AGAIN!*
2025-06-26 14:16	*https://www.thestreet.com/economy/fannie-mae-chief-pulte-sends-savage-one-word-message-to-feds-powell*
2025-06-30 13:09	*Jerome "Too Late" Powell, and his entire Board, should be ashamed of themselves for allowing this to happen to the United States. They have one of the easiest, yet most prestigious, jobs in America, and they have FAILED — And continue to do so. If they were doing their job properly, our Country would be saving Trillions of Dollars in Interest Cost. The Board just sits there and watches, so they are equally to blame. We should be paying 1% Interest, or better!*
2025-07-02 18:10	*"Too Late" should resign immediately!* *"Fed Chair Should Be Investigated by Congress, FHFA Head Says"* https://www.bloomberg.com/news/articles/2025-07-02/fed-s-powell-should-be-investigated-by-congress-fhfa-head-says
2025-07-08 15:08	*A new Study by the Council of Economic Advisers (CEA), led by Highly Respected Chair, Dr. Stephen Miran, has found that Tariffs have had ZERO IMPACT on Inflation. In fact, the Study shows that Import Prices are actually DROPPING, just like I always said they would. The Fake News and the so-called "Experts" were wrong again. Tariffs are making our Country "BOOM." Many new Factories, Jobs, and TRILLIONS OF DOLLARS in Investments are pouring into the U.S.A. Someone should show this new Study to "Too Late" Jerome Powell, who has been whining like a baby about non-existent Inflation for months, and refusing to do the right thing. CUT INTEREST RATES JEROME — NOW IS THE TIME!*
2025-07-20 15:37	*The Wall Street Journal ran a typically untruthful story today by saying that Secretary of the Treasury, Scott Bessent, explained to me that firing Jerome "Too Late" Powell, the Worst Federal Reserve Chairman in History, would be bad for the Market. Nobody had to explain that to me. I know better than anybody what's good for the Market, and what's good for the U.S.A. If it weren't for me, the Market wouldn't be at Record Highs right now, it probably would have CRASHED! So, get your information CORRECT. People don't explain to me, I explain to them!*
2025-07-23 09:08	*Housing in our Country is lagging because Jerome "Too Late" Powell refuses to lower Interest Rates. Families are being hurt because Interest Rates are too high, and even our Country is having to pay a higher Rate than it should be because of "Too Late." Our Rate should be three points lower than they are, saving us $1 Trillion per year (as a Country). This stubborn guy at the Fed just doesn't get it — Never did, and never will. The Board should act, but they don't have the Courage to do so!*

Continued on next page

Table B.3 – continued from previous page

Timestamp	Post Content
2025-07-24 15:41	*Getting ready to head over to the Fed to look at their, now, $3.1 Billion Dollar (PLUS!) construction project. Also present will be Fed Chair Jerome Powell, Senator Tim Scott, Senator Thom Tillis, OMB Director Russ Vought, Chairman of Fannie Mae and Freddie Mac, Bill Pulte, my Appointees to the National Capital Planning Commission, James Blair and Will Scharf, and various other construction professionals.*
2025-07-24 17:22	*It was a Great Honor to tour the Renovation (and some new Construction!) of the Federal Reserve Building with Chairman Jerome Powell, Senator Tim Scott, and others. It's got a long way to go, would have been much better if it were never started, but it is what it is and, hopefully, it will be finished ASAP. The cost overruns are substantial but, on the positive side, our Country is doing very well and can afford just about anything — Even the cost of this building! I'll be watching and, hopefully, adding some expertise. As everyone knows, I renovated the Old Post Office on Pennsylvania Avenue, and it was a roaring SUCCESS. The total Construction cost was a small fraction of the Fed Building's cost, and it is many times the size. With all of that being said, let's just get it finished and, even more importantly, LOWER INTEREST RATES!*
2025-07-31 07:11	*Jerome "Too Late" Powell has done it again!!! He is TOO LATE, and actually, TOO ANGRY, TOO STUPID, & TOO POLITICAL, to have the job of Fed Chair. He is costing our Country TRILLIONS OF DOLLARS, in addition to one of the most incompetent, or corrupt, renovations of a building(s) in the history of construction! Put another way,"Too Late" is a TOTAL LOSER, and our Country is paying the price!*
2025-08-01 06:32	*Jerome "Too Late" Powell, a stubborn MORON, must substantially lower interest rates, NOW. IF HE CONTINUES TO REFUSE, THE BOARD SHOULD ASSUME CONTROL, AND DO WHAT EVERYONE KNOWS HAS TO BE DONE!*
2025-08-01 08:51	*Too Little, Too Late. Jerome "Too Late" Powell is a disaster. DROP THE RATE! The good news is that Tariffs are bringing Billions of Dollars into the USA!*

Continued on next page

Table B.3 – continued from previous page

Timestamp	Post Content
2025-08-01 14:09	*I was just informed that our Country's "Jobs Numbers" are being produced by a Biden Appointee, Dr. Erika McEntarfer, the Commissioner of Labor Statistics, who faked the Jobs Numbers before the Election to try and boost Kamala's chances of Victory. This is the same Bureau of Labor Statistics that overstated the Jobs Growth in March 2024 by approximately 818,000 and, then again, right before the 2024 Presidential Election, in August and September, by 112,000. These were Records — No one can be that wrong? We need accurate Jobs Numbers. I have directed my Team to fire this Biden Political Appointee, IMMEDIATELY. She will be replaced with someone much more competent and qualified. Important numbers like this must be fair and accurate, they can't be manipulated for political purposes. McEntarfer said there were only 73,000 Jobs added (a shock!) but, more importantly, that a major mistake was made by them, 258,000 Jobs downward, in the prior two months. Similar things happened in the first part of the year, always to the negative. The Economy is BOOMING under "TRUMP" despite a Fed that also plays games, this time with Interest Rates, where they lowered them twice, and substantially, just before the Presidential Election, I assume in the hopes of getting "Kamala" elected – How did that work out? Jerome "Too Late" Powell should also be put "out to pasture." Thank you for your attention to this matter!*
2025-08-01 15:44	*In my opinion, today's Jobs Numbers were RIGGED in order to make the Republicans, and ME, look bad — Just like when they had three great days around the 2024 Presidential Election, and then, those numbers were "taken away" on November 15, 2024, right after the Election, when the Jobs Numbers were massively revised DOWNWARD, making a correction of over 818,000 Jobs — A TOTAL SCAM. Jerome "Too Late" Powell is no better! But, the good news is, our Country is doing GREAT!*
2025-08-01 18:05	*"Too Late" Powell should resign, just like Adriana Kugler, a Biden Appointee, resigned. She knew he was doing the wrong thing on Interest Rates. He should resign, also!*
2025-08-12 09:44	*Jerome "Too Late" Powell must NOW lower the rate. Steve "Manouychin" really gave me a "beauty"when he pushed this loser. The damage he has done by always being Too Late is incalculable. Fortunately, the economy is sooo good that we've blown through Powell and the complacent Board. I am, though, considering allowing a major lawsuit against Powell to proceed because of the horrible, and grossly incompetent, job he has done in managing the construction of the Fed Buildings. Three Billion Dollars for a job that should have been a $50 Million Dollar fix up. Not good!*
2025-08-19 18:38	*Could somebody please inform Jerome "Too Late" Powell that he is hurting the Housing Industry, very badly? People can't get a Mortgage because of him. There is no Inflation, and every sign is pointing to a major Rate Cut. "Too Late" is a disaster!*
2025-09-05 10:16	*Jerome "Too Late" Powell should have lowered rates long ago. As usual, he's "Too Late!"*

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Table B.3 – continued from previous page

Timestamp	Post Content
2025-09-09 09:11	*"If the Fed had followed what we published, they would have raised rates in early 2021. The entire Organization is broken. It needs to be fixed. They need to use modern sources of information.We strongly disagree with Ken Griffin. We think Incompetence is more important than to defend theoretical independence. He ("Too Late!") has done a terrible job since he adapted a two target? It's too low, it's too rigid, they followed Data that's years delayed. They don't believe that money supply matters, it's like the Pope not believing in Jesus. We think that's a much bigger problem than this notion that they are dependent, or they're not independent." Jay Hatfield Infrastructure Capital Advisors, CEO & CIO, on Maria B. "Chair Powell was late to raise rates, they need to come down here, there's no question about it. He's dragging his feet. The Feds going to come down here 50, 75, Maybe 100." Greg Faranello, American Securities on Maria B.*
2025-09-10 09:08	*Just out: No Inflation!!! "Too Late" must lower the RATE, BIG, right now. Powell is a total disaster, who doesn't have a clue!!! President DJT*

Notes: List of Truth Social messages by President Trump related to Federal Reserve Chair Jerome Powell and pressure on interest rates. All posts are sourced from `https://rollcall.com/factbase/trump/topic/social/`.

C FOMC Probability

C.1 CME Implied FOMC Probabilities

We recover the market's assessment of future FOMC decision probabilities from *Fed funds futures* prices. We use the CME FedWatch approach to construct the market-implied FOMC decision probabilities with high-frequency fed funds futures price data.

The CME group provides readily available FOMC probabilities at daily frequency.[28] We adopt their approach and reconstruct the benchmark FOMC probabilities with high-frequency Fed funds futures data.

The approach proceeds as follows.

Step 1: Start with the first non-FOMC month. The futures contract price for a month without a FOMC meeting is assumed to reflect the average effective federal funds rate (EFFR) for that month. It is further assumed that the EFFR remains unchanged throughout the month T, i.e., $EFFR^{end}_{t,T-1} = EFFR^{avg}_{t,T} = EFFR^{start}_{t,T+1}$.

The implied average effective fed funds rate for any month is

$$EFFR^{avg}_{t,T} = 100 - f_{t,T}$$

where $f_{t,T}$ is the fed funds futures price for contract month T, observed at time t.

Step 2: Establish starting and ending EFFR for every month. From step 1, we obtain $EFFR^{start}_{t,T}$ and $EFFR^{end}_{t,T}$ for the first non-FOMC month in the sample. We then assume $EFFR^{start}_{t,T} = EFFR^{end}_{t,T-1}$ and $EFFR^{end}_{t,T} = EFFR^{start}_{t,T+1}$ and use the relationship to propagate values both forward and backward until every month has values for $EFFR^{Start}$, $EFFR^{End}$.

For FOMC months, the following relationship holds:

$$EFFR^{avg}_{t,T} = \frac{N}{M+N} EFFR^{start}_{t,T} + \frac{M}{M+N} EFFR^{end}_{t,T}$$

[28] See `https://www.cmegroup.com/markets/interest-rates/cme-fedwatch-tool.html?redirect=/trading/interest-rates/countdown-to-fomc.html`

where N is the number of days before the FOMC meeting (including the meeting date), and M is the number of days after the FOMC meeting, using the 30-day month convention standard for Fed funds futures. [29]

Step 3: Calculate the expected rate change. Once we have $EFFR_{t,T}^{start}$ and $EFFR_{t,T}^{end}$ for every month in the sample, we calculate the change in EFFR for the FOMC meeting month:

$$\text{E(rate change in bps)}_t = EFFR_{t,T}^{end} - EFFR_{t,T}^{start}$$

Equivalently, in units of 25bps changes:

$$\text{E(\# of 25bps changes)}_t = \frac{EFFR_{t,T}^{end} - EFFR_{t,T}^{start}}{25 \text{ bps}}$$

Step 4: Calculate FOMC decision probabilities. We decompose the expected number of 25bps changes $\text{E(\# of changes)}_t$ into two parts. The whole number represents the minimum number of 25bps rate changes. The decimal part indicates the probability of a larger rate change. Thus,

$$P(\text{a larger rate change})_t = |\text{decimal part}|$$
$$P(\text{no larger rate change})_t = 1 - |\text{decimal part}|$$

For example, if the expected change is 2.30, then the expected probability of a 75bps rate hike is 30% and the expected probability of a 50bps rate hike is 70%. Conversely, if the expected change is -2.30, the expected probability of a 75bps rate cut is 30% and the expected probability of a 50bps rate cut is 70%.

[29] When $M < 5$ days (meeting occurs very late in the month), the calculation becomes unstable. In this case, we use $EFFR_{t,T+1}^{avg}$ from the next month's contract as a proxy for $EFFR_{t,T}^{end}$, then solve for $EFFR_{t,T}^{start}$ using $EFFR_{t,T}^{start} = \frac{EFFR_{t,T}^{avg} - \frac{M}{M+N} EFFR_{t,T}^{end}}{N/(M+N)}$

C.2 Polymarket and CME FOMC Expected Rate Changes

To validate Polymarket as a reliable measure of market expectations for FOMC decisions, we compare its implied rate changes with those derived from CME 30-day federal funds futures, the traditional benchmark widely used by market practitioners. This comparison also allows us to highlight the practical advantages Polymarket offers for high-frequency empirical analysis.

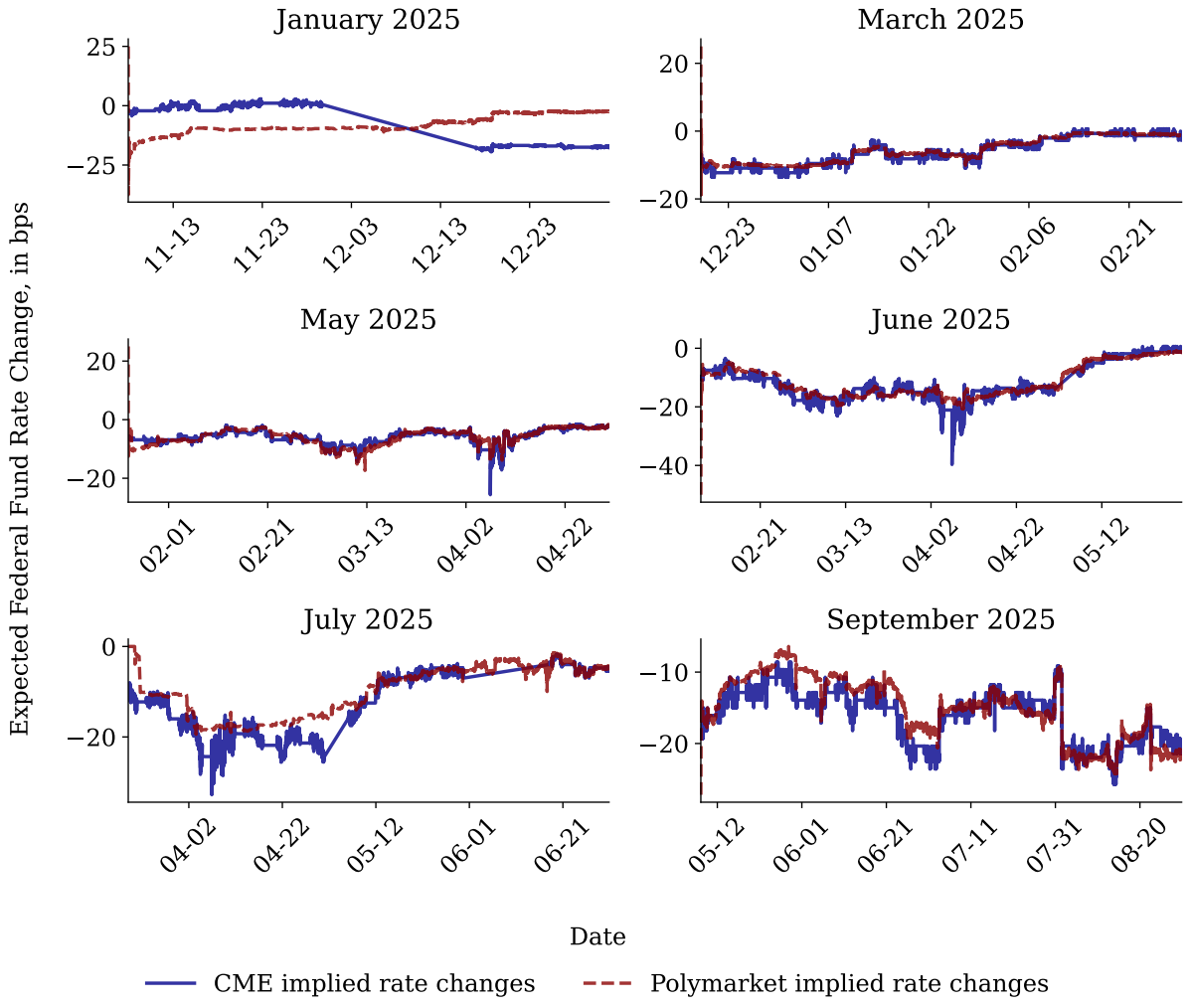
Figure C.1 presents a visual comparison of expected federal funds rate changes implied by CME 30-day federal funds futures contracts and Polymarket prediction markets across six upcoming FOMC meetings from January through September 2025. The two series closely co-move throughout the sample period. The visual alignment is particularly tight for the March, May, and June 2025 meetings, where the two measures are nearly indistinguishable. The January and July 2025 meetings exhibit larger discrepancies because when meetings occur very late in the month, the CME calculation becomes unstable. This also highlights the convenience and reliability Polymarket offers over traditional markets.

To quantify the degree of alignment between these two measures, Table C.1 reports tracking error statistics for each FOMC meeting. The tracking error, defined as the difference between Polymarket-implied and CME-implied rate changes, remains economically small across all meetings. The mean tracking error ranges from 0.03 basis points (May 2025) to 2.19 basis points (July 2025). The root mean squared error (RMSE) and mean absolute error (MAE) statistics similarly indicate tight correspondence.

The close tracking between these two measures provides empirical validation that Polymarket prediction markets serve as reliable proxies for institutional market expectations of FOMC decisions. However, Polymarket offers several practical advantages over the CME-based approach. First, Polymarket directly provides probability distributions over discrete rate change scenarios (e.g., probabilities for -50 bps, -25 bps, 0 bps, +25 bps cuts or hikes), eliminating the need for a multi-step calculation procedure. The CME approach requires: (1) extracting average effective federal funds rates from futures prices, (2) iteratively solving for start-of-month and end-of-month rates, (3) computing expected

rate changes, and (4) decomposing the expected change into probabilities. In contrast, Polymarket probabilities are directly observable and can be aggregated into expected rate changes through simple probability-weighted averaging. Second, the CME methodology becomes unstable when FOMC meetings occur late in the month (when M $<$ 5 days), requiring workarounds that introduce additional assumptions. Polymarket prediction markets, by contrast, maintain well-defined probability distributions regardless of meeting timing within the month.

Figure C.1: CME and Polymarket Implied FOMC Rate Changes



Notes. The plot compares expected federal funds rate changes implied by CME 30-day federal funds futures versus Polymarket prediction markets. CME expectations are calculated following part C. Polymarket expectations are computed as the probability-weighted average of rate change scenarios. Both series are measured in basis points.

Table C.1: Tracking Error Between Polymarket and CME Implied Rate Changes

FOMC Meeting	Mean TE (bps)	Std Dev (bps)	RMSE (bps)	MAE (bps)
January 2025	0.79	12.54	12.57	12.34
March 2025	0.41	1.01	1.09	0.80
May 2025	0.03	1.42	1.42	1.00
June 2025	0.36	2.28	2.31	1.59
July 2025	2.19	2.84	3.59	2.46
September 2025	0.93	1.99	2.20	1.78

Notes. Tracking error (TE) is defined as Polymarket implied rate change minus CME implied rate change. RMSE is Root Mean Squared Error, MAE is Mean Absolute Error.

D Additional Tests

D.1 Monetary Policy Expectations and Recession Risk

This section provides an additional validation test of Taylor-rule logic, complementing the evidence based on inflation expectations in Section 3.4. If agents anticipate a recession, they may reasonably expect the Federal Reserve to adopt a more accommodative policy stance. To examine this mechanism, we study whether agents' positions in a Polymarket contract predicting a U.S. recession in 2025 are associated with their inferred hawk–dove scores.

Figure D.1 plots the distribution of hawk–dove scores for agents who took a positive ($+REC$) or negative ($\text{-}REC$) net "Yes" position in the Polymarket contract *"Will the U.S. enter a recession in 2025?"* for each of the March, May, June, July, and September 2025 FOMC meetings. A higher hawk–dove score corresponds to more dovish monetary policy expectations. The figure is restricted to agents who traded in at least one FOMC prediction market and the recession risk market, allowing us to relate macroeconomic beliefs to monetary policy stance at the wallet level.

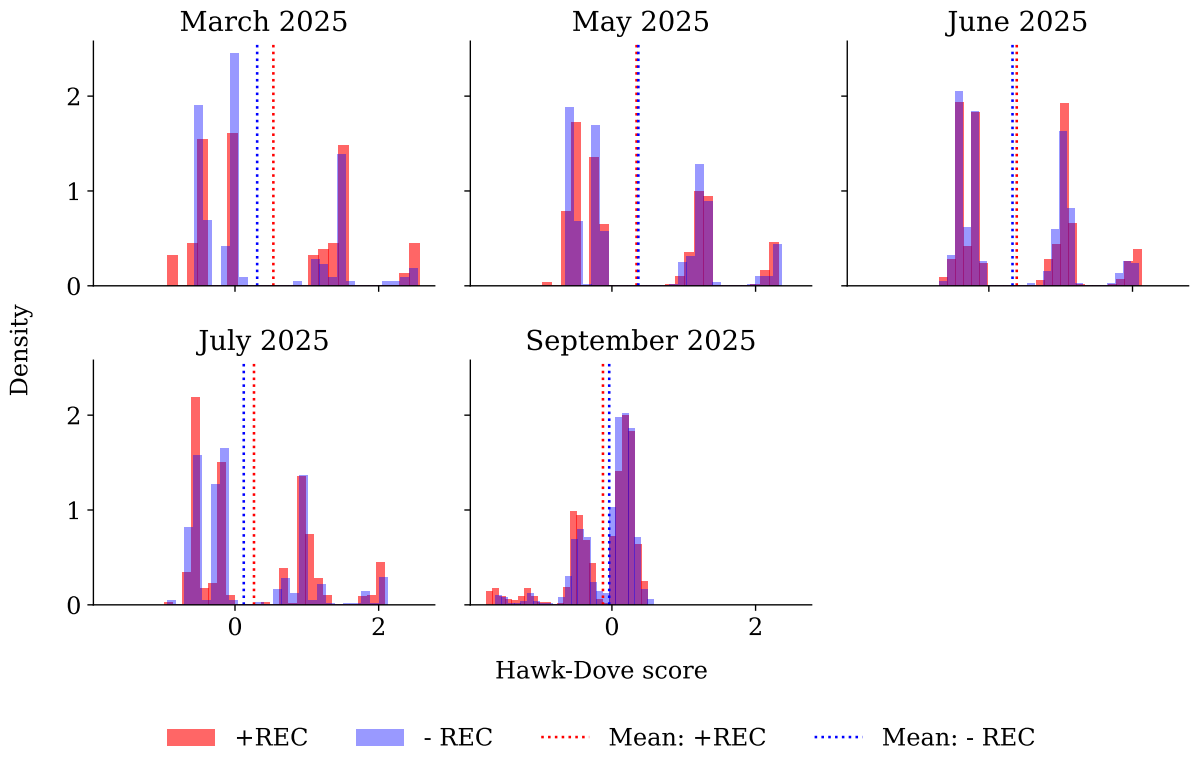
The cross-sectional patterns are modest. Across meetings, the distributions of hawk–dove scores for $+REC$ and $\text{-}REC$ agents are highly similar, and differences in average scores are small. This suggests that, in the cross section, recession beliefs alone do not generate sharp differences in monetary policy stance, consistent with substantial heterogeneity in agents' priors and information sets.

To formalize the relationship between recession beliefs and monetary policy expectations, we estimate:

$$HawkDove_{i,t} = \alpha + \beta_1 \cdot +REC_{i,t} + \beta_2 \cdot \text{-}REC_{i,t} + \beta_3 \cdot SOP_i + \beta_4 \cdot (+REC_{i,t} \times SOP_i) + \beta_5 \cdot (\text{-}REC_{i,t} \times SOP_i) + \gamma_1 \log(volume_i) + \gamma_2 \cdot profit_i + \gamma_3 \cdot \#markets_i + \varepsilon_{i,t}. \quad (16)$$

The key explanatory variables are $+REC_{i,t}$ and $\text{-}REC_{i,t}$, which indicate whether an agent holds a net "Yes" or "No" position, respectively, in the Polymarket contract *"Will*

Figure D.1: Hawk-dove Score and Recession Risk



Notes. The plot shows the distribution of hawk-dove scores for agents with a positive (+REC) or negative (-REC) net 'Yes' position in the market 'US recession in 2025?' as of the corresponding FOMC meeting date—for the March, May, June, July, and September 2025 FOMC meetings, respectively. A positive hawk-dove score indicates a more dovish stance, while a negative score indicates a more hawkish stance.

the U.S. enter a recession in 2025?" as of FOMC meeting t. We focus on this contract because it is relatively liquid and has substantial overlap with agents who participate in FOMC prediction markets. The indicator SOP_i identifies agents with high trading intensity and profitability, who are more likely to engage in arbitrage or technical trading strategies. We include this control to isolate the response of the marginal agent whose trades reflect macroeconomic beliefs rather than mechanical or arbitrage-driven behavior.

Table D.1 reports the regression results. Both *+REC* and *-REC* coefficients are positive and statistically significant, indicating that agents who trade in the recession market tend, on average, to hold more dovish monetary policy views than agents who do not participate in this contract. However, the difference between *+REC* and *-REC* is small, and the distributions in Figure D.1 are highly similar. These results reinforce the conclusion that cross-sectional comparisons of recession beliefs provide limited identifying power,

motivating a focus on within-agent variation.

Table D.1: Monetary Policy Stance and Recession Risk

	March 2025		May 2025		June 2025		July 2025		September 2025	
$+REC$	11.388***	10.134***	4.273**	1.876	7.627***	7.161***	3.470**	6.084***	-3.174**	-2.096
	(3.446)	(3.535)	(1.672)	(1.695)	(1.655)	(1.715)	(1.584)	(1.640)	(1.321)	(1.361)
$-REC$	6.549**	5.081*	5.615***	3.150*	5.228***	4.470**	-0.301	2.006	-0.272	1.218
	(2.576)	(2.629)	(1.783)	(1.833)	(1.747)	(1.819)	(1.459)	(1.507)	(1.394)	(1.428)
$+REC \times SOP$		8.383		-24.723*		-7.367		-15.456*		-3.187
		(12.538)		(13.325)		(11.182)		(9.028)		(8.537)
$-REC \times SOP$		22.720***		-1.960		24.217***		10.225		-11.548
		(5.359)		(9.593)		(5.619)		(10.214)		(8.043)
$log(volume)$		0.418***		1.724***		-1.821***		0.065		-0.913***
		(0.112)		(0.128)		(0.113)		(0.107)		(0.096)
$profit$		0.000*		0.000***		-0.000		-0.000		-0.000
		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)
$\#markets$		-0.005		-0.023**		0.113***		-0.063***		0.019**
		(0.009)		(0.011)		(0.010)		(0.008)		(0.008)
SOP		9.388***		9.192***		8.815***		5.807***		-3.337**
		(2.632)		(2.614)		(1.362)		(1.361)		(1.460)
$const$	-0.088	-3.232***	-0.246	-13.001***	-0.261	10.159***	-0.060	1.333	0.082	6.754***
	(0.175)	(0.805)	(0.225)	(0.857)	(0.194)	(0.761)	(0.174)	(0.823)	(0.165)	(0.693)
R-squared Adj.	0.001	0.002	0.001	0.019	0.002	0.017	0.000	0.004	0.000	0.004
N	27205	27205	16855	16855	22457	22457	27916	27916	31471	31471

Notes. The table reports coefficients from regressions of the hawk-dove percentileon agents' stance toward Federal Reserve independence, along with a set of controls. $+REC$ ($-REC$) is a dummy variable indicating whether a Polymarket agent has positive (negative) net yes position on market 'US recession in 2025?' as of the corresponding FOMC meeting date (March, May, June, July or September 2025). SOP is a dummy variable indicating whether a Polymarket agent is a sophisticated investor, defined as being in the top 1% in terms of profit on Polymarket and having invested in more than five markets. *log(volume)* is the log of an agent's total collateral volume on Polymarket. *profit* is the agent's total profit, and $\#$ *markets* is the number of markets the agent has bet on. White heteroscedasticity-robust standard errors are reported in parentheses. *, **, and *** denote 10%, 5%, and 1% significance levels, respectively.

A limitation of the cross-sectional analysis is that it compares agents with heterogeneous priors and information sets. Differences in hawk–dove scores may therefore reflect unobserved characteristics, such as inflation expectations or other macroeconomic assessments, rather than the causal effect of recession risk per se. Agents who take opposite positions on recession risk may do so because they observe or interpret different information, which can attenuate any underlying causal relationship.[30]

To address this concern, we turn to a within-agent case study in which perceived recession risk shifts sharply for many agents in response to a common shock.

[30]Formally, suppose agent i has hawk–dove score $score_i = \alpha_i + \beta \cdot recession\ risk_i$, while agent j has $score_j = \alpha_j + \beta \cdot recession\ risk_j$. If $\alpha_i \neq \alpha_j$, the difference in scores reflects both the treatment effect β and the difference in priors $(\alpha_i - \alpha_j)$.

D.1.1 Case Study: Liberation Day Tariffs and Recession Risk

On April 2, 2025, branded by the White House as "Liberation Day tariffs," President Trump signed Executive Order 14257, imposing a 10% baseline tariff on U.S. imports and "reciprocal" tariffs of up to 50% or more on imports from roughly 60 targeted countries. Panel A of Figure D.2 shows the market-implied probability of a U.S. recession in 2025 from Polymarket. Immediately following the announcement, the implied probability of recession rose sharply, reaching approximately 65% in the days after Liberation Day. We use this episode as a shock to perceived recession risk to study how changes in macroeconomic beliefs map into changes in monetary policy stance.

We estimate agents' monetary policy stance before and after the tariff shock. Panel B of Figure D.2 compares the distribution of hawk–dove scores on March 29, 2025 and April 7, 2025 for the May 2025 FOMC meeting. The figure shows a modest outward shift in the distribution following the announcement, with increased dispersion across agents. This pattern reflects heterogeneity in how market participants balance recessionary risks against potential inflationary effects of tariffs.

To formally test whether changes in perceived recession risk affect monetary policy expectations, we estimate:

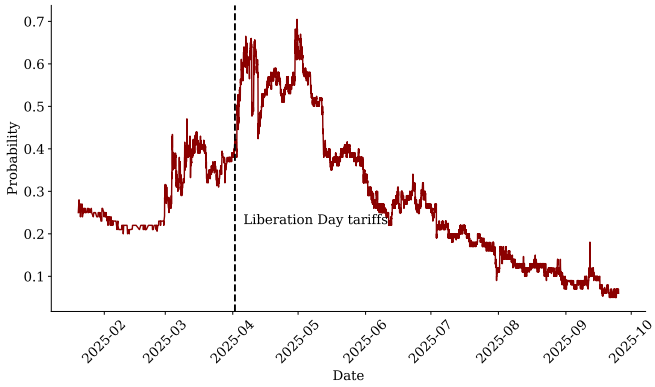
$$\Delta HawkDove_i = \alpha + \beta_1 \cdot \Delta REC_i + \beta_2 \cdot (\Delta REC_i \times SOP_i) + \gamma_1 \log(volume_i) + \gamma_2 \cdot profit_i + \gamma_3 \cdot \#markets_i + \beta_3 \cdot SOP_i + \varepsilon_i, \quad (17)$$

where $\Delta HawkDove_i$ is the change in the hawk–dove percentile for agent i between March 29 and April 7, 2025. The indicator ΔREC_i equals one if the agent increased their net "Yes" exposure in the "U.S. recession in 2025?" prediction market over this interval, indicating a rise in perceived recession risk. The interaction term allows the response to differ for high-activity agents, who may trade for reasons unrelated to macroeconomic belief updating.

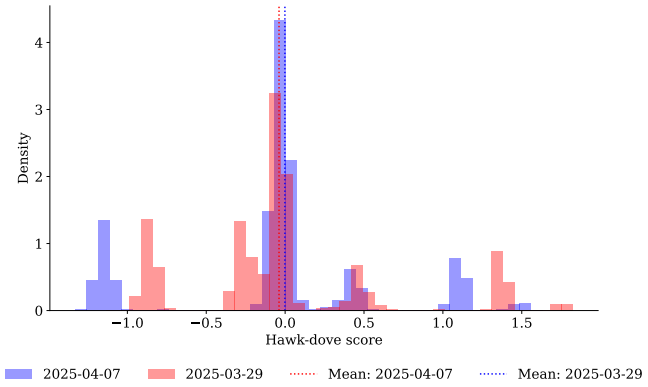
This specification exploits within-agent variation, holding fixed time-invariant priors and mitigating concerns that cross-sectional differences reflect unobserved heterogeneity.

Figure D.2: Liberation Day Tariff and Recession Risk

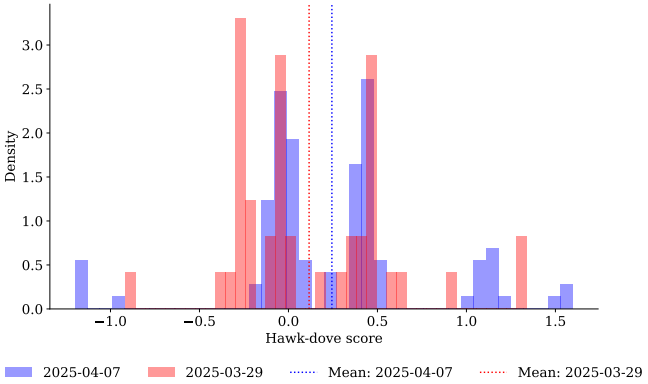
Panel A: Market-Implied Recession Probability from Polymarket



Panel B: Hawk-Dove Scores Distribution Pre- and Post-Tariff Announcement



Panel C: Hawk-Dove Score Distribution of Recession-Sensitive Agents



Notes. This figure shows how the announcement of Liberation Day tariffs on April 2, 2025, affected market expectations of recession risk and agents' monetary policy stance. Panel A plots the price of the "Yes" token in the narket 'U.S. recession in 2025?' Panel B compares the distribution of hawk-dove scores across all agents before (March 29, 2025) and after (April 7, 2025) the tariff event, for the May 2025 FOMC meeting. Panel C shows the distribution of hawk-dove scores for agents who priced in recession risk—defined as those with increased net positive positions in the 'U.S. recession in 2025' market following the tariffs— before (March 29, 2025) and after (April 7, 2025)

Table D.2: Recession Risk Perception and Monetary Policy Stance

	Changes in Monetary Policy Stance	
ΔREC	8.915**	9.690**
	(4.214)	(4.327)
$\Delta REC \times SOP$		-18.967***
		(5.320)
$log(volume)$		-0.075
		(0.131)
$profit$		0.000**
		(0.000)
$\#markets$		0.010
		(0.011)
SOP		0.019
		(3.179)
$const$	-1.739***	-1.460
	(0.248)	(0.920)
R-squared Adj.	0.002	0.002
N	5618	5614

Notes. The table reports coefficients from regressions of the change in hawk-dove percentile between March 29, 2025, and April 7, 2025, surrounding the announcement of Liberation Day tariffs, for the May 2025 FOMC meeting. ΔREC is a dummy variable equal to 1 if a Polymarket agent increased their net "Yes" position in the market 'U.S. recession in 2025?' over this period. SOP is a dummy variable indicating whether a Polymarket agent is a sophisticated investor, defined as being in the top 1% in terms of profit on Polymarket and having invested in more than five markets. *log(volume)* is the log of an agent's total collateral volume on Polymarket. *profit* is the agent's total profit, and $\#$ *markets* is the number of markets the agent has bet on. White heteroscedasticity-robust standard errors are reported in parentheses. *, **, and *** denote 10%, 5%, and 1% significance levels, respectively.

Table D.2 reports the results. The coefficient on ΔREC is positive and statistically significant, indicating that agents who revised their recession beliefs upward tended, on average, to shift toward a more dovish monetary policy stance. The interaction with SOP_i is negative and statistically significant, implying that this response is attenuated among high-activity traders. Importantly, this interaction does not overturn the average effect. Controlling for sophisticated or arbitrage-oriented trading, increases in perceived recession risk remain associated with more accommodative policy expectations for the marginal agent.[31]

Taken together, these results support the interpretation that Polymarket users form monetary policy expectations in a manner broadly consistent with Taylor-rule logic. While

[31]The weaker response among high-activity traders may partly reflect hedging across markets, for example if sophisticated traders use recession-risk contracts to offset exposure in FOMC-related markets.

high-activity traders may respond differently due to non-macro trading motives, the average response, after controlling for such behavior, indicates that increases in perceived recession risk translate into expectations of more accommodative monetary policy. This provides additional validation that wallet-level hawk–dove scores capture economically meaningful beliefs rather than purely technical trading patterns.

D.2 Controlling for Hedging Agents

A potential alternative explanation for our findings is that some traders use Powell-removal and FOMC markets as hedges rather than as directional bets. For example, an agent might take a Yes position on "Trump fires Powell" while simultaneously betting No (or No Change) on interest rates, thereby managing risk if Powell is not removed. To evaluate this possibility, we classify matched wallets into four categories based on their positions in the Powell-removal and rate-cut markets:

- Case 1: Yes on Powell removal, and Yes on rate cut (or No on no change/rate hike), a directional macro view.
- Case 2: Yes on Powell removal, and No on rate cut (or Yes on no change/rate hike), a potential hedge.
- Case 3: No on Powell removal, and Yes on rate cut (or No on no change/rate hike), a potential hedge.
- Case 4: No on Powell removal, and No on rate cut (or Yes on no change/rate hike), a directional macro view.

Table D.3 reports the number of wallets in each case across the March, May, June, July, and September 2025 FOMC meetings. The majority of traders fall into Cases 1 and 4, with directional positions accounting for 54.9%, 59.2%, 57.8%, 59.6%, and 49.3% of matched wallets, respectively. This supports our baseline interpretation that Powell-removal and FOMC trades reflect directional macroeconomic views rather than hedging activity.

To address this concern, we re-estimate the baseline specification excluding hedgers (Cases 2 and 3) from the sample.

Table D.3: Number of Hedge Traders

Event	Case 1	Case 2	Case 3	Case 4
March 2025 FOMC	14	14	9	14
May 2025 FOMC	156	76	91	86
June 2025 FOMC	113	73	79	95
July 2025 FOMC	443	286	208	285
September 2025 FOMC	504	496	381	348

Notes. This table reports, for each FOMC event, the number of traders classified into Case 1: Yes on Powell removal and Yes on rate cut; Case 2: Yes on Powell removal and No on rate cut; Case 3: No on Powell removal and Yes on rate cut; and Case 4: No on Powell removal and No on rate cut.

Table D.4 reports estimates of equation (12) after excluding agents classified as potential hedgers. Removing these agents sharpens the contrast between *+FJP* and *-FJP* traders. The coefficients on *+FJP* are positive and statistically significant from May through September, while the coefficients on *-FJP* are negative and highly significant throughout. The implied difference in hawk–dove scores between the two groups widens substantially compared with the full-sample estimates in Table 4, which is intuitive given that hedging trades would otherwise attenuate the estimated effects.

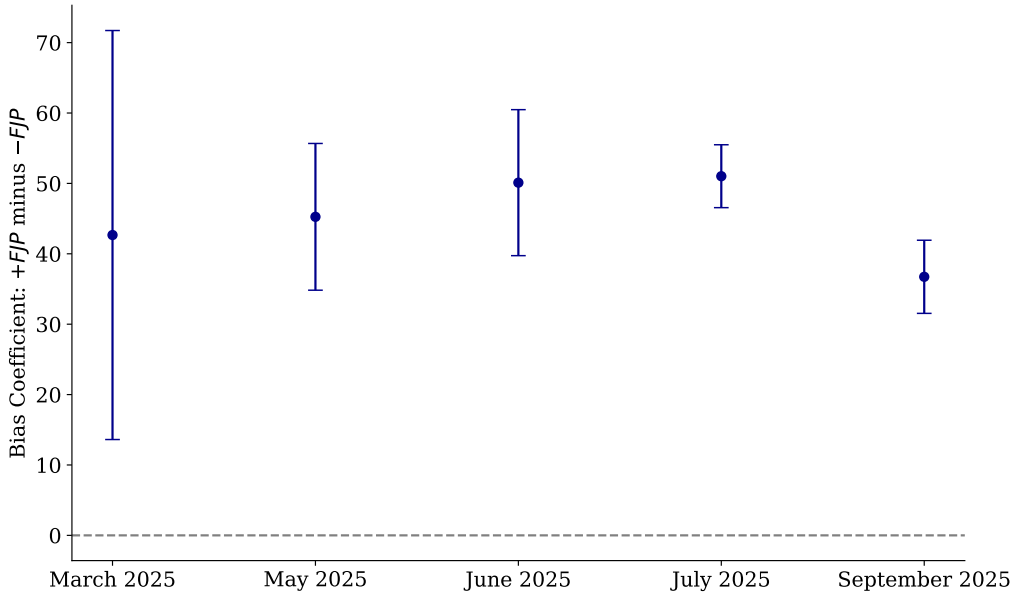
Figure D.3 plots the corresponding bias coefficient, the difference in hawk–dove percentile scores between *+FJP* and *-FJP* traders, for each FOMC meeting after excluding hedgers. The gap widens considerably relative to the baseline shown in Figure 7, and is statistically significant across all five meetings.

Table D.4: Monetary Policy Stance and Federal Reserve Independence: Excluding Hedgers

	March 2025		May 2025		June 2025		July 2025		September 2025	
$+FJP$	13.051	10.820	25.506***	24.484***	27.163***	26.106***	26.733***	28.372***	23.213***	23.762***
	(14.181)	(14.402)	(2.591)	(2.685)	(3.543)	(3.663)	(1.459)	(1.469)	(1.508)	(1.529)
$-FJP$	-30.499***	-31.847***	-16.888***	-20.768***	-20.352***	-24.001***	-24.613***	-22.651***	-14.336***	-12.969***
	(3.417)	(3.633)	(4.544)	(4.606)	(3.977)	(3.864)	(1.771)	(1.785)	(2.147)	(2.192)
$+FJP \times SOP$		-0.000		-0.000***		14.243***		-8.018		10.872*
		(0.000)		(0.000)		(3.902)		(13.756)		(5.955)
$-FJP \times SOP$		0.000		23.943*		33.103***		24.142*		-9.672
		(0.000)		(14.302)		(11.871)		(14.661)		(15.417)
$\log(volume)$	0.432***	0.432***	1.751***	1.751***	-1.829***	-1.829***	0.033	0.033	-0.954***	-0.954***
	(0.112)	(0.112)	(0.128)	(0.128)	(0.114)	(0.114)	(0.108)	(0.108)	(0.098)	(0.098)
$profit$	0.000**	0.000**	0.000***	0.000***	-0.000*	-0.000*	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
$\#markets$	-0.000	-0.000	-0.023**	-0.023**	0.121***	0.121***	-0.060***	-0.060***	0.020***	0.020***
	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.008)	(0.008)	(0.008)	(0.008)
SOP	10.187***	10.187***	7.804***	7.804***	8.799***	8.799***	5.319***	5.319***	-3.330**	-3.330**
	(2.556)	(2.556)	(2.609)	(2.609)	(1.362)	(1.362)	(1.370)	(1.370)	(1.460)	(1.460)
$const$	-3.431***	-3.431***	-13.217***	-13.217***	10.106***	10.106***	1.439*	1.439*	6.990***	6.990***
	(0.806)	(0.806)	(0.858)	(0.858)	(0.760)	(0.760)	(0.827)	(0.827)	(0.707)	(0.707)
Adj. R^2	0.002	0.002	0.024	0.024	0.020	0.020	0.020	0.020	0.012	0.012
N	27182	27182	16688	16688	22305	22305	27422	27422	30594	30594

Notes. This table repeats the specification in Table 4 but excludes potential hedgers, defined as: (i) agents who took a *Yes* position on Powell removal and a *No* (or *No Change*) position on a rate cut, and (ii) agents who took a *No* position on Powell removal and a *Yes* position on a rate cut (or *No Change*). $+FJP$ ($-FJP$) indicates a positive (negative) net *Yes* exposure to "Will Trump remove Jerome Powell in 2025?" as of the relevant FOMC meeting. *SOP* identifies sophisticated agents (top 1% in profitability and participation in more than five markets). White heteroscedasticity-robust standard errors are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Figure D.3: Bias Coefficient: Monetary Policy Stance and Fed Independence (Excluding Hedgers)



Notes. This figure shows the estimated bias coefficient—defined as the difference between the coefficients for *+FJP* and *−FJP* from the specification excluding hedge traders in Table D.4—for the March, May, June, July, and September 2025 FOMC meetings. Hedge traders are defined as agents whose joint positions in the Powell-removal and FOMC markets are inconsistent with a directional macroeconomic view (Cases 2 and 3 in Table D.3). Vertical bars represent 95% confidence intervals calculated using the Delta method.

D.3 Alternative CBI Measure: Lisa Cook Removal

In this subsection, we provide an additional robustness check by examining whether political threats directed at other Federal Reserve officials are associated with similar shifts in monetary policy expectations. In August 2025, President Trump publicly threatened to remove Fed Governor Lisa Cook, creating an alternative and independent measure of perceived threats to central bank independence.

Table D.5 reports estimates analogous to those in Table 4, using positions in the Polymarket contract *"Lisa Cook out as Fed Governor by December 31, 2025"* as the key explanatory variable. Because this market opens only shortly before the September 2025 FOMC meeting, the analysis is necessarily limited to that meeting.

The results are consistent with our main findings. Agents who bet on Cook's removal ($+FLC$) exhibit more dovish hawk–dove scores on average. In the full sample, the estimated bias is positive but not statistically significant, mirroring the corresponding result for the Powell-removal contract. However, after excluding agents classified as hedgers, the estimated effect becomes large and statistically significant. The implied bias reaches 25.4 percentile points, as shown in Figure D.4.

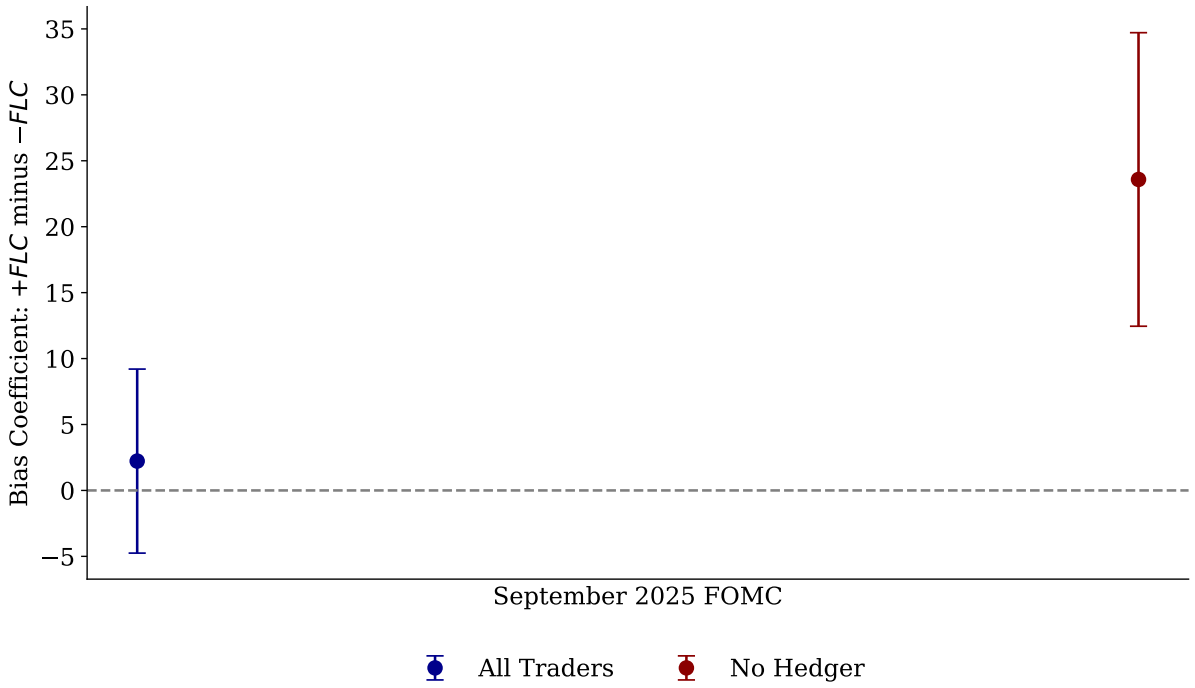
The magnitude of this effect is comparable to that observed for Powell-removal beliefs. This suggests that market participants interpret political pressure directed at a Federal Reserve governor, and not only the Chair, as a meaningful threat to central bank independence, with corresponding implications for monetary policy expectations.

Table D.5: Monetary Policy Stance and Federal Reserve Independence (Lisa Cook Firing)

	September 2025		September 2025 (No Hedger)	
$+FLC$	4.767*	5.915**	25.355***	25.002***
	(2.449)	(2.457)	(2.726)	(2.860)
$-FLC$	1.158	3.690	-0.463	1.420
	(2.576)	(2.600)	(4.837)	(4.916)
$+FLC \times SOP$		-3.933		14.466***
		(14.369)		(4.629)
$-FLC \times SOP$		-10.950		-26.170***
		(15.569)		(5.126)
$log(volume)$		-0.925***		-0.890***
		(0.096)		(0.097)
$profit$		-0.000		-0.000
		(0.000)		(0.000)
$\#markets$		0.016**		0.016**
		(0.007)		(0.007)
SOP		-3.572**		-3.644**
		(1.431)		(1.431)
$const$	-0.030	6.870***	-0.030	6.586***
	(0.163)	(0.691)	(0.163)	(0.697)
R-squared Adj.	0.000	0.004	0.001	0.005
N	31471	31471	31229	31229

Notes. The table reports coefficients from regressions of the hawk-dove percentileon agents' stance toward Federal Reserve independence, along with a set of controls. In the column labeled '(no hedgers),' we exclude hedge traders, defined as (a) agents who voted YES on Trump firing Powell and NO (or YES on No Change) on a rate cut, and (b) agents who voted NO on Trump firing Powell and YES on a rate cut (or NO on No Change). *+FLC* (*-FLC*) is a dummy variable indicating whether a Polymarket agent has positive (negative) net yes position on market 'Lisa Cook out as Fed Governor by December 31, 2025' as of the September 2025 FOMC. *SOP* is a dummy variable indicating whether a Polymarket agent is a sophisticated investor, defined as being in the top 1% in terms of profit on Polymarket and having invested in more than five markets. *log(volume)* is the log of an agent's total collateral volume on Polymarket. *profit* is the agent's total profit, and *# markets* is the number of markets the agent has bet on. White heteroscedasticity-robust standard errors are reported in parentheses. *, **, and *** denote 10%, 5%, and 1% significance levels, respectively.

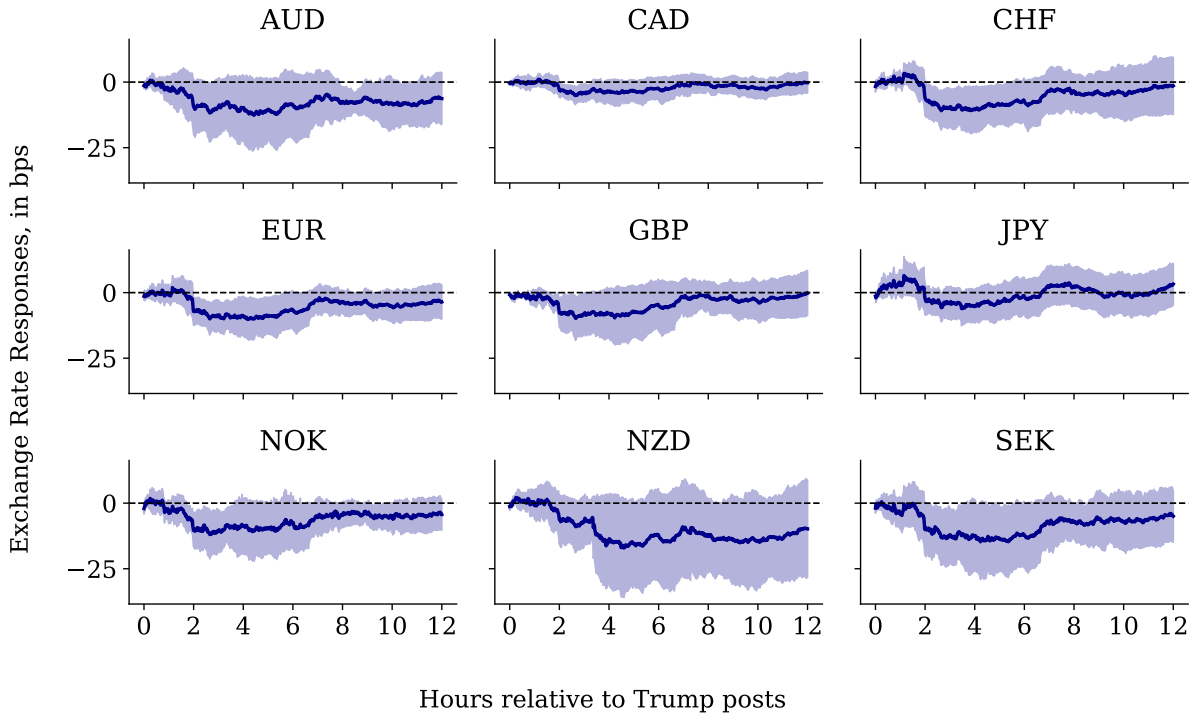
Figure D.4: Bias Coefficient: Monetary Policy Stance and Fed Independence (Lisa Cook Firing)



Notes. These figures show the estimated bias coefficient—defined as the difference between the coefficients for +FLC and –FLC from the baseline specification and from the specification excluding hedge traders for the September 2025 FOMC meetings in table D.5.Vertical bars represent 95% confidence intervals calculated using the Delta method.

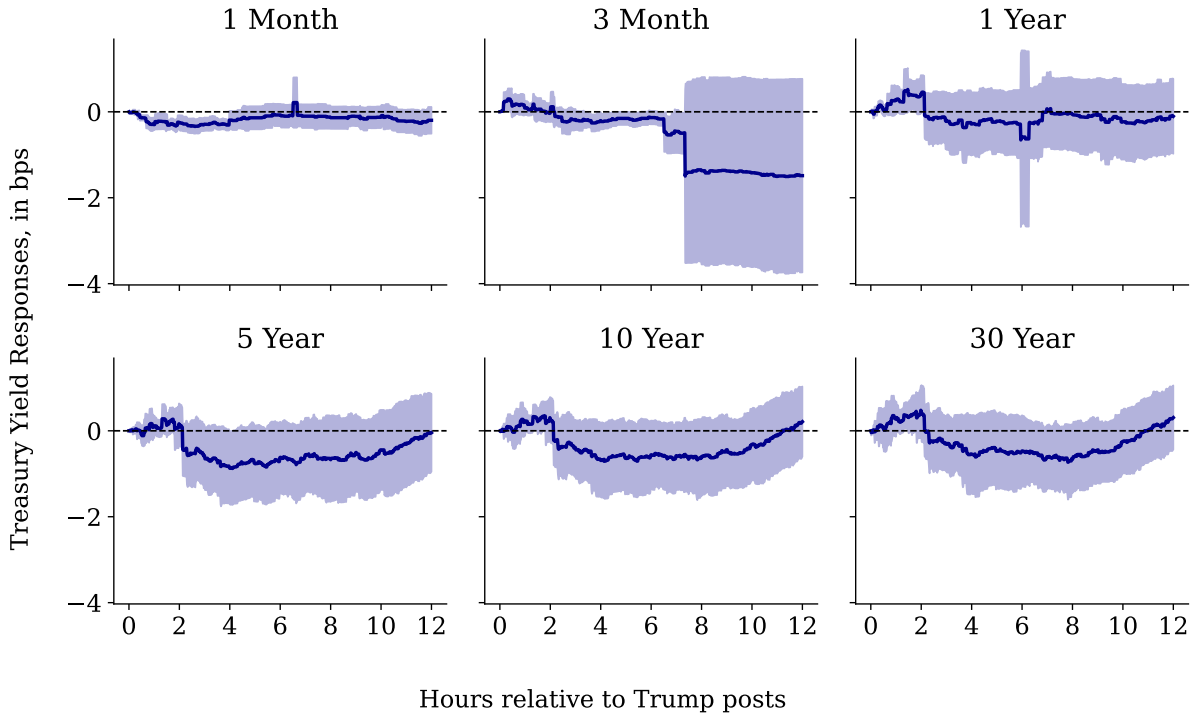
D.4 Trump Social Media Posts and Additional Market Responses

Figure D.5: Trump Social Media posts and Foreign Exchange Rates



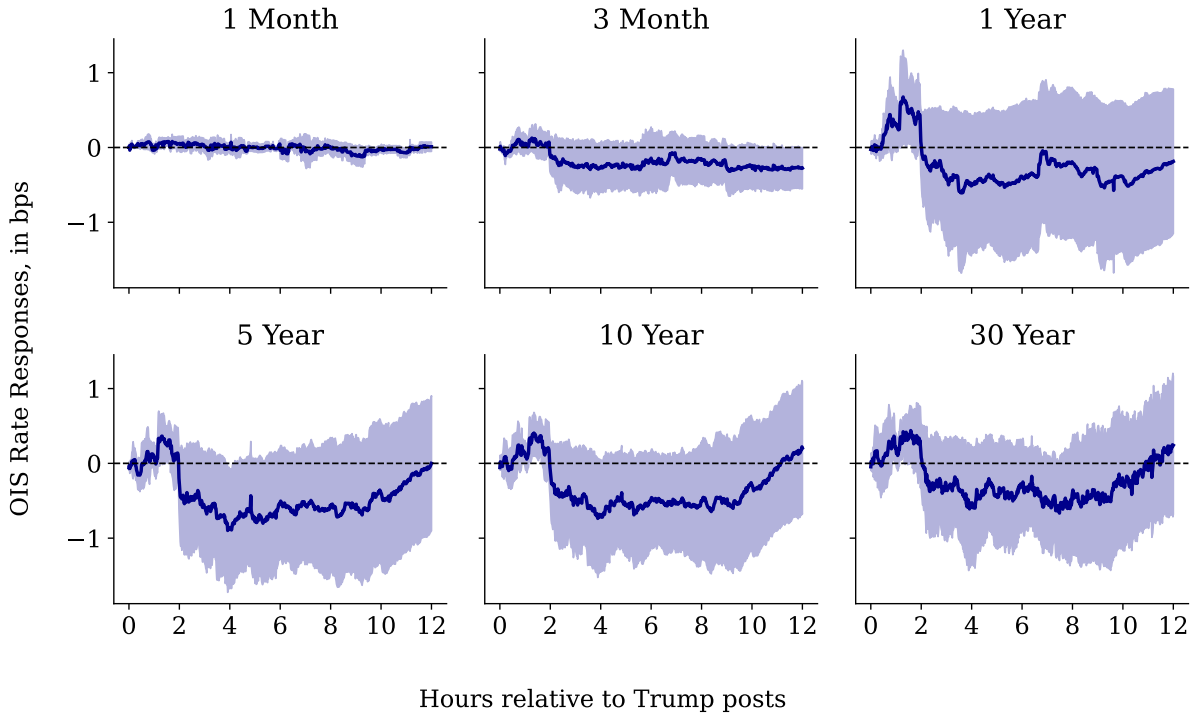
Notes. These figures show the responses of foreign exchange rates to shocks in the market for "Jerome Powell out as Fed Chair in 2025?" induced by Trump's posts on Truth Social. Exchange rates are expressed as the logarithm of units of foreign currency per U.S. dollar, in basis points. Shaded areas indicate 95% confidence intervals, based on heteroskedasticity- and autocorrelation-robust standard errors. The sample period is from 2025-01-30 to 2025-09-25.

Figure D.6: Trump Social Media posts and Treasury Yields



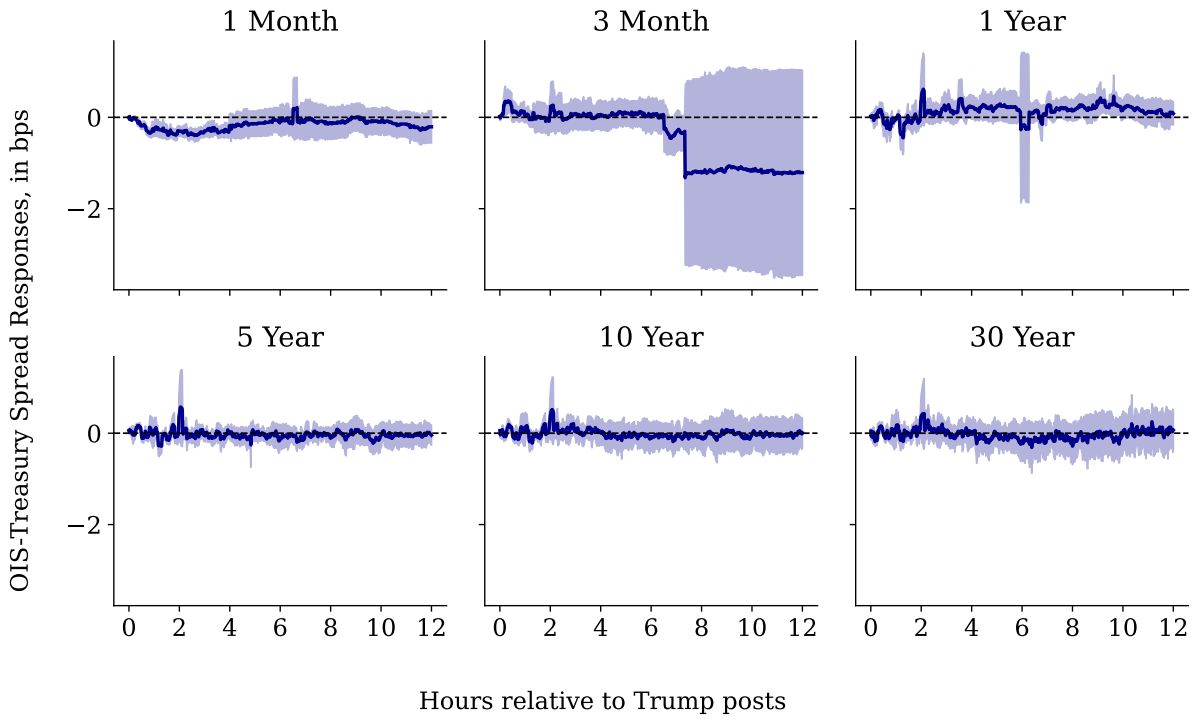
Notes. These figures show the responses of U.S. treasury yields to shocks in the market for "Jerome Powell out as Fed Chair in 2025?" induced by Trump's posts on Truth Social. Yields are in basis points. Shaded areas indicate 95% confidence intervals, based on heteroskedasticity- and autocorrelation-robust standard errors. The sample period is from 2025-01-30 to 2025-09-25.

Figure D.7: Trump Social Media posts and OIS Rates



Notes. These figures show the responses of U.S.Overnight Index Swap (OIS) rates to shocks in the market for "Jerome Powell out as Fed Chair in 2025?" induced by Trump's posts on Truth Social. OIS rates are in basis points. Shaded areas indicate 95% confidence intervals, based on heteroskedasticity- and autocorrelation-robust standard errors. The sample period is from 2025-01-30 to 2025-09-25.

Figure D.8: Trump Social Media posts and OIS and Treasury Spread



Notes. These figures show the responses of U.S. Overnight Index Swap (OIS) - Treasury spreads to shocks in the market for "Jerome Powell out as Fed Chair in 2025?" induced by Trump's posts on Truth Social. OIS rates are in basis points. Shaded areas indicate 95% confidence intervals, based on heteroskedasticity- and autocorrelation-robust standard errors. The sample period is from 2025-01-30 to 2025-09-25.