

On the Fed’s Surprisingly Precise Lack of Precision: Analyst Mistakes, Informal Communication, and the FOMC Premium

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Abstract

The Federal Reserve sets its interest rate target exclusively in multiples of 25 basis points. We argue that this discretization affects expectations management: most forecasters predict Fed decisions exactly, but any surprises are necessarily large and may require active recalibration of expectations. We show that 99.6% of analyst forecasts of the Fed’s target rate are multiples of 25 basis points and that disagreement almost always reduces to a choice between two adjacent grid points. When the share of wrong analyst forecasts is higher by one standard deviation, equity returns on the next FOMC announcement day are 35 basis points higher and VIX declines are steeper, with both effects concentrated in the pre-announcement period. A high share of wrong forecasts also amplifies the even-week FOMC cycle pattern for both equity returns and VIX changes, but does not predict changes in fed funds futures prices or Treasury yields. After surprises, public communications by Fed officials do not increase, but FOMC transcripts show that the Committee discusses financial market reactions more extensively at the following meeting. Our findings are consistent with the hypothesis that, after surprising markets, Fed officials engage in informal communication that reduces market uncertainty without affecting the yield curve.

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1 Introduction

We consider two outstanding puzzles related to the Federal Reserve. The first puzzle is that stock market returns are unusually high on Federal Open Market Committee (FOMC) announcement days (Savor and Wilson (2014)). Although these returns are frequently ascribed to compensation for FOMC announcement risk (e.g., Ai and Bansal (2018), Wachter and Zhu (2022)), they occur in the morning before the announcement, but not during the announcement period itself (Lucca and Moench (2015)). This timing mismatch presents a dual problem, as announcement day returns occur in a period with no risk, while the announcement risk occurs in a period with no returns. A potential explanation that addresses that mismatch is informal communication between the Fed and market participants (Vissing-Jorgensen (2020)). Consistent with that explanation, Cieslak, Morse and Vissing-Jorgensen (2019) document an even-week return pattern over the FOMC cycle that coincides with Fed meetings and internal deliberations, and Morse and Vissing-Jorgensen (2020) show that even-week returns are concentrated on days when Federal Reserve governors have phone calls or meetings with Reserve Bank presidents. What is less clear regarding that explanation is the underlying motivation for the leaks. If there is a *quid pro quo*, what is the *quo* that the Fed (or individual members) receive in return for the *quid* of advance information? And if, instead, those leaks constitute deliberate policy, what purpose does it serve?

The second puzzle is that every FOMC target rate (or target range) since 1994 is a multiple of 25 basis points. That puzzle goes almost entirely unremarked – so much that it is not even considered to *be* a puzzle. Instead, the discretization of the rate policy decision space is taken for granted, despite the fact that it is at odds with standard models of monetary policy, which prescribe smooth changes (e.g. Taylor (1993)). Even if the timing of rate decisions has to be discrete due to the FOMC meeting schedule, it is not clear why the magnitude of rate changes should also be discrete. Notably, the Fed *used to* adjust rates in much finer increments: through the late 1980s and early 1990s, the intended federal funds rate was frequently moved in steps of 6.25 or 12.5 basis points, producing target rates at

levels like 9.8125% or 8.625% (Thornton (2006)). The 25 basis point convention emerged only when the FOMC began publicly announcing its rate decisions in February 1994, as part of a shift towards greater communication and larger focus on investor expectations.

Our paper links these two puzzles. Our starting point is that the Fed’s informal communication and the 25 b.p. grid may share a common goal: managing the expectations of market participants. From an expectations management perspective, adopting the grid entails both costs and benefits. The benefit is that the grid compresses the space of possible outcomes to a handful of values, simplifying the task of forecasting the Fed and increasing the share of market participants who accurately predict the policy rate. The cost is that the possibility of small changes in the policy rate is ruled out, so when the Fed does surprise the market, the surprise must be large – at least 25 basis points for those that get it wrong. Such surprises can be seen as failures of the Fed’s expectations management process, necessitating an increase in informal communication to recalibrate expectations. Hence, if the FOMC premium is due to the Fed’s informal communication activity, its magnitude should be time-varying, mirroring the time variation in the intensity of informal communication. Simply put, FOMC announcements that follow large surprises should have a higher premium.

We start by documenting that the 25 basis point grid is not only binding ex post, but also that market participants know that the grid is binding ex ante and build their expectations around it. In particular, we collect a panel of individual analyst forecasts of the federal funds target rate from Bloomberg, from 1998 to 2024, and show that, across over 17,000 individual forecasts, 99.6% of all forecasts are multiples of 25 basis points. The few exceptions prove the rule: of the 67 individual forecasts that were not multiples of 25 basis points, 62 occurred between January and June 2009, when the target rate was 0.25% and there was genuine uncertainty about whether the Fed would break the grid to move closer to zero. It did not, and the non-grid forecasts largely disappeared. On 57% of announcement dates, every single analyst makes the same forecast. When analyst disagreement exists, it is almost always (91% of cases) between two consecutive 25 basis point levels.

Our measure of the degree of the Fed’s expectations management failure is the share of analysts that wrongly forecast the Fed’s policy rate (share of wrong forecasts, SWF). We find that the share of wrong forecasts is higher than average when the Fed changes the policy rate, and especially when the Fed cuts rates. High shares of wrong forecasts are contemporaneously positively associated with high VIX levels (and, therefore, market uncertainty), high market volatility, and high market returns. However, the VIX drops on high-forecast-error announcement days, presumably due to the monetary policy clarity that Fed surprises provide.

Next, we document our key result: consistent with our hypothesis, the share of wrong analyst forecasts on a given FOMC announcement day robustly predicts stock market returns on the *next* FOMC announcement day with a positive sign. In particular, a one-standard-deviation increase in the share of analysts whose forecasts were wrong in the previous announcement day is associated with daily market returns that are 35 basis points higher on the next announcement day, even though this information is several weeks stale by that time. Despite the fact that our sample consists of 206 FOMC announcement days, our result is economically large and strongly significant, with the forecast coefficient on the share of wrong forecasts having a t-statistic of 3.92. When we restrict our focus to the 10 most extreme “surprise” announcement days, i.e., days when the Fed policy rate does not coincide with the most popular analyst forecast, stock market return predictability becomes more pronounced, with the stock market return on the next FOMC announcement being 111 basis points higher than average. However, our finding is not driven by those 10 announcement days: when we exclude them, the predictive relationship between the share of wrong forecasts and stock market returns remains positive and statistically significant.

The economic magnitude of our stock return predictability effect accounts for a large share of the unconditional FOMC announcement day premium. FOMC announcement days preceded by announcement days with no analyst mistakes (which comprise 57% of announcement days in our sample) have an average return of 12.7 basis points, statistically indistinguishable from

the average return on non-announcement days. Furthermore, the FOMC premium exhibits very strong conditionality: the stock market return spread between FOMC announcement days that follow high-wrong-forecast announcement days (i.e., announcement days in the top decile of wrong forecast shares) and the rest of the FOMC announcement days is 139 basis points (t-statistic of 4.80). In short, FOMC announcement day returns are extremely high on days that follow high-analyst-mistake announcement days, and quite low (to the point of statistical insignificance) otherwise. Importantly, the return predictability effect is difficult to reconcile with risk-based explanations. Predicted returns are concentrated before the FOMC announcement (primarily between 9:30 and 11:30 am), whereas predictability for announcement window returns is statistically zero, and the point estimate over this period is actually negative. While the timing of returns does not constitute direct evidence of informal communication, it suggests that FOMC day returns are driven by information known before the formal announcement, and not by announcement news.

We then provide additional evidence consistent with the operation of an informal communications channel. First, we document that the share of wrong forecasts predicts VIX drops on the next FOMC announcement day, suggesting that the higher-than-average returns observed on those days are associated with higher-than-usual uncertainty resolution. Furthermore, using intraday VIX futures prices, we show that the resolution of uncertainty, like the realization of returns, takes place in the early morning of the announcement day, well before the announcement itself, consistent with the hypothesis that the Fed informally conveys information that reduces uncertainty and reassures investors. Second, we establish that the share of wrong forecasts does not predict either changes in short-term fed funds futures prices or changes in the Treasury yields of any maturity. This finding casts doubt on the notion that the SWF measure contains information that is embedded in the yield curve, but is consistent with communication that reduces uncertainty about the macroeconomic or policy outlook. One form such communication might take is informal reassurance about future Fed actions in adverse states of the world, which would assuage investor fears and lead to a repricing of risky assets. Finally, we document that FOMC meeting transcripts show

that the Committee devotes more of its discussion to financial market reactions at FOMC meetings that follow high-forecast-error announcements, suggesting that the Fed becomes more attentive to financial markets after surprising them.

The informal communication argument is further strengthened by the association between our return predictability effect and the FOMC cycle stock return pattern documented by Cieslak et al. (2019): when we interact the even-week indicator with our lagged fraction wrong measure, we find that the even-week effect in returns is significantly larger following announcements with a high share of wrong forecasts. The FOMC cycle conditioning effect becomes statistically significant 2 to 4 weeks after an FOMC announcement, suggesting that the Fed does not immediately start its informal communications operation, but allows market participants some time to digest a surprising announcement. We also find an average decline in the VIX during FOMC even weeks following a high share of wrong forecasts, again consistent with a reduction in uncertainty. Importantly, the FOMC cycle pattern following surprising announcements cannot be attributed to increased *formal* communication, as the number of public communications by Fed officials does not rise after high-forecast-error announcements.

Taken together, our findings support the hypothesis that, after its policy decisions surprise investors, the Fed operates an informal communications channel that does not reveal sensitive information about short-term policy changes, but instead gradually assuages market fears and clarifies its thinking to market participants. The exact timing of the information flow is difficult to pin down: informal Fed reassurances may be conveyed during the FOMC cycle and disseminated more broadly on the morning of the next announcement day, mostly conveyed on that morning itself, or conveyed earlier and acted upon only as the decision approaches. All these possibilities are consistent with our hypothesis, and we are unable to distinguish among them due to the unobservability of informal communication.

Next, we explore whether the effect of wrong forecasts is related to the decline of the FOMC announcement premium over time (Kurov, Wolfe and Gilbert (2021)). We split our sample

period into an early subsample (December 1998 to March 2011, when the Lucca and Moench (2015) sample ends) and a late subsample (April 2011 to September 2024) and find that, despite the overall decline in the FOMC announcement premium, the return predictability effect becomes stronger in recent years.

Our SWF measure does not distinguish between analyst mistakes of different magnitudes – all it takes into account is whether an analyst is ex-post correct or not. To explore whether the magnitude of analyst forecast errors matters, we decompose our SWF measure into the share of analysts that are wrong by either exactly 25 basis points, more than 25 basis points, or less than 25 basis points. We find that all three coefficient estimates are positive and statistically significant. When we focus on the coarser distinction between 25 b.p. and non-25 b.p. errors, we find that the effect of the latter is more than double the effect of the former, consistent with the interpretation that a 25 basis point mistake represents the typical within-grid miss, while larger *or smaller* (non-grid) error sizes reflect a more severe failure of the Fed expectations management process.

Finally, we show that our SWF measure subsumes alternative measures of analyst disagreement and analyst surprise as regards stock market return predictability, suggesting that, in a 25 b.p. grid, simple counts of wrong forecasts dominate measures typically used in continuous settings. Notably, our SWF measure retains its predictive power when we control for the level of the VIX at the close of the previous FOMC announcement day, indicating that our return predictability effect does not merely reflect increased compensation for risk due to elevated market uncertainty.

Our paper contributes to the literature on informal communication in financial markets. In public equities, even though SEC Regulation Fair Disclosure (Reg FD) prohibits the selective disclosure of material non-public information, private in-person meetings between firm management and investors are common. Those meetings are associated with more informed trading (Solomon and Soltes (2015), Bradley, Jame and Williams (2022)) and more accurate analyst forecasts (Soltes (2014), Green, Jame, Markov and Subasi (2014)), suggesting that

valuable information is being transmitted, even when management believes they are not breaching Reg FD, as in Soltés (2014). Those findings are consistent with the “mosaic theory” of information, where what is conveyed is a piece of the puzzle, but not the entire puzzle. Similarly, our findings do not point towards the Fed leaking direct information about the upcoming announcement, but instead suggest the existence of broader communications about future or conditional states of the economy, topics which Fed officials may feel are permissible for discussion with outsiders. The literature on central bank informal communication complements a large literature that studies formal central bank communication channels, like press conferences, minutes, speeches, and forward guidance (Blinder, Ehrmann, Fratzscher, de Haan and Jansen (2008), Ehrmann and Fratzscher (2007), Gürkaynak, Sack and Swanson (2005)).

Our findings also relate to the large (mostly behavioral) literature on the prevalence of round numbers. Experimental evidence shows that greater uncertainty causes more rounding (Ruud, Schunk and Winter (2014)). In financial markets, clustering has been observed in stock prices (Harris (1991), Ikenberry and Weston (2008)), foreign exchange orders (Osler (2003)), house prices (Cortés, Singh, Solomon and Strahan (2026)), and analyst earnings forecasts (Herrmann and Thomas (2005)). Binder (2017) uses the frequency of round responses in inflation surveys as a measure of aggregate uncertainty. Notably, when rounding represents uncertainty over true values, round numbers are overrepresented, but non-round numbers still appear in abundance. The almost total ubiquity of 25 basis point outcomes and forecasts in our data suggests a role more analogous to Schelling (1960) focal points: by restricting outcomes to a small, well-known set of values, the grid facilitates coordination between the Fed and market participants in forming and communicating expectations.

Finally, we contribute to the stock market return predictability literature. Price ratios (such as dividend yields and price-earnings ratios) have in-sample predictive power for aggregate stock returns at long horizons (Fama and French (1988), Campbell and Shiller (1988)), but most proposed stock return predictors fail out-of-sample (Welch and Goyal (2008)). Further-

more, although the cross-section of stock returns has produced a far richer set of predictors,¹ cross-sectional predictors tend to not be good predictors of aggregate stock returns (Engelberg, McLean, Pontiff and Ringgenberg (2023)). Generally, short-term aggregate stock return predictability is minimal (Farmer, Schmidt and Timmermann (2023)), and the set of short-horizon predictors of aggregate market returns is strikingly small.² We add to that short list by identifying a predictor (the share of wrong analyst forecasts in the previous FOMC announcement day) that has several attractive features: it varies at high frequency (announcement to announcement), it is publicly observable well in advance of the predicted returns, it has a clear economic interpretation tied to institutional behavior, and it generates a notably large regression R^2 relative to other short-horizon market predictors.

2 Institutional Background and Data

This section presents background information on the FOMC rate-setting process and the prevalence of the 25 basis point policy rate grid, and describes the data used in our empirical analysis.

2.1 FOMC rate-setting and the 25-basis-point grid

The Federal Open Market Committee sets the target for the federal funds rate at its meetings, scheduled and unscheduled. Scheduled FOMC meetings occur approximately eight times per year, whereas unscheduled meetings typically only happen in times of emergency.

The FOMC started publicly announcing its policy rate decisions in February 1994. Until late 2008, the Fed announced a single numerical target for the federal funds rate. In particular, the last FOMC meeting featuring a target value was the meeting of October 29, 2008, when

¹McLean and Pontiff (2016) consider 97 anomalies, whereas Harvey, Liu and Zhu (2016) provide a comprehensive list of over 300 anomalies.

²Beyond the FOMC announcement premium, the main documented phenomena are calendar effects (Lakonishok and Smidt (1988)), seasonal patterns (Kamstra, Kramer and Levi (2003)), and price pressure from dividend reinvestment (Hartzmark and Solomon (2025)).

the target rate was set to 1%. In the next meeting (December 16, 2008), the Fed announced a target range from 0% to 0.25%, and has maintained range targeting ever since. Notably, every target rate (as well as the lower and upper bound of every target range) publicly announced since February 1994 has been a multiple of 25 basis points.

Although the 25 b.p. policy rate grid is now considered standard, that convention is relatively modern. Before 1994, the intended rate was an internal target communicated to the Open Market Desk, and adjustments were frequently made in increments of 6.25 or 12.5 basis points, producing targets at levels like 9.8125% or 8.625% (Thornton (2006), Federal Reserve Board (2019)). The transition to the coarse grid coincided with the FOMC’s shift toward public statements and greater transparency (Meade and Stasavage (2008); Poole (2005)), suggesting that the grid is a deliberate choice that accompanied and facilitated expectation-anchoring communication rather than an inherent constraint on the Fed’s ability to fine-tune policy.

Indeed, standard models of monetary policy, including models that feature the Taylor (1993) rule, prescribe the policy rate as a continuous function of macroeconomic conditions, so the 25 basis point grid has no obvious justification within these models. Yet the convention persists: Logan and Schulhofer-Wohl (2025) recently proposed switching the FOMC’s operating target to the Tri-Party General Collateral Rate, but retaining the 25 basis point grid structure.

2.2 Data

Our primary data source is the Bloomberg survey of individual analyst forecasts for the federal funds target rate at each FOMC announcement, covering the period from December 1998 through September 2024. Under the target range regime (starting in December 2008), the analyst forecast is about the upper bound of the range. Hence, in what follows, by “target rate” we refer to either the actual target rate (for announcements occurring until October 2008) or to the upper bound of the target range (for announcements occurring in,

or after, December 2008).

For each announcement, we observe each participating analyst’s forecast, name, and firm affiliation. We drop observations with missing forecasts or identifiers and, when an analyst submits multiple forecasts for the same date, we retain only the most recent forecast. The resulting panel is unbalanced across announcements.

Our sample includes 207 announcements, going as far back as Bloomberg provides analyst forecast data. Generally, Bloomberg analyst forecast data are available only for scheduled FOMC meetings, but not for unscheduled meetings, as analysts typically lack ex-ante knowledge of the latter. However, there is one exception: the emergency meeting of March 3, 2020 (which happened in response to the COVID pandemic) is the only unscheduled meeting during the sample period for which analyst forecasts are available. Hence, out of the 207 announcements in our sample, 206 correspond to regularly scheduled FOMC meetings and one (March 3, 2020) to an unscheduled meeting.

In our analysis, we focus on stock market returns on the regularly scheduled FOMC announcement days. The reason for excluding unscheduled meetings is that the two types of meetings substantially differ from an asset pricing perspective: in contrast to scheduled meetings, unscheduled ones typically occur in response to emergencies and may not be announced until some time after they occur, so the timing of information is fundamentally different between the two. For that reason, we use the March 3, 2020 meeting only for calculating analyst forecast errors, but do not include it when we consider FOMC announcement day returns. In particular, the share of wrong forecasts from the March 3 meeting is used as a lagged value for the stock market return on April 29, the day of the next regularly scheduled FOMC meeting that occurred. Between those two meetings, there was an additional unscheduled meeting (on March 15, 2020), for which we do not have analyst forecast data. Furthermore, the regularly scheduled meeting on March 19, which would otherwise be associated with the share of wrong forecasts on March 3, was canceled (the only regular meeting cancellation in our sample period).

Financial data used include daily U.S. stock market returns, VIX levels, and changes in constant-maturity Treasury yields, as well as intraday U.S. stock market returns, VIX futures prices, and fed funds futures prices. Daily U.S. stock market returns are Fama–French market returns (i.e., the sum of the one-month Treasury bill rate and the excess return on the CRSP value-weighted portfolio), available throughout our sample. Daily VIX data (open, high, low, and close) are from the CBOE, and daily changes in Treasury constant-maturity yields at maturities from 1 month to 30 years are from the Federal Reserve (Federal Reserve H.15 release, obtained from FRED). We calculate intraday stock market returns using trade prices for the SPDR S&P 500 ETF (SPY) from the WRDS Millisecond Trade and Quote (TAQ) database, which begins in September 2003. In particular, we take the last trade price in each five-minute interval during regular trading hours and sample it every 20 minutes, from 9:30 am to 3:50 pm Eastern time, and exclude overnight returns. Intraday VIX futures prices are sourced from LSEG Tick History and consist of hourly bars for the front-month CBOE VIX futures contract, from September 2012 through September 2024. We use one-hour changes in the last trade price of each bar, measured in index points, for bars ending between 10:00 am and 4:00 pm Eastern time, and exclude overnight changes. Because the front-month series rolls to the next contract on the morning of VIX futures expiration, we set the 9:00–10:00 am change to missing on expiration days. Finally, intraday fed funds futures prices are one-minute bars for the 1-month and 2-month CBOT 30-Day Federal Funds futures from LSEG Tick History (last trade price, or the bid-ask midpoint when no trade occurs), converted into implied rates as 100 minus the price. We sample implied rates at the bar closest to each 20-minute grid point between 9:30 am and 3:50 pm Eastern time and compute 20-minute changes in basis points. Our sample period covers FOMC announcement days from February 2000 to June 2024.

Data on public communications by FOMC participants are from the FOMC Speak archive, which lists speeches, interviews, testimony, and other public statements by Federal Reserve Board members and Federal Reserve Bank presidents. The archive covers August 26, 2010 to August 25, 2023 and contains 4,108 public communications. In Section 4.3, we use the

daily number of public communications by FOMC participants as the dependent variable.

Finally, we use the full transcripts of FOMC meetings to measure how much attention the Committee devotes to financial markets. The Federal Reserve releases full transcripts with a five-year lag, so we have transcripts for all FOMC meetings through the end of 2020. For each meeting in our sample for which a transcript is available, we count the occurrences of the word “market” that do not refer to the labor market, open market operations, or the housing or real estate market, i.e., we exclude occurrences of the word “market” that immediately follow the terms “labor,” “job,” “employment,” “open,” “housing,” or “real estate.” We also count the subset of those financial market mentions that occur within 10 words of a term beginning with “surpris,” and the subset that occur within 10 words of a term beginning with either “surpris” or “disappoint.” All three counts are expressed per 1,000 words of the transcript.

3 Fed Rate Forecasts and Stock Return Predictability

This section establishes our key empirical finding: the share of wrong analyst forecasts on a particular FOMC announcement day predicts stock market returns on the next FOMC announcement day with a positive sign, and that effect accounts for a large share of the observed FOMC announcement premium. We then argue that our return predictability effect arises from the Fed’s informal communication activity and provide empirical evidence consistent with that hypothesis.

3.1 Analyst forecasts and the 25 basis point grid

We begin by providing evidence for the extent to which the 25 basis point grid characterizes the analyst forecast space. Table 1 reports summary statistics about the distribution of analyst forecasts across the 207 FOMC announcements in our sample.

Panel A reports the number of unique forecasts observed on each announcement date. On 118 of 207 dates (57% of our sample), every analyst submits the same forecast, i.e., there is no disagreement about the upcoming rate decision. When there is any disagreement, it is typically modest: in 64% of the 89 dates with some disagreement, there are only two unique forecast values. Three or more unique forecast values are relatively rare: three unique values are observed on about 27% of the 89 disagreement dates, four on about 6% of them, and more than four on only 3 occasions in the entire sample.

Panel B further quantifies the concentration of analyst forecasts, documenting that most forecasts tend to be identical across analysts. Across announcement days, the most common (i.e., the modal) forecast value for a particular announcement day accounts for 94.8% of all forecasts for that day on average. Significant disagreement across analysts is very rare: in the cross-section of announcement days, the 10th percentile of the share of the modal forecast is 81.8%, suggesting that the most popular forecast value represents more than 80% of the total number of forecasts in 9 out of 10 announcement days. The second most popular forecast averages only 4.5% of submissions on average, with a cross-sectional maximum of 49.2%. The remaining forecasts (third most popular or less popular than that) account for a trivially small share of forecasts, totaling 0.74% of total submissions on average.

Panel C documents the analysts' adherence to the 25 basis point grid. The grid's hold on expectations is remarkably tight: 99.6% of all individual forecast values are multiples of 25 basis points. On average, 99.45% of all analyst forecasts for a particular FOMC announcement day fall on the 25 b.p. grid. Even more strikingly, on 200 out of 207 dates (96.6%) there is not a single non-grid forecast submitted. The minimum share of grid forecasts is 44.2%, corresponding to an unusual announcement date for which more than half the submissions were non-grid rates. Notably, almost all non-grid forecasts (62 out of 67) were made during the first half of 2009, when the policy rate had reached 0.25% and analysts were weighing whether the FOMC would abandon the grid for a rate closer to zero. Once the Committee held the grid, these departures ceased. The episode is revealing

precisely because it is so unique: forecasters contemplated non-grid outcomes only when the economic rationale for maintaining the grid became tenuous.

In Panel D, we consider only the 89 FOMC announcement days that exhibit analyst disagreement and quantify the difference between the most common and the second most common forecast value. On 81 of 89 disagreement dates (91%), the difference between the two most popular forecast values is exactly 25 basis points. Thus, when analysts disagree about the upcoming rate decision, they are almost always choosing between two adjacent points on the 25 basis point grid. Alternative difference magnitudes are quite rare: we observe a 5 basis point difference on two dates, a 12 basis point difference on three dates, and a 50 basis point difference also on three dates.

Taken together, our results suggest that analyst forecasts are heavily shaped by the 25 basis point decision grid. The adherence of the Fed to that grid appears to be completely internalized by market participants, to the point that forecasting a non-grid rate is extremely unusual. As a result, analyst disagreement is relatively rare, and, when it exists, it overwhelmingly represents a binary choice between two consecutive grid points.

3.2 The share of wrong analyst forecasts

After documenting the properties of analyst forecasts, we turn to the question of analyst mistakes. How often do analysts make forecast errors? To answer the question, we turn to Figure 1, which plots the share of analysts that made a wrong prediction on each of the 207 FOMC announcement days in our sample.³ The share of wrong forecasts (SWF) is our main measure of analyst forecast mistakes. Notably, the SWF measure exhibits substantial variation over time. The most common value of our measure is zero: in 117 FOMC announcement days, we record no wrong forecasts, and refer to those as the “no surprise” days. On the other hand, we observe pronounced spikes in the SWF measure

³Recall that, for FOMC announcement days on or after December 16, 2008 (which occur under the Fed target range regime), when we refer to the “target rate” we mean the upper bound of the target range.

during periods of monetary policy transition (for example, at the start of the rate-cutting cycles of 2001 and 2007–2008, and during the rate-increasing cycles of 2004 and 2022), and long stretches of no analyst forecast mistakes during extended pauses in rate changes, such as the 2009–2015 zero lower bound period.

Panel A of Table 2 reports summary statistics of the SWF measure. Across the 207 FOMC announcement days in our sample, the average share of analysts with incorrect forecasts is 7.3%, suggesting that, on average, an overwhelming share of analysts get their forecast right. The high rate of analyst accuracy is underscored by the fact that the median value of the SWF measure across announcement days is 0%, as “no surprise” days account for more than half of the FOMC announcement days in our sample. However, as seen in Figure 1, there are quite a few announcement days when the share of incorrect forecasts is quite high. Indeed, the 95th percentile value of the SWF measure is 48.2%, and its 99th percentile value is 89.4%, indicating announcement days in which a large fraction of analysts were surprised.

For that reason, we consider “large surprise” FOMC announcement days, defined as the days when the actual policy rate does not coincide with the most popular forecast, separately. Those “large surprise” FOMC announcement days are marked with a red dot in Figure 1, to distinguish them from the rest of the announcement days, which are marked with a blue dot. As seen in the figure, large surprise days are quite rare, accounting for only 10 out of the 207 announcement days in our sample. However, they drive a non-trivial share of the time-series variation of the SWF measure, as, by construction, they are all associated with SWF measures above 50%. Unsurprisingly, the average share of wrong forecasts on those days is very high (75.2%). Furthermore, there is considerable SWF dispersion across large surprise days, with the SWF measure ranging from 50.8% to 100%. Panel B of Table 2 lists all 10 “large surprise” announcement days, along with the share of wrong analyst forecasts for each of them.

When do analysts get their forecasts wrong? To pin down the correlates of wrong forecasts, we regress the SWF measure and the “large surprise” dummy variable on various qualitative

and temporal measures of Fed policy, and report our findings in Panels A and B of Table 3, respectively.

Panel A reports the output of regressions in which the dependent variable is the share of wrong analyst forecasts. First, we test whether analysts make more mistakes when the Fed changes its policy rate by regressing the share of wrong forecasts on a dummy variable for target rate changes. As seen in the first column of Panel A, the SWF measure is higher by 15.4 percentage points for FOMC announcement days on which the Fed changes its policy rate, an effect that is statistically significant at the 1% level. Given that the unconditional mean of the share of wrong forecasts is only about 7%, that is a very large conditioning effect. When we split Fed rate changes into rate decreases and increases, we find a stronger association with the former: as seen in the second column, rate decreases correspond to a 34.0 percentage point higher share of incorrect forecasts, whereas rate increases are associated with a much smaller effect (5.9 percentage points), with both coefficients being statistically different from zero. The asymmetry between rate increases and decreases is economically intuitive: rate cuts tend to be sudden, occurring when the economic outlook is deteriorating and uncertain, whereas rate increases are usually both more gradual and more telegraphed. Considering rate cuts and raises separately, rather than symmetrically, raises the regression R^2 from 16.4% to 34.3%, indicating that policy rate changes collectively account for more than a third of the overall time-series variation in the share of wrong analyst forecasts.

We then consider temporal measures of Fed policy and measure their association with the share of incorrect analyst forecasts. As seen in the third column of Panel A, the coefficient on the log time since the last policy rate change is -0.023 (significant at the 1% level), suggesting that long periods of unchanged target rates are associated with fewer analyst mistakes. Our finding is intuitive: when the policy rate is held fixed for a long time, analyst expectations become anchored to the correct rate. When we consider changes in the rate cycle (i.e., switching from a period of cutting to a period of raising, or vice versa), results are somewhat mixed. As seen in column 4, the coefficient on the dummy variable for whether there is a

change in the rate cycle is positive (0.222), but not statistically significant at conventional levels, in part due to the small number of such instances in our sample. On the other hand, the log time within the current rate cycle enters negatively with a coefficient of -0.034, significant at the 1% level (column 5). When we consider the “log time since rate change” and “log time in cycle” measures together, we find that the latter drives out the former, suggesting that longer periods within a directional cycle are associated with more stable expectations and fewer analyst errors (column 6). In column 7, we regress the share of wrong forecasts on policy rate increase and decrease dummies, controlling for the “time in cycle” measure, and find that both rate direction indicator variables have coefficients very similar to the ones in column 2, but the “log time in cycle” coefficient becomes insignificant. We conclude that analysts tend to make more mistakes upon policy rate changes, and especially policy rate decreases, independent of rate cycle position.

Finally, we explore whether the share of analyst errors is higher for scheduled FOMC meetings that follow unscheduled meetings. Given that unscheduled meetings only occur in tumultuous times, scheduled meetings that follow have the potential to surprise analysts more than usual. To test our hypothesis, we regress the share of wrong forecasts for each FOMC meeting on a dummy variable for whether the previous FOMC meeting was scheduled or not (column 8). We find that the share of incorrect analyst forecasts tends to be higher for meetings that occur after unscheduled meetings, with the coefficient being positive (0.099) and significant (t-statistic of 1.81). However, as seen in column 9, the dummy coefficient becomes insignificant when we add controls for policy rate changes (Rate Raised and Rate Lowered). Our findings suggest that, as regards analyst mistakes, the ex ante effect of a preceding unscheduled meeting is lower than the ex post effect of whether the policy rate was actually changed.

In Panel B of Table 3, we focus on a more extreme form of analyst forecast mistakes: “large surprise” days, i.e., FOMC announcement days on which the Fed’s policy rate differs from the most popular forecast. We repeat the exercise of Panel A, but now the dependent

variable is the indicator for large surprise days. As seen in the first column, Fed policy rate changes are positively (and significantly) associated with large surprise dates, suggesting that large surprises are more likely to occur when the Fed decides to change rates. Again, there is an asymmetry between rate increases and rate cuts: the coefficient on the indicator for the former is 3.9 percentage points (and not significant), whereas the coefficient on the dummy for the latter is both much higher (26.6 percentage points) and strongly significant. As seen in columns 3 to 6, no temporal measure enters significantly. Finally, columns 8 and 9 document that large surprise FOMC announcement days are no more likely to occur after unscheduled meetings, regardless of whether we control for policy rate changes.

In summary, analysts make more forecast errors mainly when the Fed changes (and especially when the Fed cuts) its policy rate. Given the discretization of the Fed policy rate space, that finding is not surprising: analysts tend to be exactly right when the Fed keeps its policy rate unchanged, and a large fraction of analysts is likely to be wrong mostly when the Fed decides to move to a different grid point.

3.3 Wrong forecasts and contemporaneous market measures

What happens on high-forecast-error FOMC announcement days? To explore the contemporaneous relationship between the share of wrong analyst forecasts for FOMC announcement days and different stock market measures, we consider four market measures: the level of the CBOE Volatility Index (VIX) at the end of the trading day before the FOMC announcement day, the announcement day change in the VIX (i.e., the change between the end of the preceding trading day and the end of the FOMC announcement day), the squared daily market return on the announcement day, and the daily market return on that day. We regress each of those measures on the share of wrong analyst forecasts and report our findings in [Table 4](#).

We start with the level of the VIX, which reflects the 1-month forward market volatility

estimate implied by S&P 500 options and, for that reason, is widely considered a measure of market uncertainty. As seen in the first column, FOMC announcement days associated with large shares of wrong forecasts tend to be days after higher-than-average VIX days: when we regress the previous day’s closing VIX level on our SWF measure, we get a positive (17.855) and strongly significant coefficient, suggesting that analysts make more forecast errors when forward market volatility is unusually high. As seen in column 2, the positive association between the lagged VIX level and the SWF measure is robust to controlling for Fed policy rate changes. This is not a surprising result: it is natural to expect that analysts tend to make forecast errors exactly when there is more uncertainty.

The next two columns document that FOMC announcement days tend to resolve some of the monetary policy uncertainty and that resolution is much stronger on days when the share of mistaken analysts is higher. In particular, even on FOMC announcement days on which all analysts end up being correct, the VIX drops by 0.377 points (significant at the 1% level). However, the VIX drop is on average considerably higher on days when analysts get it wrong: there is a strong negative association between announcement-day VIX changes and the share of wrong analyst forecasts, regardless of whether we control for rate changes or not, with the SWF coefficient being -1.910 (significant at the 10% level) without controls or -2.629 (significant at the 5% level) with controls. Hence, FOMC announcement days with a large share of wrong analysts occur during periods of higher-than-average uncertainty and also resolve more-than-average uncertainty.

Finally, as reported in the last four columns of Table 4, FOMC announcement days with a high share of analyst forecast errors tend to be days characterized by both higher-than-average market volatility and higher-than-average market returns.

To summarize, analysts tend to make more forecast errors when options prices reflect higher forward volatility, and thus high uncertainty. Analyst forecast errors are contemporaneously positively associated with high market volatility and high market returns, on average, but Fed surprises dampen forward market volatility, presumably due to the clarity they provide

as to the future monetary policy stance.

3.4 Wrong forecasts and future stock market returns

We now turn to the main finding of our paper: the share of wrong analyst forecasts on a given FOMC announcement day has predictive power for stock market returns on the next FOMC announcement day, and the economic magnitude of that return predictability accounts for a large share of the FOMC announcement day stock market premium. Our findings are reported in Table 5: Panel A documents the degree to which lagged wrong forecasts explain variation *within* the set of announcement day returns, whereas Panel B explores how this variation affects the extent to which FOMC days differ from non-FOMC trading days.

In Panel A, we report the output of regressions of the value-weighted U.S. stock market return realized on a given FOMC announcement day on the share of wrong analyst forecasts for the previous FOMC announcement day, for a total of 206 scheduled FOMC announcement days. The first column documents a striking result: the predictive coefficient on the lagged share of wrong forecasts is 1.935, suggesting that a one-standard-deviation increase in the share of wrong forecasts is associated with a 35 b.p. increase in the stock market return on the next FOMC announcement day. To put this in perspective, the unconditional FOMC announcement day premium in our sample is roughly 27 basis points, and the average daily market return over the full sample period is only 3 basis points. Thus, a one-standard-deviation increase in the lagged share of incorrect forecasts more than doubles the FOMC premium on the next announcement day, and increases the daily market return by an order of magnitude. Notably, the coefficient on the lagged SWF measure is strongly significant (t-statistic of 3.92), despite the fact that the regression includes only 206 announcement day returns. The R^2 of this predictive regression is also large: our lagged measure explains 8% of the overall variation in FOMC day stock market returns.

Column 2 focuses on the “large surprise” FOMC announcement days. In particular, we

regress the daily market return on an indicator variable that takes the value of one when an FOMC announcement day is a large surprise day, i.e., a day when the FOMC chooses a non-modal forecast. The indicator variable enters significantly, with a coefficient of 1.112: returns are 111 basis points higher on FOMC announcement days that follow “large surprise” FOMC days. To ensure that our findings are not driven by the small set of large surprise days, we repeat the first-column regression excluding those 10 days, restricting the sample to the 196 days when the Fed policy rate decision coincides with the most common analyst forecast. Our findings are reported in column 3: the coefficient on the lagged share of wrong forecasts becomes even larger (2.974) and remains strongly significant. Finally, as seen in column 4, the strong predictive association between lagged SWF and market returns is robust to controlling for lagged policy rate changes. Thus, what forecasts FOMC announcement day returns is the share of wrong forecasts on the previous announcement day, rather than past Fed policy rate changes.

Figure 2 provides a graphical representation of our main finding. It plots the stock market return on each of the 206 scheduled FOMC announcement days in our sample against the share of wrong forecasts on the previous FOMC announcement day. To illustrate the association between the two, we also add the line of best fit (in red). As we see, there is a positive relationship between the share of wrong analyst forecasts and subsequent announcement day market returns, with the highest returns realized on FOMC announcement days that follow announcement days with a large share of wrong analyst forecasts.

Panel B of Table 5 quantifies the economic importance of SWF stock return predictability in the context of the FOMC announcement day premium. The first column confirms the well-known empirical finding that FOMC announcement days yield a much higher average stock market return than non-FOMC days. In particular, we regress the daily stock market returns for 6,512 trading days on an indicator variable for FOMC announcement days, and find that stock market returns are higher by an average of 26.7 basis points on those days. FOMC announcement days account for a disproportionate share of stock market returns: since the

average market return on non-announcement days, given by the regression constant, is only 3.2 basis points, the average FOMC announcement day return is about 30 basis points, more than 9 times the average return of non-announcement days.

Next, we condition the FOMC announcement day premium on the share of wrong forecasts on the previous FOMC announcement day. We regress daily stock market returns on both the FOMC dummy and an interaction between the FOMC dummy and the share of wrong forecasts during the previous FOMC announcement day and report our findings in column 2. Consistent with our Panel A results, the interaction coefficient is positive (1.937) and strongly significant (t-statistic of 4.06), indicating that our lagged SWF measure has a substantial conditioning effect on expected FOMC day returns. Notably, when we include the interaction term, the coefficient estimate on the FOMC dummy drops substantially (to 12.7 basis points) and becomes insignificant, indicating that FOMC announcement days that are preceded by days in which SWF is equal to zero (i.e., days on which all analysts end up being correct) have a statistically zero spread from non-announcement days. In other words, the FOMC announcement day effect disappears (in a statistical sense) in the absence of analyst mistakes on the previous FOMC announcement day.

Is the FOMC announcement day premium observed *only* on announcement days that follow announcement days with a very high share of wrong analyst forecasts? To answer that question, we replace the continuous lagged SWF measure with dummy variables for whether the lagged SWF is above the 75th or 90th percentile of values in our sample. As seen in column 3, the interaction coefficient, which measures the average return spread on FOMC announcement days that follow announcement days that belong to the top 25% of SWF observations, is positive (42.6 b.p.) and significant (t-statistic of 2.15). When we replace the 75th percentile cutoff with a 90th percentile cutoff, the interaction coefficient more than triples: the average return spread on FOMC announcement days that follow extremely-high-mistake FOMC days (i.e., days with an SWF measure above its 90th percentile) is 139.4 basis points. Crucially, in both cases, the coefficient on the FOMC dummy is positive,

but insignificant, indicating that the FOMC premium is driven by the small number of FOMC days that follow high-analyst-mistake FOMC days.

In sum, we find that the FOMC announcement premium exhibits very strong conditionality tied to past analyst forecast errors: it is very high on announcement days that follow high-mistake announcement days, and statistically zero otherwise.

3.5 Wrong forecasts and future intraday stock market returns

Can our findings be explained by FOMC announcement risk? To address that question, we examine stock market returns during FOMC announcement days in more granularity. Our test is straightforward: if the elevated FOMC announcement day returns that follow high-SWF announcement days compensate investors for greater-than-usual announcement risk, then those returns ought to accrue when the risky announcement itself occurs.

We have intraday market return data for 169 of the 206 FOMC announcement days in our sample, so our intraday analysis focuses on that smaller sample. Furthermore, the FOMC announcement time is not the same across all 169 days: the announcement occurs at either 2:00 pm or 2:15 pm on 161 days, and at 12:30 pm on 8 days. In what follows, we carefully take those timing differences into account to ensure that our findings are not contaminated by announcement timing differences.

First, we split the trading day into 20-minute intervals and calculate realized market returns in each interval. We then regress market returns during each 20-minute interval on the share of wrong forecasts for the previous FOMC announcement day and report our findings in Table 6. It is important to stress that we only include the 161 FOMC days on which the announcement occurs at either 2:00 or 2:15 pm, as otherwise the announcement timing disparity with the remaining 8 observations would muddle the interpretation of our findings. As seen in Table 6, all statistically significant effects correspond to 20-minute intervals corresponding to the pre-announcement period: 10:10 – 10:30 am (15.8 basis points), 10:30

– 10:50 am (14.2 b.p.), and 11:10 – 11:30 am (13.0 b.p.). We find that coefficients are insignificant both during the announcement window (1:50 pm to 2:30 pm, which includes both the 2:00 pm and the 2:15 pm announcements) and after the announcement, casting doubt on explanations that rely either on investor compensation for announcement risk or on delayed reaction to announcement news. Consistent with the relative importance of the pre-announcement period, regression R^2 s are large for several pre-announcement intervals, but drop to almost zero during and after the announcement.

The regression output reported in Table 6 is graphically displayed in Figure 3. In particular, for each FOMC announcement day 20-minute interval, we plot the slope coefficient on the lagged SWF measure, along with its 90% confidence interval. The figure makes the intraday pattern visually striking: coefficients tend to be positive (and are often statistically significant) during the morning hours, and drop to zero or take negative values around and after the FOMC announcement. Notably, confidence intervals become substantially wider for post-announcement intervals, reflecting high return volatility after the announcement.

Next, we aggregate 20-minute intervals into three intraday periods: pre-announcement, announcement, and post-announcement. We now include all 169 observations, but define the three intraday periods differently to take into account the timing disparity, as follows. For the 161 days on which the FOMC announcement occurs at either 2:00 or 2:15 pm, the announcement period is defined to be 1:50 pm to 2:30 pm, so the pre-announcement period is 9:30 am to 1:50 pm and the post-announcement period is 2:30 pm to 3:50 pm. For the 8 days on which the FOMC announces its decision at 12:30 pm, the announcement period is 12:10 to 12:50 pm, with the pre-announcement and post-announcement periods defined accordingly. Our findings are reported in the first column of Table 7: the coefficient of the interaction with the pre-announcement period is both positive (0.067) and highly significant (t-statistic of 3.77), whereas the interactions with the announcement period and the post-announcement period do not enter significantly, confirming that the return predictability

effect is concentrated in the pre-announcement hours.⁴ The next column adds controls for lagged rate changes (increases and declines), but our main result is not affected (coefficient of 0.078, significant at the 1% level).

The third column repeats the exercise by splitting the pre-announcement period into two subperiods: early before announcement and late before announcement. We now consider only the 161 days on which the FOMC announcement occurs at either 2:00 or 2:15 pm, as it is less clear how to split the pre-announcement period on the 8 FOMC days on which the announcement happens at 12:30 pm. For those 161 days, the early period is defined to be 9:30 am to 11:30 am and the late period is 11:30 am to 1:50 pm. We find that the return predictability effect is localized in the early subperiod: the interaction of the lagged SWF measure with the early pre-announcement subperiod has a positive (0.114) and strongly significant (t-statistic of 4.09) coefficient, whereas the interaction with the late subperiod has a statistically insignificant coefficient. Again, adding lagged rate change controls (last column) does not alter our findings.

The concentration of the return predictability effect in the pre-announcement period, when no *official* Fed communication takes place, is consistent with the operation of an informal information transmission mechanism. If the Fed communicates with market participants in order to recalibrate expectations after surprising policy decisions, that communication appears to affect stock market returns early in the trading day, well before any official statement is released. In the absence of any official news during that period, it is unclear what, apart from the arrival of information before the announcement, could be driving returns.

⁴Our findings are robust to excluding the eight FOMC announcement days on which the announcement occurs at 12:30 pm.

3.6 Wrong forecasts and future VIX changes

We have established that the lagged share of wrong analyst forecasts positively predicts FOMC announcement day stock market returns. Are those higher-than-average expected market returns associated with a drop in expected forward market volatility and, hence, uncertainty resolution?

To address that question, we regress daily VIX changes on the next FOMC announcement day on the share of wrong analyst forecasts for a given FOMC announcement day, and report our findings in Panel A of Table 8. As seen in the first column, the coefficient on the lagged SWF is -1.686 (significant at the 1% level), suggesting that the VIX drops more than average on FOMC announcement days that follow high-analyst-error announcement days. When we only consider VIX changes on announcement days that follow “large surprise” announcement days (column 2), we also get a negative and significant coefficient, although the effect is quantitatively and statistically weaker. As happens with returns, when we exclude the 10 “large surprise” days (column 3), the VIX change predictability effect becomes stronger, with the coefficient on the lagged SWF measure increasing to -3.168 (with a t-statistic of -2.08). Finally, the negative association between the lagged SWF measure and announcement-day VIX changes remains robust when we include lagged rate change controls (column 4).

In Panel B of Table 8, we consider VIX changes on FOMC announcement days and explore the quantitative importance of the SWF conditioning effect. In the first column, we establish that the VIX drops on FOMC announcement days, whereas it is statistically unchanged on non-FOMC days. Across 6,512 trading days, the coefficient on the FOMC announcement day indicator is -0.528, significant at the 1% level. On the other hand, the regression constant, which reflects the average VIX change on non-announcement days, is both economically small (0.014) and statistically zero. When we condition the FOMC announcement day effect on our lagged SWF measure, we find very strong conditionality. In particular, FOMC announcement days preceded by high-forecast-error announcement days exhibit larger-than-average announcement-day VIX drops, with the interaction coefficient

being -1.679, statistically significant at the 5% level, consistent with our Panel A findings. The conditioning effect on VIX change predictability is largely driven by FOMC announcement days that feature very large forecast error rates. In particular, there is no statistically significant conditioning effect for days on which the lagged SWF value is above the 75th percentile (column 3), but we find a large (-1.237) and statistically significant interaction coefficient when we restrict our conditioning to lagged SWF values above the 90th percentile (last column).

To examine the intraday timing of the uncertainty resolution, we turn to intraday changes to VIX futures prices on FOMC announcement days. In particular, we use intraday one-hour changes of front-month VIX futures prices, sourced from LSEG. For FOMC announcement days on which the announcement occurs at either 2:00 or 2:15 pm, we assign the 9:00-10:00 am, 10:00-11:00 am, 11:00 am - noon, noon-1:00 pm and 1:00-2:00 pm changes to the “pre-announcement period”, the 2:00-3:00 pm changes to the “announcement period”, and the 3:00-4:00 pm changes to the “post-announcement period”. For the two in-sample days on which the FOMC announcement occurs at 12:30 pm (September 13, 2012 and December 12, 2012), the announcement period corresponds to the noon-1:00 pm changes, so the pre-announcement period includes the three one-hour changes from 9:00 to noon, and the post-announcement period includes the three one-hour changes from 1:00 pm to 4:00 pm. Our findings are reported in the first column of Table 9, and mirror those for stock market returns. The interaction of the lagged SWF measure with the pre-announcement period indicator is negative (-0.086) and statistically significant, suggesting that VIX futures prices drop in the morning of the FOMC announcement day that follows a high-SWF announcement day. On the other hand, the SWF interactions with the announcement and post-announcement period indicators are not statistically different from zero. As the second column shows, our findings are robust to the inclusion of lagged rate change controls.

Next, as before, we split the pre-announcement period into an early and late period, and consider only FOMC announcement days with 2:00 or 2:15 announcements: the early pre-

announcement period is 9:00 am to noon and the late pre-announcement period is noon to 2:00 pm. We find that the VIX futures price change is concentrated in the early pre-announcement period: the interaction coefficient is -0.160 (t-statistic of -2.54) when we do not control for lagged interest rate changes and -0.211 (t-statistic of -3.44) when we do. On the other hand, the late pre-announcement interaction is statistically zero in both cases.

We conclude that, following high-SWF FOMC announcements, VIX futures prices decline during the morning hours of the next FOMC announcement day, and do not respond to the announcement itself. Thus, the predictable FOMC announcement day VIX drop matches the timing of the predictable stock market rise documented in the previous section, suggesting that the two market reactions are connected and providing further support for the operation of an informal communication channel. In particular, our findings are consistent with the conjecture that, after surprising market participants with an unexpected policy decision, the Fed informally conveys information that reassures market participants, leading to a reduction in market uncertainty and the realization of unusually high stock market returns.

3.7 Wrong forecasts and future interest rates

So far, we have provided evidence that the SWF return predictability patterns are consistent with the operation of an informal Fed communication channel. A potential alternative explanation is that our SWF measure contains information about the expected *future* path of policy rates, in which case the stock market reaction on the next FOMC announcement day reflects repricing upon the realization of monetary policy action.

If that conjecture has merit, then the share of wrong analyst forecasts should also predict changes in fed funds futures prices and Treasury yields on the next FOMC announcement day, as those security prices are sensitive to monetary policy shocks. However, it is worth noting that the information explanation is not entirely satisfactory: if asset markets are efficient, asset prices should adjust when the information about the future Fed action is revealed,

not on the next FOMC announcement day, when the action occurs. However, it may be the case that investors are not sophisticated enough to understand information generation in real time, or that limits to arbitrage hinder sophisticated market participants from fully correcting asset prices. Hence, documenting that the share of wrong analyst forecasts predicts future changes in fed funds futures prices and Treasury yields is a necessary, but not sufficient, condition for establishing the operation of an information channel.

First, we consider the fed funds futures market. In Table 10, we report the output of regressions of intraday changes in short-term (1-month and 2-month) fed funds futures prices on FOMC announcement days on the lagged share of wrong analysts interacted with intraday period indicator variables. For each column, the FOMC days included and the intraday period definitions follow those of Table 7, subject to the availability of futures data. As regards 1-month futures, we find no statistically significant interaction of lagged SWF with any intraday period, regardless of whether we split the pre-announcement period into two subperiods or not (first two columns), suggesting that the SWF measure has no forecasting power for fed funds futures price changes on the subsequent FOMC announcement day. When we consider 2-month futures (last two columns), we find some evidence for an announcement period effect: the coefficient on the interaction is -1.415 and weakly significant, suggesting that a higher SWF predicts higher-than-usual rate increases on the next FOMC announcement day. However, that result is not only statistically non-robust (the coefficient becomes insignificant when we split the pre-announcement period into two subperiods), but also has the wrong sign, pointing to a monetary tightening, an outcome not typically associated with either positive stock market return realizations or VIX drops.

Next, we turn to the Treasury market. Tables 11 and 12 show the output of regressions of Treasury yield changes on FOMC announcement days on the lagged share of wrong analyst forecasts, i.e., the share of wrong analyst forecasts on the previous FOMC announcement day. Table 11 focuses on short-maturity Treasury debt, defined as debt with maturity of 1 year or less. Overall, we find little evidence of yield change predictability, consistent with

our findings in the short-term fed funds futures market. For 1-month Treasury yield changes (columns 1–2), the lagged SWF coefficient is -0.048 in the absence of any controls and 0.047 when lagged rate-direction controls are added, with neither coefficient being statistically significant. We obtain similar results for 3-month Treasury yield changes (columns 3–4). When we consider the 6-month maturity, we find a marginally significant negative effect of the lagged SWF, suggesting that analyst mistakes predict a monetary loosening on the next FOMC announcement day, but both economic and statistical significance disappear when we include lagged rate changes as controls. Finally, we find no statistically significant predictability for 12-month Treasury yield changes (columns 7–8).

Table 12 covers medium-term and long-term Treasury maturities, ranging from 2 years to 30 years. Focusing on longer-term Treasury securities helps detect information that has to do with longer-term Fed policy, which short-term securities would not reflect. Panel A reports the output of regressions of yield changes on our lagged SWF measure without including lagged policy rate change controls. We find no evidence of yield change predictability, as lagged SWF coefficients are statistically insignificant across all maturities. Furthermore, regression R^2 s are uniformly tiny. In Panel B, we add lagged policy rate change controls in our regressions, but we continue to get insignificant predictive coefficients on the lagged SWF measure. Overall, our SWF measure does not appear to reflect information about medium- or long-term monetary policy.

In conclusion, although the lagged share of wrong analyst forecasts robustly predicts FOMC announcement day stock market returns and VIX changes, we find no evidence that it predicts changes in short-term fed funds futures prices or Treasury yields at any maturity. Hence, our stock return and VIX change predictability findings are unlikely to reflect information that is embedded in the yield curve. Rather, they are consistent with communication that reduces uncertainty about the macroeconomic or policy outlook and lowers risk premia through the repricing of risk. Our interpretation is in line with the ample literature on the “risk-taking channel” of monetary transmission (Borio and Zhu (2012)). In particular,

Bauer, Bernanke and Milstein (2023) document that monetary policy actions have strong and persistent effects on the risk appetite of market participants, whereas Boehm and Kroner (2025) identify a “Fed non-yield shock” that is orthogonal to yield changes and is transmitted to asset prices through risk premia, affecting stock prices and the VIX. One potential interpretation that Boehm and Kroner (2025) propose for their Fed non-yield shock is that it arises from the Fed credibly promising to react more decisively in adverse future states of the world. Such a promise reassures investors and lowers their desired compensation for bearing risk, raising the prices of risky assets. Relatedly, a possible explanation for our stock return and VIX predictability results is that, after an unexpected policy action that rattles market participants, Fed insiders engage in informal communication that calms investors and leads to a repricing of risky assets.

3.8 Wrong forecasts and FOMC deliberations

If surprising policy decisions prompt the Fed to repair market expectations, we expect the FOMC to devote more attention to financial markets in its next meeting. FOMC meeting full transcripts, which are released with a five-year lag, allow us to test that conjecture. As detailed in Section 2.2, for each FOMC meeting we count the number of financial market mentions per 1,000 words of the transcript, i.e., occurrences of the word “market” that do not refer to the labor market, open market operations, or the housing or real estate market. To measure whether the FOMC discusses having surprised or disappointed financial market participants, we also construct two narrower measures: financial market mentions that occur within 10 words of a term beginning with “surpris,” and financial market mentions that occur within 10 words of a term beginning with either “surpris” or “disappoint” (again expressed per 1,000 words). Then, we regress each of those three measures on the share of wrong forecasts, either for the same meeting (contemporaneous regressions) or for the previous meeting (forecast regressions), and report our findings in Table 13.

Panel A of Table 13 reports the output of contemporaneous regressions. We find that the

share of wrong forecasts for a given FOMC meeting is very weakly associated with financial market mentions (our broader measure) at that same meeting: the SWF coefficient is positive (1.134) but only marginally significant in the absence of rate change controls, and becomes insignificant when we control for policy rate changes. Furthermore, we find no statistically significant contemporaneous association between either of the two narrower, surprise-related measures and the share of wrong forecasts. In short, the FOMC does not appear to be unusually concerned with surprising market participants before it does so.

Panel B presents the output of forecast regressions. Our conjecture is that, after a surprising announcement, the FOMC places a higher weight on financial market reactions, and that shift in focus is reflected in FOMC transcripts. Indeed, we find support for that conjecture. The lagged share of wrong forecasts is a strong predictor of financial market mentions at the next meeting, with a coefficient of 1.608 (t-statistic of 4.09) in the absence of controls and 1.547 (t-statistic of 3.25) when we control for lagged policy rate changes. The lagged share of wrong forecasts also predicts the two surprise-related measures: the coefficient on surprise-related financial market mentions is positive in both specifications and significant at the 5% level once we control for lagged rate changes, and the coefficient on surprise- or disappointment-related mentions is positive and significant at the 5% level in both specifications. Hence, it appears that the FOMC shifts its attention to financial market reactions to policy surprises after those surprises actually occur, rather than in anticipation of them, consistent with our conjecture that the Fed is focused on *ex post* repair of market expectations.

In summary, the Committee talks more about financial markets, and in particular about markets having been surprised or disappointed, at meetings that follow announcements on which many analysts got their forecasts wrong. Since detailed FOMC deliberations become public with a long lag, Fed officials are able to express their views candidly, so full FOMC transcripts provide a detailed view of the thinking of Fed officials at the time of the meeting. Our finding that the Fed becomes more attentive to financial markets after surprising them is consistent with the pattern of return and VIX predictability that we document and supports

the hypothesis that the Fed has an incentive to operate an informal communications channel after unexpected FOMC decisions.

4 Predictability over the FOMC cycle

Within the existing literature on the FOMC announcement day premium, one finding that gives strong credence to the conjecture that the Fed operates an informal communication channel is the remarkable pattern of stock market returns over the FOMC cycle, documented by Cieslak et al. (2019). When they compare stock market returns during even- and odd-numbered weeks in the FOMC cycle, they find that even-week returns are much higher than odd-week returns, and present evidence that this pattern is consistent with Fed information leakage, as even weeks coincide with Federal Reserve Board meetings and internal deliberations.

The FOMC cycle stock return pattern provides us a straightforward way to test whether our stock return predictability effect can be plausibly attributed to informal Fed communication. If informal Fed communication is (fully or partly) motivated by the Fed's need to repair market participants' expectations after surprises, and if the FOMC cycle return pattern reflects such informal communication, then we expect the FOMC cycle pattern to be amplified when the motivation for such communication is greater. In other words, when the share of wrong analyst forecasts is higher than usual, we expect the Fed to act more aggressively to manage expectations and, therefore, the FOMC cycle pattern to be stronger. In addition, given that our SWF measure predicts VIX changes, we also explore whether an FOMC cycle pattern exists for VIX changes, extending the Cieslak et al. (2019) analysis, which only focuses on stock market returns, to another important market measure. If our conjecture has merit, we expect to see a conditional FOMC cycle pattern for VIX changes, with VIX dropping more on even FOMC weeks following surprising FOMC announcements.

4.1 Stock market returns

We begin with stock market returns. Similar to Cieslak et al. (2019), we measure FOMC cycle weeks as follows: week 0 starts one trading day before the FOMC announcement day and ends three days after it, with week 1 including the corresponding days in the week after, etc. Since it is not clear when the Fed may start its informal communications operation, we consider five plausible starts: immediately after an FOMC announcement day that features a high share of wrong analysts, 2 weeks, 4 weeks, or 6 weeks after that announcement day, or right after the next FOMC announcement day. Hence, we match FOMC cycle weeks with lagged shares of wrong forecasts in five different ways, as follows. The SWF measure for a particular FOMC announcement day (announcement day n) is associated with the stock market returns of the trading days that are included in a full FOMC cycle that starts either immediately, or 2 weeks, 4 weeks, or 6 weeks after the announcement day, or after the next FOMC announcement day (i.e., announcement day $n + 1$).

Our findings are reported in Table 14. The first column replicates the main finding of Cieslak et al. (2019): trading days in even-numbered FOMC cycle weeks are associated with higher average stock market returns. Across 6,449 trading days, the coefficient on the even week dummy is 0.063, statistically significant at the 5% level, indicating that average daily stock market returns are 6.3 basis points higher during even-numbered FOMC cycle weeks. To test our hypothesis that there is an SWF conditioning effect on the FOMC cycle pattern, we add two regressors, the lagged SWF measure and its interaction with the even-week indicator, and report our findings in the next five columns (one for each time-matching specification). The interaction has a positive sign across all five specifications, but becomes statistically significant for FOMC cycles starting at least 2 weeks after the FOMC announcement and attains its highest value for FOMC cycles starting 4 weeks after the FOMC announcement (interaction coefficient of 0.701, significant at the 5% level). Our findings suggest that the FOMC cycle pattern becomes more pronounced following high-analyst-error FOMC announcements and that the effect starts at least 2 weeks after those

announcements. Those results are consistent with an informal communications operation that does not start immediately after an FOMC announcement that surprises analysts, when market participants are still likely digesting the shock, but shortly thereafter. Notably, the coefficient on the lagged SWF measure is negative and significant for FOMC cycles starting at least 4 weeks after the FOMC announcement, implying that the lagged share of wrong forecasts predicts lower, rather than higher, stock market returns on odd-numbered FOMC weeks.

The rest of Table 14 explores whether the SWF conditioning FOMC pattern is solely due to the announcement week effect by separating week zero (i.e., the five business days around the FOMC announcement) from the rest of the even-numbered FOMC cycle weeks. We find that both coefficients have positive signs across all specifications, with the zero-week interaction coefficient becoming statistically significant for FOMC cycles starting at least 4 weeks after the FOMC announcement and the other-even-week interaction coefficient being significant for FOMC cycles starting at least 2 weeks after the FOMC announcement. Taken together, those results suggest that the conditional FOMC cycle pattern emerges 2 to 4 weeks after a surprising FOMC announcement and persists for at least one FOMC cycle.

Overall, our findings are consistent with the hypothesis that the Fed, having surprised the market with an unexpected rate decision, gradually recalibrates market participants' expectations. Furthermore, our results indicate that the informal communication operation does not start immediately after a surprising FOMC announcement, but 2 to 4 weeks afterwards, giving market participants some time to digest the formal announcement.

4.2 VIX changes

We now turn to VIX changes over the FOMC cycle, and report our findings in Table 15. The first column documents that, unconditionally, we do not observe a statistically significant FOMC cycle pattern for VIX changes. However, it is worth noting that, in our sample

period of 6,468 days, odd FOMC weeks are associated with an average VIX increase of 0.032, whereas even FOMC weeks feature an average VIX decline of 0.031. To explore whether conditioning on lagged SWF uncovers an FOMC cycle, we use the same five specifications as before and report the results in the next five columns. We find that the coefficient of the interaction of the even week indicator with the lagged SWF measure is negative across specifications and becomes significant for FOMC cycles starting at least 4 weeks after the FOMC announcement.

When we separate week zero from the rest of the even-numbered FOMC cycle weeks (last five columns of Table 15), we find that both corresponding coefficients are negative across specifications and become significant after a lag: the zero week interaction coefficient is statistically significant for FOMC cycles starting at least 4 weeks after the FOMC announcement and the other-even-week coefficient is significant for cycles starting at least 6 weeks after the announcement.

In summary, the findings for VIX changes are consistent with the findings for stock market returns: higher returns and VIX drops are aligned in their timing after a surprising FOMC announcement, with the conditional FOMC cycle pattern appearing 2 to 4 weeks after a surprising FOMC announcement for returns and about 4 weeks after it for VIX changes.

4.3 Public communications of Fed officials

Although the FOMC cycle patterns we document are consistent with an informal communications channel, a natural alternative is that Fed officials respond to surprising announcements through *formal* communication, e.g., by giving more public speeches during the weeks that follow. To explore that possibility, we repeat our FOMC cycle analysis using the daily number of public communications by Fed officials (and, in particular, Federal Reserve Board members and Reserve Bank presidents) as the dependent variable and report our findings in Table 16.

The first column examines whether Fed public communications exhibit an FOMC cycle pattern unconditionally. We find that Fed officials have about 0.9 public communications per day on average, but there is no difference in public communication activity between even and odd FOMC cycle weeks: the coefficient on the even week indicator is small (-0.032) and statistically insignificant. We then consider whether SWF has a conditioning effect. The interaction of the even week indicator with the lagged SWF measure is statistically indistinguishable from zero across four out of our five specifications, indicating that official communication activity does not increase after surprising FOMC announcements. Notably, the only specification in which the interaction coefficient is statistically significant (albeit marginally) is for FOMC cycles starting 4 weeks after the FOMC announcement, in which case its point estimate is negative (-0.893), indicating that public communication activity declines, rather than increases.

Next, we separate week zero from the other even FOMC weeks. Across all five time-matching specifications, the coefficient on the week zero indicator variable is negative and significant at least at the 5% level, suggesting that Fed officials have about 20% fewer public communications in the week surrounding an FOMC announcement, whereas the other-even-week coefficient is consistently small and insignificant. The sharp reduction on week zero (i.e., the FOMC announcement week) is not surprising: the days around FOMC announcements constitute the FOMC blackout period, during which Fed officials have to refrain from public comments on monetary policy. Importantly, there is no evidence of an SWF conditioning effect during non-blackout periods: the other-even-week interaction coefficient is statistically zero for all five time-matching specifications. However, there is an SWF conditioning effect for FOMC announcement weeks, but it cannot explain our predictability patterns, as it has the opposite sign: the zero-week interaction coefficient is negative and statistically significant across all five specifications, suggesting that Fed officials make even fewer public communications during the blackout period after surprising Fed announcements.

Taken together, our findings indicate that Fed officials do not react to surprising announce-

ments by intensifying their formal communication activity. Hence, the conditional FOMC cycle patterns of stock market returns and VIX changes (Tables 14 and 15) are unlikely to reflect the impact of public communications by Fed officials, strengthening the argument that the information that recalibrates expectations after surprising announcements is transmitted through informal channels.

5 The Properties of Stock Return Predictability

In this section, we explore the properties of the stock return predictability effect documented in the previous section in more detail. In particular, we consider how the effect varies over time and across analyst forecast error magnitudes, and explore its robustness to the inclusion of alternative forecast-related measures.

5.1 Return predictability and the FOMC premium over time

A well-known feature of the FOMC announcement premium is that it has declined over time. In particular, Lucca and Moench (2015) document the existence of the FOMC pre-announcement drift through 2011, but Kurov et al. (2021) show that the phenomenon becomes substantially attenuated after that. Since our stock return predictability effect accounts for a large portion of the FOMC premium, it is worth exploring whether the SWF effect has also attenuated or disappeared alongside the FOMC premium itself. To do so, we split our sample period into two parts, an early subsample (from December 1998 to March 2011) and a late subsample (from April 2011 to September 2024) and report our findings in Table 17.

The first four columns of Table 17 focus on the early subsample, which consists of 3,028 daily observations. Unconditionally, we observe a strong FOMC premium: the FOMC dummy variable coefficient is positive (38.8 basis points) and strongly significant (t-statistic of 2.79).

On the other hand, the average daily return on non-FOMC announcement days is statistically indistinguishable from zero (0.9 basis points, with a t-statistic of 0.35). When we include an interaction between the FOMC indicator and our lagged SWF measure, the interaction coefficient is positive (1.800) and statistically significant at the 1% level, whereas the coefficient on the FOMC indicator becomes insignificant. That finding mirrors the result for the full sample: in the absence of any analyst forecast errors for the previous FOMC announcement (i.e., when the lagged SWF is zero), the FOMC premium statistically disappears. Finally, we regress daily returns on the FOMC dummy and an interaction between the FOMC dummy and an indicator for whether the lagged SWF is above its 75th or its 90th percentile value (columns three and four, respectively). We find that the average FOMC premium after top-SWF-quarter announcement days is 37.9 basis points (but statistically insignificant), and the average FOMC premium after top-SWF-decile announcement days is 127.2 basis points (significant at the 1% level). In both cases, the FOMC dummy coefficient is insignificant, suggesting that the FOMC announcement premium disappears on FOMC announcement days that follow low-analyst-mistake announcement days.

The last four columns of Table 17 consider the late subperiod. In line with the literature that documents an attenuation of the FOMC premium, we find that, post-March 2011, the average FOMC premium drops to 15.7 basis points and becomes statistically indistinguishable from zero (column five). However, as we see in columns six to eight, the FOMC premium reappears when we condition on the lagged share of wrong forecasts, with the conditioning effect being stronger than in the early subperiod. In particular, when we include an interaction between the FOMC dummy and the lagged SWF, the coefficient of the interaction is 2.192 (significant at the 1% level), higher than the corresponding coefficient in the early sample period. Furthermore, we find that FOMC announcement days that follow top-decile SWF announcement days have a return spread of 179.5 basis points over bottom-90% days, which is about 40% higher than the average spread in the early subperiod.

Overall, we find that the unconditional attenuation of the FOMC announcement premium in

recent years hides an intensification of its conditional variation. Simply put, although FOMC days have become less remarkable compared to non-FOMC days in terms of average stock market returns, the spread between high-analyst-mistake and low-analyst-mistake FOMC days has grown over time.

5.2 Forecast error magnitudes and future market returns

Our benchmark predictive measure, the share of wrong analyst forecasts, does not distinguish across forecast error magnitudes: either an analyst accurately forecasts the policy rate or not. However, the magnitude of analyst errors may be relevant for Fed expectations management. After all, 25 basis point errors reflect a different magnitude of expectations management failure than 50 basis point errors. Furthermore, the relationship between the size of analyst forecast errors and the degree of expectations management failure may not be monotonic: for example, although a forecast error of 5 basis points would likely be considered inconsequential in most settings, it may suggest that analysts have begun to question the grid itself, pointing towards a substantial breakdown in managing expectations.

To explore whether the magnitude of forecast errors matters for stock market return predictability, we decompose our SWF measure into three components: the share of analysts that are wrong by exactly 25 basis points, by more than 25 basis points, and by less than 25 basis points. It is worth noting that, since the Fed never deviates from the 25 basis point grid within our sample, forecast errors smaller than 25 b.p. occur only when analysts make off-grid forecasts, a rather infrequent event. We then regress FOMC announcement day stock market returns on the lagged values of those three measures and report our findings in Table 18.

The first three columns report the output of regressing FOMC announcement day returns on the lagged values of each of the SWF components. The coefficient estimates have an intuitive interpretation: they measure the return impact of shifting one percentage point of

analysts from correct to incorrect in each error-size category. We find that all three coefficient estimates are positive and statistically significant, indicating that all components of the SWF measure have predictive power for future announcement day returns when considered in isolation. In particular, the coefficient estimate is 1.801 for the lagged share of analysts that are wrong by exactly 25 basis points (t-statistic of 3.38), 11.668 for the lagged share of analysts that are wrong by more than 25 basis points (t-statistic of 1.80), and 2.628 for the lagged share of analysts that are wrong by less than 25 basis points (t-statistic of 1.86). Notably, the coefficient pattern is non-monotonic: the least impactful analyst mistakes are those that are exactly equal to 25 b.p. In particular, being wrong by more than 25 basis points has more than six times the effect of being wrong by exactly 25 basis points, whereas being wrong by less than 25 basis points is about 50% more impactful than being wrong by exactly 25 basis points. Although the finding that small errors appear to matter more than 25 b.p. errors may be *prima facie* puzzling, that result may arise from the importance of the grid itself: less-than-25 b.p. forecast errors occur only when analysts have doubts whether the grid is binding, necessitating more intense expectations management from the Fed going forward. This result makes sense in the context of the importance of the grid, but is harder to reconcile with a standard view of forecast error magnitude, where smaller errors are almost always less consequential than larger ones.

In column 4, we combine the more-than-25 b.p. wrong share and the less-than-25 b.p. wrong share into an “other than 25 basis points” wrong share. When we focus on the coarser distinction between 25 b.p. and non-25 b.p. errors, we get a coefficient estimate of 4.677 (t-statistic of 2.17), indicating that the effect of the latter is more than double the effect of the former, consistent with an interpretation in which a 25 b.p. miss is the typical within-grid error magnitude, while larger or non-grid error sizes signal a more serious failure of the Fed expectations management process.

Finally, the last two columns regress FOMC announcement day returns on different decompositions of the lagged SWF measure. In column 5, we include the three components (share

of analysts with errors of exactly 25 b.p., more than 25 b.p., and less than 25 b.p.) together, and get coefficient estimates of 1.364, 8.990, and 2.798, respectively. Although the more than 25 b.p. error share continues to have the largest coefficient estimate, it no longer enters significantly, in contrast with the other two coefficients. To determine whether the three coefficient estimates are statistically different from each other, we calculate p-values for the null of coefficient equality, and find that all three coefficients are statistically equal to each other. In particular, we cannot reject the null hypothesis of coefficient equality either between the exactly 25 b.p. error share and more-than-25 b.p. error share (p-value of 0.25) or between the exactly 25 b.p. error share and the less-than-25 b.p. error share (p-value of 0.35). In column 6, we consider the other SWF decomposition (share of analysts with errors of exactly 25 b.p., and other than 25 b.p.), and find coefficient estimates of 1.622 and 4.030, both statistically significant. As before, the null of coefficient equality cannot be rejected (p-value of 0.25).

The results of the statistical tests of coefficient equality leave open two interpretations. Under one reading, the data simply lack power to distinguish between the effects of analyst forecast errors of different magnitudes, so errors of all magnitudes should be treated symmetrically. An alternative reading, directionally supported by the coefficient point estimates, is that non-typical errors (in either direction) are viewed by the Fed as more concerning than routine 25 b.p. misses, triggering a proportionally stronger expectations-recalibration response. Given the rarity of non-typical forecast error observations, distinguishing between those two interpretations would likely require a substantially longer sample of analyst forecasts.

5.3 Alternative analyst forecast measures

In our analysis, we interpret the share of wrong analyst forecasts as a measure of the magnitude of analyst surprise (in absolute terms). However, one might worry that SWF is capturing some other element of the analyst forecast distribution. To address that concern, we consider alternative measures derived from analyst forecasts and explore their ability to

predict subsequent FOMC announcement day returns. In particular, we focus on five alternative measures: the cross-sectional standard deviation of analyst forecasts, the cross-sectional skewness of analyst forecasts, the share of non-modal analyst forecasts, the difference between the realized Fed policy rate and the cross-sectional mean of analyst forecasts (“average analyst surprise”), and the level of the VIX at the close of the previous FOMC announcement day. We include the lagged VIX level because the share of wrong forecasts is positively associated with the VIX (Table 4), so one might worry that our SWF measure merely identifies periods of elevated market uncertainty, in which announcement premia are known to be higher (Hu, Pan, Wang and Zhu (2022)). We report our results in Table 19.

Panel A reports the output of stock market return predictability regressions that use those five alternative measures as signals, without including our SWF measure. In the first five columns of Panel A, we regress FOMC announcement day stock market returns on alternative measures realized on the previous FOMC announcement day without controlling for lagged policy rate change dummies. First, we regress daily stock market returns on the lagged standard deviation and lagged skewness of analyst forecasts across all 206 FOMC announcement days in our sample. Those two measures jointly characterize the dispersion of analyst forecasts, quantifying analyst disagreement. We find that forecast standard deviation enters significantly and with a positive sign (the coefficient estimate is 5.237), but forecast skewness has an insignificant coefficient. Together, the two measures explain about 3.8% of the variation in next-announcement-day returns. In the second column, we repeat the regression, but restrict the sample to the 88 announcement days with non-zero analyst disagreement. The coefficient on forecast standard deviation almost doubles (10.127) and remains significant, and the coefficient on forecast skewness remains insignificant.

In the third column, we consider a measure that specifically arises from the gridding of the Fed policy space: the share of non-modal analyst forecasts, i.e., the share of forecasts that differ from the most common forecast. Although it can be considered solely a measure of analyst disagreement, ex-ante analyst disagreement and ex-post analyst surprise are me-

chanically linked in the case of gridded forecasts, as any ex-ante disagreement implies that at least some analysts must be wrong ex-post. For that reason, the share of non-modal analyst forecasts is related to our benchmark SWF measure, with the difference being that the former measure’s calculation does not entail using ex-post information about the actual Fed decision. When we regress FOMC announcement day returns on the lagged share of non-modal forecasts, we find a positive (2.418) and statistically significant coefficient.

Next, we regress FOMC announcement day returns on the lagged average analyst surprise, defined as the difference between the policy rate announced on the preceding FOMC day and the average analyst forecast for that day. In contrast to the other three measures (and also to our benchmark SWF measure), that is a signed measure: it takes a positive (negative) value when analysts underestimate (overestimate) the Fed policy rate on average. As shown in the fourth column of Panel A, the coefficient on the lagged average analyst surprise is negative (-5.750) and significant at the 1% level. Hence, when the Fed surprises analysts with a tighter-than-expected monetary stance (positive surprise), returns on the next FOMC announcement day are expected to be lower than usual.

Finally, in the fifth column, we regress FOMC announcement day returns on the VIX level at the close of the previous FOMC announcement day. The VIX forecast coefficient is positive (0.046) and significant at the 1% level, so FOMC announcement day returns are higher when market uncertainty was elevated at the time of the previous announcement.

The remaining five columns of Panel A repeat the predictability regressions of the first five columns, adding lagged dummy variables for policy rate changes (Rate Raised and Rate Lowered) as controls. The inclusion of the controls does not materially alter any of our findings: the forecast standard deviation, the share of non-modal forecasts, and the VIX level continue to forecast next-announcement-day returns with a positive sign, whereas the average analyst surprise predicts returns with a negative sign. In short, we find that measures of analyst forecast disagreement and analyst surprise predict next-announcement-day returns. What remains to be determined is whether the predictive power of any of those

measures is additive to the predictive power of our SWF measure, or gets subsumed by it.

To address that question, we repeat the regressions of Panel A adding our lagged SWF measure as a regressor, and report our findings in Panel B of Table 19. The inclusion of the lagged SWF substantially changes the results: with the exception of the lagged VIX level, the coefficients of the lagged alternative measures become statistically insignificant, regardless of whether we control for lagged policy rate changes or not. On the other hand, the lagged share of wrong forecasts has a positive and significant coefficient across all ten specifications. In particular, the lagged SWF coefficient ranges from 1.364 to 2.089 when the lagged policy rate change controls are not included (first five columns), and from 1.729 to 2.166 when the rate change controls are included (last five columns). The lagged VIX level is the only alternative measure that retains its predictive power in the presence of our SWF measure (fifth and tenth columns): its forecast coefficient is 0.034 when we do not include lagged rate change controls and 0.035 when we do, both significant at the 5% level. However, including the lagged VIX does not eliminate the forecasting power of our SWF measure: the forecast coefficient of lagged SWF is 1.364 and 1.729, without and with lagged rate change controls, respectively, significant at the 1% level in both cases. Hence, although FOMC announcement day returns are higher when uncertainty is elevated, our return predictability effect is not merely a reflection of a high-uncertainty state. We conclude that, as regards stock market return predictability, our benchmark measure subsumes alternative measures of analyst disagreement and analyst surprise, and its predictive power is robust to controlling for the level of market uncertainty.

6 Discussion

Our preferred interpretation is that the 25 basis point grid is conducive to large analyst surprises, which the Fed repairs through informal communication that drives stock market returns on the next FOMC announcement day. Below, we discuss how such a mechanism

might work in practice, address the plausibility of risk-based explanations for our findings, and offer potential explanations for why our return predictability pattern does not get arbitrated away.

6.1 The nature of informal communication

Our analysis does not identify the nature of information that the Fed informally conveys. Rather, we provide evidence for when and why such communication is particularly active: after announcements where the Fed’s choice surprises the market, creating a need to recalibrate the expectations of market participants.

Typically, the concept of “leaking” is considered in a binary sense: either material information is informally selectively disclosed or not. In contrast, Solomon and Soltes (2015) discuss the “mosaic theory” alternative, whereby CEOs disclose information that may not be valuable on its own, but becomes material in conjunction with other information that some investors may hold. Firm insiders are willing to provide such information, as they do not think that it is material, so they do not worry about breaching SEC rules. Importantly, Solomon and Soltes (2015) document important variation across meeting participants regarding the degree of benefit they receive: hedge funds benefit greatly, whereas banks and pension funds benefit much less. That finding does not obviously point to a quid pro quo, since the firm has more incentives to provide information to long-term, large blockholders, rather than to hedge funds which may hold the stock for a short period.

Something similar may be operating in the context of the Fed. For an informed investor, private discussions with Fed insiders may reveal valuable information even if there is no actual or illicit disclosure of the upcoming announcement. It is against this backdrop that private communication may be transferring information, even if insiders have the best of intentions. An analogy might be made with professional poker players: even when no verbal information is being disclosed and when opponents are financially incentivized to not reveal

anything about the contents of their hand, professional poker players are often able to spot “tells”, i.e., small changes in facial expressions or body language that leak information about the other player’s hand. Indeed, our analysis is consistent with the hypothesis that the Fed does *not* provide sensitive information that shifts expectations about the future path of policy rates: our SWF measure does not predict either fed funds futures prices or Treasury yields on the subsequent FOMC announcement day. On the other hand, the fact that the share of wrong forecasts predicts VIX reductions on those days suggests that the information that the Fed informally conveys has the effect of calming down investors and resolving uncertainty.

One possibility worth considering is that the Fed is providing more signals about its way of thinking to investors, without revealing any privileged information. In particular, one type of information being conveyed may be reassurances about future Fed actions in adverse states of the world. Such conditional statements about future actions can affect market uncertainty and security prices even if they do not contain information about short-term changes in policy rates, as they truncate the left tail of outcomes that investors fear and lower the required compensation for risky assets. For example, Mario Draghi’s statements in 2012 about being willing to do “whatever it takes” to save the eurozone are perhaps the most famous and important remarks of any ECB official.⁵ Similarly, Haddad, Moreira and Muir (2025) argue that the Fed’s announcement, in March 2020, of the possibility of purchasing US corporate bonds eliminated the left tail of return expectations by signaling a willingness to make large purchases in bad states of the world.

That conjecture is in line with several features of our findings. First, instead of reassuring investors in public, Fed insiders may convey those reassurances more freely in private contacts with market participants, consistent with the absence of an increase in public communications after surprising FOMC announcements. Second, Fed reassurance can be delivered gradually, in a series of informal contacts, accounting for the FOMC cycle patterns of Sec-

⁵Altavilla, Giannone and Lenza (2016) estimate that announcements about the ECB’s willingness to make European sovereign bond purchases lowered Italian and Spanish 2-year yields by about 2 percentage points, even though those purchases did not actually prove necessary.

tion 4. Third, as discussed below, the concentration of returns and VIX declines in the pre-announcement period of the next announcement day is consistent with several timing patterns of informal information flow.

The exact timing of the information flow is difficult to pin down, and a number of patterns are consistent with our findings. First, informal reassurances may be conveyed to some investors during the FOMC cycle, accounting for the even-week patterns of Section 4, and then disseminated more broadly on the morning of the next announcement day, when attention to the Fed peaks and assessments of the upcoming decision are widely shared. Second, informal contacts may occur throughout the cycle but intensify on the announcement morning itself, as the decision approaches. Third, the information may be conveyed earlier and acted upon only as the decision approaches. All three patterns are consistent with our hypothesis and share its central implication: the predictable returns and VIX declines we document reflect information that is transmitted outside official channels and is known to at least some market participants before the formal announcement. However, given that informal communication is by its nature unobservable, we are unable to distinguish among them.

6.2 Announcement risk and the resolution of uncertainty

The returns we document may simply reflect compensation for bearing FOMC announcement risk. Under this view, FOMC announcements are systematically risky events. When the most recent announcement produces a surprise, investors rationally expect the next announcement to carry more uncertainty, and they demand compensation for holding equities during that event. That explanation is consistent with the logic of the macroeconomic announcement premium literature (Savor and Wilson (2014); Ai and Bansal (2018)) and requires no appeal to hard-to-document informal communication or information leakage. A closely related concern is that the share of wrong forecasts merely identifies periods of elevated uncertainty, in which announcement premia tend to be higher (Hu et al. (2022)). However, Table 19 mitigates that concern: although the VIX level at the close of the previ-

ous FOMC announcement day predicts announcement day returns with a positive sign, our SWF measure retains its predictive power, with a coefficient that remains significant at the 1% level when the lagged VIX level is included as a control.

The main problem with the risk-based explanation is that it is inconsistent with the timing of stock market returns. If returns represent compensation for bearing announcement risk, they should accrue when such risk is resolved: at, or immediately after, the announcement. Instead, we find that returns are concentrated in the pre-announcement period (and particularly between 9:30 and 11:30 am), and are absent in the 40-minute window around the announcement itself (Tables 6 and 7), and the same intraday pattern characterizes the decline in VIX futures prices (Table 9). A potential way to address that issue would be to argue that the uncertainty is resolved before the announcement, i.e., that the relevant information arrives gradually over the morning, so, by the time the formal announcement occurs, the market has already priced in the outcome. However, that argument essentially restates our informal communications hypothesis: if announcement-day uncertainty is resolved hours before the announcement through channels other than official communication, those channels must involve the transmission of information from informed to uninformed parties. Whether one calls this “informal communication”, “information leakage”, or “gradual resolution of uncertainty”, the economic mechanism is exactly the same.

An alternative risk-based explanation of the FOMC pre-announcement drift is proposed by Ai, Bansal and Han (2024): uninformed investors acquire costly information in the run-up to a scheduled announcement, so uncertainty is resolved and risk premia are realized shortly before the official announcement without any information leakage. However, that channel, like any risk-based explanation, is hard to square with the fact that the FOMC cycle stock return pattern of Cieslak et al. (2019) becomes stronger after high-SWF announcement days, even though that pattern occurs on days with no formal Fed announcements, weeks before the next one. The fact that VIX changes also exhibit an FOMC cycle pattern after surprising FOMC announcements deepens the puzzle. To salvage the risk-based explanation, one

could potentially argue that informal communication can be considered a source of systematic risk, and investors are compensated for holding stocks during periods when informal communication occurs. However, that explanation still relies on the existence of an informal communication channel, consistent with our conjecture.

6.3 The role of arbitrage

If the stock market return predictability pattern we document does not reflect compensation for risk, then it is worth asking why it persists over time. In the absence of frictions, any such pattern should be quickly arbitrated away, especially since it arises from a public and easily observable signal: the share of wrong analyst forecasts.

The most parsimonious explanation is that investors are simply not aware of that pattern. While that explanation is rarely advanced explicitly, there is actually considerable evidence for it, as Hartzmark and Solomon (2025) argue. Consistent with direct publication effects, McLean and Pontiff (2016) document that the average asset pricing anomaly declines after it is published, in ways that cannot be solely attributed to data mining. The simplest interpretation of this is that the findings documented in academic papers come as a surprise on average to market participants, and they change their behavior in response.

Another alternative has to do with the existence of non-trivial limits to arbitrage. The magnitude of the returns we document vastly exceeds likely transaction costs of trading highly liquid assets like S&P 500 ETFs. However, an obvious obstacle to implementing a strategy based on our findings is that FOMC announcements occur only 8 times per year on average, and large announcement day returns are expected to occur only after announcement days with a high share of wrong analyst forecasts. Limiting trading activity to a handful of days per year, and profiting considerably only from 25% or 10% of those days, does not appear to be an attractive strategy if these were the sole trades. However, a potential way to profit from anomalies that are concentrated on few days would be to trade them employing

leverage on the relevant days, and hold the market portfolio otherwise, as discussed in Hartzmark and Solomon (2025).

Overall, we remain agnostic on why our return predictability pattern persists. In this paper, we focus on documenting our empirical findings, leaving the persistence issue as a topic for future research.

7 Conclusion

We hypothesize that the Federal Reserve’s exclusive use of 25 basis point increments serves as an expectations management tool. We show that the degree to which this management fails, measured by the share of analysts who incorrectly forecast the policy rate decision, predicts equity returns and VIX changes on the next FOMC announcement day, but not changes in fed funds futures prices or Treasury yields at any maturity. Furthermore, a higher-than-usual share of wrong forecasts predicts a strengthening of the even-week FOMC cycle pattern of Cieslak et al. (2019) for both stock market returns and VIX changes, but does not affect the pattern of public Fed communications. However, FOMC transcripts show that the Committee discusses financial markets more extensively at meetings that follow surprising announcements, suggesting that the Fed becomes more attentive to financial market reactions after making an unexpected policy decision.

Our results are jointly consistent with an increase in informal Fed communication aimed at recalibrating market expectations. While our evidence on communication is only indirect, it is nonetheless difficult to explain what else could be driving both market returns and VIX movements early in the morning of the announcement, but not at the announcement itself, if not communication of some form. One form such communication might take is conditional reassurance about the Fed’s willingness to act in adverse states of the world, which would truncate the left tail of outcomes investors fear without altering the expected policy path. Such reassurance can be conveyed in private contacts and delivered gradually, which would

account for both the absence of an increase in public communications and the timing of the FOMC cycle patterns we document.

Our findings suggest that the institutional design of monetary policy has first-order effects on financial markets. The 25 basis point grid is typically treated as innocuous, but our results suggest that it has important consequences for expectations and market outcomes. If the grid were finer, the forecasting problem of getting the exact answer would be harder, analysts would switch from fewer-but-larger mistakes to more-but-smaller mistakes, and the Fed would need to communicate more frequently if it wanted to respond to surprises in the same manner. In that sense, the grid may act as a labor-saving device for the central bank’s expectations management. Whether the grid rule can optimally arise in a model of Fed policy that aims to minimize market surprise is an important question for future research. The coarseness of decision rules may also matter in other important institutional settings outside of the Fed.

Furthermore, our results provide both a “when” and a “why” for the FOMC premium, both of which are new to the literature. The fact that returns are concentrated almost entirely on announcement days that follow many analysts getting forecasts wrong reframes the FOMC announcement premium as a phenomenon driven by the repair of expectations, rather than as compensation for bearing FOMC announcement risk. This distinction is also of potential empirical importance, as asset pricing models that treat all FOMC days symmetrically may be averaging over fundamentally different regimes.

Finally, our results present a different interpretation on the motivations for informal Fed communication, sometimes referred to pejoratively as “leaks” (e.g., Cieslak et al. (2019)). Such a framing carries a suggestion that there is necessarily something illicit in the disclosures, such as a direct revelation of an upcoming announcement, or some kind of quid pro quo, if not a corrupt kickback. The assumption that this is a necessary component of the theory may drive some of the resistance to the seemingly straightforward idea that if there are returns in the morning before the announcement, there is probably some kind of

information before the announcement too. Instead, we present a motivation more consistent with standard monetary objectives, where the Fed seeks to repair expectations after surprises. And while it is unclear what exactly is being disclosed, our results suggest that it is more likely to pertain to future or conditional outcomes, rather than the immediate announcement. This is both more reasonable for insiders to feel they can talk about, and potentially more difficult for them to avoid conveying some information about even if they try. Trying to better understand and directly document such communication (if indeed it exists) is an important challenge for future research.

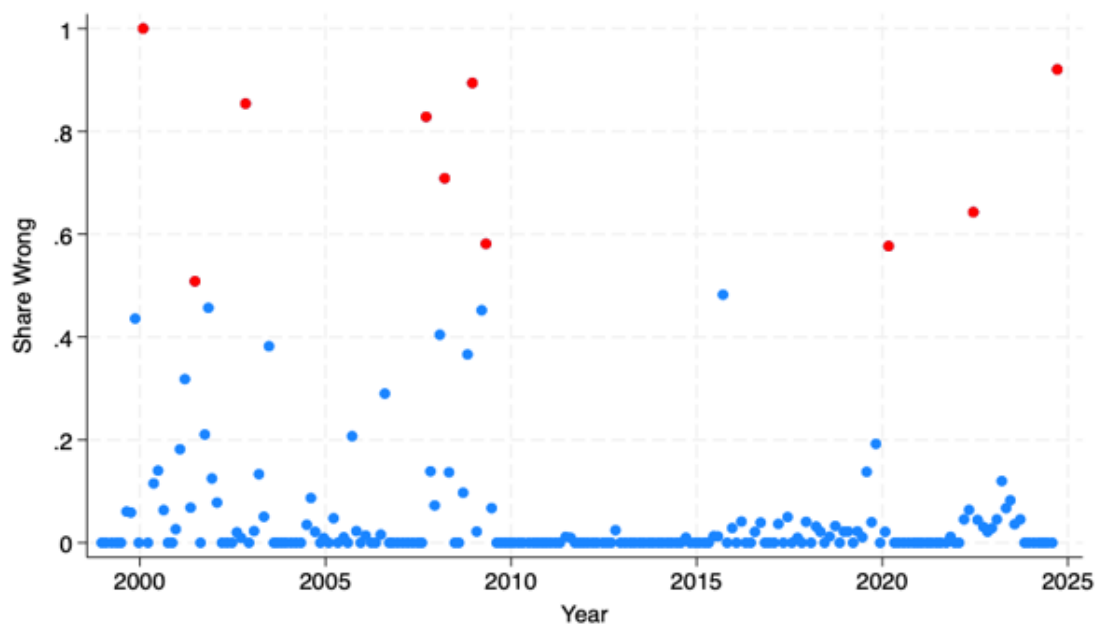
References

- Ai, H. and R. Bansal**, “Risk Preferences and the Macroeconomic Announcement Premium,” *Econometrica*, 2018, *86* (4), 1383–1430.
- , —, and **L.J. Han**, “Information Acquisition and the Pre-Announcement Drift,” *Working Paper*, 2024.
- Altavilla, C., D. Giannone, and M. Lenza**, “The Financial and Macroeconomic Effects of the OMT Announcements,” *International Journal of Central Banking*, 2016, *12* (3), 29–57.
- Bauer, M.D., B.S. Bernanke, and E. Milstein**, “Risk Appetite and the Risk-Taking Channel of Monetary Policy,” *Journal of Economic Perspectives*, 2023, *37* (1), 77–100.
- Binder, C.C.**, “Fed Speak on Main Street: Central Bank Communication and Household Expectations,” *Journal of Macroeconomics*, 2017, *52*, 238–251.
- Blinder, A.S., M. Ehrmann, M. Fratzscher, J. de Haan, and D.-J. Jansen**, “Central Bank Communication and Monetary Policy: A Survey of Theory and Evidence,” *Journal of Economic Literature*, 2008, *46* (4), 910–945.
- Boehm, C.E. and T.N. Kroner**, “Monetary Policy without Moving Interest Rates: The Fed Non-Yield Shock,” NBER Working Paper 32636, National Bureau of Economic Research 2025. Revised September 2025.
- Borio, C. and H. Zhu**, “Capital Regulation, Risk-Taking and Monetary Policy: A Missing Link in the Transmission Mechanism?,” *Journal of Financial Stability*, 2012, *8* (4), 236–251.
- Bradley, D., R. Jame, and J. Williams**, “Non-Deal Roadshows, Informed Trading, and Analyst Conflicts of Interest,” *Journal of Finance*, 2022, *77* (1), 265–315.
- Campbell, J.Y. and R.J. Shiller**, “Stock Prices, Earnings, and Expected Dividends,” *Journal of Finance*, 1988, *43* (3), 661–676.
- Cieslak, A., A. Morse, and A. Vissing-Jorgensen**, “Stock Returns over the FOMC Cycle,” *Journal of Finance*, 2019, *74* (5), 2201–2248.
- Cortés, K.R., M. Singh, D.H. Solomon, and P.E. Strahan**, “How Perception Affects House Prices: Evidence from Failed Auctions,” *Review of Finance*, 2026, *30* (5), 1661–1702.
- Ehrmann, M. and M. Fratzscher**, “Communication by Central Bank Committee Members: Different Strategies, Same Effectiveness?,” *Journal of Money, Credit and Banking*, 2007, *39* (2–3), 509–541.
- Engelberg, J., R.D. McLean, J. Pontiff, and M. Ringgenberg**, “Do Cross-Sectional Predictors Contain Systematic Information?,” *Journal of Financial and Quantitative Analysis*, 2023, *58* (3), 1172–1201.

- Fama, E.F. and K.R. French**, “Permanent and Temporary Components of Stock Prices,” *Journal of Political Economy*, 1988, 96 (2), 246–273.
- Farmer, L.E., L. Schmidt, and A. Timmermann**, “Pockets of Predictability,” *Journal of Finance*, 2023, 78 (3), 1279–1341.
- Federal Reserve Board**, “Changes in the Intended Federal Funds Rate, 1971–1992,” *FOIA release*, 2019. Available at <https://www.federalreserve.gov/foia/files/20190829-changes-intended-federal-funds-rate.pdf>.
- Green, T.C., R. Jame, S. Markov, and M. Subasi**, “Access to Management and the Informativeness of Analyst Research,” *Journal of Financial Economics*, 2014, 114 (2), 239–255.
- Gürkaynak, R.S., B. Sack, and E.T. Swanson**, “Do Actions Speak Louder Than Words? The Response of Asset Prices to Monetary Policy Actions and Statements,” *International Journal of Central Banking*, 2005, 1 (1), 55–93.
- Haddad, V., A. Moreira, and T. Muir**, “Whatever It Takes? The Impact of Conditional Policy Promises,” *American Economic Review*, 2025, 115 (1), 295–329.
- Harris, L.**, “Stock Price Clustering and Discreteness,” *Review of Financial Studies*, 1991, 4 (3), 389–415.
- Hartzmark, S.M. and D.H. Solomon**, “Market-Wide Predictable Price Pressure,” *American Economic Review*, 2025, 115 (9), 3171–3213.
- Harvey, C.R., Y. Liu, and H. Zhu**, “...and the Cross-Section of Expected Returns,” *Review of Financial Studies*, 2016, 29 (1), 5–68.
- Herrmann, D. and W.B. Thomas**, “Rounding of Analyst Forecasts,” *Accounting Review*, 2005, 80 (3), 805–823.
- Hu, G.X., J. Pan, J. Wang, and H. Zhu**, “Premium for Heightened Uncertainty: Explaining Pre-Announcement Market Returns,” *Journal of Financial Economics*, 2022, 145 (3), 909–936.
- Ikenberry, D.L. and J.P. Weston**, “Clustering in US Stock Prices after Decimalisation,” *European Financial Management*, 2008, 14 (1), 30–54.
- Kamstra, M.J., L.A. Kramer, and M.D. Levi**, “Winter Blues: A SAD Stock Market Cycle,” *American Economic Review*, 2003, 93 (1), 324–343.
- Kurov, A., M.D. Wolfe, and T. Gilbert**, “The Disappearing Pre-FOMC Announcement Drift,” *Finance Research Letters*, 2021, 40, 101781.
- Lakonishok, J. and S. Smidt**, “Are Seasonal Anomalies Real? A Ninety-Year Perspective,” *Review of Financial Studies*, 1988, 1 (4), 403–425.
- Logan, L.K. and S. Schulhofer-Wohl**, *Options for Modernizing the FOMC’s Operating Target Interest Rate*, Federal Reserve Bank of Dallas Economics Essay, 2025.

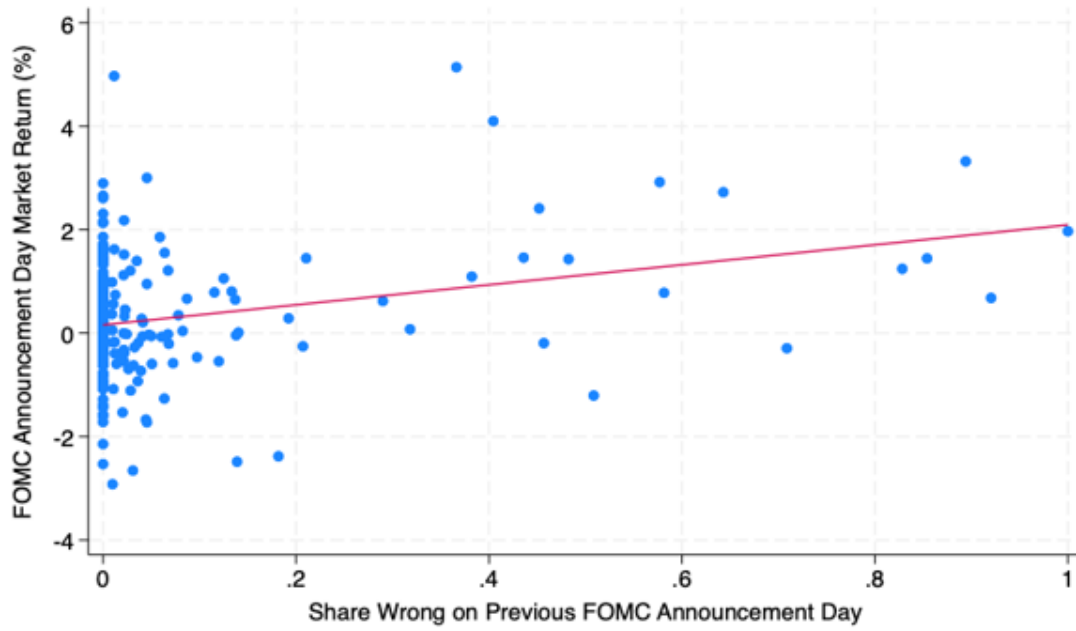
- Lucca, D.O. and E. Moench**, “The Pre-FOMC Announcement Drift,” *Journal of Finance*, 2015, *70* (1), 329–371.
- McLean, R.D. and J. Pontiff**, “Does Academic Research Destroy Stock Return Predictability?,” *Journal of Finance*, 2016, *71* (1), 5–32.
- Meade, E.E. and D. Stasavage**, “Publicity of Debate and the Incentive to Dissent: Evidence from the Fed,” *Economic Journal*, 2008, *118* (528), 695–717.
- Morse, A. and A. Vissing-Jorgensen**, “Information Transmission from the Federal Reserve to the Stock Market: Evidence from Governors’ Calendars,” *Working Paper*, 2020.
- Osler, C.L.**, “Currency Orders and Exchange Rate Dynamics: An Explanation for the Predictive Success of Technical Analysis,” *Journal of Finance*, 2003, *58* (5), 1791–1819.
- Poole, W.**, “How Predictable Is Fed Policy?,” *Federal Reserve Bank of St. Louis Review*, 2005, *87* (6), 659–668.
- Ruud, P.A., D. Schunk, and J.K. Winter**, “Uncertainty Causes Rounding: An Experimental Study,” *Experimental Economics*, 2014, *17* (3), 391–413.
- Savor, P. and M. Wilson**, “Asset Pricing: A Tale of Two Days,” *Journal of Financial Economics*, 2014, *113* (2), 171–201.
- Schelling, T.C.**, *The Strategy of Conflict*, Cambridge, MA: Harvard University Press, 1960.
- Solomon, D.H. and E.F. Soltes**, “What Are We Meeting For? The Consequences of Private Meetings with Investors,” *Journal of Law and Economics*, 2015, *58* (2), 325–355.
- Soltes, E.F.**, “Private Interaction Between Firm Management and Sell-Side Analysts,” *Journal of Accounting Research*, 2014, *52* (1), 245–272.
- Taylor, J.B.**, “Discretion versus Policy Rules in Practice,” *Carnegie-Rochester Conference Series on Public Policy*, 1993, *39*, 195–214.
- Thornton, D.L.**, “When Did the FOMC Begin Targeting the Federal Funds Rate? What the Verbatim Transcripts Tell Us,” *Journal of Money, Credit and Banking*, 2006, *38* (8), 2039–2071.
- Vissing-Jorgensen, A.**, “Informal Central Bank Communication,” *Working Paper*, 2020.
- Wachter, J.A. and Y. Zhu**, “A Model of Two Days: Discrete News and Asset Prices,” *Review of Financial Studies*, 2022, *35* (5), 2246–2307.
- Welch, I. and A. Goyal**, “A Comprehensive Look at the Empirical Performance of Equity Premium Prediction,” *Review of Financial Studies*, 2008, *21* (4), 1455–1508.

Fig. 1: Share of Wrong Forecasts



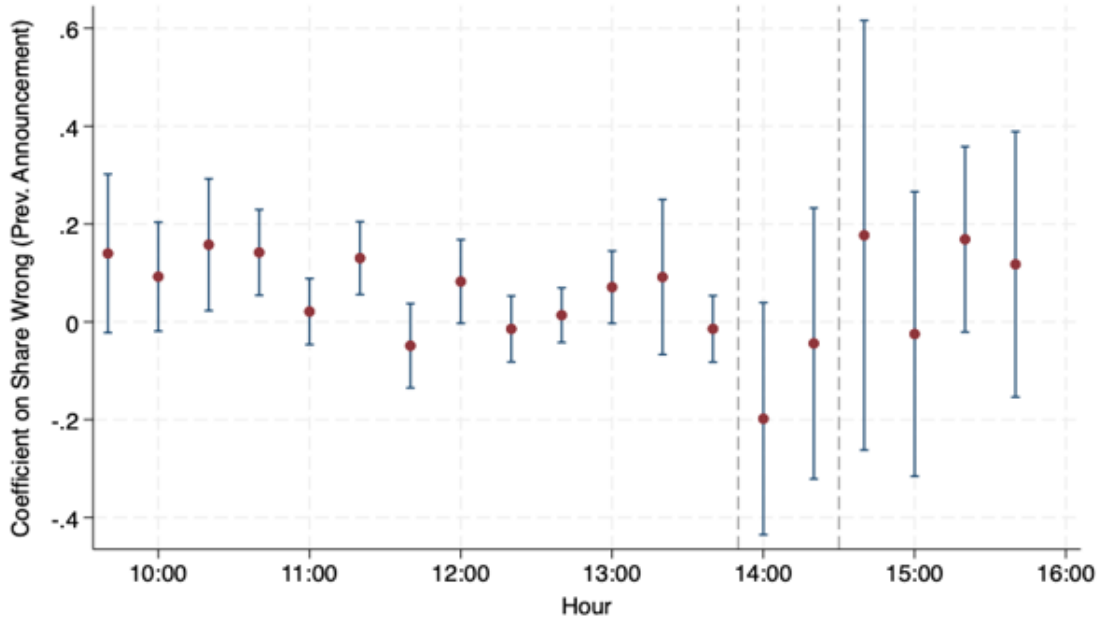
This figure plots the share of analyst forecasts that differ from the actual federal funds rate decision at each of 207 FOMC announcement days from December 1998 to September 2024. Forecasts are from the Bloomberg survey of individual analysts. Each point represents an FOMC announcement date, with the y-axis showing the share of analysts with incorrect forecasts. Red dots indicate “large surprise” FOMC announcement days, i.e., days on which the Fed policy rate differs from the most popular analyst forecast value.

Fig. 2: Stock Market Return Predictability



This figure plots the daily value-weighted CRSP market return on each FOMC announcement day against the share of wrong analyst forecasts for the previous FOMC announcement. Each point represents one FOMC announcement day, with the x-axis showing the share of analysts who were incorrect at the prior announcement and the y-axis showing the daily market return. The line of best fit is also included (in red).

Fig. 3: 20-Minute Market Return Forecast Coefficients



This figure plots the regression coefficient of 20-minute S&P 500 returns during FOMC announcement days on the share of wrong analyst forecasts for the previous FOMC announcement. The x-axis shows the midpoint of each 20-minute interval (e.g., “11:00” refers to the 10:50-11:10 am interval). Our sample includes the 161 FOMC announcement days on which the announcement occurs at either 2:00 or 2:15 pm and the two dashed vertical lines bracket the 1:50–2:30 pm announcement window. The y-axis shows the estimated coefficient (red dots), with 90% confidence intervals displayed as error bars. Confidence intervals are calculated using robust standard errors.

Table 1: Analyst Forecasts

Panel A: Number of unique forecasts by date													
Number of unique forecasts	Full sample			Disagreement sample									
	Count	Share (%)	Cum. share (%)	Share (%)	Cum. share (%)	Share (%)	Cum. share (%)	Share (%)	Cum. share (%)	Share (%)	Cum. share (%)		
1	118	57.00	57.00	–	–	–	–	–	–	–	–		
2	57	27.54	84.54	64.04	64.04	64.04	64.04	64.04	64.04	64.04	64.04		
3	24	11.59	96.14	26.97	26.97	26.97	26.97	26.97	26.97	26.97	26.97		
4	5	2.42	98.55	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.62		
5	2	0.97	99.52	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25		
8	1	0.48	100.00	1.12	1.12	1.12	1.12	1.12	1.12	1.12	1.12		
Total	207	100.00	–	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00		
Panel B: Percentage of forecasts by frequency													
Forecast value	Mean	Std	Min	P1	P5	P10	P25	P50	P75	P90	P95	P99	Max
1st (most common)	94.76	11.59	35.92	51.75	61.78	81.82	96.00	100.00	100.00	100.00	100.00	100.00	100.00
2nd	4.51	9.87	0.00	0.00	0.00	0.00	0.00	0.00	3.60	14.04	30.57	45.61	49.15
3rd	0.64	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	2.78	14.60	29.13
4th	0.06	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	2.74
5th and higher	0.04	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	5.48
Panel C: Percentage of forecasts that are multiples of 25 b.p.													
Forecasts on a particular date													
All forecasts	Mean	Std	Min	P1	P5	P10	P25	P50	P75	P90	P95	P99	Max
99.61	99.45	4.89	44.19	93.26	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Panel D: Difference between most common and second most common forecast													
Difference (b.p.)	Count	Share (%)					Cum. share (%)						
5	2	2.25					2.25						
12	3	3.37					5.62						
25	81	91.01					96.63						
50	3	3.37					100.00						
Total	89	100.00					–						

This table presents summary statistics on the distribution of analyst forecasts of the federal funds target rate across 207 FOMC announcement dates (December 1998 to September 2024). Forecasts are from the Bloomberg survey of individual analysts. Panel A reports the number of unique forecast values observed on each announcement date, and the frequency distribution across dates with and without disagreement. Panel B reports summary statistics of the percentage of all forecasts corresponding to the most common, the second most common, etc., forecast value. Panel C reports summary statistics of forecasts that are multiples of 25 basis points. Panel D reports the absolute difference between the most common and second most common forecast on dates with at least two unique forecast values (89 dates).

Table 2: Share of Wrong Forecasts

Panel A: Summary statistics										
FOMC days	N	Mean	Std	Min	P1	P5	P50	P95	P99	Max
All	207	0.073	0.180	0.000	0.000	0.000	0.000	0.482	0.894	1.000
Large surprise	10	0.752	0.170	0.508	0.515	0.536	0.769	0.912	0.919	1.000
Panel B: Large surprise days										
Date		Share wrong		Date		Share wrong				
February 2, 2000		1.000		December 16, 2008		0.894				
June 27, 2001		0.508		April 29, 2009		0.581				
November 6, 2002		0.854		March 3, 2020		0.577				
September 18, 2007		0.828		June 15, 2022		0.643				
March 18, 2008		0.709		September 18, 2024		0.920				

This table reports summary statistics of the share of wrong analyst forecasts of FOMC announcements, as well as a list of FOMC announcement days on which the policy rate was not the most commonly predicted value (“large surprise” days), an event that occurs in 10 of 207 announcements. Panel A presents summary statistics of the share of wrong analyst forecasts for all FOMC announcement days and for the 10 large surprise days. Panel B lists the 10 large surprise days, along with the share of wrong analyst forecasts associated with each of them.

Table 3: Correlates of Share of Wrong Forecasts

Panel A: Dependent variable is Share of Wrong Forecasts				
Rate Raised	0.059** (2.05)		0.068** (2.50)	0.058** (1.97)
Rate Lowered	0.340*** (5.34)		0.353*** (5.08)	0.346*** (5.10)
Rate Changed	0.154*** (4.61)			
Ln(Time Since Rate Change)		-0.023*** (-2.91)	-0.008 (-0.89)	
Change in Cycle		0.222 (1.55)		
Ln(Time Since Cycle Change)			-0.034*** (-3.07)	-0.026* (-1.84)
Preceded by Unscheduled			0.010 (0.83)	0.099* (1.81)
Constant	0.022*** (3.22)	0.022*** (3.21)	0.063*** (5.49)	0.277*** (3.72)
	0.190*** (4.11)		0.287*** (3.82)	-0.048 (-0.57)
Observations	206	206	206	206
R ²	0.164	0.343	0.052	0.039
	0.037		0.345	0.027
				0.344
Panel B: Dependent variable is Large Surprise				
Rate Raised	0.039 (1.19)		0.052* (1.71)	0.037 (1.09)
Rate Lowered	0.266*** (2.77)		0.285*** (2.72)	0.277*** (2.76)
Rate Changed	0.116*** (2.79)			
Ln(Time Since Rate Change)		-0.013 (-1.49)	-0.004 (-0.46)	
Change in Cycle		0.251 (1.46)		
Ln(Time Since Cycle Change)			-0.020 (-1.48)	-0.016 (-1.00)
Preceded by Unscheduled			0.015 (0.92)	
Constant	0.007 (1.00)	0.007 (1.00)	0.035*** (2.68)	0.169* (1.78)
	0.113** (2.06)		0.173* (1.82)	-0.094 (-0.85)
Observations	206	206	206	206
R ²	0.070	0.156	0.010	0.010
			0.160	0.008
				0.158

This table examines the correlates of analyst forecast errors for FOMC announcements. In Panel A, the dependent variable is the share of analyst forecasts that differ from the actual rate decision on a given FOMC announcement day. In Panel B, the dependent variable is an indicator variable that is equal to one if the Fed target rate is not the most commonly predicted value. The independent variables are: an indicator variable for whether the Fed raised or lowered rates at that announcement day (Rate Raised, Rate Lowered), or a combined indicator for any policy rate change (Rate Changed), the log of the number of days since the last policy rate change, an indicator for whether the direction of policy rate moves reversed at that FOMC meeting (Change in Cycle), and the log of the number of days since the most recent reversal in the direction of policy rate changes. The sample includes 206 FOMC announcement days. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 4: Wrong Forecasts and Contemporaneous Market Measures

	VIX ₋₁		VIX Change		(Market Return) ²		Market Return	
Share Wrong	17.855*** (3.60)	16.913*** (3.36)	-1.910* (-1.96)	-2.629** (-2.43)	5.829* (1.79)	5.744* (1.69)	1.617** (2.25)	2.424*** (2.82)
Rate Raised		-3.108*** (-2.85)		-0.035 (-0.14)		-0.034 (-0.07)		-0.125 (-0.58)
Rate Lowered		1.165 (0.46)		0.724 (1.55)		0.088 (0.11)		-0.801** (-2.33)
Constant	19.050*** (36.52)	19.640*** (32.75)	-0.377*** (-2.65)	-0.396** (-2.29)	1.188*** (5.46)	1.191*** (4.99)	0.184** (2.11)	0.239** (2.51)
Observations	206	206	206	206	206	206	206	206
R ²	0.150	0.178	0.031	0.041	0.099	0.099	0.054	0.080

This table examines the relationship between the share of wrong analyst forecasts and stock market behavior on FOMC announcement days. The independent variables are the share of incorrect analyst forecasts on FOMC announcement days (Share Wrong) and indicator variables for whether the Fed raised or lowered rates at that announcement day (Rate Raised, Rate Lowered). The sample includes 206 FOMC announcement days. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 5: Wrong Forecasts and Future Market Returns

Panel A: FOMC announcement days				
	FOMC announcement day stock market return			
Share Wrong ₋₁	1.935*** (3.92)		2.974** (2.34)	2.237*** (4.70)
Rate Raised ₋₁				-0.223 (-1.18)
Rate Lowered ₋₁				-0.283 (-0.71)
Large Surprise ₋₁		1.112** (2.51)		
Constant	0.160* (1.89)	0.247*** (2.87)	0.133 (1.52)	0.216** (2.27)
Observations	206	206	196	206
R^2	0.080	0.038	0.050	0.087
Panel B: All days				
	Daily stock market return			
FOMC	0.267*** (3.06)	0.127 (1.35)	0.160 (1.59)	0.132 (1.45)
FOMC × Share Wrong ₋₁		1.937*** (4.06)		
FOMC × (Share Wrong > 75 pct) ₋₁			0.426** (2.15)	
FOMC × (Share Wrong > 90 pct) ₋₁				1.394*** (4.80)
Constant	0.032** (2.08)	0.032** (2.08)	0.032** (2.08)	0.032** (2.08)
Observations	6,512	6,512	6,512	6,512
R^2	0.001	0.004	0.002	0.005

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for market returns on the following FOMC announcement day. In Panel A, the dependent variable is the daily value-weighted CRSP market return on FOMC announcement days. The main independent variable is the lagged Share Wrong, which is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. The lagged Large Surprise variable is an indicator variable for whether the policy rate on the previous FOMC announcement day differs from the most commonly predicted value. The lagged Rate Raised and Rate Lowered indicator variables control for policy rate changes on the previous FOMC announcement day. In Panel B, the dependent variable is the daily value-weighted CRSP market return. FOMC is an indicator variable for whether the trading day is an FOMC announcement day. In columns 3 and 4, we interact the FOMC indicator variable with dummy variables for whether the value of the lagged Share Wrong variable is above the 75th or 90th percentile value, respectively. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 6: Wrong Forecasts and Future Intraday Market Returns

Interval	Share Wrong ₋₁	<i>t</i> -stat.	Constant	<i>t</i> -stat.	Obs.	R^2
Pre-announcement period						
09:30–09:50	0.140	(1.43)	0.017	(1.22)	161	0.019
09:50–10:10	0.092	(1.37)	0.022	(1.25)	161	0.005
10:10–10:30	0.158*	(1.93)	0.008	(0.72)	161	0.033
10:30–10:50	0.142***	(2.68)	−0.008	(−0.60)	161	0.021
10:50–11:10	0.021	(0.51)	0.000	(0.04)	161	0.001
11:10–11:30	0.130***	(2.89)	0.002	(0.19)	161	0.026
11:30–11:50	−0.049	(−0.94)	0.010	(1.09)	161	0.006
11:50–12:10	0.082	(1.59)	−0.004	(−0.49)	161	0.016
12:10–12:30	−0.014	(−0.36)	0.004	(0.34)	161	0.000
12:30–12:50	0.014	(0.40)	−0.004	(−0.47)	161	0.001
12:50–13:10	0.071	(1.58)	−0.002	(−0.26)	161	0.014
13:10–13:30	0.091	(0.95)	0.000	(0.05)	161	0.019
13:30–13:50	−0.014	(−0.35)	0.009	(0.99)	161	0.001
Announcement period						
13:50–14:10	−0.198	(−1.38)	0.029	(0.96)	161	0.008
14:10–14:30	−0.044	(−0.26)	−0.002	(−0.07)	161	0.000
Post-announcement period						
14:30–14:50	0.177	(0.67)	0.095**	(2.41)	161	0.004
14:50–15:10	−0.025	(−0.14)	−0.007	(−0.26)	161	0.000
15:10–15:30	0.169	(1.47)	−0.032	(−1.15)	161	0.007
15:30–15:50	0.118	(0.72)	−0.071***	(−2.62)	161	0.004

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for market returns realized during different 20-minute intraday intervals of the following FOMC announcement day. The dependent variable is the 20-minute return on the SPDR S&P 500 ETF (SPY). The lagged Share Wrong variable is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. The sample includes the 161 FOMC announcement days on which the announcement occurred at 2:00 pm or 2:15 pm. Robust *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 7: Wrong Forecasts and Future Intraday Subperiod Returns

	Market return			
Share Wrong ₋₁ × Before Announcement	0.067*** (3.77)	0.078*** (3.39)		
Share Wrong ₋₁ × Early Before Announcement			0.114*** (4.09)	0.139*** (3.84)
Share Wrong ₋₁ × Late Before Announcement			0.026 (1.17)	0.026 (0.95)
Share Wrong ₋₁ × At Announcement	-0.128 (-1.20)	-0.119 (-0.76)	-0.121 (-1.13)	-0.118 (-0.75)
Share Wrong ₋₁ × After Announcement	0.104 (1.10)	0.100 (0.78)	0.110 (1.15)	0.104 (0.81)
Before Announcement	0.004 (1.34)	0.005 (1.30)		
Early Before Announcement			0.007 (1.30)	0.009 (1.37)
Late Before Announcement			0.002 (0.52)	0.001 (0.34)
At Announcement	0.018 (0.82)	0.039 (1.64)	0.013 (0.60)	0.035 (1.39)
After Announcement	-0.001 (-0.09)	0.002 (0.15)	-0.004 (-0.25)	-0.001 (-0.04)
Lagged rate change controls	No	Yes	No	Yes
Observations	3,211	3,211	3,059	3,059
R ²	0.004	0.006	0.005	0.007

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for market returns during different intraday periods of the following FOMC announcement day. The dependent variable is the return on the SPDR S&P 500 ETF (SPY) during each intraday period of FOMC announcement days. The lagged Share Wrong variable is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. Columns 1 and 2 feature indicator variables for three intraday periods (Before Announcement, At Announcement, and After Announcement) and include all 169 FOMC announcement days with intraday data. For the 161 days on which the announcement occurred at 2:00 pm or 2:15 pm, the three periods are 9:30 am – 1:50 pm, 1:50 pm – 2:30 pm, and 2:30 pm – 3:50 pm; for the 8 days on which the announcement occurred at 12:30 pm, the announcement period is 12:10 pm – 12:50 pm, with the other two periods defined accordingly. Columns 3 and 4 further split the pre-announcement period into Early Before Announcement (9:30 am – 11:30 am) and Late Before Announcement (11:30 am – 1:50 pm) and include only the 161 days with 2:00 pm or 2:15 pm announcements. Columns 2 and 4 add controls for whether the Fed raised or lowered rates on the previous FOMC announcement day. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 8: Wrong Forecasts and Future VIX Changes

Panel A: FOMC announcement days				
	FOMC announcement day VIX change			
Share Wrong ₋₁	-1.686*** (-3.13)		-3.168** (-2.08)	-1.561*** (-3.71)
Rate Raised ₋₁				0.063 (0.26)
Rate Lowered ₋₁				-0.125 (-0.29)
Large Surprise ₋₁		-0.800* (-1.86)		
Constant	-0.388*** (-2.68)	-0.472*** (-3.41)	-0.351** (-2.30)	-0.396** (-2.20)
Observations	206	206	196	206
R^2	0.025	0.008	0.022	0.026
Panel B: All days				
	Daily VIX change			
FOMC	-0.528*** (-4.22)	-0.406*** (-3.02)	-0.419*** (-2.91)	-0.408*** (-3.11)
FOMC × Share Wrong ₋₁		-1.679** (-2.45)		
FOMC × (Share Wrong > 75 pct) ₋₁			-0.435 (-1.53)	
FOMC × (Share Wrong > 90 pct) ₋₁				-1.237*** (-2.97)
Constant	0.014 (0.64)	0.014 (0.64)	0.014 (0.64)	0.014 (0.64)
Observations	6,512	6,512	6,512	6,512
R^2	0.003	0.004	0.003	0.004

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for VIX changes on the following FOMC announcement day. In Panel A, the dependent variable is the daily VIX change on FOMC announcement days. The main independent variable is the lagged Share Wrong, which is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. The lagged Large Surprise variable is an indicator variable for whether the policy rate on the previous FOMC announcement day differs from the most commonly predicted value. The lagged Rate Raised and Rate Lowered indicator variables control for policy rate changes on the previous FOMC announcement day. In Panel B, the dependent variable is the daily VIX change. FOMC is an indicator variable for whether the trading day is an FOMC announcement day. In columns 3 and 4, we interact the FOMC indicator variable with dummy variables for whether the value of the lagged Share Wrong variable is above the 75th or 90th percentile value, respectively. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 9: Wrong Forecasts and Future Intraday VIX Futures Changes

	Change in VIX futures			
Share Wrong ₋₁ × Before Announcement	-0.086*	-0.102**		
	(-1.86)	(-2.08)		
Share Wrong ₋₁ × Early Before Announcement			-0.160**	-0.211***
			(-2.54)	(-3.44)
Share Wrong ₋₁ × Late Before Announcement			0.025	0.051
			(0.42)	(0.80)
Share Wrong ₋₁ × At Announcement	0.217	0.230	0.192	0.222
	(1.40)	(0.97)	(1.25)	(0.96)
Share Wrong ₋₁ × After Announcement	-0.150	-0.002	-0.166	-0.011
	(-0.69)	(-0.01)	(-0.75)	(-0.04)
Before Announcement	-0.012	-0.008		
	(-1.14)	(-0.66)		
Early Before Announcement			-0.002	0.003
			(-0.10)	(0.14)
Late Before Announcement			-0.029**	-0.026*
			(-2.44)	(-1.93)
At Announcement	-0.104**	-0.112*	-0.091*	-0.095
	(-2.05)	(-1.91)	(-1.79)	(-1.63)
After Announcement	0.108**	0.095*	0.114**	0.102*
	(2.20)	(1.81)	(2.19)	(1.79)
Lagged rate change controls	No	Yes	No	Yes
Observations	638	638	624	624
R ²	0.034	0.039	0.034	0.039

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for changes in VIX futures prices during different intraday periods of the following FOMC announcement day. The dependent variable is the one-hour change in the front-month VIX futures price. The lagged Share Wrong variable is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. Columns 1 and 2 feature indicator variables for three intraday periods: for FOMC announcement days with 2:00 pm or 2:15 pm announcements, Before Announcement covers 9:00 am – 2:00 pm, At Announcement covers 2:00 pm – 3:00 pm, and After Announcement covers 3:00 pm – 4:00 pm; for the two days with 12:30 pm announcements, the three periods are 9:00 am – noon, noon – 1:00 pm, and 1:00 pm – 4:00 pm. Columns 3 and 4 further split the pre-announcement period into Early Before Announcement (9:00 am – noon) and Late Before Announcement (noon – 2:00 pm) and include only the days with 2:00 pm or 2:15 pm announcements. Columns 2 and 4 add controls for whether the Fed raised or lowered rates on the previous FOMC announcement day. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 10: Wrong Forecasts and Future Federal Funds Futures Changes

	20-min change in 1-month futures		20-min change in 2-month futures	
Share Wrong ₋₁ × Before Announcement	0.033 (1.19)		0.057 (1.22)	
Share Wrong ₋₁ × Early Before Announcement		0.053 (1.58)		0.094 (1.63)
Share Wrong ₋₁ × Late Before Announcement		0.013 (0.30)		0.027 (0.37)
Share Wrong ₋₁ × At Announcement	-0.215 (-0.57)	-0.197 (-0.53)	-1.415* (-1.65)	-1.401 (-1.63)
Share Wrong ₋₁ × After Announcement	0.005 (0.06)	0.003 (0.04)	-0.080 (-0.98)	-0.077 (-0.93)
Before Announcement	0.002 (0.55)		0.007 (1.09)	
Early Before Announcement		0.003 (0.44)		0.008 (0.90)
Late Before Announcement		0.002 (0.36)		0.006 (0.69)
At Announcement	-0.118 (-1.55)	-0.126 (-1.58)	-0.003 (-0.03)	-0.010 (-0.08)
After Announcement	0.007 (1.02)	0.008 (1.03)	-0.020 (-1.18)	-0.021 (-1.14)
Observations	3,091	2,949	3,326	3,174
R^2	0.008	0.008	0.010	0.010

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for changes in federal funds futures prices during different intraday periods of the following FOMC announcement day. The dependent variable is the 20-minute change in the 1-month (columns 1–2) or 2-month (columns 3–4) federal funds futures. The lagged Share Wrong variable is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. Columns 1 and 3 feature indicator variables for three intraday periods: Before Announcement, At Announcement, and After Announcement. Columns 2 and 4 further split the pre-announcement period into Early Before Announcement and Late Before Announcement. The FOMC announcement days included and the intraday period definitions follow those of Table 7. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 11: Wrong Forecasts and Future Short-Maturity Yield Changes

	Treasury yield changes							
	1-month		3-month		6-month		12-month	
Share Wrong ₋₁	-0.048 (-1.46)	0.047 (1.35)	-0.027 (-1.51)	-0.003 (-0.13)	-0.025* (-1.73)	-0.004 (-0.18)	-0.007 (-0.48)	0.010 (0.53)
Rate Raised ₋₁		0.013 (1.41)		-0.000 (-0.05)		0.004 (0.70)		0.001 (0.11)
Rate Lowered ₋₁		-0.079*** (-2.65)		-0.024 (-1.44)		-0.021 (-1.43)		-0.017 (-1.22)
Constant	-0.002 (-0.50)	-0.002 (-0.67)	-0.013*** (-4.79)	-0.012*** (-3.89)	-0.013*** (-5.01)	-0.013*** (-4.38)	-0.011*** (-3.42)	-0.011*** (-3.01)
Observations	186	186	206	206	206	206	206	206
R^2	0.021	0.139	0.016	0.041	0.015	0.040	0.001	0.011

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for short-maturity Treasury yield changes on the following FOMC announcement day. The dependent variable is the change in 1-month, 3-month, 6-month, or 12-month Treasury yields on FOMC announcement days. The main independent variable is the lagged Share Wrong, which is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. The lagged Rate Raised and Rate Lowered indicator variables control for policy rate changes on the previous FOMC announcement day. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 12: Wrong Forecasts and Future Medium- and Long-Maturity Yield Changes

Panel A: Without controls							
	Treasury yield changes						
	2-yr	3-yr	5-yr	7-yr	10-yr	20-yr	30-yr
Share Wrong ₋₁	0.007 (0.27)	0.006 (0.24)	0.011 (0.35)	0.019 (0.59)	0.015 (0.49)	0.019 (0.66)	0.027 (0.93)
Constant	-0.012** (-2.30)	-0.012** (-2.21)	-0.015** (-2.42)	-0.013** (-2.24)	-0.012** (-2.20)	-0.008* (-1.92)	-0.009** (-2.04)
Observations	206	206	206	206	206	206	206
R^2	0.000	0.000	0.001	0.002	0.001	0.003	0.008
Panel B: With controls							
	Treasury yield changes						
	2-yr	3-yr	5-yr	7-yr	10-yr	20-yr	30-yr
Share Wrong ₋₁	0.029 (1.01)	0.022 (0.71)	0.026 (0.78)	0.030 (0.82)	0.026 (0.78)	0.035 (1.10)	0.046 (1.44)
Rate Raised ₋₁	0.006 (0.44)	0.004 (0.28)	0.000 (0.02)	-0.004 (-0.30)	-0.001 (-0.14)	-0.004 (-0.53)	-0.006 (-0.75)
Rate Lowered ₋₁	-0.022 (-1.02)	-0.015 (-0.65)	-0.015 (-0.64)	-0.011 (-0.52)	-0.011 (-0.59)	-0.015 (-0.99)	-0.018 (-1.20)
Constant	-0.012** (-2.17)	-0.012** (-2.00)	-0.014** (-2.00)	-0.012* (-1.70)	-0.011* (-1.71)	-0.007 (-1.33)	-0.007 (-1.34)
Observations	206	206	206	206	206	206	206
R^2	0.009	0.004	0.003	0.003	0.003	0.008	0.015

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for constant-maturity Treasury yield changes on the following FOMC announcement day. The dependent variable is the change in 2-year, 3-year, 5-year, 7-year, 10-year, 20-year, or 30-year Treasury yields on FOMC announcement days. The main independent variable is the lagged Share Wrong, which is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. In Panel B, we add the lagged Rate Raised and Rate Lowered indicator variables as regressors, which control for policy rate changes on the previous FOMC announcement day. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 13: Wrong Forecasts and Financial Market Mentions in FOMC Transcripts

Panel A: Contemporaneous regressions						
	Financial market mentions		Financial market + surprise mentions		Financial market + surprise/disappoint mentions	
Share Wrong	1.134*	0.771	−0.018	−0.001	0.012	−0.000
	(1.91)	(1.23)	(−1.17)	(−0.04)	(0.52)	(−0.02)
Rate Raised		−0.154		−0.000		−0.006
		(−0.99)		(−0.05)		(−0.80)
Rate Lowered		0.347		−0.016		0.012
		(1.14)		(−1.20)		(0.71)
Constant	3.320***	3.332***	0.061***	0.062***	0.072***	0.073***
	(40.83)	(34.87)	(17.60)	(15.05)	(19.25)	(16.49)
Observations	176	176	176	176	176	176
R^2	0.036	0.050	0.005	0.015	0.002	0.010
Panel B: Forecast regressions						
	Financial market mentions		Financial market + surprise mentions		Financial market + surprise/disappoint mentions	
Share Wrong _{−1}	1.608***	1.547***	0.041	0.073**	0.062**	0.070**
	(4.09)	(3.25)	(1.57)	(2.35)	(2.20)	(2.14)
Rate Raised _{−1}		−0.104		0.003		−0.003
		(−0.62)		(0.35)		(−0.37)
Rate Lowered _{−1}		0.056		−0.030***		−0.008
		(0.20)		(−2.65)		(−0.48)
Constant	3.278***	3.294***	0.058***	0.058***	0.069***	0.070***
	(39.63)	(33.75)	(17.78)	(15.20)	(19.37)	(16.86)
Observations	175	175	175	175	175	175
R^2	0.076	0.078	0.029	0.066	0.054	0.056

This table examines the relationship between the share of wrong analyst forecasts and mentions of financial markets in FOMC meeting transcripts. The dependent variables are, for the transcript of each FOMC meeting, the number of financial market mentions (occurrences of the word “market” that do not immediately follow the terms “labor,” “job,” “employment,” “open,” “housing,” or “real estate”), the number of financial market mentions within 10 words of a term beginning with “surpris,” and the number of financial market mentions within 10 words of a term beginning with either “surpris” or “disappoint,” each expressed per 1,000 words of the transcript. In Panel A, the independent variables are the share of wrong analyst forecasts on the FOMC announcement day of the same meeting (Share Wrong) and indicator variables for whether the Fed raised or lowered rates at that meeting (Rate Raised, Rate Lowered). In Panel B, the independent variables are the corresponding values for the previous FOMC announcement day (Share Wrong_{−1}, Rate Raised_{−1}, Rate Lowered_{−1}). For each dependent variable, the first column includes only the share of wrong forecasts and the second column adds the rate change indicators. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 14: Wrong Forecasts and Future Returns Over the FOMC Cycle

	Daily stock market return									
	Share Wrong matched to period starting after:					Share Wrong matched to period starting after:				
	Immed.	2 wks	4 wks	6 wks	Next ann.	Immed.	2 wks	4 wks	6 wks	Next ann.
Even Week	0.063** (2.04)	0.066* (1.88)	0.047 (1.27)	0.044 (1.17)	0.046 (1.20)	0.049 (1.28)				
Zero Week										
Other Even Week						0.072 (1.24)	0.066 (1.13)	0.066 (1.13)	0.067 (1.15)	0.067 (1.14)
Even Week $\times$ Share Wrong ₋₁						0.064* (1.70)	0.038 (0.97)	0.035 (0.86)	0.037 (0.89)	0.041 (0.98)
Zero Week $\times$ Share Wrong ₋₁										
Other Even Week $\times$ Share Wrong ₋₁										
Share Wrong ₋₁										
Constant										
Lagged rate change controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,449	6,475	6,464	6,454	6,449	6,475	6,464	6,454	6,449	6,449
R ²	0.001	0.003	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003

This table examines whether there is a FOMC cycle pattern for stock market returns and whether the magnitude of the pattern is conditional on the share of wrong forecasts on the preceding FOMC announcement day. The dependent variable is the daily value-weighted CRSP market return. Even Week is an indicator variable equal to one for trading days that fall in an even-numbered week of the FOMC cycle, where weeks are counted in five-business-day intervals from each FOMC announcement (week 0 begins the day before the announcement). We further decompose the Even Week indicator into Zero Week indicator (the five days around the FOMC announcement) and the Other Even Week indicator. In columns 2–11, the lagged Share Wrong variable is matched to trading days starting immediately after the FOMC announcement, or 2, 4, or 6 weeks after it, or at the next FOMC announcement, as indicated in the column headings (Immed. = immediately; Next ann. = next FOMC announcement). Lagged rate change controls are indicator variables for whether the Fed raised or lowered rates on the previous FOMC announcement day; their coefficients are not reported. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 15: Wrong Forecasts and Future VIX Changes Over the FOMC Cycle

	Daily VIX change									
	Share Wrong matched to period starting after:					Share Wrong matched to period starting after:				
	Immed.	2 wks	4 wks	6 wks	Next ann.	Immed.	2 wks	4 wks	6 wks	Next ann.
Even Week	-0.063 (-1.59)	-0.097** (-2.03)	-0.068 (-1.34)	-0.066 (-1.29)	-0.070 (-1.32)	-0.076 (-1.46)				
Zero Week						-0.126 (-1.53)	-0.114 (-1.37)	-0.113 (-1.35)	-0.120 (-1.42)	-0.120 (-1.42)
Other Even Week						-0.085* (-1.74)	-0.048 (-0.90)	-0.047 (-0.86)	-0.049 (-0.87)	-0.058 (-1.06)
Even Week $\times$ Share Wrong ₋₁		-0.210 (-0.78)	-0.402 (-1.56)	-0.545* (-1.89)	-0.592** (-2.22)	-0.554** (-2.15)				
Zero Week $\times$ Share Wrong ₋₁										
Other Even Week $\times$ Share Wrong ₋₁										
Share Wrong ₋₁		-0.048 (-0.26)	0.028 (0.16)	0.317 (1.36)	0.302 (1.53)	0.302 (1.53)				
Constant	0.032 (1.11)	0.055 (1.55)	0.044 (1.22)	0.043 (1.16)	0.050 (1.29)	0.050 (1.29)	0.044 (1.22)	0.043 (1.16)	0.050 (1.29)	0.050 (1.29)
Lagged rate change controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,468	6,494	6,483	6,473	6,468	6,468	6,483	6,473	6,468	6,468
R ²	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001

This table examines whether there is a FOMC cycle pattern for VIX changes and whether the magnitude of the pattern is conditional on the share of wrong forecasts on the preceding FOMC announcement day. The dependent variable is the daily change in the VIX. Even Week is an indicator variable equal to one for trading days that fall in an even-numbered week of the FOMC cycle, where weeks are counted in five-business-day intervals from each FOMC announcement (week 0 begins the day before the announcement). We further decompose the Even Week indicator into Zero Week indicator (the five days around the FOMC announcement) and the Other Even Week indicator. In columns 2–11, the lagged Share Wrong variable is matched to trading days starting immediately after the FOMC announcement, or 2, 4, or 6 weeks after it, or at the next FOMC announcement, as indicated in the column headings (Immed. = immediately; Next ann. = next FOMC announcement). Lagged rate change controls are indicator variables for whether the Fed raised or lowered rates on the previous FOMC announcement day; their coefficients are not reported. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 16: Wrong Forecasts and Future Fed Public Communications Over the FOMC Cycle

	Daily number of public communications by Fed officials									
	Share Wrong matched to period starting after:					Share Wrong matched to period starting after:				
	Immed.	2 wks	4 wks	6 wks	Next ann.	Immed.	2 wks	4 wks	6 wks	Next ann.
Even Week	-0.032 (-0.62)	-0.046 (-0.77)	-0.018 (-0.29)	-0.021 (-0.36)	-0.024 (-0.41)					
Zero Week						-0.192*** (-2.89)	-0.193*** (-2.88)	-0.172** (-2.58)	-0.172** (-2.58)	-0.172** (-2.58)
Other Even Week						0.025 (0.38)	0.013 (0.20)	0.044 (0.66)	0.038 (0.57)	0.036 (0.53)
Even Week $\times$ Share Wrong ₋₁	-0.227 (-0.45)	-0.782 (-1.41)	-0.893* (-1.65)	-0.688 (-1.00)	-0.617 (-0.97)					
Zero Week $\times$ Share Wrong ₋₁						-0.753* (-1.89)	-1.172** (-2.51)	-1.190** (-2.35)	-1.226** (-2.52)	-1.226** (-2.52)
Other Even Week $\times$ Share Wrong ₋₁						0.028 (0.05)	-0.600 (-0.96)	-0.755 (-1.30)	-0.455 (-0.55)	-0.408 (-0.56)
Share Wrong ₋₁	-0.094 (-0.28)	0.325 (0.78)	0.343 (0.75)	0.379 (0.87)	0.379 (0.87)	-0.094 (-0.28)	0.325 (0.78)	0.343 (0.75)	0.379 (0.87)	0.379 (0.87)
Constant	0.872*** (22.63)	0.912*** (20.46)	0.892*** (19.83)	0.892*** (19.90)	0.892*** (19.90)	0.912*** (20.45)	0.913*** (20.11)	0.892*** (19.82)	0.892*** (19.89)	0.892*** (19.89)
Lagged rate change controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,748	4,748	4,748	4,748	4,748	4,748	4,748	4,748	4,748	4,748
R ²	0.000	0.005	0.006	0.004	0.003	0.008	0.009	0.007	0.006	0.006

This table examines whether there is a FOMC cycle pattern for public communications by Fed officials and whether the magnitude of the pattern is conditional on the share of wrong forecasts on the preceding FOMC announcement day. The dependent variable is the daily number of speeches, interviews, testimony, and other public statements by Fed officials recorded in the FOMC Speak archive. The sample period includes all days from August 26, 2010 to August 25, 2023. Even Week is an indicator variable equal to one for trading days that fall in an even-numbered week of the FOMC cycle, where weeks are counted in five-business-day intervals from each FOMC announcement (week 0 begins the day before the announcement). We further decompose the Even Week indicator into Zero Week indicator (the five days around the FOMC announcement) and the Other Even Week indicator. In columns 2–11, the lagged Share Wrong variable is matched to trading days starting immediately after the FOMC announcement, or 2, 4, or 6 weeks after it, or at the next FOMC announcement, as indicated in the column headings (Immed. = immediately; Next ann. = next FOMC announcement). Lagged rate change controls are indicator variables for whether the Fed raised or lowered rates on the previous FOMC announcement day; their coefficients are not reported. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 17: Wrong Forecasts and Future Returns Over Time

	December 1998 – March 2011		April 2011 – September 2024					
	Daily stock market return							
FOMC	0.388*** (2.79)	0.191 (1.23)	0.254 (1.48)	0.183 (1.21)	0.157 (1.44)	0.073 (0.64)	0.090 (0.76)	0.090 (0.82)
FOMC × Share Wrong _{−1}		1.800*** (2.85)				2.192*** (2.63)		
FOMC × (Share Wrong > 75 pct) _{−1}			0.379 (1.32)				0.427 (1.45)	
FOMC × (Share Wrong > 90 pct) _{−1}				1.272*** (3.43)				1.795*** (3.16)
Constant	0.009 (0.35)	0.009 (0.35)	0.009 (0.35)	0.009 (0.35)	0.053*** (2.75)	0.053*** (2.75)	0.053*** (2.75)	0.053*** (2.75)
Observations	3,028	3,028	3,028	3,028	3,484	3,484	3,484	3,484
R ²	0.003	0.005	0.003	0.006	0.001	0.003	0.001	0.003

This table examines the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for market returns on the following FOMC announcement day during two different sample periods. The first four columns focus on the December 1998–March 2011 sample period, whereas the last four columns focus on the April 2011–September 2024 sample period. The dependent variable is the daily value-weighted CRSP market return. The lagged Share Wrong is the share of analyst forecasts that were incorrect on the previous FOMC announcement day. FOMC is an indicator variable for whether the trading day is an FOMC announcement day. In columns 3–4 and 7–8, we interact the FOMC indicator variable with dummy variables for whether the value of the lagged Share Wrong variable is above the 75th or 90th percentile value, respectively. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 18: Magnitude of Forecast Errors and Future Market Returns

	Stock market return on FOMC announcement day					
(Share Wrong by 25 b.p.) ₋₁	1.801*** (3.38)				1.364*** (2.60)	1.622*** (3.14)
(Share Wrong by more than 25 b.p.) ₋₁		11.668* (1.80)			8.990 (1.39)	
(Share Wrong by less than 25 b.p.) ₋₁			2.628* (1.86)		2.798* (1.95)	
(Share Wrong by other than 25 b.p.) ₋₁				4.677** (2.17)		4.030** (2.15)
Constant	0.186** (2.19)	0.256*** (3.13)	0.286*** (3.32)	0.257*** (3.10)	0.164* (1.93)	0.160* (1.90)
Observations	206	206	206	206	206	206
R^2	0.058	0.061	0.011	0.044	0.102	0.090

This table examines the predictive power of the share of analyst forecasts for a given FOMC announcement day that are wrong by specific magnitudes for market returns on the following FOMC announcement day. The dependent variable is the daily value-weighted CRSP market return on FOMC announcement days. The lagged Share Wrong, which is the share of analyst forecasts that were incorrect on the previous FOMC announcement day, is decomposed into three components: Share Wrong by 25 b.p. is the share of analysts whose forecast differed from the policy rate by exactly 25 basis points, Share Wrong by more than 25 b.p. is the share of analysts whose forecast differed from the policy rate by more than 25 basis points, and Share Wrong by less than 25 b.p. is the share of analysts whose forecast differed from the policy rate by less than 25 basis points. Share Wrong by other than 25 b.p. combines Share Wrong by more than 25 b.p. and Share Wrong by less than 25 b.p. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 19: Alternative Measures and Future Market Returns

Panel A: Alternative measures										
	Without lagged rate change controls		With lagged rate change controls							
Forecast StDev ₋₁	5.237* (1.88)	10.127** (2.04)	5.852* (1.86)	12.476** (2.22)						
Forecast Skewness ₋₁	0.026 (0.77)	0.020 (0.57)	0.017 (0.44)	0.013 (0.33)						
Share of Non-Modal Forecasts ₋₁		2.418** (2.42)		2.555*** (2.68)						
(Actual Rate – Mean Forecast) ₋₁		-5.750*** (-2.61)		-5.184** (-2.47)						
VIX ₋₁			0.046*** (3.24)	0.044*** (2.99)						
Constant	0.154 (1.55)	-0.310 (-0.87)	0.174** (1.99)	-0.614** (-2.33)	0.186* (1.85)	-0.283 (-0.73)	0.211** (2.16)	0.262*** (2.74)	-0.595** (-2.10)	
Observations	206	88	206	206	206	88	206	206	206	
R ²	0.038	0.093	0.052	0.050	0.041	0.102	0.055	0.052	0.091	
Panel B: Alternative measures controlling for lagged Share Wrong										
	Without lagged rate change controls		With lagged rate change controls							
Share Wrong ₋₁	2.089*** (3.48)	1.900* (1.89)	1.835*** (3.09)	1.580** (2.44)	2.166*** (3.59)	2.054** (2.03)	2.040*** (3.16)	1.924*** (2.77)	1.729*** (3.69)	
Forecast StDev ₋₁	-0.873 (-0.23)	2.503 (0.31)			0.687 (0.18)	5.349 (0.66)				
Forecast Skewness ₋₁	0.023 (0.69)	0.020 (0.57)			0.017 (0.47)	0.018 (0.44)				
Share of Non-Modal Forecasts ₋₁			0.200 (0.15)				0.475 (0.38)			
(Actual Rate – Mean Forecast) ₋₁				-2.396 (-0.94)				-2.288 (-0.93)		
VIX ₋₁					0.034** (2.26)				0.035*** (2.13)	
Constant	0.180* (1.79)	-0.090 (-0.21)	0.156* (1.81)	0.172** (1.98)	-0.484* (-1.77)	0.203** (2.01)	-0.112 (-0.26)	0.210** (2.15)	0.222** (2.31)	-0.451 (-1.46)
Observations	206	88	206	206	206	88	206	206	206	
R ²	0.085	0.132	0.081	0.086	0.123	0.089	0.146	0.088	0.129	

This table examines whether the predictive power of the share of wrong analyst forecasts on a given FOMC announcement day for market returns on the following FOMC announcement day is subsumed by alternative measures. The dependent variable is the daily value-weighted CRSP market return on FOMC announcement days. The main independent variable is the lagged Share Wrong, i.e., the share of analyst forecasts that were incorrect on the previous FOMC announcement day. Other independent variables (all lagged) are: the cross-sectional standard deviation (Forecast StDev) and skewness (Forecast Skewness) of analyst forecasts, the share of analyst forecasts that differ from the modal forecast value (Share of Non-Modal Forecasts), the difference between the actual policy rate and the mean analyst forecast (Actual Rate – Mean Forecast), and the closing level of the VIX on the previous FOMC announcement day (VIX₋₁). Lagged rate change controls are indicator variables for whether the Fed raised or lowered rates on the previous FOMC announcement day; their coefficients are not reported. The second and seventh columns of each panel exclude the FOMC announcement days on which the previous announcement featured no analyst disagreement, leaving 88 observations. Robust t-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.