CORPORATE DISCLOSURE IN RESPONSE TO CHANGES IN MONETARY POLICY

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CERTIFICATE OF ORIGINALITY

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Abstract

This paper examines how changes in monetary policy affect corporate disclosure. I focus on the changes in the U.S. federal funds rate because while these changes affect a broad spectrum of firms via their effects on the cost and supply of capital, they are relatively exogenous to individual firms' circumstances. A rise in the federal funds rate may incentivize firms to increase disclosure to counteract the shock of the increased cost of capital. Alternatively, firms may decrease disclosure in expectation of declines in investment spending and external financing needs. By examining the earnings guidance of publicly listed firms from 1995 to 2009, I find that a rise in the federal funds rate induces more corporate disclosure. The cross-sectional tests show that the monetary policy effect is stronger when the monetary policy is more persistent or when firms have more growth opportunities, but is weaker for more financially constrained firms. The effect also exists for both contractionary and expansionary monetary policy and is stronger for the latter. Finally, I find that firms decrease their disclosure level in response to the announcements of unconventional expansionary monetary policy during 2008 and 2015. Overall, my paper provides new insight into how firms respond to macroeconomic policy changes in terms of disclosure.

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I. INTRODUCTION

Milton Friedman, in his seminal paper on monetary policy, highlights three important roles of monetary policy: preventing the money itself from disturbing economic operations, establishing a stable financial environment for the economy, and offsetting the potential economic fluctuations that result from other sources (Friedman 1968). Before the 2008 financial crisis, the U.S. Federal Reserve (Fed) achieves its monetary policy goals mainly through adjusting the target federal funds rate. In general, a rise in the federal funds rate would decrease the money supply, increase the interest rate, and decrease aggregate capital demand. For example, the Fed continuously lowered the target federal funds rate from 5.25 percent in September 2007 to a range of 0–0.25 percent in December 2008 to counteract the negative impact of the financial crisis (Mishkin 2009).[1] This low rate, which contributed to U.S. economic growth, was maintained until December 2015, when inflation concerns led to an increase in the rate to a range of 0.25–0.5 percent.[2] In more recent years, the Fed has attempted to implement unconventional monetary policy after cutting the federal funds rates to near zero. This unconventional monetary policy has included launching quantitative easing (QE) programs and providing forward guidance.

In this paper, I investigate whether and how the changes in monetary policy affect firms' disclosure policy. My paper is directly motivated by Gallo and Kothari (2019), who call for that "*Future research can consider how firms strategically respond to expected rate changes or the interest rate environment.*" The monetary policy is formulated based on the aggregate economic output, inflation, and unemployment rates, and it is less likely to be affected by individual firms

[1] Since December 26, 2008, the rate has been set within a range instead of at a specific value.
[2] The Federal Reserve is generally comfortable with maintaining a lower interest rate environment as long as the inflation rate is below 2 percent. See, for example, comments by the Federal Reserve Chairperson in this article: https://www.cnbc.com/2019/11/25/powell-says-the-fed-is-strongly-committed-to-meeting-its-inflation-goal.html.

or managers. Consequently, the monetary policy could be regarded as an exogenous factor for micro-firms' accounting policies. Specifically, prior research shows that monetary policy could impact firm-level financing costs (Cook and Hahn 1989; Kuttner 2001; Drechsler, Savov and Schnabl 2018; Rocheteau, Wright and Zhang 2018), financing quantities and capital structure (Kashyap, Stein and Wilcox 1993b, 1993a; Jiménez, Ongena, Peydró and Saurina 2012), and investment activities (Gertler and Gilchrist 1994; Kashyap, Lamont and Stein 1994; Amore, Schneider and Žaldokas 2013). While theory and empirical research substantiate the transmission of monetary policy to firm-level investment and financing behavior, to the best of my knowledge, no study directly examines the effect of monetary policy on corporate disclosure. This issue is important because the way in which firms adjust their disclosure policy in response to the changes in monetary policy could indicate how they manage investors' expectations about the policy's impact on corporate outcomes (Ajinkya and Gift 1984; Healy and Palepu 2001; Kanodia and Sapra 2016).[3] Moreover, managers' response to the change in monetary policy would ultimately have an impact on firms' information asymmetry and financing environments (Gallo and Kothari 2019).

Ex ante, tension is present in how monetary policy could affect corporate disclosure. On the one hand, a rise in federal funds rate is associated with an increase in both the risk-free interest rate and the risk premium (Cook and Hahn 1989; Bernanke and Kuttner 2005; Drechsler, Savov and Schnabl 2017), and the heightened financing costs induce firms to lower it to its previous level. Accounting disclosure is an important mechanism to convey managers' private information to stakeholders, and the survey in Graham, Harvey and Rajgopal (2005) shows that one important incentive for corporate disclosure is to reduce investors' perceived information risk and lower the

[3] More generally, few studies examine how macroeconomic policies influence corporate disclosure. A better understanding of this link can broaden my understanding of corporate disclosure, especially when such policies could put into play potentially competing forecast antecedents (Hirst et al., 2008).

cost of capital. Not only does theory suggest that better disclosure could reduce the estimation risk and the information asymmetry between informed and uninformed investors (Kyle 1985; Easley and O'hara 2004; Lambert 2001), empirical papers also provide evidence that better disclosure can lower the cost of both equity and debt capital (Botosan 1997; Francis, LaFond, Olsson and Schipper 2004; Campbell, Chen, Dhaliwal, Lu and Steele 2014; Cao, Myers, Tsang and Yang 2017). According to this financing cost view, a rise in federal funds rates incentivizes firms to reduce the information risk by increasing disclosure.[4]

Alternatively, the rise in federal funds rates reduces new investment opportunities and external financing needs. Corporate disclosure is positively associated with investment spending and external financing for two reasons. First, firms have incentives to disclose information prior to the issuance of new equity or debt in order to lower the information asymmetries (Myers and Majluf 1984; Lang and Lundholm 1993; Healy, Hutton and Palepu 1999). Second, accounting disclosure could mitigate moral hazard problem, prevent firms from investing in negative NPV projects and facilitate investment efficiencies (Biddle and Hilary 2006; McNichols and Stubben 2008; Biddle, Hilary and Verdi 2009; Roychowdhury, Shroff and Verdi 2019). To the extent that manager trade-off between disclosure benefits and costs, they would decrease disclosure in expectation of declined investment and financing needs. Hence, according to the above financing demand view, firms may be discouraged from disclosing private information to attract capital to financing investments, as well as manage investors' expectations about the impact of the corporate investments (and other actions). I discuss the above arguments in greater detail in Section II.

The sample consists of all U.S. publicly listed firms from 1995 to 2009. I use the change in the target federal funds rate over the course of a year to measure the change in monetary policy.

[4] I provide more details of the hypothesis about the link between monetary policy and corporate disclosure in Section II.

Since the federal funds rate is used as the main tool of monetary policy until December 2008 and the measure for monetary policy lags disclosure variable for one year, the sample ends in 2009. I choose management earnings forecasts to measure corporate disclosure policy because these forecasts play a key role in conveying managers' private cash flow expectations (Waymire 1984; Pownall, Wasley and Waymire 1993; Hutton, Miller and Skinner 2003; Hirst, Koonce and Venkataraman 2008; Baginski and Rakow 2012; Ng, Tuna and Verdi 2013). I measure earnings guidance from two dimensions: the issuance of earnings forecast and the frequency of the forecast. Specifically, I propose and examine three research questions.

First, I study the effect of changes in monetary policy on earnings guidance behaviors and find that firms increase the issuance and frequency of their earnings guidance in response to the increased federal funds rates. The results are consistent with the financing cost hypothesis that firms choose to increase disclosure to lower the cost of capital when the financing environment is less favorable. I conduct a series of robustness tests using alternative measures of monetary policy and alternative model specifications (Bernanke and Blinder 1992; Kuttner 2001; Bernanke and Kuttner 2005); the main results still hold. Because monetary policy is aimed at regulating macroeconomic conditions, a concern is that its effect is driven by the business cycle. I seek to mitigate this concern by restricting the sample to firms located in states that are less synchronized with national economic growth following Dell'Ariccia et al. (2017); I find that in these states, the monetary policy effect still holds, suggesting that it is not fully driven by business cycles. Moreover, I run the shock tests using the Federal Open Market Committee (FOMC) meetings to address potential concerns that the results may be driven by other macroeconomic policies instead of monetary policy. I define an FOMC meeting that announces an increase or decrease of at least

50 basis points in the federal funds rate as a shock, and I find that managers tend to increase earnings guidance following FOMC meetings announcing an increase in the federal funds rate.

Second, I examine whether there is a difference between the transient monetary policy effect and the persistent monetary policy effect. With a persistent monetary policy, the policy has lasted for at least two years and is more likely than a transient policy to persist in the future. Consequently, it would incur less policy uncertainty and more disclosure commitment benefits (Francis, Nanda and Olsson 2008; Born and Pfeifer 2014; Baker, Bloom and Davis 2016; Evans 2016), causing firms to be more likely to adjust their disclosure policies. Consistent with this prediction, I find that persistent policy has a more significant effect on disclosure than transient policy. Third, I investigate whether and how firm-level investment opportunities and financing constraints influence the effect of monetary policy on disclosure. I find that the policy effect is stronger in firms that have more growth opportunities and is weaker in more financially constrained firms.

In additional tests, I first examine whether the monetary policy effect is driven by contractionary monetary policy or by expansionary monetary policy following Bernanke and Kuttner (2005) and Armstrong, Glaese and Kepler (2019). I find that managers respond to both types of monetary policy, but expansionary monetary policy has a stronger effect than contractionary monetary policy. Second, increasing researchers are exploring the economic consequences of unconventional monetary policy (Gilchrist, López-Salido and Zakrajšek 2015; Gilchrist, Yue and Zakrajšek 2019; Morais, Peydró, Roldán-Peña and Ruiz-Ortega 2019), I examine whether and how firms react to unconventional expansionary monetary policies. Following Gilchrist et al. (2015), I choose the key announcements of unconventional expansionary monetary policy during 2008 and 2015, including QE programs and forward guidance, as shocks and test their impact on corporate disclosure . The results show that after the announcements of

unconventional expansionary monetary policy, firms decrease the issuance and frequency of earnings guidance. The results both substantiate the effect of monetary policy on voluntary disclosure and provide additional evidence on the economic consequences of unconventional monetary policy tools. Finally, I test the impact of monetary policy on other features of earnings guidance and find that firms tend to issue more precise and long-term forecasts in response to a rise in federal funds rate.

This paper makes several contributions. First, by exploring the relationship between monetary policy and micro-level firm behavior, this paper contributes to a better understanding of transmission efficiency of monetary policy. Although previous studies document the transmission effect of monetary policy on corporate activities (Kashyap et al. 1993a; Kashyap et al. 1994; Gertler and Gilchrist 1994; Bernanke and Gertler 1995; Kashyap and Stein 2000; Bolton and Freixas 2006; Aghion, Angeletos, Banerjee and Manova 2010), relatively little research investigates the role of corporate disclosure in the transmission of monetary policy. In a recent paper, Armstrong et al. (2019) indicate that higher information quality could lower the sensitivity of firms' stock price and investment to monetary policy changes, which reveals that accounting information helps cushion macroeconomic shocks. Choi et al. (2019) find that the issuance of management forecasts prior to an FOMC meeting enables resolving the uncertainty around announcements. Although these two papers test how accounting disclosure affects the transmission or economic consequences of monetary policy, they do not directly examine whether and how firms adjust their disclosure policy in response to a change in monetary policy. In this sense, my paper complements the two previous papers and highlights the role of corporate disclosure in the transmission process from macro monetary policy to corporate financing and investment activities. In addition, this paper provides a more in-depth analysis of how firm-level characteristics such as

financing constraints and growth opportunities affect the role of corporate disclosure in the transmission of monetary policy.

Second, this paper contributes to the literature pertaining to the impacts of macroeconomic factors on accounting policies. Although prior literature documents many determinants of corporate disclosure[5], to the best of my knowledge, there is scant research documents the macro-level determinants of disclosure policy, including aggregate earning news (Anilowski, Feng and Skinner 2007), investor sentiment (Bergman and Roychowdhury 2008; Brown, Christensen, Elliott and Mergenthaler 2012), economic policy uncertainty (Nagar, Schoenfeld and Wellman 2019), and macro-financial conditions (Lo 2014; Chen and Vashishtha 2017). My findings complement theirs in that I show how monetary policy changes, which is an important driver of the U.S. economy, affects management guidance.

Moreover, prior literature investigating the impact of macro-financial conditions on voluntary disclosure mainly focuses on bank settings (Lo 2014; Chen and Vashishtha 2017; Khan and Lo 2018)[6]. However, although banks play an important role as financial intermediaries, the change of bank lending standards only affects the bank credit supply, not other credit supply channels or overall financing costs[7]. In my paper, the change in monetary policy has a relatively more comprehensive impact on both the credit supply and the cost of capital, which in turn generates the tension for how it would affect corporate disclosure. In addition, while prior literature

[5] Previous literature indicates that disclosure could be determined by capital market transaction incentives (Lang and Lundholm 2000; Healy and Palepu 2001), corporate governance (Biddle and Hilary 2006; Hope and Thomas 2008; Biddle et al. 2009; Gao and Liang 2013), litigation risk (Francis, Philbrick and Schipper 1994; Skinner 1994; Bourveau, Lou and Wang 2018), and other incentives.

[6] The research shows that when the bank credit supply tightens, firms increase management earnings forecasts (Lo 2014) or exploit more conservative accounting standards (Khan and Lo 2018). Another related paper, from Balakrishnan, Core and Verdi (2014), indicates that firms increase disclosure in response to decreased real estate value and decreased financial capacities.

[7] For example, firms may turn to other alternative financing channels, such as public bonds or equity issuance, to substitute for bank loans.

discusses how investment and financing decisions affect corporate disclosure, one major concern is that managers may determine their firm's financing, investment, and disclosure policy jointly, which impedes identifying how these policies relate to each other (Beyer, Cohen, Lys and Walther 2010; Roychowdhury et al. 2019). The use of monetary policy changes to examine how financing opportunities affect disclosure facilitates identification.

The remainder of the paper proceeds as follows. Section II summarizes the transmission channels of monetary policy and proposes the main hypothesis. Section III describes the sample selection and research design and Section IV presents the empirical results. Section V presents the results of additional tests, and Section VI concludes.

II. HYPOTHESIS DEVELOPMENT

The Main Transmission Channels of Monetary Policy

In the traditional interest rate channel, a rise in the target federal funds rate increases the nominal interest rate, and then leads to an increases in the real short- and long-term interest rates (Cook and Hahn 1989; Roley and Sellon 1995; Taylor 1995). When the real interest rate increases, financing costs are higher and financing is harder to obtain, and thus firms decrease investment and individuals reduce consumption, resulting in the slowdown of economy growth. More recent research indicates that a rise in federal funds rates would not only increase the primary interest rate, but also increase the risk premium (Bernanke and Kuttner 2005; Drechsler et al. 2018) and the term premia and credit spread (Gertler and Karadi 2015; Hanson and Stein 2015). Consequently, monetary policy affects financing costs through both the interest rate and risk premium channels.

Another widely accepted view is the credit view, which proposes that monetary policy operates through its effect on information frictions in credit markets. In particular, credit view includes two channels: a bank lending channel, which operates through impacts on bank lending, and a balance sheet channel, which operates through impacts on firms' balance sheets. In the bank lending channel, banks are regarded as special money lenders in the credit market because some borrowers who encounter severe information asymmetry may only have access to bank loans. Banks tighten their credit supply during a contractionary monetary policy period, which exacerbates the information frictions in credit market and causes firms relying on bank loans to borrow less and reduce investments (Kashyap et al. 1993a; Kashyap and Stein 2000; Jiménez et al. 2012; Agarwal, Chomsisengphet, Mahoney and Stroebel 2017). In the balance sheet channel, contractionary monetary policy decreases firms' net income and net asset value, which reduces the

collateral value for their loans and thus exacerbates the adverse selection problem. In this case, contractionary monetary policy causes firms to experience greater difficulty borrowing money as well as less favorable loan rates (Bernanke and Gertler 1995).

In addition to the above channels, a recent risk-taking channel proposes that banks tend to tighten their lending standards and bear less risk during contractionary monetary policy periods, and thus firms face more difficulty in borrowing money and are less likely to invest in riskier projects (Maddaloni and Peydró 2011; Jiménez, Ongena, Peydró and Saurina 2014; Dell'Ariccia, Laeven and Suarez 2017; Morais et al. 2019).

To sum up, contractionary monetary policy could both increase financing costs and decrease credit demand and supply, thus firms would reduce investment and external financing.

The Effect of Monetary Policy on Earnings Guidance

I next consider how the changed investment and financing conditions that result from exogenous changes in monetary policy affect voluntary disclosure from two opposite perspectives. Specifically, I choose earnings guidance as the proxy for voluntary disclosure because it is a key mechanism through which managers reveal their private signals and communicate with stakeholders (Cheng and Lo 2006; Li and Yang 2015; Kim, Shroff, Vyas and Wittenberg-Moerman 2018; Tsang, Xie and Xin 2019).

On the one hand, according to the financing cost view, a rise in the federal funds rates may motivate earnings guidance because the consequent increased cost of capital incentivizes firms to move it back to previous equilibrium. A rise in the federal funds rate results in an increases in cost of both equity and debt capital. For example, Bernanke and Kuttner (2005) indicate that stock prices fall after the Fed raises the federal funds rates; they attribute this reaction to the effect of monetary policy on future excess returns or excess dividends. Drechsler et al. (2018) identify that

monetary policy affects risk premia through liquidity premium channel. In particular, a rise in the federal funds rate leads to a decrease in both liquidity premium and risk-taking, which results in lower stock price, higher risk premia and higher cost of capital. Gertler and Karadi (2015); Hanson and Stein (2015) find that a rise in federal funds rate increases the credit cost and they attribute this response to the increased term premia and credit spread.

The cost of capital affects firms' investment decision, capital structure and operation profitability, thus it is important for firms to lower their cost of capital in response to a rise in federal funds rates. There is a stream of literature showing how accounting disclosure influences the cost of capital. First, corporate disclosure could lower the costs of capital by reducing the information asymmetry between managers and investors (Easley and O'Hara 2004). When information asymmetry exists between informed managers and uninformed investors, investors perceive higher information risk and require higher returns for compensation. More public information disclosure could reduce the information risk and thus lower the expected return. Second, accounting information could lower the cost of capital through its impact on the estimation risk (Lambert, Leuz and Verrecchia 2007). Higher disclosure quality is associated with higher cash flow covariance with other firms, which would reduce the estimation risk of beta and thus reduce the expected cost of capital. Empirical research furtherly substantiates the theory and indicates that corporate disclosure can reduce the cost of both equity and debt capital (Botosan 1997; Francis, LaFond, Olsson and Schipper 2004; Campbell, Chen, Dhaliwal, Lu and Steele 2014; Cao, Myers, Tsang and Yang 2017). To the extent that a rise in the federal funds rate increases both costs, managers tend to increase disclosure to mitigate these adverse effects, which reveals that a rise in rates leads to more earnings guidance. Correspondingly, a fall in the federal funds rate leads to a decrease in the cost of capital, and thus managers have less incentives to disclose information.

On the other hand, according to the financing need view, a rise in the federal funds rate may disincentivize earnings guidance because of the expectation of decreased external financing needs and investment spending. First, in response to a rise in rates, firms tend to decrease external financing in expectation of less investment opportunities. Due to the information asymmetry between firms and investors, investors regard an external capital issuance as bad news, which gives firms an incentive to disclose private information (Myers and Majluf 1984; Healy and Palepu 1995). Firms tend to increase disclosure before raising capital via equity (Lang and Lundholm 1993; Lang and Lundholm 2000) or debt (Healy et al. 1999). To the extent that firms have less need to raise capital, they gain less benefit from disclosing information, especially if they have concerns about the proprietary and litigation costs of disclosure. In addition to mitigating the adverse selection problem prior to capital raising, accounting information also helps to alleviate the moral hazard problem and promote ex post investment efficiencies (Biddle and Hilary 2006; Hope and Thomas 2008; Biddle et al. 2009). To the extent that a rise in the federal funds rate decreases firms' investment spending, firms are less motivated to disclose information to improve investment efficiencies. Similarly, a fall in the federal funds rate prompts firms to invest more and raise external funds, and thus firms are encouraged to disclose more information to attract new capital and facilitate investment efficiencies.

Overall, the effects of increased financing costs and decreased investments on corporate disclosure take opposite directions, rendering the effect of monetary policy on disclosure an empirical question. Hence, my first hypothesis, stated in the null form, is the following:

H1: The change in monetary policy has no effect on earnings guidance.

The Effect of Transient versus Persistent Monetary Policy

In this section, I discuss the effect of transient versus persistent monetary policy. In this paper, persistent (transient) monetary policy means that the current year's change in federal fund rate is in the same (opposite) direction as the previous change.

First, when transient monetary policy is in place for the current year, it may be expansionary or contractionary in the next year, which means that the monetary policy uncertainty in that year is relatively high. Previous literature indicates that policy uncertainty has negative effects on investment, innovation, employment, consumption, and economic outputs (Born and Pfeifer 2014; Fernández-Villaverde, Guerrón-Quintana, Kuester and Rubio-Ramírez 2015; Baker et al. 2016; Husted, Rogers and Sun 2019)[8]. In such a case, the uncertainty arising from transient monetary policy means that firms are less likely to adjust their investment and financing decisions and thus revise their disclosure policies. In contrast, persistence amplifies the effect of monetary policy on disclosure. Overall, when monetary policy is more persistent, firms are more likely to either increase disclosure to lower the cost of capital or decrease it in expectation of decreased investment.

Second, under persistent monetary policy, firms are more likely to change disclosure policies due to the incremental benefits of disclosure commitment. One important dimension of commitment is disclosure consistency, which refers to whether firms have consistent long-term disclosure practices (Francis et al. 2008; Evans 2016). To make disclosure decisions, firms make a trade-off between the commitment benefits and costs. On the one hand, investors and analysts are wary with the reliability and credibility of one-time disclosure because it may be driven by managers' current opportunistic incentives and may not be sustained over periods to come. The literature indicates that disclosure commitment could lower the cost of capital and improve market

[8] More specifically, Husted et al. (2019) indicate that monetary policy uncertainty plays a role similar to that of contractionary monetary policy with regard to having a negative effect on firm investment. Their mechanism analysis not only shows that firms regard investment opportunities as irreversible and put off investment until the uncertainty is settled, but also that a rise in credit risk further impedes the investment.

liquidity after the effect of the information content is controlled for (Baiman and Verrecchia 1996; Verrecchia 1999; Rock 2002; Francis et al. 2008; Stulz 2009; Baginski and Rakow 2012; Evans 2016). On the other hand, managers may also be reluctant to commit to disclosure because doing so incurs renegotiation and reputation loss costs (Baginski and Rakow 2012; Cheng, Liao and Zhang 2013)[9]. To the extent that a more consistent disclosure policy amplifies the disclosure benefits of lowering the cost of capital or raising external financing, under persistent monetary policy, firms are more likely to adjust their disclosure to develop more persistent disclosure policy. Conversely, if monetary policy undergoes a transient change, firms hesitate to adjust their disclosure in expectation of more policy volatility.

Overall, in response to more persistent monetary policy, firms are more likely to adjust their corporate finance decisions and their disclosure policy and are also more likely to adjust their disclosure policy in order to take advantage of the benefits of commitment. Thus, the second hypothesis is proposed as follows:

H2: The effect of monetary policy on earnings guidance is stronger for persistent monetary policy.

III. RESEARCH DESIGN AND SUMMARY STATISTICS

Sample Selection

The sample consists of firm-year observations from 1995 to 2008. The sample begins in 1995 because the earnings guidance data are available in I/B/E/S database since 1995 (Guay, Samuels and Taylor 2016). The sample ends in 2009 since the change in monetary policy is measured as

[9] For example, Houston, Lev and Tucker (2010) find that firms that choose to stop making earnings forecasts experience higher analyst forecast errors and a less transparent information environment.

the change in target federal funds rate, which is the primary tools for monetary policy until 2008 (Gallo, Hann and Li 2016; Armstrong et al. 2019).[10]

Following the prior literature, I delete firms in the finance industry (SIC codes 6000–6999). All observations are required to have nonmissing values on all dependent, independent, and control variables. I obtain the data on monetary policy from the Fed website. Earnings guidance data is obtained from the I/B/E/S database. Firm characteristic data come from Compustat, stock-level data from CRSP, and analyst data from I/B/E/S.

Regression Specification

To identify the effect of changes in monetary policy on earnings guidance, I construct the following change regression model:

$$\Delta Issue_{i,t} / \Delta Freq_{i,t} = \beta_0 + \beta_1 \Delta Fed_{i,t-1} + \sum \beta \Delta Controls_{i,t-1} + Firm\ FE + \varepsilon. \quad (1)$$

The dependent variable is the change in the issuance and frequency of earnings guidance at the firm-year level. $\Delta Issue_t$ is the change in earnings guidance issuance $Issue_t$ in year t, where $Issue_t$ is an indicator variable equal to one if there is at least one management earnings forecast within calendar year t, and zero otherwise. $\Delta Freq_t$ is the change in earnings guidance frequency $Freq_t$ in year t, where $Freq_t$ is the natural logarithm of the number of management earnings forecasts within calendar year $t + 1$.

Following the literature on the monetary policy effect at the micro-level (Bernanke 1990; Kashyap et al. 1993a; Kashyap and Stein 2000; Campello and Giambona 2013; Dell'Ariccia et al. 2017), I use the change in the target federal funds rate to measure the change in monetary policy.

[10] The Fed uses the target federal funds rate as primary tools until 2008 and then turns to unconventional monetary policy tools from 2009 to 2015 after it cuts the rate to near zero. I end the sample in 2009 since the monetary policy variable lags the earnings guidance variable for one year.

Specifically, ΔFed_{t-1} is change in target federal funds rate in year $t-1$. According to the financing cost argument, a rise in the federal funds rate motivates firms to disclose more to lower the increased cost of capital, suggesting that β_1 should be positive. According to the financing demand argument, a rise in the federal funds rate disincentivises firms to disclose in expectation of declined investment spending and financing needs, which suggests that β_1 should be negative.

I include a series of control variables based on previous research (Bergman and Roychowdhury 2008; Kim et al. 2018). At the firm level, I control for fundamental firm characteristics, including size, $Size_{t-1}$; the leverage ratio, Lev_{t-1}; profitability, ROA_{t-1}; the market to book ratio, MB_{t-1}; financial distress risk, Mid_Zscore_{t-1}; whether there is any current loss, $Loss_{t-1}$; and litigation risk, $Litigation_{t-1}$. I also control for the information environment, including the number of analysts following, $Analyst_{t-1}$; the firm's idiosyncratic risk, $RetVol_{t-1}$; institutional ownership, $Institution_{t-1}$; and an indicator variable for whether firms issue equity in the previous year, $EqIssue_{t-1}$. At the macroeconomic level, I control for the economic policy uncertainty, EPU_{t-1}, and for investor sentiments, $Sentiment_{t-1}$, following Bergman and Roychowdhury (2008). Finally, I include an indicator variable for the implementation of Regulation Fair Disclosure, $RegFD_{t-1}$; the time trend, $Timetrend_{t-1}$; and firm fixed effects in the model. I also adjust for standard errors, which are clustered at the firm level.

Summary Statistics

Panel A in Table 1 presents the descriptive statistics for the variables. The mean of $Issue_t$ is 0.321, meaning that on average 32.1 percent of firms issue earnings guidance within one year. The mean of Num_t is 1.528, indicating that on average the frequency of earnings guidance is approximately 1.53 times in one year. Panel B in Table 1 shows the yearly distribution of management earnings forecast. In general, the proportion of companies issuing earnings guidance

is on the rise and increases from 8 percent in 1995 to 35 percent in 2009. In 2001, the percentage of firms issuing forecasts increases dramatically due to the implementation of Regulation FD.

Figure 1 plots the trend of the target federal funds rate over the period from 1994 to 2008. The federal funds rate declines significantly from 6.5 to 1.75 percent in 2001. The rate begins to increase in 2003, and that trend continues into 2006. Since 2007, the Fed sharply cut the interest rate to counteract the negative shock of the financial crisis.

IV. EMPIRICAL RESULTS

The Effect of the Change in Monetary Policy on Earnings Guidance

Table 2 presents the results of the effect of monetary policy on earnings guidance and aims to test H1. In column 1, the coefficient on ΔFed_{t-1} is 0.0222 and statistically significant at the 1 percent level (*t-value* = 7.20), suggesting that firms increase their earnings guidance in response to a rise in the federal funds rate. This outcome is consistent with the financing cost view that managers tend to increase disclosure to reduce the information risk and counteract the negative shock of the increased cost of capital. The sign of the coefficients on control variables are also consistent with expectations. The coefficients on $\Delta Size_{t-1}$ and ΔROA_{t-1} are 0.0308 and 0.0456, respectively, meaning that larger firms and more profitable ones are more likely to issue earnings guidance. Firms with a more favorable information environment, such as those with more institutional ownership and less volatile stock returns, tend to disclose more. The coefficient on $Litigation_{t-1}$ is 0.0854 and significantly positive, showing that firms in a high-litigation industry are more likely to issue earnings guidance to mitigate the litigation risk. The coefficient on ΔEPU_{t-1} is 0.1568 (significant at the 1 percent level), suggesting that firms tend to disclose information to resolve the heightened economic policy uncertainty (Nagar et al. 2019). The coefficient on $\Delta Sentiment_{t-1}$ is −0.0020 and statistically significant, consistent with the findings in

Bergman and Roychowdhury (2008) that firms tend to increase disclosure in times of pessimistic investor sentiments. In column 2, I examine how the changes in monetary policy affect the management forecast frequency. The coefficient on ΔFed_{t-1} is 0.0417 and statistically significant at the 1 percent level (*t-value* = 10.67), meaning that managers increase their earnings guidance frequency in response to a rise in the federal funds rate.

Collectively, the results in Table 2 support the view that when the target federal funds rate increases, managers tend to increase the issuance and frequency of earnings guidance to lower the increased cost of capital. This finding suggests that firms would increase disclosure to move the cost of capital back to its previous equilibrium in response to the increased federal funds rate.

Robustness Tests

Table 3 shows the results for a series of robustness tests of the monetary policy effect on earnings guidance by using several alternative measures for monetary policy. Specifically, I replace the main independent variable ΔFed_{t-1} with $\Delta LIBOR_{t-1}$, $\Delta EFed_{t-1}$, $\Delta OneYrRate_{t-1}$, and $ExpectedFed_{t-1}$ and $SurpriseFed_{t-1}$, in turn. $\Delta LIBOR_{t-1}$ is the change in LIBOR (London Inter-Bank Offered Rate) in year $t - 1$. The coefficients on $\Delta LIBOR_{t-1}$ in columns 1 and 2 are 0.0136 and 0.0103, respectively, and both are statistically significant at the 1 percent level, suggesting that the issuance and frequency of management earnings forecast increases when LIBOR increases. $\Delta EFed_{t-1}$ is the change in effective federal funds rate in year $t - 1$. The coefficients on $\Delta EFed_{t-1}$ in columns 3 and 4 are 0.0208 and 0.0400, respectively (both significant at the 1 percent level), showing that the effect of monetary policy on earnings guidance is robust to using the effective federal funds rate as the measure of monetary policy. I also use $\Delta OneYrRate_{t-1}$ as an alternative monetary policy measure following Bernanke and Blinder (1992) and Dell'Ariccia et al. (2017). The coefficients on $\Delta OneYrRate_{t-1}$ are both significantly positive in columns 5 and 6. In columns

7 and 8, $SurpriseFed_{t-1}$ is the sum of the unexpected change in the target federal funds rate around the FOMC meeting in year $t - 1$. $ExpectedFed_{t-1}$ is the sum of the expected change in the target federal funds rate around the FOMC meeting in year $t - 1$. Previous research indicates that the market may anticipate the change in the federal funds rate before the FOMC's announcement and thus investors may only react to unanticipated components in the changes in the rate (Kuttner (2001). The coefficients on $SurpriseFed_{t-1}$ in columns 7 and 8 are 0.0373 and 0.0955, respectively (both significant at the 1 percent level), showing that firms react to an unexpected increase in the federal funds rate by increasing earnings guidance. I use the total changes in the federal funds rate instead of the unexpected components in the main tests for two reasons. First, an unexpected change in federal funds rate is mainly used in event studies, such as research on the stock market reaction to the announcement of monetary policy. It is less commonly used in studies of the effect of monetary policy on corporate behaviors. Second, firms should be sensitive to both expected and unexpected components as the impact of change in rates on financing and investment behavior would be felt after the policy is implemented. The results support the above view by showing that the coefficients on $ExpectedFed_{t-1}$ in columns 7 and 8 are 0.0155 and 0.0104, respectively, and both are significant at the 1 percent level. Taken together, the results in Table 3 show that the effect of monetary policy on earnings guidance is robust to using several alternative measures of monetary policy.

Table 4 shows the results for a series of robustness tests of the monetary policy effect on earnings guidance, using alternative model specifications and restricting the whole sample to specific subsamples. In Panel A, I consider the policy effect on quarterly and annual forecast frequency in columns 1 and 2, respectively. The coefficients on ΔFed_{t-1} are 0.0271 and 0.0262, respectively (both significant at the 1 percent level), meaning that the frequency of both quarterly

and annual earnings guidance increases in response to the rising rate. In the primary regression, I use the change model to test the main hypothesis. In columns 3 and 4, I regress the level of earnings guidance on the level of target federal funds rate and the coefficients on Fed_{t-1} are 0.0088 and 0.0305, respectively (both significant at the 1% level). The results suggest that the issuance and frequency of earnings guidance is higher in times of high federal funds rate. The models in columns 5 and 6 are estimated using firm-quarter sample. $\Delta QIssue_q$ ($\Delta QFreq_q$) is the change in earnings guidance issuance (frequency) in quarter q. $\Delta QFed_{q-1}$ is the change in the target federal funds rate in quarter $q - 1$. The coefficients on $\Delta QFed_{q-1}$ are 0.0107 and 0.0100, respectively (both significant at the 1 percent level), suggesting that the results are robust to using firm-quarter samples.

In Panel B, I limit samples to the period after the implementation of Regulation FD in columns 1 and 2 and exclude samples during the financial crisis period in columns 3 and 4. The coefficients on ΔFed_{t-1} in the first four columns are 0.0139, 0.0338, 0.0225 and 0.0363, respectively (significant at the 5 percent level in column 1 and significant at the 1 percent level in columns 2, 3 and 4), showing that my results are not driven by the implementation of Regulation FD or the financial crisis. Because monetary policy is aimed at regulating macroeconomic conditions, it is possible that the effect of monetary policy on corporate disclosure may actually be driven by the effect of the business cycle. In columns 5 and 6, I try to address this concern by limiting my samples to firms located in states that have a lower economic synchronization with national business cycles, following Dell'Ariccia et al. (2017). Specifically, I regress the state-level income growth on the national GDP growth and classify the states that have lower correlations with GDP

growth as lower synchronization states.[11] If my main result is driven by the business cycle, I may observe less significant or insignificant coefficients on ΔFed_{t-1} in the less synchronous states. However, the results in columns 5 and 6 show that the coefficients on ΔFed_{t-1} are still significantly positive, which indicates that monetary policy has incremental or independent effects on voluntary disclosure compared with the effects of the business cycle. There is a potential concern that changes in federal funds rate are correlated to changes in industry structure and proprietary costs, and then the changes in industry structure and proprietary costs may affect disclosure. In the untabulated tests, I control for the R&D expenditure and industry competition and the main results are still robust.

In Panel C, I examine whether and how firms adjust their earnings guidance following the FOMC announcements. Since the primary test is conducted on firm-year level, there is concern that the results may be driven by the confounding effects of other macroeconomic policies instead of monetary policy. To address the potential endogeneity concern, I run the shock tests using FOMC meetings. In particular, I define the FOMC meeting as a shock when the Fed announces an increase or decrease of at least 50 basis points in the federal funds rate. The dependent variable in column 1 (2) is $\Delta IssueFOMC_t$ ($\Delta FreqFOMC_t$). $\Delta IssueFOMC_t$ ($\Delta FreqFOMC_t$) is the change in earnings guidance issuance (frequency) from one year prior to the FOMC meeting to one year after the meeting. $\Delta FedFOMC_{t-1}$ is the change in the target federal funds rate around the FOMC meeting. The coefficients on $\Delta FedFOMC_{t-1}$ are 0.0904 and 0.1104, respectively (both significant at the 1 percent level), suggesting that firms tend to increase the issuance and frequency of earnings guidance after the Fed announces an increase in the federal funds rate. The results further

[11] Companies' headquarter data are obtained from the website of Prof. Bill McDonald: https://sraf.nd.edu/data/augmented-10-x-header-data/.

substantiate the main hypothesis that firms tend to increase disclosure in response to a rise in the federal funds rate.

Collectively, the results in Table 4 show that the impact of monetary policy on corporate disclosure is robust to using alternative model specifications, limiting samples in the Post-FD period and non-financial crisis period, limiting the samples to firms located in less synchronous states, and using the shock tests around the FOMC announcements.

The Effect of Persistent versus Transient Monetary Policy

Table 5 presents the results of the effect of transient versus persistent monetary policy on earnings guidance. $Persistent_{t-1}$ is an indicator variable equal to one if the change in Fed in year $t - 1$ is in the same direction as the previous change, and zero otherwise. $Reversal_{t-1}$ is an indicator variable equal to one if the change in Fed in year $t - 1$ is in the opposite direction as the previous change, and zero otherwise.

In columns 1 and 2, the coefficients on $\Delta Fed_{t-1} \times Persistent_{t-1}$ are 0.0045 and 0.0345, respectively (significant at the 5 percent and 1 percent levels, respectively), suggesting that firms are more likely to release earnings guidance in response to a more persistent increase in the federal funds rate. In columns 3 and 4, the coefficients on $\Delta Fed_{t-1} \times Reversal_{t-1}$ are −0.0109 and −0.0403, respectively (both significant at the 1 percent level), suggesting that firms are less likely to release earnings guidance in response to a transient increase in the federal funds rate. Collectively, these outcomes reveal that firms treat persistent or transient monetary policy differently. In particular, the more persistent policy induces firms to adjust their disclosure policy to a larger extent. Overall, the results in Table 5 lend support to H2: the effect of persistent monetary policy on earnings guidance is larger than that of transient policy.

Cross-Sectional Variation with Growth Opportunities

In the main tests, I find that firms increase disclosure in response to a rise in the target federal funds rate, consistent with the financing cost view that firms are motivated to disclose information to counteract the adverse impacts of increased cost of capital. The effect of monetary policy on disclosure depends on how firms adjust their financing and investment policies in response to the change in federal rates and these adjustments of corporate activities may be heterogeneous across firms. In this section, I investigate the effect of firm-level characteristics on firms' disclosure response to monetary policy.

I first examine whether and how firm-level growth opportunities influence the monetary policy effects. Firm value consists of the assets in place and growth opportunities, and firms increase investment spending when they have more growth opportunities (Yoshikawa 1980; Smith Jr and Watts 1992). To the extent that firms with more growth opportunities have higher investment spending and need more external financing (Smith Jr and Watts 1992; Gaver and Gaver 1993; Barclay and Smith Jr 1995; Houston and James 1996; Goyal, Lehn and Racic 2002), these firms reduce their investment and external capital raising to a lesser extent in response to an increased federal funds rate. In addition, they are more likely to improve accounting disclosure to alleviate their financing restrictions and meet their capital requirements (Biddle et al. 2009; Lara et al. 2016). Overall, I predict that the positive effect of the increased federal funds rate on earnings guidance is stronger for firms with more growth opportunities.

Table 6 presents the results showing the role of growth opportunities in the effect of monetary policy on earnings guidance. To mitigate the potential endogeneity, I use two-year lagged *MB* ratio and *TobinQ* to measure growth opportunities. In particular, $HighMB_{t-2}$ ($HighTQ_{t-2}$) is an indicator variable equal to one if MB_{t-2} ($TobinQ_{t-2}$) is greater than the median ratio, and zero otherwise, where *MB* (*TobinQ*) is the ratio of the market value divided by book value (replacement costs). In

columns 1 and 2, the coefficients on ΔFed_{t-1} are 0.0182 and 0.0352, respectively (both significant at the 1 percent level), meaning that firms tend to increase disclosure in times of a rising federal funds rate. The coefficients on $\Delta Fed_{t-1} \times HighMB_{t-2}$ are 0.0081 and 0.0126, respectively (both significant at the 1 percent level), suggesting that firms with more growth opportunities are more likely to issue earnings guidance in response to an increased federal funds rate. In columns 3 and 4, I use *TobinQ* to measure growth opportunities, and the coefficients on $\Delta Fed_{t-1} \times HighTQ_{t-2}$ are 0.0060 and 0.0106, respectively (both significant at the 1 percent level), similar to the results in the first two columns. Overall, the results in Table 6 reveal that firms with more growth opportunities are more likely to increase disclosure in response to a rise in the federal funds rate.

Cross-Sectional Variation with Financial Constraints

I next test whether and how financial constraints affect the monetary policy effects. It is more difficult and costly for financially constrained firms to raise capital and thus these firms are less dependent on external financing (Ozdagli 2018; Ozdagli and Velikov 2020). For example, Ozdagli (2018) provides evidence that more financially constrained firms have lower leverage and thus their stock price reaction to the change in monetary policy is lower. To the extent that firms with greater reliance on external capital have more incentives to keep the cost of capital at a lower level (Frankel, McNichols and Wilson 1995; Francis, LaFond, Olsson and Schipper 2005), financially constrained firms are affected by the increased cost of capital to a lesser extent when the federal funds rate increases. Overall, I expect that the positive effect of increased federal funds rate on earnings guidance is weaker in more financially constrained firms[12].

[12] In addition, there is one view that more financially constrained firms may be more sensitive to the changes in monetary policy since they are faced to more difficulties in obtaining external financing.

Table 7 presents the results showing the role of financial constraints in the effect of monetary policy on earnings guidance. To mitigate the potential endogeneity, I use two-year lagged *SAIndex*, *WWIndex*, *Z_Score*, and *Payout* to measure financial constraints. In particular, $HignSA_{t-2}$ ($HignWW_{t-2}$) is an indicator variable equal to one if $SAIndex_{t-2}$ ($WWIndex_{t-2}$) is greater than the median ratio, and zero otherwise. $LowZ\_Score_{t-2}$ ($LowPayout_{t-2}$) is an indicator variable equal to one if Z_Score_{t-2} ($Payout_{t-2}$) is lower than the median ratio, and zero otherwise. When these variables are set to one, firms face more severe financial constraints. The coefficients on the interaction terms of the change in federal funds rate and financial constraints are significantly negative across all columns. The results suggest that in response to increased federal funds rate, more financially constrained firms are less likely to increase disclosure. For example, in columns 1 and 2, the coefficients on $\Delta Fed_{t-1} \times HighSA_{t-2}$ are −0.0065 and −0.0101, respectively, and statistically significant at the 1 percent level. In columns 3 and 4, the coefficients on $\Delta Fed_{t-1} \times HighWW_{t-2}$ are −0.0129 and −0.0190 and statistically significant at the 1 percent level. The coefficients on $\Delta Fed_{t-1} \times LowZ\_Score_{t-2}$ in columns 5 and 6 and $\Delta Fed_{t-1} \times LowPayout_{t-2}$ in columns 7 and 8 are significantly negative, similar to the results in the first four columns[13]. Collectively, the results in Table 8 reveal that more financially constrained firms are less likely to increase disclosure in response to a rise in the federal funds rate.

V. ADDITIONAL TESTS

The Effect of Contractionary and Expansionary Monetary Policy

First, I examine whether the monetary policy effect is driven by contractionary or expansionary monetary policy and explore firms' asymmetric response to the two types of policy.

[13] In the untabulated tests, I find that firms who rely more on external financing are more likely to be affected by monetary policy, which furtherly substantiate the predictions.

Table 8 presents the results showing the effect of both contractionary monetary policy and expansionary monetary policy. In columns 1 and 2, I decompose the change in target federal funds rate into positive and negative components following Armstrong et al. (2019). In particular, $\Delta FedPos_{t-1}$ ($\Delta FedNeg_{t-1}$) is equal to ΔFed_{t-1} if the federal funds rate in year $t-1$ increases (decreases), and zero otherwise. The results show that the coefficients on $\Delta FedPos_{t-1}$ and $\Delta FedNeg_{t-1}$ in column 1 are 0.0202 and 0.0269, respectively, and both are significant at the 1 percent level. The coefficients on $\Delta FedPos_{t-1}$ and $\Delta FedNeg_{t-1}$ in column 2 are 0.0315 and 0.0658, respectively (both significant at the 1 percent level), suggesting that the monetary policy effects on disclosure exist in both contractionary and expansionary monetary policy.

In the last four columns, I further explore whether there are asymmetric responses to these two types of policy. Fed_Inc_{t-1} (Fed_Dec_{t-1}) is equal to one if the federal funds rate in year $t-1$ increases (decreases), and zero otherwise. The coefficients on $\Delta Fed_{t-1} \times Fed\_Inc_{t-1}$ in columns 3 and 4 are −0.0215 and −0.0790, respectively (both significant at the 1 percent level), meaning that the policy effect on disclosure is less significant for positive changes in the federal funds rate versus negative changes. In addition, the coefficient on $\Delta Fed_{t-1} \times Fed\_Dec_{t-1}$ in columns 5 and 6 is 0.0051 and 0.0348, respectively (significant at the 1 percent level in column 6), further substantiating that the monetary policy effects is stronger for expansionary monetary policy.[14]

Collectively, the results in Table 8 suggest that the monetary policy effects on disclosure exist in both contractionary and expansionary monetary policy and the effect is stronger for expansionary monetary policy versus contractionary policy.

The Effect of Unconventional Monetary Policy

[14] However, based on my knowledge, there is little theory to explain the asymmetric effect of monetary policy.

Second, I explore the potential effects of unconventional monetary policy on disclosure. After the financial crisis of 2008, the target federal funds rate was close to zero, and the Fed turn to use unconventional monetary policy, including quantitative easing and forward guidance. During 2008–2015, the Fed conducted these unconventional policies to stimulate economy and thus the QE programs and forward guidance during this particular period could be classified as expansionary monetary policies[15].

In Table 9, I follow Gilchrist et al. (2015) and Gilchrist et al. (2019) to indicate the key FOMC meeting between 2008 and 2015 announcing unconventional monetary policy, including implementing a QE program or providing forward guidance. The details of the announcements are listed in Appendix B. For example, for the QE program, the Fed announced implementation of the first round of LSAP (Large-Scale Asset Purchase) on December 16, 2008. The meeting on August 10, 2010, announced implementation of the second round of LSAP. The Fed announced proceeding to the third round of LSAP programs on September 13, 2012, and further announced continuing the third round of LSAP on December 12, 2012. Despite the LSAP program, the Fed started the MEP (Maturity Extension Program) on September 21, 2011, and announced continuing the MEP on June 20, 2012.

Moreover, the Fed also provides guidance for the future trend of the federal funds rate. Specifically, the Fed first mentioned this kind of guidance on December 16, 2008, by stating that the low federal funds rate will continue for some time. Subsequently, the Fed stated on March 18, 2009, that the interest rates would remain low for an extended period. On August 9, 2011, the Fed provided the first calendar-based guidance saying that the low rates would last until at least mid-

[15] Gertler and Karadi (2011) indicate that unconventional monetary policy expand the assets of central banks to ease the financing constraints and reduce the financing costs.

2013. The Fed issued the second and third calendar-based guidance on January 25, 2012, and September 13, 2012, respectively. On December 12, 2012, the Fed provided a "threshold-based" forward guidance declaring that the low rates would be remain as long as inflation and unemployment are maintained at certain levels.

In columns 1 and 2, I define the FOMC meeting as a shock when it announces these key unconventional monetary policies. *PostUncon* is an indicator variable equal to one for the post-announcements samples and zero for the pre-announcements sample. The coefficients on *PostUncon* in columns 1 and 2 are −0.0148 and −0.0239, respectively (both significant at the 1 percent level), meaning that managers decrease the issuance and frequency of earnings guidance after the announcement of these policies. In columns 3 and 4 (5 and 6), I define the FOMC meeting as a shock when it announces implementing a QE program (provides forward guidance). The coefficients on *PostUncon* are all significantly negative across the last four columns, suggesting that the effect of unconventional monetary policy holds for both QE programs and forward guidance. Collectively, the results in Table 9 show that managers decrease disclosure in response to unconventional expansionary monetary policy, including QE and forward guidance. This finding suggests that managers alter their disclosure practices in anticipation of the potential impact of unconventional monetary policy on their investment and financing activities. In addition, it furtherly substantiates the findings that the change in monetary policy would affect the accounting disclosure practice.

The Effect of Monetary Policy on Other Earnings Guidance Features

Table 10 presents the results for the effect of monetary policy on other earnings guidance features. In column 1, the dependent variable $\Delta Horizon_t$ is the change of management forecast horizon $Horizon_t$, where $Horizon_t$ is measured as the natural logarithm of the number of days

between the forecast announcement day and the forecast fiscal-period end date within calendar year $t + 1$. Long-term forecasts could help mitigate the information asymmetry and reduce information uncertainty to a larger extent, so managers are more likely to issue long-term forecasts to attract potential new investors (Lo 2014). The coefficient on ΔFed_{t-1} in column 1 is 0.1163 (significant at the 1 percent level), meaning that firms tend to issue more long-term forecasts in response to a rise in the federal funds rate. In column 2, the dependent variable $\Delta Precision_t$ is the change in earnings guidance precision $Precision_t$, where $Precision_t$ is equal to one for general impression forecasts, two for minimum and maximum forecasts, three for range forecasts, and four for point forecasts (Baginski and Rakow 2012). The coefficient on ΔFed_{t-1} in column 2 is 0.0685 (significant at the 1 percent level), suggesting that firms tend to provide more precise forecasts in response to a change in the federal funds rate. The results in Table 10 show that firms tend to issue more precise and long-term forecasts and increase the frequency of forecasts that walk up analyst forecasts in response to an increase in the target federal funds rate.

VI. CONCLUSION

This paper investigates the effect of a change in monetary policy on voluntary disclosure. Monetary policy plays an important role in maintaining stable economic development, and previous literature identifies several transmission channels by which it occurs. However, while a stream of literature discusses the impact of monetary policy on firm-level investment and financing decisions, scant research examines how firms adjust their disclosure policy in response to monetary policy changes. In this paper, I use the change in the target federal funds rate to identify the change in monetary policy and employ the issuance and frequency of earnings guidance to measure voluntary disclosure.

I find that firms increase the issuance and frequency of their earnings guidance in response to a rise in the federal funds rate, consistent with the hypothesis that firms tend to increase disclosure to lower the increased cost of capital. Second, I find that firms treat transient and persistent monetary policy differently and adjust their earnings guidance policy to a larger extent in response to the latter versus the former. Third, the cross-sectional tests show that the effect of monetary policy is stronger in firms that have more growth opportunities and weaker in more financially constrained firms. My research offers a better understanding of the role accounting information plays in the transmission of monetary policy by indicating how firms adjust their disclosure policy in response to it. Moreover, this paper enriches the literature on the macro-level determinants of corporate disclosure behaviors.

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Appendix

Appendix A: Variable definitions

Variable	Definition
Earnings guidance	
$Issue_t$	An indicator variable equal to one if there is at least one management earnings forecast within calendar year t, zero otherwise.
$Freq_t$	The natural logarithm of the number of management earnings forecasts within calendar year t plus 1.
Num_t	The number of management earnings forecasts within calendar year t.
$\Delta Issue_t$	The change in earnings guidance issuance in year t.
$\Delta Freq_t$	The change in earnings guidance frequency in year t.
$\Delta FreqQTR_t$	The change in quarterly earnings guidance frequency in year t.
$\Delta FreqANN_t$	The change in annual earnings guidance frequency in year t.
$\Delta QIssue_q$	The change in earnings guidance issuance in quarter q.
$\Delta QFreq_q$	The change in earnings guidance frequency in quarter q.
$\Delta IssueFOMC_t$	The change in earnings guidance issuance from one year prior to the FOMC meeting to one year after the meeting.
$\Delta FreqFOMC_t$	The change in earnings guidance frequency from one year prior to the FOMC meeting to one year after the meeting.
$\Delta Horizon_t$	The change in earnings guidance horizon $Horizon_t$ in year t. $Horizon_t$ is the natural logarithm of the number of days between the forecast announcement day and the forecast fiscal-period end date within calendar year $t + 1$ (Lo 2014).
$\Delta Precision_t$	The change in earnings guidance precision $Precision_t$ in year t. $Precision_t$ is the average management earnings forecast precision in current year t. The management forecast precision is a categorical variable equal to one for general impression forecasts, two for minimum and maximum forecasts, three for range forecasts, and four for point forecasts (Baginski and Rakow 2012).
Monetary policy	
Fed_{t-1}	The target federal funds rate in the end of year $t - 1$.
ΔFed_{t-1}	The change in target federal funds rate in year $t - 1$.
$\Delta EFed_{t-1}$	The change in effective federal funds rate in year $t - 1$.
$\Delta LIBOR_{t-1}$	The change in LIBOR (London Inter-Bank Offered Rate) in year $t - 1$.
$\Delta OneYrRate_{t-1}$	The change in one-year treasury rate in year $t - 1$.
$SurpriseFed_{t-1}$	The sum of the unexpected change in the target federal funds rate around the FOMC meeting in year $t - 1$. The unexpected change around FOMC meeting is implied from the change in the future price of federal rates after the meeting following Kuttner (2001) and Bernanke and Kuttner (2005). The data is downloaded from the website of Prof. Kenneth N. Kuttner: https://econ.williams.edu/faculty-pages/research/.
$ExpectedFed_{t-1}$	The sum of the expected change in the target federal funds rate in year $t - 1$, equal to the total change in the target federal rate minus the unexpected change.
$\Delta QFed_{q-1}$	The change in quarterly target federal funds rate in quarter $q - 1$.
$\Delta FedPos_{t-1}$	Equals to ΔFed_{t-1} if the federal funds rate in year $t - 1$ increases, and zero otherwise.
$\Delta FedNeg_{t-1}$	Equals to ΔFed_{t-1} if the federal funds rate in year $t - 1$ decreases, and zero otherwise.
Fed_Inc_{t-1}	An indicator variable equal to one if the federal funds rate in year $t - 1$ increases, and zero otherwise.
Fed_Dec_{t-1}	An indicator variable equal to one if the federal funds rate in year $t - 1$ decreases, and zero otherwise.
$\Delta FedFOMC_{t-1}$	The change in the target federal funds rate around the FOMC meeting.

PostUncon	An indicator variable equal to one for the post-announcements samples and zero for the pre-announcements sample.
Control Variables	
$Size_{t-1}$	The logarithm of total assets at the end of year $t-1$.
BM_{t-1}	Firm's book value divided by the firm's market value at the end of year $t-1$.
ROA_{t-1}	Income before extraordinary items scaled by total assets within year $t-1$.
IO_{t-1}	The fraction of total shares outstanding held by institutional investors at the end of year $t-1$.
$Analyst_{t-1}$	Analyst coverage at the end of year $t-1$, calculated as the natural logarithm of the number of analysts covering the firm plus one.
$RetVol_{t-1}$	Return volatility: The standard deviation of the stock's daily returns within year $t-1$ (multiplied by 100).
$EqIssue_{t-1}$	An indicator variable equal to one if the firm issue equity within year $t-1$, and zero otherwise.
$Litigation_{t-1}$	High-litigation industry: An indicator variable equal to one if the firm is in a highly litigious industry (four-digit SIC industry codes: 2833–2836, 3570–3577, 3600–3674, 5200–5961, or 7370–7374) following Francis, Philbrick and Schipper (1994).
Mid_Zscore_{t-1}	An indicator variable equal to one if the firm's Altman Z-Score falls into the middle group in year $t-1$, and zero otherwise. Altman Z score is measured following Altman (1968) and DeFond and Hung (2003) and is calculated as 1.2 × (net working capital (ACT-LCT) / total assets (AT)) + 1.4 × (retained earnings (RE) / total assets) + 3.3 × (earnings before interest and taxes (PI+XINT) / total assets) + 0.6 × (market value of equity (CSHO × PRCC_F) / book value of liabilities (LT)) + 1.0 × (sales (SALE) / total assets).
Lev_{t-1}	Total liabilities divided by total assets at the end of year $t-1$.
$Loss_{t-1}$	An indicator variable equal to one if the net income before extraordinary items is negative in year $t-1$, and zero otherwise.
EPU_{t-1}	The economic policy uncertainty in year $t-1$ following Baker et al. (2016).
$Sentiment_{t-1}$	The average Investor Sentiment Index within year $t-1$. The data are obtained from the Michigan Consumer Research Center.
$RegFD_{t-1}$	An indicator variable equal to one for the year after 2001, and zero otherwise.
$Timetrend_{t-1}$	The number of years elapsed since 1995. For 1995 (1996,…), *Timetrend* equals 1 (2, 3 …).
Moderating Variables	
$Persistent_{t-1}$	An indicator variable equal to one if the change in federal funds rate in year $t-1$ is in the same direction as the previous change, and zero otherwise.
$Reversal_{t-1}$	An indicator variable equal to one if the change in federal funds rate in year $t-1$ is in the opposite direction as the previous change, and zero otherwise.
Growth opportunities	$HighMB_{t-2}$: an indicator variable equal to one if MB_{t-2} is greater than the median ratio and zero otherwise, where *MB* is the ratio of the market value divided by book value.
	$HighTQ_{t-2}$: an indicator variable equal to one if $TobinQ_{t-2}$ is greater than the median ratio and zero otherwise, where *TobinQ* is the ratio of the firm's market value divided by replacement costs (Duchin, Ozbas and Sensoy 2010).
Financial constraints	$HignSA_{t-2}$: an indicator variable equal to one if $SAIndex_{t-2}$ is greater than the median ratio and zero otherwise. *SAIndex* is defined following Hadlock and Pierce (2010): $SAIndex = (-0.737\times Size) + (0.043\times Size^2) - (0.040\times Age)$.
	$HignWW_{t-2}$: an indicator variable equal to one if $WWIndex_{t-2}$ is greater than the median ratio and zero otherwise. *WWIndex* is defined following Whited and Wu (2006): $WWIndex = -0.091\times(CFO/TA) - 0.062\times(DumCashDiv) + 0.021\times(LTD/TA) - 0.044\times(ASSETS) + 0.102\times(SalesGrowth\_Ind) - 0.035\times(SalesGrowth)$, where *CFO* denotes the cash flow from operations; *TA* denotes the total assets; *DumCashDiv* is a dummy variable set equal to one for firms with non-zero cash dividends and zero otherwise; *LTD* denotes the long-term debt.
	$LowZ\_Score_{t-2}$: an indicator variable equal to one if Z_Score_{t-2} is lower than the median ratio and zero otherwise.

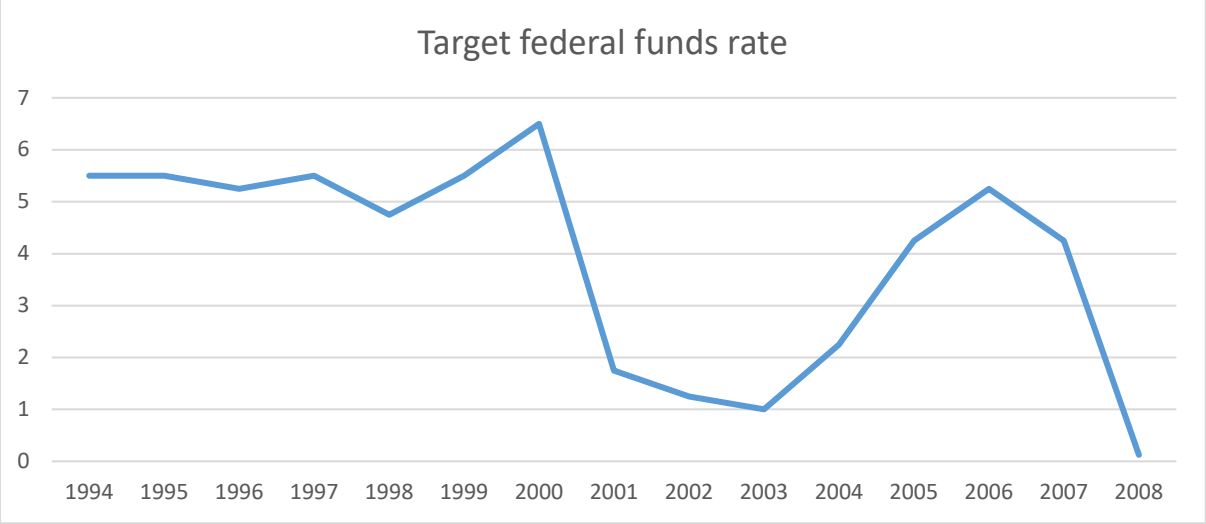
	$LowPayout_{t-2}$: an indicator variable equal to one if $Payout_{t-2}$ is lower than the median ratio and zero otherwise. *Payout* = (CashDividends + StockRepurchases) / (Income before extraordinary items)

Appendix B: The FOMC announcements related to unconventional monetary policy

Date	Descriptions	Categories
Nov. 25, 2008	Announces implementation of the first round of LSAP (Large-Scale Asset Purchase).	QE (quantitative easing)
Dec. 1, 2008	States that it may purchase securities.	QE
Dec. 16, 2008	Plans to promote the economic growth by purchasing securities and debt; states that the low federal funds rate will continue for some time.	QE, FG (forward guidance)
Jan. 28, 2009	Expects that the economy will continue to slump and states that it will take further measures to stimulate the economy.	QE
Mar. 18, 2009	Announces to further increase its holdings of securities; states that that the interest rates will remain low for an extended period.	QE, FG
Aug. 10, 2010	Announces implementing the second round of LSAP.	QE
Sep. 21, 2010	Announces maintaining its LSAP program.	QE
Nov. 3, 2010	States that it will increase the purchase of securities.	QE
Aug. 9, 2011	Provides guidance by indicating that the low rates will last until at least mid-2013.	FG
Sep. 21, 2011	Announces implementing the MEP (Maturity Extension Program).	QE
Jan. 25, 2012	Provides guidance by indicating that the low rate will last at least through late 2014.	FG
Jun. 20, 2012	Announces continuing the MEP.	QE
Sep. 13, 2012	Announces implementing the third round of LSAP; provides guidance by indicating that the low rates will last until at least mid-2015.	QE, FG
Dec. 12, 2012	Announces enlarging the third round of LSAP; provides guidance by indicating that the low rates will remain as long as inflation and unemployment are maintained at certain levels.	QE, FG

Figures

Figure 1 Time trends for the target federal funds rate
This figure plots the trend of the target federal funds rate over the period from 1994 to 2007.



Tables

Table 1 Descriptive statistics

Panel A presents the descriptive statistics of key variables. There are 42,610 firm-year observations. $\Delta Issue_t$ is the change in earnings guidance issuance $Issue_t$ in year t, where $Issue_t$ is an indicator variable equal to one if there is at least one management earnings forecast within calendar year t, and zero otherwise. $\Delta Freq_t$ is the change in earnings guidance frequency $Freq_t$ in year t, where $Freq_t$ is the natural logarithm of the number of management earnings forecasts within calendar year $t + 1$. Num_t is the number of management earnings forecasts within calendar year t. ΔFed_{t-1} is the change in target federal funds rate in year $t - 1$. The other variables are defined in Appendix A. Panel B presents the yearly distribution of earnings guidance activities.

Panel A: Descriptive statistics of key variables

Variable	Mean	Median	Sd
$Issue_t$	0.321	0.000	0.467
$Freq_t$	0.501	0.000	0.808
Num_t	1.528	0.000	3.077
$\Delta Issue_t$	0.015	0.000	0.374
$\Delta Freq_t$	0.031	0.000	0.492
Fed_{t-1}	3.935	4.750	1.963
ΔFed_{t-1}	−0.178	0.000	1.903
$Size_{t-1}$	5.818	5.672	2.016
ROA_{t-1}	−0.030	0.035	0.234
IO_{t-1}	0.451	0.443	0.294
$Analyst_{t-1t-1}$	1.678	1.792	1.074
$RetVol_{t-1}$	3.715	3.194	2.127
$Litigation_{t-1}$	0.333	0.000	0.471
Z Score	4.566	3.150	6.877
Lev_{t-1}	0.495	0.493	0.246
$EqIssue_{t-1}$	0.379	0.000	0.485
BM_{t-1}	0.592	0.467	0.578
EPU_{t-1}	4.485	4.479	0.180
$Sentiment_{t-1}$	0.924	0.922	0.104
RegFD	0.523	1.000	0.499

Panel B: Yearly distribution of earnings guidance activities

Year	Number of firms	Number of firms with earnings guidance	Percentage of firms with Earnings guidance
1995	2,925	239	0.08
1996	3,036	268	0.09
1997	3,012	344	0.11
1998	3,090	579	0.19
1999	2,934	672	0.23
2000	2,723	833	0.31
2001	2,613	1,184	0.45
2002	2,704	1,211	0.45
2003	2,713	1,236	0.46
2004	2,825	1,374	0.49
2005	2,770	1,237	0.45
2006	2,858	1,260	0.44
2007	2,791	1,164	0.42
2008	2,791	1,101	0.39
2009	2,825	977	0.35

Table 2: The effect of monetary policy on earnings guidance (H1)

This table presents the results of the effects of monetary policy on earnings guidance. The dependent variable in column 1 (2) is $\Delta Issue_t$ ($\Delta Freq_t$). $\Delta Issue_t$ is the change in earnings guidance issuance $Issue_t$ in year t, where $Issue_t$ is an indicator variable equal to one if there is at least one management earnings forecast within calendar year t, and zero otherwise. $\Delta Freq_t$ is the change in earnings guidance frequency $Freq_t$ in year t, where $Freq_t$ is the natural logarithm of the number of management earnings forecasts within calendar year $t + 1$. The independent variable is ΔFed_{t-1}, the change in target federal funds rate in year $t - 1$.The other variables are defined in Appendix A. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)
	$\Delta Issue_t$	$\Delta Freq_t$
ΔFed_{t-1}	0.0222***	0.0417***
	(7.20)	(10.67)
$\Delta Size_{t-1}$	0.0308***	0.0392***
	(3.33)	(3.27)
ΔROA_{t-1}	0.0456***	0.0765***
	(2.99)	(3.95)
ΔLev_{t-1}	−0.0343*	−0.0718***
	(−1.65)	(−2.61)
ΔBM_{t-1}	−0.0461***	−0.0717***
	(−7.58)	(−9.15)
ΔIO_{t-1}	0.1169***	0.1468***
	(4.99)	(4.81)
$\Delta Analyst_{t-1}$	0.0085	0.0083
	(1.45)	(1.15)
$\Delta RetVol_{t-1}$	−0.0084***	−0.0174***
	(−4.94)	(−7.91)
$Litigation_{t-1}$	0.0854*	0.1393***
	(1.66)	(5.22)
Mid_Zscore_{t-1}	0.0031	−0.0065
	(0.62)	(−0.95)
$EqIssue_{t-1}$	0.0122**	0.0139*
	(2.15)	(1.86)
ΔEPU_{t-1}	0.1568***	0.3457***
	(5.29)	(9.65)
$\Delta Sentiment_{t-1}$	−0.0020***	−0.0031***
	(−4.60)	(−5.17)
$RegFD$	−0.0584***	−0.0737***
	(−5.55)	(−5.43)
$Timetrend$	−0.0041***	−0.0082***
	(−3.41)	(−5.32)
Constant	0.0420**	0.0854***
	(2.34)	(7.53)
Firm FE	Yes	Yes
R^2	0.0178	0.0258
N	42,610	42,610

Table 3: Robustness tests I—Alternative measures for monetary policy

This table shows the robustness tests using alternative measures for monetary policy. The dependent variable in columns 1, 3, 5, and 7 (2, 4, 6, and 8) is $\Delta Issue_t$ ($\Delta Freq_t$). $\Delta Issue_t$ is the change in earnings guidance issuance in year t, and $\Delta Freq_t$ is the change in earnings guidance frequency in year t. $\Delta LIBOR_{t-1}$ ($\Delta EFed_{t-1}$/ $\Delta OneYrRate_{t-1}$) is the change in LIBOR (effective federal funds rate/ one-year treasury rate) in year $t-1$. $SurpriseFed_{t-1}$ is the sum of the unexpected change in the target federal funds rate around the FOMC meeting in year $t-1$. The unexpected change around FOMC meeting is implied from the change in the future price of federal rates after the meeting. $ExpectedFed_{t-1}$ is the sum of the expected change in the target federal funds rate in year $t-1$, equal to the total change in the target federal rate minus the unexpected change. The coefficients of control variables are omitted. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1) $\Delta Issue_t$	(2) $\Delta Freq_t$	(3) $\Delta Issue_t$	(4) $\Delta Freq_t$	(5) $\Delta Issue_t$	(6) $\Delta Freq_t$	(7) $\Delta Issue_t$	(8) $\Delta Freq_t$
$\Delta LIBOR_{t-1}$	0.0136***	0.0103***						
	(5.29)	(3.63)						
$\Delta EFed_{t-1}$			0.0208***	0.0400***				
			(7.10)	(10.70)				
$\Delta OneYrRate_{t-1}$					0.0070***	0.0044**		
					(3.83)	(2.23)		
$ExpectedFed_{t-1}$							0.0155***	0.0104***
							(5.13)	(2.80)
$SurpriseFed_{t-1}$							0.0373***	0.0955***
							(3.57)	(6.84)
Constant	0.0292	0.0396***	0.0399**	0.0822***	0.0259	0.0511***	0.0462**	0.0899***
	(1.53)	(3.05)	(2.23)	(7.34)	(1.42)	(4.30)	(2.56)	(7.22)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.0123	0.0158	0.0177	0.0259	0.0164	0.0224	0.0175	0.0243
N	37,274	37,274	42,610	42,610	42,610	42,610	42,610	42,610

Table 4: Robustness tests II—Alternative specifications

This table shows robustness tests using alternative specifications. In Panel A, $\Delta FreqQTR_t$ is the change in quarterly earnings guidance frequency in year t and $\Delta FreqANN_t$ is the change in annual earnings guidance frequency in year t. $Issue_t$ is an indicator variable equal to one if there is at least one management earnings forecast within calendar year t, zero otherwise. $Freq_t$ is the natural logarithm of the number of management earnings forecasts within calendar year t + 1.The models in columns 5 and 6 are estimated using firm-quarter sample. $\Delta QIssue_q$ ($\Delta QFreq_q$) is the change in earnings guidance issuance (frequency) in quarter q. ΔFed_{t-1} is the change in yearly target federal funds rate in year $t - 1$. Fed_{t-1} is the target federal funds rate in the end of year $t - 1$. $\Delta QFed_{q-1}$ is the change in quarterly target federal funds rate in quarter $q - 1$. In Panel B, I limit samples to the period after the implementation of Regulation FD in columns 1 and 2 and exclude samples during financial crisis period in columns 3 and 4. In columns 5 and 6, I limit the samples to firms located in the states whose income growth is less synchronized with national economic cycles. In Panel C, I define the FOMC meeting as a shock when the Fed announces an increase or decrease of at least 50 basis points in the federal funds rate. The dependent variable in column 1 (2) is $\Delta IssueFOMC_t$ ($\Delta FreqFOMC_t$). $\Delta IssueFOMC_t$ ($\Delta FreqFOMC_t$) is the change in earnings guidance issuance (frequency) from one year prior to the FOMC meeting to one year after the meeting. $\Delta FedFOMC_{t-1}$ is the change in the target federal funds rate around the FOMC meeting. The coefficients of control variables are omitted. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Panel A: Alternative specifications I						
	(1)	(2)	(3)	(4)	(5)	(6)
	Quarterly guidance	Annual guidance	Level analysis		Quarterly change analysis	
	$\Delta FreqQTR_t$	$\Delta FreqANN_t$	$Issue_t$	$Freq_t$	$\Delta QIssue_q$	$\Delta QFreq_q$
ΔFed_{t-1}	0.0271***	0.0262***				
	(8.08)	(8.37)				
Fed_{t-1}			0.0088***	0.0305***		
			(3.55)	(7.89)		
$\Delta QFed_{q-1}$					0.0107***	0.0100***
					(8.33)	(7.47)
Constant	0.0361	0.0517***	-2.3570***	-4.2871***	0.0189***	0.0082*
	(0.92)	(6.44)	(-19.68)	(-21.58)	(3.77)	(2.08)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.0222	0.0119	0.1075	0.1852	0.0018	0.0019
N	42,610	42,610	42,610	42,610	201,763	201,763
Panel B: Alternative specifications II						
	(1)	(2)	(3)	(4)	(5)	(6)
	Post RegFD period		Exclude financial crisis period		Samples in low-sync regions	
	$\Delta Issue_t$	$\Delta Freq_t$	$\Delta Issue_t$	$\Delta Freq_t$	$\Delta Issue_t$	$\Delta Freq_t$
ΔFed_{t-1}	0.0139**	0.0338***	0.0225***	0.0363***	0.0281***	0.0618***
	(2.50)	(4.17)	(7.00)	(9.24)	(6.15)	(10.44)
Constant	0.1136***	0.3283***	0.0438*	0.0858***	0.0850***	0.1824***
	(4.04)	(6.94)	(1.94)	(9.12)	(9.13)	(14.40)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.0073	0.0170	0.0158	0.0235	0.0189	0.0299
N	19,573	19,573	36,994	36,994	24,173	24,173

Panel C: Alternative specifications III		
	(1)	(2)
	Shock Test around the FOMC announcements	
	$\Delta IssueFOMC_t$	$\Delta FreqFOMC_t$
$\Delta FedFOMC_{t-1}$	0.0904***	0.1104***
	(13.21)	(11.51)
Constant	−0.0200	−0.0609
	(−0.45)	(−0.81)
Controls	Yes	Yes
Firm FE	Yes	Yes
R^2	0.1541	0.1766
N	64,632	64,632

Table 5: Persistent monetary policy versus transient monetary policy (H2)

This table presents the results showing the role of policy persistency in the effect of monetary policy on earnings guidance. The dependent variable in columns 1 and 3 (2 and 4) is $\Delta Issue_t$ ($\Delta Freq_t$). $\Delta Issue_t$ is the change in earnings guidance issuance in year t, and $\Delta Freq_t$ is the change in earnings guidance frequency in year t. ΔFed_{t-1} is the change in yearly target federal funds rate in year $t-1$. $Persistent_{t-1}$ ($Reversal_{t-1}$) is an indicator variable equal to one if the change in federal funds rate in year $t-1$ is in the same (opposite) direction as the previous change and zero otherwise. The other variables are defined in Appendix A. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1) $\Delta Issue_t$	(2) $\Delta Freq_t$	(3) $\Delta Issue_t$	(4) $\Delta Freq_t$
$\Delta Fed_{t-1} \times Persistent_{t-1}$	0.0045**	0.0345***		
	(2.18)	(11.87)		
$Persistent_{t-1}$	0.0499***	0.1155***		
	(7.98)	(13.06)		
$\Delta Fed_{t-1} \times Reversal_{t-1}$			−0.0109***	−0.0403***
			(−3.71)	(−9.29)
$Reversal_{t-1}$			−0.0351***	−0.0722***
			(−5.04)	(−7.86)
ΔFed_{t-1}	0.0030	−0.0157***	0.0087**	0.0146***
	(0.87)	(−3.70)	(2.43)	(3.12)
$\Delta Size_{t-1}$	0.0338***	0.0411***	0.0306***	0.0367***
	(3.65)	(3.42)	(3.31)	(3.06)
ΔROA_{t-1}	0.0419***	0.0753***	0.0453***	0.0814***
	(2.75)	(3.90)	(2.97)	(4.20)
ΔLev_{t-1}	−0.0348*	−0.0657**	−0.0323	−0.0656**
	(−1.67)	(−2.40)	(−1.56)	(−2.39)
ΔBM_{t-1}	−0.0467***	−0.0682***	−0.0466***	−0.0714***
	(−7.64)	(−8.69)	(−7.66)	(−9.13)
ΔIO_{t-1}	0.1242***	0.1532***	0.1220***	0.1496***
	(5.29)	(5.03)	(5.19)	(4.90)
$\Delta Analyst_{t-1}$	0.0093	0.0118	0.0087	0.0092
	(1.59)	(1.63)	(1.49)	(1.28)
$\Delta RetVol_{t-1}$	−0.0085***	−0.0139***	−0.0084***	−0.0155***
	(−4.84)	(−6.26)	(−4.86)	(−6.96)
$Litigation_{t-1}$	0.0959*	0.1732***	0.0787	0.1228***
	(1.87)	(6.53)	(1.53)	(4.73)
Mid_Zscore_{t-1}	0.0029	−0.0088	0.0028	−0.0080
	(0.58)	(−1.29)	(0.57)	(−1.16)
$EqIssue_{t-1}$	0.0132**	0.0150**	0.0126**	0.0139*
	(2.34)	(2.02)	(2.23)	(1.86)
ΔEPU_{t-1}	0.0764**	0.1546***	0.0749**	0.1222***
	(2.55)	(4.26)	(2.37)	(3.07)
$\Delta Sentiment_{t-1}$	0.0004	0.0032***	0.0008	0.0037***
	(0.72)	(4.54)	(1.23)	(3.86)
$RegFD$	−0.0859***	−0.1531***	−0.1064***	−0.2106***
	(−7.87)	(−10.95)	(−7.82)	(−11.04)
$Timetrend$	−0.0030**	−0.0032**	0.0030*	0.0121***
	(−2.51)	(−2.18)	(1.68)	(4.83)
Constant	0.0239	0.0315***	0.0253	0.0253**
	(1.32)	(2.76)	(1.38)	(2.05)
Firm FE	Yes	Yes	Yes	Yes
R^2	0.0194	0.0330	0.0184	0.0282
N	42,610	42,610	42,610	42,610

Table 6: Cross-sectional tests- growth opportunities

This table presents the results showing the role of growth opportunities in the effect of monetary policy on earnings guidance. The dependent variable in columns 1 and 3 (2 and 4) is $\Delta Issue_t$ ($\Delta Freq_t$). $\Delta Issue_t$ is the change in earnings guidance issuance in year t, and $\Delta Freq_t$ is the change in earnings guidance frequency in year t. ΔFed_{t-1} is the change in yearly target federal funds rate in year $t-1$. $HighMB_{t-2}$ ($HighTQ_{t-2}$) is an indicator variable equal to one if MB_{t-2} ($TobinQ_{t-2}$) is greater than the median ratio, and zero otherwise, where MB_{t-2} ($TobinQ_{t-2}$) is the ratio of the market value divided by book value (replacement costs). The other variables are defined in Appendix A. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1) $\Delta Issue_t$	(2) $\Delta Freq_t$	(3) $\Delta Issue_t$	(4) $\Delta Freq_t$
$\Delta Fed_{t-1} \times HighMB_{t-2}$	0.0081***	0.0126***		
	(3.84)	(4.14)		
$HighMB_{t-2}$	0.0143***	0.0138**		
	(2.74)	(1.99)		
$\Delta Fed_{t-1} \times HighTQ_{t-2}$			0.0060***	0.0106***
			(2.89)	(3.52)
$HighTQ_{t-2}$			0.0152***	0.0159**
			(2.63)	(2.10)
ΔFed_{t-1}	0.0182***	0.0352***	0.0193***	0.0363***
	(5.55)	(8.40)	(5.88)	(8.68)
$\Delta Size_{t-1}$	0.0251***	0.0333***	0.0240**	0.0318***
	(2.66)	(2.74)	(2.54)	(2.59)
ΔROA_{t-1}	0.0494***	0.0805***	0.0497***	0.0807***
	(3.16)	(4.10)	(3.19)	(4.11)
ΔLev_{t-1}	−0.0308	−0.0676**	−0.0304	−0.0679**
	(−1.44)	(−2.41)	(−1.42)	(−2.41)
ΔBM_{t-1}	−0.0472***	−0.0737***	−0.0473***	−0.0739***
	(−7.63)	(−9.22)	(−7.63)	(−9.24)
ΔIO_{t-1}	0.1243***	0.1491***	0.1248***	0.1500***
	(5.23)	(4.86)	(5.24)	(4.88)
$\Delta Analyst_{t-1}$	0.0070	0.0066	0.0072	0.0067
	(1.17)	(0.90)	(1.20)	(0.91)
$\Delta RetVol_{t-1}$	−0.0086***	−0.0180***	−0.0085***	−0.0179***
	(−4.95)	(−8.02)	(−4.90)	(−7.98)
$Litigation_{t-1}$	0.0868*	0.1409***	0.0879*	0.1411***
	(1.69)	(5.15)	(1.81)	(4.95)
Mid_Zscore_{t-1}	0.0024	−0.0080	0.0025	−0.0080
	(0.48)	(−1.15)	(0.49)	(−1.15)
$EqIssue_{t-1}$	0.0127**	0.0147*	0.0129**	0.0147*
	(2.22)	(1.92)	(2.24)	(1.92)
ΔEPU_{t-1}	0.1587***	0.3449***	0.1585***	0.3443***
	(5.31)	(9.52)	(5.30)	(9.50)
$\Delta Sentiment_{t-1}$	−0.0020***	−0.0031***	−0.0020***	−0.0031***
	(−4.60)	(−5.10)	(−4.57)	(−5.07)
$RegFD$	−0.0589***	−0.0761***	−0.0589***	−0.0760***
	(−5.55)	(−5.52)	(−5.55)	(−5.52)
$Timetrend$	−0.0040***	−0.0079***	−0.0040***	−0.0078***
	(−3.27)	(−5.03)	(−3.24)	(−5.00)
Constant	0.0343*	0.0776***	0.0333*	0.0763***
	(1.91)	(6.47)	(1.93)	(6.05)
Firm FE	Yes	Yes	Yes	Yes
R^2	0.0181	0.0263	0.0180	0.0262
N	41,673	41,673	41,646	41,646

Table 7: Cross-sectional tests—Financial constraints

This table presents the results showing the role of financial constraints in the effect of monetary policy on earnings guidance. The dependent variable in columns 1, 3, 5, and 7 (2, 4, 6, and 8) is $Chssue_t$ ($\Delta Freq_t$). $\Delta Issue_t$ is the change in earnings guidance issuance in year t, and $\Delta Freq_t$ is the change in earnings guidance frequency in year t. ΔFed_{t-1} is the change in yearly target federal funds rate in year $t-1$. $HignSA_{t-2}$ ($HignWW_{t-2}$) is an indicator variable equal to one if $SAIndex_{t-2}$ ($WWIndex_{t-2}$) is greater than the median ratio, and zero otherwise. $LowZ\_Score_{t-2}$ ($LowPayout_{t-2}$) is an indicator variable equal to one if Z_Score_{t-2} ($Payout_{t-2}$) is lower than the median ratio, and zero otherwise. The other variables are defined in Appendix A. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1) $\Delta Issue_t$	(2) $\Delta Freq_t$	(3) $\Delta Issue_t$	(4) $\Delta Freq_t$	(5) $\Delta Issue_t$	(6) $\Delta Freq_t$	(7) $\Delta Issue_t$	(8) $\Delta Freq_t$
$\Delta Fed_{t-1} \times HighSA_{t-2}$	−0.0065***	−0.0101***						
	(−3.14)	(−3.40)						
$HighSA_{t-2}$	0.0098	0.0021						
	(1.14)	(0.17)						
$\Delta Fed_{t1} \times HighWW_{t-2}$			−0.0129***	−0.0190***				
			(−6.26)	(−6.41)				
$HighWW_{t-2}$			0.0071	0.0111				
			(0.88)	(1.00)				
$\Delta Fed_{t1} \times LowZ\_Score_{t-2}$					−0.0085***	−0.0149***		
					(−4.03)	(−4.96)		
$LowZ\_Score_{t-2}$					−0.0078	−0.0129*		
					(−1.33)	(−1.65)		
$\Delta Fed_{t1} \times LowPayout_{t-2}$							−0.0075***	−0.0075**
							(−3.64)	(−2.47)
$LowPayout_{t-2}$							0.0131**	0.0181**
							(2.08)	(2.09)
ΔFed_{t-1}	0.0250***	0.0460***	0.0282***	0.0506***	0.0265***	0.0489***	0.0261***	0.0455***
	(7.64)	(10.86)	(8.50)	(11.81)	(8.03)	(11.41)	(7.95)	(10.65)
$\Delta Size_{t-1}$	0.0278***	0.0367***	0.0302***	0.0382***	0.0259***	0.0323***	0.0306***	0.0392***
	(2.96)	(3.01)	(3.15)	(3.06)	(2.72)	(2.65)	(3.24)	(3.20)
ΔROA_{t-1}	0.0477***	0.0791***	0.0551***	0.0879***	0.0497***	0.0821***	0.0441***	0.0735***
	(3.07)	(4.04)	(3.40)	(4.31)	(3.17)	(4.15)	(2.81)	(3.72)
ΔLev_{t-1}	−0.0304	−0.0669**	−0.0225	−0.0580**	−0.0342	−0.0732***	−0.0311	−0.0685**
	(−1.42)	(−2.38)	(−1.02)	(−1.99)	(−1.59)	(−2.58)	(−1.45)	(−2.43)
ΔBM_{t-1}	−0.0453***	−0.0722***	−0.0454***	−0.0735***	−0.0455***	−0.0723***	−0.0452***	−0.0718***
	(−7.39)	(−9.08)	(−7.34)	(−9.12)	(−7.32)	(−8.93)	(−7.34)	(−9.02)
ΔIO_{t-1}	0.1227***	0.1483***	0.1229***	0.1479***	0.1244***	0.1505***	0.1263***	0.1520***
	(5.16)	(4.83)	(5.09)	(4.74)	(5.23)	(4.90)	(5.30)	(4.95)
$\Delta Analyst_{t-1}$	0.0086	0.0084	0.0098	0.0094	0.0081	0.0075	0.0090	0.0084

	(1.44)	(1.15)	(1.62)	(1.25)	(1.36)	(1.02)	(1.51)	(1.14)
$\Delta RetVol_{t-1}$	−0.0083***	−0.0175***	−0.0083***	−0.0179***	−0.0087***	−0.0182***	−0.0085***	−0.0178***
	(−4.79)	(−7.81)	(−4.66)	(−7.78)	(−5.00)	(−8.09)	(−4.90)	(−7.96)
$Litigation_{t-1}$	0.0781	0.1286***	0.0626	0.1290***	0.0896*	0.1458***	0.0820	0.1356***
	(1.47)	(4.70)	(1.43)	(2.67)	(1.80)	(5.47)	(1.64)	(4.28)
Mid_Zscore_{t-1}	0.0019	−0.0084	0.0029	−0.0071	0.0011	−0.0098	0.0017	−0.0086
	(0.39)	(−1.22)	(0.57)	(−1.01)	(0.22)	(−1.40)	(0.34)	(−1.24)
$EqIssue_{t-1}$	0.0136**	0.0154**	0.0148**	0.0174**	0.0137**	0.0154**	0.0120**	0.0130*
	(2.37)	(2.02)	(2.54)	(2.27)	(2.39)	(2.03)	(2.05)	(1.69)
ΔEPU_{t-1}	0.1583***	0.3445***	0.1609***	0.3508***	0.1589***	0.3454***	0.1593***	0.3456***
	(5.29)	(9.51)	(5.32)	(9.55)	(5.31)	(9.54)	(5.32)	(9.53)
$\Delta Sentiment_{t-1}$	−0.0020***	−0.0031***	−0.0019***	−0.0030***	−0.0020***	−0.0031***	−0.0020***	−0.0031***
	(−4.54)	(−5.07)	(−4.39)	(−4.92)	(−4.60)	(−5.11)	(−4.60)	(−5.12)
RegFD	−0.0582***	−0.0750***	−0.0573***	−0.0749***	−0.0586***	−0.0763***	−0.0600***	−0.0769***
	(−5.48)	(−5.45)	(−5.33)	(−5.37)	(−5.53)	(−5.55)	(−5.64)	(−5.57)
Timetrend	−0.0039***	−0.0079***	−0.0042***	−0.0080***	−0.0041***	−0.0079***	−0.0038***	−0.0077***
	(−3.14)	(−4.97)	(−3.37)	(−5.06)	(−3.32)	(−5.02)	(−3.10)	(−4.89)
Constant	0.0377**	0.0865***	0.0452***	0.0821***	0.0448***	0.0898***	0.0345**	0.0753***
	(1.98)	(6.39)	(2.84)	(4.58)	(2.60)	(7.87)	(1.96)	(5.69)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.0179	0.0260	0.0188	0.0274	0.0180	0.0265	0.0182	0.0261
N	41,673	41,673	40,924	40,924	41,673	41,673	41,580	41,580

Table 8: Additional tests I—The effects of both contractionary and expansionary policy

This table presents the results showing the effect of both contractionary and expansionary monetary policy. The dependent variable in column 1, 3, and 5 (2, 4, and 6) is $\Delta Issue_t$ ($\Delta Freq_t$). $\Delta Issue_t$ is the change in earnings guidance issuance in year t, and $\Delta Freq_t$ is the change in earnings guidance frequency in year t. $\Delta FedFOMC_{t-1}$ is the change in the target federal funds rate around the FOMC meeting. ΔFed_{t-1} is the change in yearly target federal funds rate in year $t-1$. $\Delta FedPos_{t-1}$ ($\Delta FedNeg_{t-1}$) is equal to ΔFed_{t-1} if the federal funds rate in year $t-1$ increases (decreases) and zero otherwise. Fed_Inc_{t-1} (Fed_Dec_{t-1}) equals one if the federal funds rate in year $t-1$ increases (decreases) and zero otherwise. The other variables are defined in Appendix A. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Positive and Negative change		*Asymmetric response to the change in monetary policy*			
	$\Delta Issue_t$	$\Delta Freq_t$	$\Delta Issue_t$	$\Delta Freq_t$	$\Delta Issue_t$	$\Delta Freq_t$
$\Delta FedPos_{t-1}$	0.0202***	0.0315***				
	(6.69)	(8.56)				
$\Delta FedNeg_{t-1}$	0.0269***	0.0658***				
	(5.33)	(10.02)				
$\Delta Fed_{t-1} \times Fed\_Inc_{t-1}$			−0.0215***	−0.0790***		
			(−3.41)	(−10.39)		
Fed_Inc_{t-1}			0.0266***	0.0798***		
			(2.86)	(7.41)		
$\Delta Fed_{t-1} \times Fed\_Dec_{t-1}$					0.0051	0.0348***
					(1.04)	(6.09)
Fed_Dec_{t-1}					0.0048	−0.0016
					(0.64)	(−0.20)
ΔFed_{t-1}			0.0305***	0.0767***	0.0218***	0.0309***
			(6.18)	(11.62)	(5.35)	(7.18)
$\Delta Size_{t-1}$	0.0306***	0.0382***	0.0305***	0.0381***	0.0307***	0.0382***
	(3.30)	(3.19)	(3.30)	(3.18)	(3.31)	(3.19)
ΔROA_{t-1}	0.0448***	0.0725***	0.0461***	0.0765***	0.0446***	0.0726***
	(2.94)	(3.75)	(3.02)	(3.95)	(2.92)	(3.76)
ΔLev_{t-1}	−0.0337	−0.0690**	−0.0324	−0.0651**	−0.0339	−0.0689**
	(−1.62)	(−2.51)	(−1.56)	(−2.37)	(−1.63)	(−2.51)
ΔBM_{t-1}	−0.0454***	−0.0683***	−0.0443***	−0.0651***	−0.0456***	−0.0683***
	(−7.45)	(−8.67)	(−7.24)	(−8.26)	(−7.45)	(−8.66)
ΔIO_{t-1}	0.1187***	0.1557***	0.1158***	0.1470***	0.1202***	0.1552***
	(5.05)	(5.11)	(4.93)	(4.82)	(5.11)	(5.07)
$\Delta Analyst_{t-1}$	0.0086	0.0091	0.0089	0.0100	0.0085	0.0091
	(1.47)	(1.26)	(1.52)	(1.38)	(1.46)	(1.26)
$\Delta RetVol_{t-1}$	−0.0083***	−0.0167***	−0.0077***	−0.0150***	−0.0083***	−0.0167***
	(−4.84)	(−7.56)	(−4.51)	(−6.83)	(−4.88)	(−7.57)
$Litigation_{t-1}$	0.0865*	0.1448***	0.0905*	0.1570***	0.0863*	0.1449***
	(1.68)	(5.49)	(1.76)	(6.43)	(1.67)	(5.50)
Mid_Zscore_{t-1}	0.0031	−0.0067	0.0029	−0.0072	0.0031	−0.0067
	(0.61)	(−0.98)	(0.58)	(−1.05)	(0.62)	(−0.98)
$EqIssue_{t-1}$	0.0123**	0.0146*	0.0123**	0.0145*	0.0124**	0.0146*
	(2.17)	(1.95)	(2.17)	(1.94)	(2.18)	(1.95)
ΔEPU_{t-1}	0.1691***	0.4094***	0.1847***	0.4562***	0.1661***	0.4105***
	(5.15)	(10.11)	(5.71)	(11.21)	(5.09)	(10.13)
$\Delta Sentiment_{t-1}$	−0.0024***	−0.0054***	−0.0032***	−0.0077***	−0.0024***	−0.0054***
	(−4.37)	(−7.49)	(−5.55)	(−9.90)	(−4.37)	(−7.50)
RegFD	−0.0521***	−0.0408***	−0.0317**	0.0204	−0.0550***	−0.0398**
	(−4.41)	(−2.59)	(−2.49)	(1.18)	(−4.55)	(−2.51)
Timetrend	−0.0049***	−0.0124***	−0.0076***	−0.0203***	−0.0047***	−0.0125***
	(−3.57)	(−6.86)	(−5.00)	(−9.79)	(−3.42)	(−6.94)

Constant	0.0485***	0.1193***	0.0534***	0.1338***	0.0451**	0.1204***
	(2.62)	(9.22)	(2.89)	(10.67)	(2.37)	(8.95)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.0178	0.0267	0.0181	0.0281	0.0178	0.0266
N	42,610	42,610	42,610	42,610	42,610	42,610

Table 9: Additional tests II—The effect of unconventional monetary policy

This table presents the results showing the effect of unconventional expansionary monetary policy on earnings guidance. I follow Gilchrist et al. (2015) and Gilchrist et al. (2019) to indicate the key FOMC meeting between 2008 and 2015 that announces unconventional monetary policy, including implementing QE program or providing forward guidance. The unconventional policy during this particular period is to further stimulate the economy and thus could be classified as expansionary monetary policy. The details about the announcements are listed in Appendix B. I include the earnings guidance both one year before the FOMC announcements and one year after the announcements in the sample and examine whether the issuance and frequency of earnings guidance changes after the FOMC meetings. The dependent variable in columns 1, 3, and 5 (2, 4, and 6) is *IssueFOMC* (*FreqFOMC*). *IssueFOMC* is an indicator variable equal to one if there is at least one management earnings forecast within one year, and zero otherwise. *FreqFOMC* is the natural logarithm of the number of management earnings forecasts within year $t + 1$. *PostUncon* is an indicator variable equal to one for the post-announcements samples and zero for the pre-announcements sample. In columns 3 and 4 (5 and 6), I define the FOMC meeting as a shock when the Fed announces implementing a QE program (provides forward guidance) during 2008 and 2015. The other variables are defined in Appendix A. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Unconventional expansionary monetary policy announcements		*Quantitative easing*		*Forward guidance*	
	IssueFOMC	*FreqFOMC*	*IssueFOMC*	*FreqFOMC*	*IssueFOMC*	*FreqFOMC*
PostUncon	−0.0148***	−0.0239***	−0.0202***	−0.0341***	−0.0144***	−0.0204***
	(−3.91)	(−3.63)	(−5.02)	(−5.04)	(−3.51)	(−2.73)
Size	−0.0000	−0.0120	−0.0009	−0.0148	0.0035	−0.0048
	(−0.01)	(−0.94)	(−0.12)	(−1.17)	(0.44)	(−0.34)
ROA	0.0048*	0.0091**	0.0049*	0.0092**	0.0046	0.0090*
	(1.88)	(2.08)	(1.94)	(2.15)	(1.53)	(1.75)
IO	0.0802***	0.1404***	0.0816***	0.1420***	0.0693***	0.1163***
	(4.61)	(4.44)	(4.62)	(4.46)	(4.06)	(3.77)
Analyst	0.0248***	0.0327***	0.0250***	0.0342***	0.0269***	0.0360***
	(4.22)	(3.34)	(4.21)	(3.46)	(4.19)	(3.33)
RetVol	−0.0019*	−0.0037**	−0.0018*	−0.0031*	−0.0033***	−0.0063***
	(−1.85)	(−2.23)	(−1.72)	(−1.86)	(−2.71)	(−3.07)
Mid_Zscore	0.0017	−0.0024	0.0017	−0.0023	0.0030	−0.0036
	(0.30)	(−0.25)	(0.31)	(−0.25)	(0.47)	(−0.33)
Lev	0.0064*	0.0111*	0.0062*	0.0103*	0.0067	0.0122
	(1.72)	(1.81)	(1.73)	(1.83)	(1.49)	(1.61)
EqIssue	0.0075	0.0135	0.0078	0.0147	0.0047	0.0083
	(1.31)	(1.34)	(1.35)	(1.45)	(0.76)	(0.77)
BM	−0.0003*	−0.0005*	−0.0003*	−0.0005*	−0.0003**	−0.0006**
	(−1.85)	(−1.93)	(−1.89)	(−1.95)	(−2.00)	(−2.08)
LnEPU	−0.0048	−0.0731	0.0236	−0.0282	−0.0409	−0.1310**
	(−0.16)	(−1.49)	(0.77)	(−0.56)	(−1.10)	(−2.07)
Sentiment	0.0686	0.1062	0.1148**	0.1800*	−0.0315	−0.0737
	(1.31)	(1.23)	(2.04)	(1.95)	(−0.46)	(−0.67)
Litigation	−0.1731	−0.2680	−0.1728	−0.2566	−0.2146	−0.3448
	(−1.03)	(−1.11)	(−1.05)	(−1.12)	(−1.09)	(−1.14)
Constant	0.2902	0.9239***	0.1240	0.6600**	0.5460**	1.3549***
	(1.53)	(2.94)	(0.63)	(2.04)	(2.26)	(3.35)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.8115	0.8553	0.8073	0.8516	0.8041	0.8475
N	87,736	87,736	75,931	75,931	36,522	36,522

Table 10: Additional tests III—The effects on other earnings guidance features

This table presents the results showing the effect of monetary policy on other earnings guidance features. The dependent variable in column 1 (2) is $\Delta Horizon_t$ ($\Delta Precision_t$). $\Delta Horizon_t$ ($\Delta Precision_t$) is the change in yearly earnings guidance horizon $Horizon_t$ (precision $Precision_t$) in year t. $Horizon_t$ is the natural logarithm of the number of days between the forecast announcement day and the forecast fiscal-period end date within calendar year $t + 1$ (Lo 2014). $Precision_t$ is the average management earnings forecast precision in current year t. The management forecast precision is a categorical variable equal to one for general impression forecasts, two for minimum and maximum forecasts, three for range forecasts, and four for point forecasts (Baginski and Rakow 2012). ΔFed_{t-1} is change in yearly target federal funds rate in year $t - 1$.The other variables are defined in Appendix A. The models are estimated using OLS regressions. The t-statistics, shown in parentheses, are estimated on standard errors clustered by firm. ***, **, and * denote the statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

	(1) $\Delta Horizon_t$	(2) $\Delta Precision_t$
ΔFed_{t-1}	0.1163***	0.0685***
	(8.16)	(7.37)
$\Delta Size_{t-1}$	0.1132***	0.0821***
	(2.60)	(2.90)
ΔROA_{t-1}	0.1877***	0.1124**
	(2.64)	(2.48)
ΔLev_{t-1}	−0.2273**	−0.1483**
	(−2.33)	(−2.36)
ΔBM_{t-1}	−0.1899***	−0.1328***
	(−6.87)	(−7.50)
ΔIO_{t-1}	0.4805***	0.3391***
	(4.48)	(4.72)
$\Delta Analyst_{t-1}$	0.0282	0.0158
	(1.03)	(0.91)
$\Delta RetVol_{t-1}$	−0.0411***	−0.0252***
	(−5.05)	(−5.05)
$Litigation_{t-1}$	0.4384**	0.4337***
	(2.24)	(4.53)
Mid_Zscore_{t-1}	0.0189	0.0144
	(0.81)	(0.95)
$EqIssue_{t-1}$	0.0391	0.0240
	(1.50)	(1.40)
ΔEPU_{t-1}	0.9189***	0.4377***
	(6.75)	(5.03)
$\Delta Sentiment_{t-1}$	−0.0088***	−0.0068***
	(−4.42)	(−5.20)
$RegFD$	−0.2127***	−0.2237***
	(−4.38)	(−7.14)
$Timetrend$	−0.0249***	−0.0061*
	(−4.44)	(−1.67)
Constant	0.2089***	0.0475
	(3.00)	(1.34)
Firm FE	Yes	Yes
R^2	0.0167	0.0165
N	42,610	42,610