



# Do FOMC minutes matter to markets? An intraday analysis of FOMC minutes releases on individual equity volatility and returns

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## ABSTRACT

This paper examines the 2006 to 2007 time period to determine the extent to which the release of the Federal Reserve minutes affects equity volatility and returns for 2832 individual firms. Using intraday data, we find that equity returns are essentially unaffected by FOMC minutes releases. We do find evidence of volatility effects, in that conditional volatility is lower prior to the minutes release and higher after the minutes release on release days, relative to a “control” day one week prior to the release date. These differences manifest at the 2:00–2:05 pm interval, and generally dissipate within 15 min. Consistent with previous literature, we also find evidence of both industry-specific and firm size effects in our data. Finally, we see that volatility is higher (lower) when the minutes are released after the Federal Reserve engages in restrictive (expansionary) monetary policy. Our results are robust to a variety of different definitions of the “control” dates, as well as differing industry definitions.

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## 1. Introduction

This paper examines the extent to which financial market participants respond to Federal Reserve Open Market Committee minutes releases. The release of the Federal Open Market Committee minutes constitutes a pure intraday news event, a relatively rare phenomenon in U.S. financial markets. In contrast to other government news events (e.g. the weekly jobs report), which occur outside of trading hours for equities, and in contrast to all corporate news events (e.g. earnings calls), FOMC minutes have been released at 2:00 pm the third week following the corresponding monetary policy meeting since 2004. Prior to December 2004, the minutes for the previous FOMC meeting were released three days after the decision for the subsequent FOMC meeting; the lag therefore was sufficiently long that new monetary policy information had already been received by market participants, greatly depreciating the economic value of the information event. Our study analyzes the 2006 and 2007 period in an effort to discern whether or not market participants react to the central bank minutes detailing the macroeconomic conditions in the United States in a manner above and beyond the original FOMC statements (and actions, if taken) themselves.

There are some valid reasons why the FOMC minutes are of potential interest to financial markets. Additional information about the current formation of monetary policy could help to clarify expectations about the future path of interest rates in an economy. This incremental information could be used to generate more accurate forecasts of other macroeconomic variables (e.g. unemployment and inflation) as well allow market participants to revise their expectations of future asset prices, which could potentially increase the efficacy of monetary policy. [Haldane and Read \(2000\)](#) argues that the move towards greater central bank transparency causes market participants to focus on central bank announcements less and macroeconomic news more. The minutes may also help market agents determine which macroeconomic indicators are of particular interest to monetary policymakers at a given point in time. The recent decision by the Federal Reserve to publish forecasts of short-term interest rates, and the consequent positive response by U.S. equities market to this policy change, appears to confirm that market participants value this newly available information as an error reduction mechanism in their decision-making processes.

It is worth discussing the benefits of the minutes to market participants above and beyond the initial FOMC announcements. One hypothesis is that the minutes release contains no new relevant information, and that the additional details put forth by the Federal Reserve three weeks after the announcement itself is chiefly for political reasons and does not represent an actual increase in transparency. It is also possible that the minutes do contain new, albeit lagged,

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information about the discussions and data that helped bring about the FOMC decision. If this latter explanation has merit and the minutes do contain incremental information, then the FOMC minutes release has the potential to aid traders with the forecasting of future monetary policy decisions<sup>2</sup>. For example, consider one such set of news releases in early 2012. The FOMC announcement on Tuesday, January 25 was a one-page report totaling 450 words. In contrast, the subsequent minutes release on Wednesday, February 15 was a 16-page document totaling 11,202 words<sup>3</sup>. While more information does not always make for more efficient trading outcomes due to the dissemination issues involving large amounts of data, it is certainly conceivable that the minutes release does represent a non-trivial information set<sup>4</sup>.

Our paper contributes to the extant literature in the following ways. First, we analyze the effects of the FOMC minutes releases, as opposed to decisions, on the returns and volatility series (absolute returns) of individual equity securities (Fig. 1). While there is a substantial body of literature devoted to examining the effect of Federal Reserve monetary policy actions on financial markets, significantly less effort has been devoted to examining the effects of FOMC minutes releases on the same markets. Also, the number of studies that have examined the interaction of the Federal Reserve and financial markets at the individual security level is practically nonexistent. Our analysis is also significantly more comprehensive than most other studies, as we analyze the returns and volatility series for over 2800 individual equities. Finally, we explicitly test whether monetary policy has heterogeneous effects across individual equities, based on firm size and industry type.

We focus on examining individual equity securities for several reasons. First, Campbell, Lettau, Malkiel, and Xu (2001), in their seminal article, noted there is a dearth of research on the behavior of individual securities. This subsequently generated a major strand of literature focusing on idiosyncratic volatility and individual firm behavior and, while we do not study idiosyncratic volatility, per se, there is clearly a demonstrated need for studies that examine the behavior of individual firms<sup>5</sup>. Second, there is a separate body of literature examining the behavior of individual investors and their portfolio decisions. A common finding from these studies (see Gemmill and Keswani (2011), Goetzmann and Kumar (2008), Benartzi and Thaler (2001, 2007), and Barber and Odean (2000), among others) is that individual investors do not hold well-diversified portfolios of securities. Given this slightly troubling data, it behooves researchers to examine the temporal dynamics of individual firms, as they are the most likely to be found in individual portfolios. Finally, we note there is a significant body of literature arguing that the inclusion of a stock into an index

fundamentally alters the behavior of that security<sup>6</sup>. Some of these effects are so long lasting as to be, essentially, permanent.

Our findings indicate that financial market participants respond quickly to the FOMC minutes release, and that the reaction is heterogeneous across observable firm characteristics. We find the FOMC minutes releases have no (or a very limited) effect on the conditional returns series of our sample firms. However, we do find evidence that FOMC minutes releases significantly influence the volatility (absolute returns) of a substantial minority of the firms considered our sample. We conclude that market participants pay attention to and respond to the minutes releases, but these releases are probably of secondary importance relative to the actual FOMC interest-rate decisions. We discover evidence of a differential effect of minutes across industries and firm sizes; with appreciably more large firms being influenced by the FOMC minutes releases, relative to small firms. We also find firms in more capital intensive and consumer focused industries are more responsive to the minutes releases compared to firms in less capital intensive and less consumer focused industry groups. Finally, we document an asymmetric volatility response wherein FOMC minutes that are released following a target rate increase are treated differently by financial market participants than FOMC minutes that are released subsequent to a target rate decrease or minutes that are released following no policy rate change.

The paper proceeds as follows. Section 2 examines the literature surrounding this issue, while Section 3 describes the models and methods used in this study. Section 4 covers our results and policy implications, while Section 5 offers conclusions and promising research extensions.

## 2. Background

Our paper fills a notable gap in the literature, by examining a regularly scheduled and anticipated intraday news event using a dramatically expanded set of financial data from most other studies, and determining the heterogeneous impacts of these news releases on equities based on individual firm characteristics and central bank action types<sup>7</sup>.

There exists a voluminous literature focusing on the interrelation between monetary policy and financial markets. Virtually all of these studies investigate the impact of monetary policy decisions on equities markets, bond markets, or money markets and, as a rule, focus exclusively on regularly scheduled central bank announcement dates following internal policy meetings. These studies empirically investigate the corresponding market reactions to the actual meeting dates and consequent rate actions (if any) and use low frequency financial market data in their analysis. Studies examining the impact of central bank announcements using daily data include Bomfim (2003), Lange, Sack, and Whitesell (2003), Bernanke and Kuttner (2005), Tomljanovich (2007), and Chuliá-Soler, Martens, and Dijk (2010), among others. Overall, these papers show that financial markets respond to unanticipated policy moves for many developed countries, and most find asymmetric effects depending on the direction of the rate change.

There is a growing body of literature that uses intraday data to examine the effects of central bank news on financial markets. Such studies have inevitably used index data or have examined a limited number of financial assets. Lunde and Zebedee (2009) employs a

<sup>2</sup> This is a reason given by the Federal Reserve in December 2004 when reducing the lag time of the minutes release to three weeks: "Participants noted that the minutes contained a more complete and nuanced explanation of the reasons for the Committee's decisions and view of the risks to the outlook than was possible in the post-meeting announcement, and their earlier release would help markets interpret economic developments and predict the course of interest rates. ... Meeting participants supported the principle of openness and transparency, but debated the possibility that the markets would misinterpret the minutes and that the prospect of early release would lead to either less productive discussions at the meetings or to less comprehensive, and therefore less useful, minutes." (Federal Reserve, 2005)

<sup>3</sup> In addition, details on macroeconomic forecasts for the U.S. economy (Summary of Economic Projections) comprised another 15 pages of the document.

<sup>4</sup> Another question arises at this point — how long does it take a trader to absorb this amount of information? It is likely that some institutional investors use software programs that scan through the minutes searching for key words or phrases, and execute trades based on the frequency of particular occurrences (e.g. multiple uses of the word 'strained' may trigger a sell order). Examples of these techniques include Latent Semantic Analysis (LSA) and Latent Dirichlet Allocation.

<sup>5</sup> A highly incomplete list of articles in this idiosyncratic volatility include, but are not limited to: Rajgopal and Venkatachalam (2011), Peterson and Smedema (2011), Lee and Liu (2011), Gemmill and Keswani (2011), Taylor (2010), Fink, Fink, Grullon, and Weston (2010), Jiang, Xu, and Yao (2009), Irvine and Pontiff (2009), Bali and Cakici (2008), Arena, Haggard, and Yan (2008), and Gaspar and Massa (2006).

<sup>6</sup> A very incomplete list of some of these studies include Lee and Liu (2011), Peterson and Smedema (2011), Taylor (2010), Jiang et al. (2009), Irvine and Pontiff (2009), Mase (2007), Cai (2007), Rajgopal and Venkatachalam (2011), Chen, Noronha, and Singal (2004), among others.

<sup>7</sup> In a Federal Reserve Bank of New York discussion paper, Boukus and Rosenberg (2006) considers the information content of FOMC minutes from 1987–2005, and finds that U.S. Treasury yields respond to minutes releases, with the magnitudes dependent on the themes, levels of monetary policy uncertainty, and economic outlooks contained in the documents.

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