



# The effects of monetary policy on stock returns: Financing constraints and “informative” and “uninformative” FOMC statements



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## ABSTRACT

We use firm-level data to reexamine the issue of possibly different impacts of “informative” and “uninformative” FOMC statements on stock returns in the period from 1999 to 2007. Our paper finds that stock returns respond significantly to surprise monetary shocks based on the informative FOMC statements; there is little evidence to show that stock returns respond to surprise monetary shocks based on uninformative statements.

We ask how these impacts respond to the relative ability of firms to obtain external finance. Our results indicate that the stock returns of firms that are financially constrained still respond significantly more to monetary policy shocks than less constrained ones based on the informative statements. By comparing firms with medium and low capacities for external finance based on the informative statements, it is found that firms with low capacity for external finance are more significantly affected by the impacts of a surprise monetary policy action than firms with medium capacity for external finance. However, when controlling the capacity for external finance, a monetary surprise has no significant impact on stock returns based on the uninformative statements.

We also find that the response of stock returns to a negative target surprise is significant. However, the response to a positive target surprise is insignificant, which implies that market investors respond more rationally to good news (negative target surprises) than to bad news (positive target surprises). For a good news monetary shock, informative statements have larger impacts on stock returns than uninformative statements. However, for a bad news monetary shock, neither informative nor uninformative statements have significant impacts on stock returns.

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## 1. Introduction

There are several articles that have sought to investigate how monetary policy influences stock returns. Kwopil and Scharler (2013) find the evidence the expected changes in monetary policy rates influence bank lending rates in the U.S., therefore it implies monetary policy shocks affect firm's investments and stock returns. Chao, Hu, Tai, and Wang (2011) use a monetary framework with stock markets to find that monetary policy announcements cause stock prices have various dynamic adjustments. Bernanke and Kuttner (2005) find that the stock market is unlikely to respond to anticipated monetary policy actions. Some articles show that stock returns respond strongly to surprise changes in the Federal funds rate (Basistha & Kurov, 2008; Bernanke & Kuttner, 2005; Ehrmann & Fratzscher, 2004; Guo, 2004; Jansen & Tsai, 2010; Laeven & Tong, 2012), while another set of articles examines how monetary policy has asymmetric impacts on stock returns with asymmetries linked to firm characteristics such as capital intensity, firm size, and financial constraints. These asymmetries are of special interest because theoretical work, particularly work on the credit channel of monetary policy, suggests that monetary policy may have asymmetric

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impacts on firms and firm values depending on firm financial characteristics, even for firms in the same industry. For instance, Ehrmann and Fratzscher (2004) find that capital-intensive industries are affected more by surprise changes in monetary policy. Ehrmann and Fratzscher (2004) report that as firms are more financially constrained, they are more strongly influenced by monetary policy shocks. On the other hand, Scharler (2008) find stock returns of the higher exposure of bank-dependent firms respond more to monetary policy shocks. Basistha and Kurov (2008) also find that stock returns respond more strongly to surprise changes in monetary policy during recessions, and in tight credit market conditions. Since the external finance premium is larger in bear markets than it is in bull markets, Jansen and Tsai (2010) and Kurov (2010) provide evidence that the stock returns of firms in a bear market exhibit a higher magnitude response to monetary policy actions than those same firms in a bull market.

The above papers describe how the changes in the Federal funds rate target influence the stock returns. Recent studies find that central bank communication also has a significant impact on stock returns (Farka, 2011; Gurkaynak, Sack, & Swanson, 2005; Kohn & Sack, 2004; Rosa, 2011). For example, Kohn and Sack (2004) find that days on which there are FOMC statements and testimonies by Alan Greenspan lead to a higher variance in asset prices compared to no-FOMC statement days. Reeves and Sawicki (2007) find that central bank communication creates additional news which is evidenced by an increase in volatility in financial assets. Gurkaynak et al. (2005) show that FOMC statements have explained most of the variation in the 5-year and 10-year yields.

FOMC statements always provide some information about the Fed's view on the economic outlook, some important forces that are likely to shape future developments and potential implications for monetary policy. Thus, on policy announcement days, market investors monitor closely not only how much of a change the Fed decides on the interest rate, but also what FOMC statements say. Farka (2011) separates FOMC statements into two groups: "informative" and "uninformative". The information delivered by an "informative FOMC statement" always creates news in the sense that the content is both important and unexpected. "Uninformative FOMC statements" do not create additional news as their information is well anticipated by the market participants; on the other hand, they may be able to reduce noise by confirming market expectations about the economic outlook and the path of monetary policy. Since informative FOMC statements deliver the unexpected contents of FOMC statements, they could change market investors' expectations about the future path of monetary policy. Farka (2011) therefore finds evidence that informative statements have larger impacts on the S&P 500 index than uninformative statements.

Considering that monetary policy affects individual stocks in a strongly heterogeneous fashion, in this paper we are concerned with how individual stocks respond differently to informative and uninformative FOMC statements. We improve on these earlier efforts by using firm-level data to test how individual stocks respond to the content of FOMC statements instead of using the S&P 500 index. Thus, our first goal in this paper is to reinvestigate whether an informative statement has a significantly different impact on individual stock returns compared to an uninformative statement.

Besides the credit channel of monetary policy suggesting that monetary policy may have heterogeneous impacts across firms, a number of recent papers have used data on individual stocks to examine the asymmetric response of stock returns to monetary policy announcements between firms with more financial constraints and firms with fewer financial constraints. The capacity for external finance is thought to be lower for firms with more financial constraints. Ehrmann and Fratzscher (2004) provide evidence that stock returns of firms with more financial constraints exhibit a higher magnitude response to monetary policy actions than those firms with fewer financial constraints.<sup>1</sup> However, Ehrmann and Fratzscher (2004) use daily stock returns data, and also use daily data for Federal funds futures to measure the surprise component of the Federal funds rate target change.

The event-study methodology based on using daily stock returns and measuring the policy action as the surprise component of the change in the Federal funds rate target is a popular approach used to examine the effects of monetary policy on the stock market. See, for example, Laeven and Tong (2012), Jansen and Tsai (2010), Kurov (2010), Basistha and Kurov (2008), Bernanke and Kuttner (2005), Ehrmann and Fratzscher (2004), and Guo (2004). However, one problem with the approach used in these papers, and especially when that approach is combined with the use of stock returns at the daily frequency, is that the day of an FOMC announcement may also be a day when other news occurred that impacted stock returns. This raises the possibility that the effect attributed to monetary policy might in fact reflect a confounding of the effect of monetary policy and the effect of some other factors. This possibility can reduce the precision and bias the estimates of the impact of monetary policy actions on stock returns. Farka (2009) calls this the "omitted variable bias," the bias resulting from omitting consideration of the other news that occurs on days of FOMC announcements. Farka (2009) also raises the possibility of an "endogeneity bias," a bias caused by possible simultaneous interactions between stock returns and monetary policy actions.

Recent studies have devoted considerable attention to correctly identifying the monetary policy shock. One method of eliminating the "omitted variables bias" is to use higher frequency data (as suggested by Hausman and Wongswan (2011), Ammer, Vega, and Wongswan (2010), Chulia, Martens, and van Dijk (2010), and Farka (2009)). Using intraday stock returns allows the construction of a narrower window around the FOMC announcement, and mitigates the impact of other news occurring on the same day as the FOMC announcement.

Because of this, the Ehrmann and Fratzscher (2004) paper may suffer from "omitted variable bias" and "endogeneity bias." Our second goal in the present paper is to use intraday data to reexamine the issue of possible asymmetries in the impact of monetary policy surprises on the stock returns of financially constrained and unconstrained firms. In order to enable our paper to test the efficient markets hypothesis whereby asset prices should reflect all information available at any point in time, we shrink the window interval of the FOMC announcement. We compute the narrower high-frequency surprise change in the Federal funds rate

<sup>1</sup> Ehrmann and Fratzscher (2004) find that firms are more strongly impacted by monetary policy if they have low cash flows, small size, poor credit ratings, low debt to capital ratios, high price-earnings ratios, or a high Tobin's  $q$ .

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