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Impact of the federal open market committee's meetings and scheduled macroeconomic news on stock market uncertainty

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Abstract

This study investigates the impact of the scheduled Federal Open Market Committee (FOMC) meetings and the scheduled macroeconomic news releases on stock market uncertainty. For that purpose, the behavior of the implied volatility of the S&P100 index (VIX) is investigated around the FOMC meeting days and around the employment, producer price index (PPI), and consumer price index (CPI) reports. The results support the hypothesis that implied volatility increases prior to the scheduled news and drops after the announcement. The results reveal that investors regard the FOMC meetings as highly significant for valuing stocks as hypothesized. Of the macroeconomic news releases, the employment report has the largest impact on uncertainty, whereas investors regard the information content of the PPI and CPI together as significant.

JEL classification: E52; G14
Keywords: FOMC meeting; Implied volatility; Index options; Macroeconomic news; Uncertainty

1. Introduction

This paper investigates uncertainty on the stock market around scheduled macroeconomic news announcements and scheduled Federal Open Market Committee (FOMC) meeting days. The monetary policy of the Federal Reserve affects macroeconomic variables, such as interest rates, directly and indirectly. The FOMC decides its policy in regular meetings. Shortly after each of its meetings, the FOMC issues a statement that includes its assessment of the economic outlook. In addition, information

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releases of macroeconomic variables, such as inflation rate and unemployment rate, have a great impact on the valuation of financial assets. Therefore, the market participants closely follow the announcements providing information on these macroeconomic variables and the FOMC's statements. Inasmuch as the dates of these news releases are known in advance, but not their contents, market uncertainty is affected by forthcoming releases.

The paper focuses on the impact of the employment report, the producer price index (PPI) report, and the consumer price index (CPI) report on uncertainty on the U.S. stock market. These reports are major macroeconomic indicators, which are widely followed by investors and have been chosen for the analysis inasmuch as previous studies show that they have a significant impact on the pricing processes of financial assets (see, e.g., Christie-David, Chaudhry, & Koch, 2000; Ederington & Lee, 1993, 1996; Fleming & Remolona, 1999; Harvey & Huang, 1991). Furthermore, the study also focuses on the impact of the FOMC meetings. It can be expected that the monetary policy conducted by the FOMC is closely followed by the market participants (see, e.g., Thorbecke, 1997; Thornton, 1998).

To investigate stock market uncertainty, the implied VIX of S&P100 options prices is used. Implied volatility can be interpreted as a market's expectation of the average return volatility over the remaining life of the option contract (see Merton, 1973). Consequently, it is expected that the uncertainty around the scheduled news release will be reflected in implied volatility.

The paper contributes to the existing literature in at least two main ways. First, while earlier literature (see Chen, Mohan, & Steiner, 1999; Jensen, Johnson, & Bauman, 1997; Lobo, 2000; Thorbecke, 1997; Thornton, 1998) examines the effects of monetary policy on the stock pricing process (i.e., return and realized volatility), this study investigates the effects of the FOMC meetings on market uncertainty.

Second, the paper extends the study by Ederington and Lee (1996) by examining the FOMC meetings in addition to macroeconomic news releases. Furthermore, this paper uses data from a stock market, whereas Ederington and Lee use data from interest rate and foreign exchange markets. In addition, the study extends the previous studies by Donders and Vorst (1996), and Ederington and Lee by examining the behavior of implied volatility not only on the announcement day but also separately on days surrounding the release day. This makes it possible to test directly whether the increase in implied volatility is gradual as expected based on option theory.

The remainder of the study is organized as follows. Section 2 analyses the impact of scheduled news releases on implied volatility. The data are described in Section 3. Section 4 presents the research methodology. Section 5 provides results and Section 6 concludes the paper.

2. Impact of scheduled announcements on implied volatility

Financial asset prices are more volatile around scheduled information releases, such as macroeconomic news releases and earnings announcements, than during the nonannouncement periods as documented, for instance, by Donders and Vorst (1996), Eder-