

EFFECT OF THE FEDERAL RESERVE INTEREST RATE CHANGE ON THE RETURNS OF COMMERCIAL BANKS STOCKS

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ABSTRACT

The effects of two cases of interest rate change by the Fed on the commercial banks' stocks are investigated. One is a rate hike and the other is rate cut. The event study is used to determine abnormal stock returns, which are then explained by a set of financial ratios in a multiple regression model. The results indicate that a rate cut, as expected, has a positive effect on the banks' stocks. In the case of the rate hike, some pre-event negative stock returns are followed by positive returns on the event day. This can be explained as being an anticipated rate hike with less than expected magnitude. Financial Leverage and relative size of the securities portfolio partially explain the magnitude of the abnormal stock returns.

INTRODUCTION

Financial intermediation performed by commercial banks exposes them to interest rate risk. Banks, of course, attempt to hedge this risk using various available techniques and attempt to create new ones. The issue of banks ability to effectively manage this risk exposure is of interest to both bankers and academic researchers. A related issue is how the Federal Reserve interest rate change affects banks, and what bank strategies are effective in such a situation. Due to the structure of the banks' assets and liabilities, a rate cut is expected to have a positive effect on the banks' stocks, while a rate hike would have the opposite effect. There is a need to examine these issues over time as the banks' regulatory and technological environments change.

The following two cases of change in interest rate are of special interest. On June 30, 1999, the Fed raised the Federal Funds rate by $\frac{1}{4}\%$. This was the first rate increase in well over two years. On January 3, 2001, the Federal Reserve cut the Fed Funds rate $\frac{1}{2}\%$. On the next day, January 4, 2001, the Fed dropped the Discount rate $\frac{1}{4}\%$. These moves, on January 3 and 4 of 2001 represented the first drop in rates since November 17th of 1998. These two events are representation of direction reversal in interest rate changes which took place after a long pause. This study examines these two cases of interest rate change.

METHODOLOGY

This study uses a two-stage data analysis model. First, the event study methodology is employed to compare risk-adjusted returns to the actual returns in order to detect any abnormal returns. In the second stage of this study, four financial ratios are used as proxies for bank strategies in a multiple regression model to explain the magnitude of the abnormal returns.

Commercial banks in the COMPUSTAT database with continuous trading data recoded in the Center for Research in Security Prices (CRSP) database for the period of 1998 to 2002 are included in the sample. This is to provide the price data for the event study of the two cases of interest rate change as well as the financial data for the regression. The sample size is 272.

THE RESULTS

For the June 30, 1999 case of interest rate hike, significant negative average abnormal returns (AAR) on days -4 and -3 are observed which can be interpreted as the market anticipating a rate hike. In fact, The Wall Street Journal published a number of articles with headlines such as “*Rate Concerns Loom As Stocks End Mixed*” on 06/24/99 (Day -4) or “*Rate Jitters Grab Market*” on 06/25/99 (Day -3). However, the observed significant positive cumulative abnormal returns (CAR) on days -1, 0 is contrary to expectation. The June 30, 1999 rate hike occurred after a long period of rise in stock prices which had created the concern about overpriced stocks and the famous term of “exuberance.” It is possible that under that condition, the market expected a rate hike of ½ percent or more, but the actual rate hike was only ¼ percent.

For the January 3, 2001 case of interest rate cut, both AAR and CAR around the event day are positive and significant. The results, in this case are very much in line with expectations and consistent with prior research, such as Flannery and James [3], Ahmed and Takeda [1], and Elayasiyani and Mansur [2].

Concerning explanatory variables that can predict the sensitivity of bank stocks to interest rate changes, only two ratios are found having significant explanatory power; one for an environment of rising interest rates and one for a period of falling interest rates. The ratio of Investment Portfolio-to-Total Assets seems to be a valid explanatory ratio, with a positive coefficient, in the case of rate hike. The ratio of Equity-to-Total Assets is found to have an explanatory power, with a negative coefficient, in the case of rate cut. With the increased sophistication of bank decision makers in asset/liability management and use of various interest hedging techniques, there is a need for a set of publicly available variables that could be used as effective proxies for interest rate exposure and hedging strategies. Such proxies can make bank research more effective in detecting the strategies that work well.

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