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## U.S. monetary policy indicators and international stock returns: 1970–2001

Thomas Mann<sup>a,\*</sup>, Robert J. Atra<sup>b</sup>, Richard Dowen<sup>c</sup>

<sup>a</sup> School of Business and Economics, Lynchburg College, Lynchburg, VA 24501, USA
 <sup>b</sup> Finance Department, College of Business, Lewis University, Romeoville, IL, USA
 <sup>c</sup> Finance Department, College of Business, Northern Illinois University, DeKalb, IL 60115, USA

## Abstract

It is documented in the literature that U.S. and many international stock returns series are sensitive to U.S. monetary policy. Using monthly data, this empirical study examines the short-term sensitivity of six international stock indices (the Standard & Poor 500 [S&P] Stock Index, the Morgan Stanley Capital International [MSCI] European Stock Index, the MSCI Pacific Stock Index, and three MSCI country stock indices: Germany, Japan, and the United Kingdom) to two major groups of U.S. monetary policy indicators. These two groups, which have been suggested by recent research to influence stock returns, are based on the U.S. discount rate and the federal funds rate. The first group focuses on two binary variables designed to indicate the stance in monetary policy. The second group of monetary indicators involves the federal funds rate and includes the average federal funds rate, the change in the federal funds rate, and the spread of the federal funds rate to 10-year Treasury note yield. Dividing the sample period (1970-2001) into three monetary operating regimes, we find that not all policy indicators influence international stock returns during all U.S. monetary operating periods or regimes. Our results imply that the operating procedure and/or target vehicle used by the Federal Reserve Board (Fed) influences the efficacy of the policy indicator. We suggest caution in using any monetary policy variable to explain and possibly forecast U.S. and international stock returns in all monetary conditions. © 2004 Elsevier Inc. All rights reserved.

Keywords: U.S. monetary policy indicators; International stock returns; MSCI; S&P

<sup>\*</sup> Corresponding author.

*E-mail addresses:* mann@lynchburg.edu (T. Mann), RobertAtra@cs.com (R.J. Atra), ddowen@niu.edu (R. Dowen).

## 1. Introduction

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Recent research suggests that certain groups of monetary policy indicators or variables based on the federal funds rate or the discount rate have the ability to help explain and/or possibly forecast U.S. and international stock returns. Since equities represent claims on future profits of firms, which, in turn, are generated from future economic output, changes in monetary policy to raise or lower interest rates should measurably impact stock returns. The standard discounted cash flow model posits that increasing interest rates should adversely affect stock returns while decreasing interest rates should positively impact stock returns. Changes in interest rates will be felt directly through the discount rate used in the model. An additional indirect impact will flow from the anticipated increase or decrease of cash flows due to changed economic activity.

The focus of this study is to empirically examine the sensitivity of several international stock total return series to Federal Reserve Board (Fed) monetary policy as reflected by two groups of monetary indicators controlled by the Fed: the federal funds rate and the U.S. discount rate. We are particularly interested if the influences on stock returns by these monetary indicators are robust to different historical and current operating procedures and/or target variables used by the Fed to control the money supply.

Bernanke and Blinder (1992, p. 902) suggest that monetary policy affects aggregate demand through the demand for bank credit. They state, "...we entertain the idea that the federal funds rate (or the spread between the funds rate and some alternative open-market rate) is an indicator of Federal Reserve policy." Extending this notion, Patelis (1997) and Thorbecke (1997) analyze the ability of several federal funds variables to forecast stock returns.

Applying VAR methodology to stock return data supplied by CRSP for the sample period 1953–1990, Thorbecke (1997) finds a statistically significant negative relationship between changes in the federal funds rate and industry and size portfolios. Thorbecke (p. 648) also presents additional evidence from an event study that "...there is a statistically significant negative relation between policy-induced changes in the funds rate and changes in the DJIA (Dow Jones Industrial Average) and the DJCA (Dow Jones Composite Average)."

With a multifactor VAR model, Patelis (1997) examines the impact of the federal funds rate and the spread of the federal funds rate to the 10-year Treasury note rate on monthly NYSE value-weighted excess stock returns obtained from CRSP. The sample period ranges from January 1962 to November 1994 with analysis focused on monthly, quarterly, annual, and biennial horizons. Patelis finds the federal funds rate and the federal funds spread to be highly significant (P values of .000 and .017, respectively).

In a different approach to measuring monetary policy, Jensen, Mercer, and Johnson (1996) use a binary variable to indicate the direction of monetary policy. They define monetary policy as either expansive or restrictive based on the direction of change in the discount rate. Using time series regressions on monthly and quarterly data over a sample period from February 1954 through December 1991, they find that security prices are

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