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CHENG FEW LEE
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CHENG FEW LEE

Department of Finance, Rutgers University, USA

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LIST OF CONTRIBUTORS

Paul Brockman	Department of Accountancy, Hong Kong Polytechnic University, Hong Kong
Robert Brooks	Royal Melbourne Institute of Technology (RMIT), School of Economics and Finance, Australia
Chuang-Chang Chang	Department of Finance, National Central University, Taiwan
Marc Chopin	Department of Economics & Finance, Louisiana Tech University, USA
San-Lin Chung	Department of Finance, National Central University, Taiwan
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Tan Pooi Fan	Royal Melbourne Institute of Technology (RMIT), School of Economics and Finance, Australia
Asim Ghosh	Department of Finance, Saint Joseph's University, USA
Jason T. Greene	Department of Finance, J. Mack Robinson College of Business, Georgia State University, USA
Shantaram P. Hedge	Finance Department, The University of Connecticut, USA

Charles W. Hodges	Department of Finance, J. Mack Robinson College of Business, Georgia State University, USA
Lisa Kramer	Department of Economics, University of Toronto, Canada
John C. Lee	JP Morgan and Chase Company, USA
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Matthew R. Morey	Department of Finance, Pace University, USA
Yiuman Tse	School of Management, Binghamton University (SUNY), USA
H. D. Vinod	Department of Economics, Fordham University, USA
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Yexiao Xu	School of Management, University of Texas at Dallas, USA
Maosen Zhong	Department of Business Administration, The University of Texas at Brownsville, USA

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PREFACE

This research annual publication intends to bring together investment analysis and portfolio theory and their implementation to portfolio management. It seeks theoretical and empirical research manuscripts with high quality in the area of investment and portfolio analysis. The contents will consist of original research on:

(1) the principles of portfolio management of equities and fixed-income securities,
(2) the evaluation of portfolios (or mutual funds) of common stocks, bonds, international assets, and options,
(3) the dynamic process of portfolio management,
(4) strategies of international investments and portfolio management,
(5) the applications of useful and important analytical techniques such as mathematics, econometrics, statistics, and computers in the field of investment and portfolio management.
(6) Theoretical research related to options and futures.

In addition, it also contains articles that present and examine new and important accounting, financial, and economic data for managing and evaluating portfolios of risky assets. Comprehensive research articles that are too long as journal articles are welcome. This volume of annual publication consists of fifteen papers.

Chapter 1. Marc Chopin and Maosen Zhong re-examine the inverse relationship between stock returns and inflation in the post-World War II period. They find that both real activity and monetary fluctuations generate the contemporaneous correlation between stock returns and inflation.

Chapter 2. Chuang-Chang Chang and San-Lin Chung develop a trinomial lattice approach for American-style lookback and barrier options. First, they construct a trinomial model to price lookback options. Secondly, they incorporate the idea of path function. And lastly, they demonstrate how to use the Pelsser and Vorst (1994) approach to compute the hedge ratios for barrier options in our trinomial model.

Chapter 3. Paul Brockman and Yiuman Tse investigate the information role of portfolio depository receipts (PDRs) by using the common factor models of Gonzalo and Granger (1995) and King et al. (KPSW) (1991). Their results are consistent with the view that PDRs are designed for discretionary liquidity traders while futures are better suited for informed traders.

Chapter 4. Matthew R. Morey and H. D.Vinod discuss the bootstrap methodology to suggest a new "Double" Sharpe ratio that allows an investor to make a tradeoff between risk-adjusted performance and estimation risk using the same weighting for estimation risk as the original Sharpe ratio uses for standard deviation.

Chapter 5. Shantaram P. Hedge and Susan Mangiero investigate the difference in the stock market liquidity of a sample of matched firms with high ("institutional favorites") and low ("neglected firms") institutional equity ownership and analyst coverage. They report on their findings that help to better understand the complex relationship between firm visibility and liquidity.

Chapter 6. Asim Ghosh and Ronnie J. Clayton apply the theory of cointergration in case of European stock markets to investigate whether stock prices are predictable. Empirical evidence suggests that the indices are pairwise conintegrated and hence predictable during the period investigated. They estimate the appropriate error correction model and use it to perform out-of sample forecasting.

Chapter 7. Lisa A. Kramer formally derives that a variety of test statistics which have been employed in the finance and accounting literatures for the purpose of conducting hypothesis tests in event studies do not follow their conventionally assumed asymptotic distribution even for large samples of firms.

Chapter 8. Robert Faff, Robert Brooks, and Tan Pooi Fan develop a simple version of a dynamic CAPM by the inclusion of a lagged dependent variable in the market model framework. They use the multivariate approach developed by Gibbons (1982) applied to Australian industry portfolio returns over the period of 1974 to 1995.

Chapter 9. Yexiao Xu investigates the accuracy of Jensen's Alpha and reveals a potential return measurement bias both theoretically and empirically due to the nonlinear geometric compounding of the return data. They also show that this source of bias can cause problems in the beta estimation of mutual funds.

Chapter 10. Jason T. Greene and Charles W. Hodges examine how the imperfect market timing skill and trading frequency affects the return distribution for market timing strategies in open-end mutual funds. They demonstrate that traders need only a modest level of skill in order to beat the market when employing a daily timing strategy. They suggest market timers who trade mutual funds can have a significant impact on a fund's reported performance.

Chapter 11. Chin-Shen Lee proposes a dynamic hedging rule in which hedge ratio is ex-ante updated upon the next period spot and futures prices forecasts. It is demonstrated that our hedging-with-forecasting rule could attain a multi-period perfect hedge status.

Chapter 12. Steven V. Mann and Pradipkumar Ramanlal present a method to measure the duration and convexity of bonds with embedded options that accounts for representative contractual features and realistic movements in the yield curve. The method unifies two aspects of the literature that have evolved almost independently, namely, specification of the interest-rate process and characterization of how the yeild curve changes shape.

Chapter 13. Shih-Kuo Yeh and Bing-Huei Lin investigate a jump-diffusion process, which is a mixture of an O-University process with mean-reverting characteristics used by Vasicek (1977) and a compound Poisson jump process, for the term structure of interest rates. They develop a methodology for estimating both the one-factor and two-factor jump-diffusion term structure of interest rates models and complete an empirical study for Taiwan money market interest rates.

Chapter 14. Chi-Keung Woo, Ira Horowitz, and Khoa Hoang consider the problem of an electric-power marketer offering a fixed-price forward contract to provide electricity purchased from a fledging spot electricity market that is unpredictable and potentially volatile.

Chapter 15. John C. Lee's paper tries to do two things. It first demonstrates the power of Microsoft Excel in that it is possible to create large Decision Trees for the Binomial Pricing Model. The second thing the paper tries to do is present Binomial Option

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model in a less mathematical matter and make it so that the reader will not have to keep track of many things at one time by using Decision Trees to price call and put options.

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STOCK RETURNS, INFLATION AND THE MACROECONOMY: THE LONG- AND SHORT-RUN DYNAMICS

Marc Chopin and Maosen Zhong

ABSTRACT

We re-examine the inverse relationship between stock returns and inflation in the post-World War II period. Fama (1981) theorizes that the inverse inflation-stock return correlation is a proxy for the negative relationship between inflation and real activity. Geske and Roll (1983) argue that the inflation-stock return correlation reflects changes in government expenditures, real economic conditions and monetization of budget deficits. We test these hypotheses simultaneously using a multivariate Vector-Error-Correction Model (VECM) proposed by Johansen and Juselius (1992, 1994). We find that both real activity and monetary fluctuations generate the contemporaneous correlation between stock returns and inflation. However, the Federal Reserve bank seems not to monetize Federal deficits, nor do government deficits appear to drive changes in real economic activity during the period examined. Thus, our results appear to be more compatible with Fama's explanation than that of Geske and Roll.

INTRODUCTION

The observed negative relationship between common stock returns and various measures of expected and unexpected inflation during the post-World War II

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period is "troublesome" because it appears to contradict Fisher's (1930) prediction of a positive relationship between expected inflation and nominal asset returns, and the received wisdom that common stocks are hedges against inflation. The inflation-stock return correlation has been subjected to extensive study.[1]

Among the most influential of these studies are those of Fama (1981) and Geske and Roll (1983). Based on the notion that money demand is procyclical, Fama (1981) theorizes that the inflation-stock return correlation is essentially a proxy for the negative relationship between inflation and real activity [see also Fama and Gibbons (1982)]. On the other hand, Geske and Roll (1983) emphasize the countercyclical impact of monetization of government deficits and argue that the asset returns-inflation correlations are due to changes in government expenditures in response to changes in real economic conditions and the monetization of budget deficits. In this paper we examine these hypotheses empirically using a multivariate Vector-Error-Correction Model (VECM).

Previous studies of the inflation-stock return relationship focus primarily on short-run dynamics, ignoring possible long-run equilibrium relationships (cointegration) among variables.[2] As Engle and Granger (1987) demonstrate, inferences from VARs are likely to be biased if no allowance is made for long-run cointegrating relationships when they exist. Paying particular attention to the long-run structures, this paper re-examines the stock return-inflation relationship using a multivariate Vector-Error-Correction model (VECM) proposed by Johansen and Juselius (1992, 1994). This framework facilitates examination of both the short- and the long-run Granger-causal ordering of stock returns and inflation in a broad macroeconomic context.

When specifying the VECM, we allow both Fama's (1981) and Geske and Roll's (1983) hypotheses to be tested simultaneously. To summarize the implications of our estimation and testing procedure, we find that Fama's explanation appears to be more consistent with the data in the post-war period than that of Geske and Roll. Further, we provide an alternative interpretation of the "spurious" stock returns-inflation correlation based on the long- and short-run dynamics of the system. In addition to Fama's (1981) proxy effect, we find that as the economy moves toward long-run equilibrium, short-run changes in real activity and the money supply may induce the observed "spurious" correlation.

The rest of the paper is structured as follows. In Section 2, we briefly review the literature. Section 3 formulates the model and provides an outline of the data. Section 4 describes the identification and estimation of the long-run cointegrating relationships. Section 5 describes the short-run dynamics with emphasis on the relationship between stock returns and inflation. The last section provides a brief summary and our conclusions.

LITERATURE OVERVIEW

Contrary to the perception that common stocks provide a hedge against inflation, many studies find a negative relation between stock returns and inflation [e.g. Lintner (1975), and Fama and Schwert (1977)]. In their attempt to explain this "spurious" relation, Fama (1981), and Fama and Gibbons (1982) rely on a combination of money demand theory and the quantity theory of money, contending that an increase (decrease) in real activity is expected to coincide with a decrease (increase) in inflation. Participants in the stock market anticipate the changes in real activity, so that stock prices appear to move inversely with inflation.

In their "reverse causality" explanation, Geske and Roll (1983) argue that a reduction in real activity leads to an increase in fiscal deficits. As the Federal Reserve bank monetizes a portion of fiscal deficits the money supply increases, which in turn boosts inflation. Stock market returns reflect the changes in these macroeconomic variables, resulting in an inverse relationship between stock returns and inflation.

Kaul (1987, 1990) also suggests that, in one way or another, changes in real activity and the money supply underlie the observed negative relationship between inflation and stock returns. To examine the Granger-causal[3] relationships among real activity, inflation, the money supply and stock returns, James, Koreisha and Partch (1985) use a Vector Autoregressive Moving Average model and report evidence of a strong link between stock returns and the growth rate of the money base. Using a Vector Autoregression (VAR) model, Lee (1992) documents that stock returns explain substantial variation in real activity but little variation in inflation. Lee also finds that inflation explains little of the variation in real activity, which responds negatively to shocks in inflation for the post-war period. Thus, Lee suggests that stock prices anticipate changes in real activity. Lee's findings appear to be more compatible with Fama's (1981) hypothesis rather than that of Geske and Roll (1983).

Marshall (1992) argues that the negative inflation-asset returns correlation may be generated by real economic fluctuations, by monetary fluctuations, or possibly changes in both real an monetary variables. Marshall also suggests that the inflation-stock return correlation is more strongly negative when inflation is caused by fluctuations in real economic activity (as predicted by Fama) than when it is caused by monetary fluctuations.

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