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### CONTENTS

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Exploring Optimism in Recommendations Accompanying Analyst Conflict of Interest Rules Hsiou-Wei Lin, Wen-Chuan Miao	1
<b>Convertible Bond Design and Long-Run Operating Performance</b> Devrim Yaman	17
Are Empirical Results in Economic Growth Models Biased because of Omitted Variables? Cross-Country Evidence Hsin-Yu Liang, Alan K. Reichert	31
How Does Foreign Direct Investment Affect Growth in Developing Countries? An Empirical Investigation E. M. Ekanayake, John R. Ledgerwood	43
Impact of Small Business Administration Lending on State-Level Economic Performance: A Panel Data Analysis Bienvenido S. Cortes	55
<b>Evidence on Market Microstructure in Indonesian Markets</b> Fitri Ismiyanti	67
Holding Period and Cross-Sectional Stock Returns: Evidence from Taiwan Yin-Ching Jan, Su-Ling Chiu	79
<b>An Empirical Study of Volatility and Trading Volume Dynamics Using</b> <b>High-Frequency Data</b> Wen-Cheng Lu, Fang-Jun Lin	93
<b>Relationships among Foreign Institutional Investments, Stock Returns and Currency</b> <b>Change-Over Rates In India</b> Subrata Kumar Mitra	103
The Effects of Short-Term Interest Rates on Output, Price and Exchange Rates: Recent Evidence from China Shuzhang Sun, Christopher Gan, Baiding Hu	113

### EXPLORING OPTIMISM IN RECOMMENDATIONS ACCOMPANYING ANALYST CONFLICT OF INTEREST RULES

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### ABSTRACT

This study examines bias in recommendations following the enactment of the research analyst conflict of interest rules introduced around 2002. We label analyst recommendations as being seemingly unaffiliated when contributors are not underwriters but an acquirer or target firm of underwriters. We find that after the introduction of the rules, bias in affiliated recommendations diminishes, whereas seemingly unaffiliated recommendations reveal no signs of difference in their level of optimism. Moreover, both affiliated firms immediately before the effective date of the rules. Our empirical evidence indicates that seemingly unaffiliated recommendations are subject to conflicts of interest. During the process of mergers and acquisitions, analysts from target firms appear to issue more optimistic recommendations than unaffiliated analysts do on their acquirer firms' clients. After the announcement date, recommendations issued by target analysts are more optimistic than those by unaffiliated analysts despite the fact that former recommendations are relatively pessimistic before the announcement date.

JEL: G24; G28; G34; M41

KEYWORDS: Analyst recommendation; Mergers and acquisitions; Conflicts of interest

### **INTRODUCTION**

A series of changes has taken place over the past two decades among financial institutions. On one hand, a number of mergers and acquisitions (hereafter M&A) have remodeled the landscape of the industry greatly, creating an increasingly complex network. On the other hand, regulations were introduced to address the conflicts of interest and biases reflected in analyst recommendations. Analysts affiliated with an underwriter have received the most attention from both researchers and regulators. We find this description of analyst conflict of interest not a comprehensive picture without detailed analytical accounts of the recommendation behavior of those analysts whose affiliation relationships change along with M&A activities. Therefore, a new definition of analysts' *affiliation* status may benefit our understanding of analyst optimism since these analysts' identities and potential conflicts of interest cannot be fully accounted for by a simple affiliated and unaffiliated dichotomy.

This study closely examines those previously thought to be "unaffiliated" and thus "unbiased" analyst recommendations during the period from 1997 to 2007. For the contributors that are not the underwriters but the acquirer or target firm of the underwriters, we label their analyst recommendations as being *seemingly unaffiliated*. By focusing on this particular group of analysts in the M&A context, we hope to shed new light on the interactions and causality between analysts' affiliation status and recommendation optimism, thus expanding and consolidating our current knowledge of the mechanism of analyst bias. To further our understanding, we also examine the effectiveness of analyst conflict of interest rules in the hope of understanding how regulations may influence sell-side analysts' recommendations in what ways and to what extent.

Existing studies have documented analyst optimism. On one hand, analysts tend to cover the company for which they have truly positive future prospects; in so doing, these analysts' coverage increases the likelihood of their firms to be chosen as underwriters. And when their firms win the underwriting

# **CONVERTIBLE BOND DESIGN AND LONG-RUN OPERATING PERFORMANCE**

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### ABSTRACT

This paper examines the influence of bond design on the long-run operating performance of convertible bond issuers and the determinants of this performance. Bonds are classified as equity-like and debt-like according to their probability of conversion at the time of the issue. The measure of long-run operating performance is the pre-tax cash flows of the firm. The results show that in the three years before the offering equity-like convertibles have better performance than debt-like convertibles while the performance in the three years after the offering is similar for the two groups of firms. The results also show that the factors that determine the long-run operating performance of equity-like and debt-like offerings are different. For example, the rating of the bond issued has a more positive influence on the performance of equity-like issues compared to debt-like issues. The level of information asymmetry, on the other hand, has a more negative influence on the performance of equity-like issues. The study contributes to the literature by incorporating convertible bond design into the study of the long-run operating performance of these bonds.

JEL: G31, G32

KEYWORDS: Convertible bonds, long-run performance; operating performance; bond design

### **INTRODUCTION**

There are several studies that examine the long-run operating performance of convertible bond issues. Typically, these studies find the average performance of all the convertible bonds in their sample. The underlying assumption of this approach is that the performance of convertible bonds does not change according to how firms design the bonds. However, Lewis, Rogalski, and Seward (1999) show that firms can design convertible bonds to be more equity-like or debt-like. In fact, Lewis et al. (2003), and Abhyankar and Ho (2006) find that the stock performance of convertible bonds is significantly different for equity-like and debt-like convertibles. This study analyzes whether convertible bond design affects the operating performance of the issuers as well. The study tests whether the long-run operating performance is different for equity-like and debt-like convertibles. The study also tests whether the factors that affect the long-run operating performance of convertible bonds have different influences for equity-like and debt-like.

As in Lewis et al. (1999), the design of the bonds is measured with the risk-neutralized probability that the bond will be converted into equity. Equity-like convertibles are defined as those issues with the probability conversion higher than the sample median while issues with this probability below the sample median are classified as debt-like convertibles. Long-run operating performance is measured with the pre-tax cash flows standardized by the total assets of the firm. As an additional proxy, the industry-adjusted version of this measure is used where the industry median is deducted from the cash flows of the firm.

The sample consists of 186 convertible bond offerings made by industrial firms. The findings show that the operating performance of equity-like convertibles is better than the performance of debt-like convertibles in the three-years before the offering. This finding is consistent with the argument of Myers and Majluf (1984) that riskier securities are more likely to be overvalued at the offering than less-risky

### ARE EMPIRICAL RESULTS IN ECONOMIC GROWTH MODELS BIASED BECAUSE OF OMITTED VARIABLES? CROSS-COUNTRY EVIDENCE

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### ABSTRACT

This study examines the impact of external factors, such as law, regulation, and technology on a country's rate of economic growth. The results suggest that the technological, legal, and regulatory environment can play a major role towards enhancing the smooth functioning of the financial system and economic growth. While a growing body of evidence examines the individual impact of similar external factors, Demirguc-Kunt (2006) argues that it is crucial to consider all the relevant factors together in one model. Thus, this study first examines the individual impact of these external factors for both advanced and emerging countries. Next, we examine the joint impact of relevant factors selected by stepwise regression procedures. The findings provide evidence for both groups of countries that the best models for predicting economic growth are ones that do include all the relevant factors together in one model.

JEL: K00; G28; G21; O16; O11

KEYWORDS: Legal system, regulation, technology, financial development, economic gowth.

### INTRODUCTION

It appears that the technological, legal, and regulatory environment can play a major role in either enhancing or retarding the smooth functioning of a financial system. Levine (2004) summarizes the existing empirical literature and points out that various studies have examined the individual role of political, legal, regulatory, and geographic factors in shaping financial sector development (FSD) and economic growth. Moreover, Demirguc-Kunt (2006) argues that it is crucial to consider all the relevant factors together in one model. The relatively low adjusted R-squares reported by Odedokun (1996) and Liang and Reichert (2006) provide evidence that there are still important variables, which have not been included in economic growth model.

Recently, Levine (2004), Barth et al. (2004), and Demirguc-Kunt (2006) stress that whether a country's financial system can allocate resource efficiently is more important than arguing the ideal structure of the financial system. La Porta et al. (1997 and 1998) stress that a country's legal system has a crucial impact on economic growth. On the other hand, Dermiguc-Kunt and Maksimovic (2002) find that introducing proper financial regulations can compensate for a weak legal system. However, previous studies do not consider the nature of the financial system in terms of regulation and corporate governance in accessing their impact on economic growth. Therefore, this study includes a comprehensive set of regulatory factors (i.e. deposit insurance scheme, measures of competitive banking environment, ownership structure, and bank freedom) in a comprehensive growth model.

Furthermore, recently researchers stress the fact that rapid advances in information and communication technology (ICT) can have profound effects on reducing transaction costs and information asymmetry. Thus, the traditional role of financial intermediations as "delegated monitors" is no longer unique and ICT has become a key factor in transforming the role of financial intermediation in a modern economy. Recent studies by Stiroh (1999) and others suggest that ICT represents a "New Economy" which can stimulate widespread growth through improved information disclosure and increased productivity. However, while Stiroh (1999) empirically examines the relationship between ICT and economic growth he fails to control for regulatory and legal factors.

### HOW DOES FOREIGN DIRECT INVESTMENT AFFECT GROWTH IN DEVELOPING COUNTRIES? AN EMPIRICAL INVESTIGATION

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### ABSTRACT

This paper analyzes the effects of foreign direct investment on the economic growth of developing countries. The study uses annual data on a group of 85 developing countries covering Asia, Africa, and Latin America and the Caribbean for the period 1980-2007. We explore the hypothesis that foreign direct investment can promote growth in developing countries. We test this hypothesis using panel data series for foreign direct investment, while accounting for regional differences in Asian, African, Latin American, and the Caribbean countries as well as the differences in income levels. While the findings of previous studies are generally mixed, our results indicate that foreign direct investment has positive and significant effect on economic growth.

**JEL**: F21, F43, O40

KEYWORDS: Foreign direct investment, developing countries, economic growth

### **INTRODUCTION**

The role of foreign direct investment in the growth process of developing countries has been a topic of intense debate. Previous empirical studies on inward foreign direct investment (FDI) and economic growth generate mixed results. Foreign direct investment makes several contributions to the economies of host countries. Such contributions include: (a) foreign firms are making important contributions to the technological capacity of host countries; (b) the competition, standards and knowledge of foreign markets that foreign firms bring to the domestic market can have important spillover effects; and (c) many firms in developing countries have increased their access to cutting-edge technology by purchasing technologically sophisticated firms domiciled in high-income countries.

Foreign direct investment has dramatically increased in the past several decades to become a major force in the worldwide allocation of funds and technology (see Table 1). Prior to 1970, world trade generally grew at a greater pace than that of FDI, but in the decades since then the flow of FDI has grown at more than twice the rate of the growth of worldwide exports. According to the World Bank (2008), FDI inflows to developing countries have almost doubled as a percentage of GDP over the past 15 years. The data presented in Table 1 shows that the value of FDI flows to developing countries increased from \$7.7 billions in 1980 to \$499.7 billion in 2007, a 65-fold increase. Of the total FDI flows to developing countries, nearly 65% was accounted for by Asian developing countries. As a percent of total FDI flows, the share of developing countries increased from 13.9% in 1980 to 27.3% in 2007.

Given the importance of foreign direct investment to the economies of developing countries, it is important to understand its contribution to economic growth of developing countries. This paper analyzes the effects of foreign direct investment on the economic growth of developing countries. We analyze these effects using panel data series for foreign direct investment, while accounting for regional differences in Asian, African, Latin American, and the Caribbean countries as well as the differences in income levels. The main contribution of this paper is to analyze the effects of foreign direct investment on economic growth of developing countries covering a large number of developing countries as well as a

# IMPACT OF SMALL BUSINESS ADMINISTRATION LENDING ON STATE-LEVEL ECONOMIC PERFORMANCE: A PANEL DATA ANALYSIS

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### ABSTRACT

Based on the few studies in their 2009 literature review, Craig, Jackson, and Thomson find that the economic impact of SBA loans on regional economic performance is positive, albeit small This study analyzes the relationships between economic performance and SBA lending using a panel of state-level data for the 1986-2008 period. It focuses primarily on the SBA 504-guaranteed lending program because this program's objective is to provide long-term financing to small firms. Through its Certified Development Companies working with local banks, the SBA is able to provide long-term, fixed rate loans so that businesses can acquire physical assets such as land and buildings and help generate jobs. Thus, the main purpose of this paper is to analyze and measure the impact of SBA 504 loans on various indicators of small business activity such as employment rate and per capita income, while also controlling for other determinants of state economic growth. A preliminary test showed that SBA lending is not endogenous at the state-level. As a result, moderated regression analysis was applied to the state-level panel data set whereby the dependent variable is regressed sequentially on certain control variables, independent variables, and then an interaction term. A version of Craig's model was estimated using three different dependent variables – income growth, small firm growth, and employee growth. The control variables of location quotient and NBER showed that local industrial composition and national business cycles are important determinants of state economic performance. The estimated coefficients for SBA lending were found to be small, insignificant, and had the unexpected negative signs with respect to its relationship with income. On the other hand, SBA loans had a positive and significant impact on the growth of small businesses and by consequence, the number of workers employed in small firms. The bank deposit variable had a positive and significant relation only with employee growth, albeit a very small effect. Finally, this study found that SBA lending was not biased in favor of lower income areas.

### JEL: R11; O16

KEYWORDS: Small business lending, endogeneity, panel data

### **INTRODUCTION**

ne of the major ways by which the U.S. federal government has tackled the current credit crunch especially for small businesses is to raise the loan guaranteed amounts (up to \$255 million this year) and to lower fees on Small Business Administration (SBA) loans. Still, some big banks have not been keen on participating in the program due to perceived burdens in the paper work and application process (Flandez, *Wall Street Journal*, 2009). The objectives of this study are to examine the lending patterns of the SBA in the 50 states over the period 1986-2008 and to evaluate the relationship between the supply of SBA small business credit and local economic performance in these states. In particular, it emphasizes the role of the Small Business Administration's Certified Development Company 504 Program loans in promoting long-term local economic growth. The economic impact of the SBA 504 program and its related operating units, the Certified Development Companies (CDCs), is especially significant in light of recent adverse developments in the financial markets. In November

## EVIDENCE ON MARKET MICROSTRUCTURE IN INDONESIAN MARKETS

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### ABSTRACT

Divergence of opinion causes market prices to differ from intrinsic values. Greater divergence of opinion results in larger bid/ask spreads. This study utilizes Miller's theory (Miller, 1977) which states that differences between bid and ask prices (price spread) is caused by divergence of opinion between buyers and sellers. This study tests a price spread condition that reflects the existence of agency conflict referred to as stock price premium (SPP) and stock price discount (SPD). The conditions relate to agency cost control mechanisms that result from foreign and domestic institutional ownership. This research employs Structural Equation Modeling (SEM) with multi-group structural equation modeling (MSEM). The results show SPD has lower agency conflict than SPP, and a negative effect of foreign and domestic institutional ownership to agency cost.

JEL: G3; G30; G32; G38

**KEYWORDS:** Stock price premium, stock price discount, agency cost, ownership

### **INTRODUCTION**

This study utilizes Miller's, 1977 theory, which states that disputes between buying, and selling investors are caused by divergence of opinion. This study focuses on the divergence of opinion and the magnitude of agency costs. Buying and selling investors agree on a closing price thereby implicitly revealing the dominant party.

How does the trade activity reflect a company's agency cost? Stockholders as owners of a company have strong interest in the price of stocks they own. Other parties interested in the stock price are potential stockholders. The selling and buying process of stocks is the process of identifying the agreement point that produces a closing price. What is the process of reaching a closing price? Sellers (stockholders) will sell with the highest offer price possible and buyer (potential stockholder) will try to buy at the lowest possible bid price. Bargaining is utilized to arrive at the closing price.

Of interest is how sellers set an offer price and buyers set a bid price. This study proposes the concept that setting the offer price and bid prices reflects a conflict of interest, or agency problem, between the parties in the company (management, stockholders and creditors). Agency conflicts, according to Jensen and Meckling (1976), occur because the company influences the wealth of all stakeholders. If agency conflicts are low, the closing transaction price will be closer to the offer price. On the contrary, if the agency conflicts are high, the closing price achieved will be closer to the ask price.

Agency theory studies ignore the existence of agency conflicts related to the establishment of a closing price through negotiations between offer price and bid prices. The literature focuses on the agency conflict and its control mechanism. This study tests a new condition. The condition reflects the existence of agency costs. These agency costs manifest themselves in the form of stock price premiums and discounts. A stock price premium occurs when the closing price is close to the offer price. A stock price discount occurs when the closing price is close to the bid price. This study assumes that the expectation of high company value is a result of low agency cost. If stockholders and potential stockholders perceive that agency conflicts are low, they value the company higher than other similar companies.

# HOLDING PERIOD AND CROSS-SECTIONAL STOCK RETURNS: EVIDENCE FROM TAIWAN

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### ABSTRACT

This paper employs a hybrid approach that combines an adapted version of Fama-MacBeth two-pass regression with Engle-Granger cointegration test to characterize the relationship between expected stock returns and systematic risks with diverse investment horizons. We find no evidence supporting a positive relationship between the market beta and return for various investment horizons. The book-to-market effect is sensitive to the investment horizon. We find a size effect for diverse investment horizons in period from 1986 to 1993. However, the size effect disappears in the subsequent period.

JEL: G11; G12

KEYWORDS: Asset pricing model, cointegration, holding period

### INTRODUCTION

The relationship between expected return and systematic risk is still an important issue in the academic field and to practitioners, because consensus does not exist on how risk factors affect an asset's expected return. There is a long history of exploration on the issue. Among others, Black, Jensen, and Scholes (1972), and Fama and Macbeth (1973) found that market beta is the only factor in explaining an asset's return. Fama and French (1992, 1993) and Carhart (1997) provided evidences that factors other than market beta play an important role in explaining an asset's return. However, Kothari, Shanken, and Sloan (1995) claimed that market beta is still alive, and the relation between expected return and book-to-market is seriously exaggerated by survivor bias. The studies are ample and provide insights on the relationship between expected return and factors' risk, but they fail to consider the effect of investment horizon.

Levy and Spector (1996) stated that the investment horizon plays a crucial role in determining the optimum composition of an investment portfolio. Among others, Gunthorpe and Levy (1994) found that portfolio composition changes dramatically and systematically with changes in investment horizon. This is because changes in investment horizon can affect both the risk and return of the portfolio. Hawawini (1983) and Levy and Cohen (1998) provided evidence that stock risks change as the return interval is lengthened. The results imply that investors need to construct and evaluate their portfolios in a manner consistent with their planned investment horizons. However, they only considered the choice of return interval, for example, daily versus weekly, or monthly versus annually, and then examined the possible impact of the return interval on beta. Although Levy and Samuelson (1992) proved that the Capital Asset Pricing Model (CAPM) will hold in some cases under a diverse investment horizons, few studies have provided empirical evidence on how the investment horizon influences the relationship between systematic risks and expected return.

In this study, we modify the Fama-MacBeth approach to examine the effect of investment horizon on the return-risk relationship in the Taiwan Stock Exchange (TSE). To explore the investment horizon effect, we assume that an investor constructs a portfolio based on estimated betas, holds the portfolio for a number of months, and then sells it. By varying the holding period, we can explore the effect of investment horizon on the risk-return relationship. Specifically, we first estimate betas for each month,

### AN EMPIRICAL STUDY OF VOLATILITY AND TRADING VOLUME DYNAMICS USING HIGH-FREQUENCY DATA

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### ABSTRACT

This paper examines the dynamic relationship of volatility and trading volume using a bivariate vector autoregressive methodology. This study found bidirectional causal relations between trading volume and volatility, which is in accordance with sequential information arrival hypothesis that suggests lagged values of trading volume provide the predictability component of current volatility. Findings also reveal that trading volume shocks significantly contribute to the variability of volatility and then volatility shocks partly account for the variability of trading volume.

JEL: C01, G0, O16, O30

**KEYWORDS**: Trading volume; Volatility; Sequential information arrival hypothesis; Mixture of distribution hypothesis

### **INTRODUCTION**

For our relevant information theories in the literature relate volume and volatility, namely, the mixture of distributions hypothesis (MDH), the sequential arrival of information hypothesis (SAIH), the dispersion of beliefs hypothesis, and the noise trader hypothesis. Information mainly determines the theories of volume and volatility. For example, according to the MDH, information dissemination is contemporaneous. Stock prices and trading volume change only when information arrives and evolve at a constant speed in event time. MDH suggests that daily price changes and trading volume are driven by the same underlying information flow. MDH implies only a contemporaneous relationship between volume and returns. The SAIH argues that each trader observes information sequentially. Hence, different types of traders will receive information sequentially. The econometric results show that past trading volume provides information on current volatility or absolute returns. Several studies find that a positive correlation exists between volume and volatility, including Lee and Rui (2002), Andersen (1996), Manganelli (2005), Xu et al. (2006) and Kim (2005). This investigation studies the dynamic relation between return volatility and trading volume on the Taiwan stock market.

This study differs, as follows, from other studies on the volume-volatility relationship. First, in this paper the measure of volatility is calculated by the sum of intraday 1-min returns. Minute-by-minute transaction data are used. The economic rationale is as follows: Martens (2002) shows the sum of squared intraday and intranight returns are better than using the daily return to measure stock market volatility. Andersen et al. (1999) and Martens (2001) show that intraday returns can improve not only measuring of volatility, but also the forecasting of volatility. The removal of microstructure bias makes the results in this paper more reliable. Second, in addition to using a vector-autoregressive (VAR) model to answer the question about the relationship of trading volume-volatility, The VAR model can consider the endogeneity of volume-volatility relations and capture the impact of volume (volatility) shock on volatility (volume) in the Taiwan stock market. The proposed model also provides the dynamic intraday-volume relation. Third, this paper reveals a volume-volatility relationship from the Taiwan stock market, whereas most empirical studies come from developed countries. Therefore, results from this study can complement and contrast with previous studies to assess whether the volatility-volume relationship is robust in different markets.

Empirical results show a significant relationship between the past trading volume and return volatility and current trading volume or volatility. The causality tests show a clear bidirectional relationship between

# RELATIONSHIPS AMONG FOREIGN INSTITUTIONAL INVESTMENTS, STOCK RETURNS AND CURRENCY CHANGE-OVER RATES IN INDIA

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### ABSTRACT

India from a conservative macroeconomic policy has gradually shifted focus towards attracting foreign capital. From September 14, 1992, with suitable controls, it allowed foreign investors to invest in primary and secondary capital markets in India and foreign funds started flowing from the year 1993. Foreign Institutional Investments has steadily grown from \$11,268 million in March 2000 to \$62,464 million in July 2009. Foreign fund flow increases demand for good stocks causing upward movement in stock prices. Currency changeover rates also influence foreign investments as Foreign institutional investors calculate returns in foreign currencies. In this study, we explored relations between foreign investment in India with that of stock prices in the domestic market and domestic currency changeover rates. Using daily data for the period January 2000 to July 2009, the study examined cause-effect relations and long-term relations among the series. Most of the studies in Indian market reported that domestic stock returns attract foreign fund flows but foreign flows do not cause stock returns in India. The results of this study using data for past nine and half years however detected bidirectional causality.

JEL: E44; G15

KEYWORDS: Causality, Cointegration, Foreign Institutional Investment

#### **INTRODUCTION**

Ver the past few years, India has become a favored destination of global investors' stock investment. Foreign investments in India comes into two types: investment by foreign institutional investors (FII) made in secondary financial markets and foreign direct investment (FDI). In developing countries, enough capital is not readily available for expansion or developing new projects and thus foreign investment becomes a major source of funding for financing assets. Foreign investments made in secondary markets adds depth and liquidity to secondary markets. Further, there is an increased demand for foreign exchange in developing economies. Flow of foreign money provides much-needed foreign exchanges for the economy.

Foreign investments adds to domestic investment without increasing the foreign debt of the country. Foreign investments may perhaps increase stock prices, reduce cost of capital, and encourage investment by Indian firms. Foreign investors also speed up domestic reforms towards improving the market design of the securities markets, and strengthen corporate governance.

Currency changeover rates also influence foreign investments in domestic markets. FIIs calculate returns in foreign currency thus; return in dollar terms depends on the return on their investment in rupee terms and the currency changeover rate of the rupee and dollar. Depreciation of the rupee in the currency market can decrease return of foreign investor. For example, a 10 percent rupee return with a 5 percent depreciation of the rupee results in an effective dollar rate of return of about 5 percent. In the same way, a low rupee rate of return can be attractive in dollar terms if the rupee increases against the dollar. Therefore, FII investments are likely to go up (down) when there are prospects of domestic currency appreciation (depreciation). The objective of the study is to capture relations among FII investment, stock prices and exchange rates.

The remainder of the paper is organized as follows. Section 2 describes flow of foreign investments in India. Section 3 surveys the literature on how flows of foreign money influence domestic stock prices.

# THE EFFECTS OF SHORT-TERM INTEREST RATES ON OUTPUT, PRICE AND EXCHANGE RATES: RECENT EVIDENCE FROM CHINA

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### ABSTRACT

This paper utilizes VAR techniques to examine the relationship between a policy related variable and selected macro-variables in China. Johansen's cointegration tests fail to find a moving equilibrium among the related variables. Based on a VAR model in first differences, we find that an unexpected temporary one-off shock to the change in the seven-day money market interbank borrowing rate does not have significant influence on GDP changes but a significant influence on price level changes in a "wrong" direction. Empirical testing demonstrates that the seven-day Repo rate has an insignificant influence on both GDP changes and on the price level changes. Furthermore, the relationships between monetary aggregate (M2) and short-run money market interest rates suggest that the short-run interest rates do not have significant influence on the monetary aggregate. Therefore, we have determined that short-run money market interest rates are ineffective as a monetary policy-operating objective.

**JEL:** E4, E5, E6

**KEYWORDS:** monetary, money, macroeconomic policy

### **INTRODUCTION**

any studies have examined China's monetary policy mechanism, focusing on the effectiveness of intermediate targets, M1 and M2. For example, Xia and Liao (2001), Yu (2001), Xie (2004), and Geiger (2006, 2008) have argued that monetary aggregates (M1 and M2) are no longer suitable as intermediate targets, because the money multiplier is unstable and the monetary aggregates are not controllable by the nation's monetary authority. However, the optimal monetary policy target for China is debatable.

According Kasman (1992), Morton and Wood (1993), Borio (1997, 2001), and Ho (2008), all central banks in the industrialised countries currently implement monetary policy through market-oriented instruments geared to influence closely short-term interest rates as operating targets. Ho's (2008) research on emerging Asian countries confirmed a number of broad themes across central banks with respect to the main features of policy implementation: focusing on short-term money market interest rates as operating objectives, favouring averaging reserve requirements, using interest rate corridors with penalty rates, and searching for alternative instruments. Therefore, the question of whether China's central bank should switch to short-term interest rate as its operating objective has attracted scholarly attention (see Xie and Luo, 2002; Yang, 2002; Xie and Yuan, 2003; Lu and Zhong, 2003; Wang and Zou, 2006; Wu, 2008). In regards to monetary theory, the precondition for adopting short-term interest rate as an operating instrument is that an effective an interest rate transmission mechanism established in a specific monetary framework and the operating objectives closely correlated to the final policy goal. However, whether short-run interest rates are highly correlated with China's monetary policy goals – price stability and economic growth – remains ambiguous.

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