

Terms of Use

The copyright of this thesis is owned by its author. Any reproduction, adaptation, distribution or dissemination of this thesis without express authorization is strictly prohibited.

All rights reserved.

THE CUSTOMER IS KING: MUTUAL FUND RELATIONSHIPS AND ANALYST
RECOMMENDATIONS

LIU PING

MPHIL

LINGNAN UNIVERSITY

2009

THE CUSTOMER IS KING: MUTUAL FUND RELATIONSHIPS AND ANALYST
RECOMMENDATIONS

by
LIU Ping

A thesis
submitted in partial fulfillment
of the requirements for the Degree of
Master of Philosophy in Business (Finance and Insurance)

Lingnan University

2009

ABSTRACT

The Customer is King: Mutual Fund Relationships and Analyst Recommendations

by

LIU Ping

Master of Philosophy

I investigate whether the business relations between mutual funds and brokerage firms influence sell-side analyst coverage and recommendations. Using a comprehensive sample of analyst recommendations in China over the 2004-2008 period, I find that the likelihood of analyst coverage and analysts' relative recommendations, benchmarked against consensus recommendations, are positively associated with the mutual fund business relationship. I measure the business relation by the weight of a stock in the mutual fund client's portfolio and the commission revenue generated from the mutual fund clients. My results show that mutual funds take advantage of these optimistic recommendations by selling the stocks. I also find evidence that analysts employed in politically connected brokerage firms inflate their recommendations on state-controlled listed enterprises. Lastly, I examine the short-term and long-term investment returns from a strategy that follows the analyst recommendations. In the short-term, I find positive stock returns, which benefit the client mutual funds. However, I also find evidence that investors recognize the conflict of interest and caps the stock price increases. In the longer-term, the strong buy and buy recommendations yield zero or negative stock returns.

DECLARATION

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

(LIU Ping)

Oct 11, 2009

CERTIFICATE OF APPROVAL OF THESIS

THE CUSTOMER IS KING: MUTUAL FUND RELATIONSHIPS AND ANALYST
RECOMMENDATIONS

by

LIU Ping

Master of Philosophy

Panel of Examiners:

_____	(Chairman)
Dr. Winnie Pui-han POON	
_____	(External Member)
Prof. Paul B. MCGUINNESS	
_____	(Internal Member)
Prof. Michael A. FIRTH	
_____	(Internal Member)
Dr. Karen Yuanyuan ZHANG	

Chief Supervisor: Prof. Michael A. FIRTH

Approved for the Senate:

Prof. Jesús Seade
Chairman, Research and Postgraduate Studies Committee

Date

TABLE OF CONTENTS

CHAPTERS

Chapter 1. Introduction	1
Chapter 2. Literature Review	5
2.1 <i>The source of conflicts of interest inherent in analyst report</i>	5
2.2 <i>The moderating forces of conflicts of interests</i>	10
2.3 <i>The impacts of conflicts of interests on customers of analyst reports</i>	12
2.4 <i>Concluding Remarks</i>	14
Chapter 3. The development of China’s mutual funds and brokerage firms.....	16
Chapter 4. Empirical Analysis on Mutual Fund Relationships and Analyst Recommendations.....	19
4.1 <i>Introduction</i>	19
4.2 <i>Sample and data</i>	19
4.2.1 <i>Measures of analyst optimism</i>	20
4.2.2 <i>Mutual fund clients’ pressure</i>	21
4.2.3 <i>Political pressure</i>	23
4.2.4 <i>Investment banking pressure</i>	23
4.2.5 <i>Company characteristics</i>	24
4.2.6 <i>Brokerage firm characteristics</i>	25
4.2.7 <i>Analyst characteristics</i>	26
4.2.8 <i>Other controls</i>	27
4.2.9 <i>Company and analyst summary statistics</i>	28
4.3 <i>Mutual fund pressure and political pressure on analyst recommendations</i>	29
4.3.1 <i>Univariate analysis</i>	29
4.3.2 <i>Multivariate analysis</i>	30
4.4 <i>Endogenous coverage selection</i>	33
4.5 <i>The composition of mutual fund clients</i>	36
4.6 <i>Mutual fund reactions to the recommendations</i>	37
4.7 <i>Bull and Bear market analysis on analyst optimism</i>	38
4.8 <i>Stock returns associated with Analyst Optimism</i>	39
4.8.1 <i>Short-term stock returns associated with Analyst Optimism</i>	39
4.8.2 <i>Long-term stock returns associated with Analyst Optimism</i>	40
Chapter 5. Conclusions	42

LIST OF TABLES

Table 1 Mutual Fund Industry and Brokerage Firms in China.....	45
Table 2 Definitions of Variables.....	46
Table 3 Descriptive Statistics of Analyst-Stock Observations.....	47
Table 4 Summary Statistics.....	49
Table 5 Firm Characteristics and Analyst Characteristics for Stocks Receiving Investment Ratings.....	50
Table 6 Univariate Analysis on Analyst Ratings and Institutional and Political Pressure.....	51
Table 7 Mutual fund client and political pressure on analysts' relative recommendations.....	52
Table 8 Endogenous coverage selection.....	54
Table 9 The Composition of Mutual Fund Clients and Analysts' Relative Recommendation.....	56
Table 10 Change in the portfolio weight of a covered stock and analyst optimism.....	57
Table 11 Bull and Bear market analysis on analyst behavior.....	58
Table 12 Investment returns from following analyst recommendations.....	59

Acknowledgement

I am especially grateful to my Chief-Supervisor, Prof. Michael Firth and Dr. Chen Lin, for their thorough guidance on my thesis. I also appreciate the financial support provided by Lingnan University and City University of Hong Kong, which makes it possible for me to complete my studies. Furthermore, I wish to extend my appreciation to Joel Houston, Paul Malatesta, Paul McGuinness (external examiner), Winnie Poon (chair of the exam board), Sonia Wong, Yuhai Xuan, Karen Zhang, Joe Zou and seminar participants at two Lingnan University workshops for helpful comments on the thesis, and Vanessa Chan, Xue Han, Clara Hui and Miranda Lee for their kind help during my studies. Finally, I want to thank my family for their love and encouragement.

The Customer is King: Mutual Fund Relationships and Analyst Recommendations

Chapter 1. Introduction

Recent events call into question the integrity of the sell-side equity research industry. Stock analysts are accused of being partly responsible for the dot-com bubble and the more recent failure to detect the accounting fraud at Enron and other companies. Failure to predict the financial crisis that currently engulfs the world's economies and analysts' positive recommendations on banking stocks that subsequently crashed have further eroded confidence in the profession¹. One popular explanation for the poor performance of investment analysts is that they sacrifice their objectivity by publicly touting stocks of their employers' clients (or potential clients), in exchange for lucrative business deals from those clients.

Ideally, an analyst's role is to search for economic and firm-specific information, to critically evaluate and interpret this information, and to write research reports and make investment recommendations that are useful to investors. The analyst should be objective and exercise independent judgment. However, recent research has identified a number of conflicts of interest that impede an analyst's function as an objective financial intermediary. For example, stock analysts are under pressure to produce optimistic forecasts to maintain good relationships with listed company management (Das, Levine and Sivaramakrishnan, 1998; Lim, 2001). Absent a good relationship, an analyst will be unable to question management about a firm's operations, policies, and prospects. As another example, trading departments may compel their in-house analysts to generate optimistic reports in order to boost trading commissions from investors (Irvine, 2001, 2004; Jackson, 2005; Cowen, Groysberg and Healy, 2006; Agrawal and Chen, 2008). Investors are more likely to trade if there

¹ For details, please refer to Reingold, D., Reingold, J., 2006. Confessions of a Wall Street Analyst. HarperCollins, New York.

is a buy recommendation. Although sell recommendations can be valuable, many investors may be prevented, legally, operationally, or psychologically, from short selling and so the trading commissions earned from sell recommendations will be lower than for buy recommendations. As a third example, investment bankers may pressure their research departments to issue favorable reports on the stocks of their current or prospective clients in order to win lucrative underwriting business (Lin and McNichols, 1998; Michaely and Womack, 1999; O'Brien, McNichols and Lin, 2005; Ljungvist, Marston, Starks, Wei and Yan, 2007) and make capital raising (e.g., IPOs, SEOs, debt-issues) more successful. Recently, Mola and Guidolin (2009) identify another source of conflict that can arise in financial services firms that house mutual fund operations as well as brokerage units. They find that brokerage analysts in the U.S. upgrade their recommendations on stocks owned by mutual funds that are part of the same full-service financial group (these are termed affiliated mutual funds). Mola and Guidolin argue that the analysts are under pressure to recommend these stocks to improve the affiliated mutual fund performance. These conflicts of interest have been the subject of criminal and civil lawsuits and have resulted in new laws and regulations. Most of the relevant literature, as well as the litigation, come from the U.S. although other countries are not immune to these problems.

I analyze the conflicts of interest that pertain to pressures that are placed on analysts to inflate (or, occasionally, deflate) their recommendations on a stock using Chinese data. This thesis is comprised of one main chapter (Chapter 4), two background chapters (Chapters 2 and 3), and an introductory chapter (this chapter) and a concluding chapter (Chapter 5). In Chapter 2, I offer a succinct yet thorough literature review on conflicts of interests in the sell-side equity research industry. In particular, I review the major studies on the incentives of analysts to bias their reports, the forces that moderate analyst bias, and the impact of such conflicts of interests on customers of analyst reports. I trace the development of mutual funds and brokerages in modern-day China in Chapter 3.

In Chapter 4, I investigate whether the business relations between mutual funds

and brokerage firms influence sell-side analyst coverage and recommendations using a comprehensive sample of analyst recommendations in China over the 2004-2008 period. This chapter forms the main basis of my thesis. I find that a broker makes positively biased investment recommendations on those stocks already held by its mutual fund clients in order to help bolster the performance of the clients' portfolios and thus earn more business from them. Thus, I turn the normal presumption of an analyst's recommendation informing mutual funds' investment decisions on its head. A simple business relationship with mutual funds may create a conflict of interest for the analyst. My study therefore contributes to the extant literature on the independence of sell-side analysts by identifying another major source of conflict facing stock analysts.

An important contribution of my study is that I use data from China, a country where relatively little is known about the financial services industry despite its rapid development in recent years. The focus on China allows us to examine the influence of the state on analysts' recommendations. A major feature of China's financial system is the dominant government ownership of listed firms (Chen, Firth, Xin and Xu, 2008). Analysts may be under pressure to make favorable investment recommendations on state controlled listed firms and I expect this influence will be stronger in politically connected brokerages.² By examining whether analysts' recommendations are biased when the listed company is controlled by the state and when there are political connections between the state and the brokerage, my study contributes to the small but growing literature on political connection biases in finance (e.g. Khwaja and Mian, 2005a; Faccio, Masulis and McConnell, 2006; Claessens, Feijen and Laeven, 2008).

I organize the remainder of the thesis as follows. Chapter 2 offers a thorough literature review on conflicts of interests in the sell-side equity research industry. I discuss the development of the mutual fund industry and brokerage firms in Chapter 3. Chapter 4 describes the core empirical results on mutual fund relationships and

² Following Firth, Lin, Liu and Wong. (2009b), I define a brokerage firm to be politically connected if the brokerage firm's CEO was a government official before he/she takes the position in the brokerage firm.

analyst recommendations. Chapter 5 concludes.

Chapter 2. Literature Review

A conflict of interest exists when a party to a transaction can potentially gain from taking actions that are detrimental to its counterparty. In the context of a sell-side equity analyst³, a conflict of interest arises if the analyst's employer--- the financial institution--- obtains a direct advantage, such as underwriting business or an increase in trading commission, by providing biased analyst reports on a company to its customers.

For academia, recent attention paid to conflicts of interests in the equity research industry examines the following three broad aspects. What are the sources of conflicts of interests in equity research industry? Are the mechanisms that control the conflicts of interests in market economies also effective in equity research industry? Do conflicts of interests have adverse impacts on customers of analyst reports? In this chapter, I review the recent literature and explain how the extant papers contribute to each of the aforementioned three aspects. There are a large and growing number of papers examining each of the three broad questions. Therefore, my review is selective and should be viewed as such. Most of the studies reviewed in this chapter use data from the United States. This may limit the generalizability of the results although the non-U.S. research often reaches the same conclusions.

The chapter is organized as follows. Section 1 identifies the sources of conflicts of interests inherent in analyst reports. I turn to the moderating forces of the conflicts of interests in the equity research industry in Section 2. Section 3 examines the impact of such conflicts of interests on the customers of analyst reports. Section 4 concludes.

2.1 The source of conflicts of interest inherent in analyst report

In many cases, financial institutions have better information than buyers over

³ Sell-side analysts are those who work for brokerage firms. Buy-side analysts are those who work for institutional investors. In this chapter, I focus exclusively on the former type of analysts. In this thesis, "analyst" denotes a sell-side analyst unless otherwise stated.

which products best serves buyers' needs (Bolton, Freixas and Shapiro, 2007). Such information asymmetries open the door to conflicts of interests. Bolton, Freixas and Shapiro analyze the situations under which the customers have difficulties ascertaining the quality of the service provided by financial institutions. Under such conditions, the financial institutions might provide tainted advice, for example, biased analyst recommendations, to customers.

However, the analyst reports do not completely fit into Bolton et al.'s framework. Historically, the primary customers of analyst reports are institutional investors. The institutional investors do not directly pay for the analyst services of brokerage firms but do so indirectly through trading commissions directed to the brokerage firms. They receive analyst reports from several brokerage firms on a regular basis since most of the institutional investors allocate their trading commissions among different brokers. Many institutional investors have their own research departments and rely on analyst reports from brokerage firms to provide different viewpoints than they get from their own analysts. Beginning in the 1990s, analyst reports have become more available to retail investors as individuals' portfolios increase in value and as they become important customers to the brokers. In contrast to institutional investors, retail investors lack cost-effective ways to evaluate the quality of analyst services and to examine the past performance of analyst forecasts. Moreover, retail investors focus mainly on the target price or investment recommendations featured in analysts' reports and do not have the time or expertise to evaluate the detailed information. These neglected details might contain information related to conflicts of interests. Based on published information (litigation cases⁴, newspaper investigations, journal articles), conflicts of interests in the equity research industry have been escalating since the 1990s.

The deregulation and diversification of financial institutions creates a fertile

⁴ For example, in November 2003, Morgan Stanley paid a \$50 million civil penalty as a result of an agreement with the Security and Exchange Commission (SEC) to settle charges of conflicts of interest in selling in-house funds to investors. According to the charges, Morgan Stanley had improperly provided its brokers with incentives to sell Morgan Stanley funds over those run by outside fund companies. These incentives included the widespread use of contests among brokers to promote Morgan Stanley funds. See Solomon and Lauricella, 2003. Morgan Stanley to settle with SEC. Wall Street Journal November 17, C9.

ground for conflicts of interests that might not create value for shareholders. Literatures on corporate diversification suggest that the market value of a conglomerate is lower than that of a portfolio of comparable specialized firms, which is called diversification discount (Lang and Stulz, 1994). Similar findings also hold in the finance industry (e.g., Laeven and Levine, 2007). So far, many of the identified sources of conflicts of interests in the equity research industry stem from the diversification of financial institutions where there is intense pressure to cross-sell products and services and to maximize total revenues.

One popular explanation for analyst upward bias is that analysts working for investment banks were compromised by the hefty bonuses they could earn from writing favorable reports on their employers' investment banking clients and potential investment banking clients. Here, the analysts are pressured by their investment banking departments to issue optimistic reports. Dugar and Nathan (1995) find that analysts from brokerage firms that provide investment banking services to a company (investment banker analysts) are more optimistic on that company compared to other analysts. In their study, they identify a sample of firms and their investment bankers. They match each analyst report from the investment bank with a report produced by an independent analyst. They find that analysts are more optimistic on their employers' investment banking clients as regards earnings forecasts and recommendations. Ljungqvist, Marston, Starks, Wei and Yan (2007) examine analyst optimism while controlling for their issuance history. They also find that analysts issued more optimistic than market consensus reports when they are affiliated with investment banks that have existing business ties with the firm covered. In contrast, Ljungqvist et al. (2006) fail to find significant associations between existing investment banking relationships and analysts' responsiveness to bad news once they control for the institutional ownership of the stocks.

Several papers examine analyst behavior following equity offerings and reach similar findings: analysts affiliated to the underwriters are more optimistic compared with unaffiliated analysts on the equity offerings. McNichols and Lin (1998) examine

analyst reports on firms with seasoned equity offerings and find that analysts affiliated to lead underwriters are more optimistic on recommendations and growth forecasts, but not on one-year and two-year ahead earnings forecasts. Dechow, Hutton and Sloan (2000) reach similar findings using a sample of 1,179 equity offerings. Michaely and Womack (1999) examine 391 IPOs and find that stocks receiving buy recommendations from an investment banker's analysts perform poorly. O'Brien, McNichols and Lin (2005) find that affiliated analysts downgrade their buy recommendations more slowly than unaffiliated analysts subsequent to equity offerings. In contrast, Bradley, Jordan and Ritter (2006) examine the IPOs in 1999 and 2000 and find no evidence for a different reaction between affiliated and unaffiliated analysts' initiation of coverage once they control for recommendation characteristics and timing even though affiliated analysts are more optimistic. James and Karceski (2006) find that IPO firms with poor aftermarket performance are given higher target-prices and strong buy recommendations by affiliated analysts.

Although many studies identify investment banking pressure as a potential source of conflicts of interests in equity research industry, empirical support is mixed. Firstly, though it is often taken for granted that investment bankers pressure their analysts when they can, there is no direct evidence that investment bankers can benefit from upward biased in-house analyst reports. For example, Ljungqvist, Martson and Wilhelm (2006) investigate whether analyst behavior influences banks' likelihood of winning underwriting mandates for debt and equity offerings in 1993-2002 and find no evidence that aggressive analyst behavior helps banks win underwriting mandates. According to them, the main determinants of the lead-bank choice are the strength of prior underwriting and lending relationships. Similarly, Clarke, Khorana, Patel and Rau (2007) find no evidence that optimistic earnings forecasts or recommendations affects investment banking order flow. What is more, analyst optimism could stem from selection bias or some unknown underlying factors. For example, Bajari and Krainer (2004) find that when controlling for the selection bias, conflicts of interests due to investment banking do not have a

significant impact on analyst optimism on firms in the NASDAQ 100 from 1998 to 2003. Bradshaw, Richardson and Sloan (2006) find that corporate net external financing determines analyst optimism. The analysts are more optimistic on firms with more equity issuance and less optimistic on firms with more equity repurchases. However, they find that the investment banking relations between analysts' employers and covered firms are not significant determinants of analyst optimism. Less optimistic earnings forecasts do not necessarily mean that conflicts of interests do not exist. Analysts might issue pessimistic reports so that the firms can easily beat the analyst forecasts. A positive earnings surprise pushes the stock price upward. Such pessimism is prevalent during bull market periods since the market penalizes negative earnings surprises severely during hot market periods (Chan, Karceski and Lakonishok, 2006). There is no certainty that an analyst who fails to change a recommendation as a stock price falls is providing a misleading or fraudulent recommendation (Mehran and Stulz, 2007). The analyst might stick to his/her valuation model and hold on to his/her current recommendation rating until the input to valuation model changes. In sum, the empirical evidence of the impact of investment banking pressure on biased analyst reports is mixed.

Another conflict of interest arises from brokerage activity. A brokerage firm benefits from more trading. Therefore, the brokerage department will pressure its in-house analysts to issue optimistic reports. The rationale is as follows: if investors follow analyst recommendations, the buy recommendations and upgrades will generate more trades than sell recommendations and downgrades. Since short-selling is costly and often restrictive to most investors, the negative analyst opinions only generate trades from investors who already hold the stock.

Several papers examine whether upward biased analyst reports generate more trades. Irvine (2001) uses Toronto Stock Exchange trading data and finds that buy recommendations generate more trades. Earnings forecasts bias (forecasts minus actual earnings) are not associated with more trades but forecasts relative to market consensus are. Similarly, Jackson (2005) also finds that optimistic analysts generate

more trades, as do high-reputation analysts, using data from the Australian stock market.

The last form of conflict of interests comes from the pressure of affiliated asset management departments. Analysts working for a full-service brokerage firm have incentives to research a stock and promote its purchase by recommending it once their asset-management department invests in that stock. The analysts do so to support the performance of the affiliated fund family. In exchange, the analysts receive incentive compensation from their affiliated fund family. In essence, this is a type of “front-running” conflict (“front-running” is where the analyst or affiliated investor buys before the analyst publishes a “buy” recommendation). Mola and Guidolin (2008) analyze a large sample of recommendations issued by analysts working for full-service brokerage firms from 1995 to 2006 and find that analysts are likely to issue frequent and favorable ratings to a stock after the analysts’ affiliated mutual funds have invested in that stock. An analyst’s decision to upgrade a stock to “strong buy” ratings is significantly related to the portfolio weight of that stock in the fund family.

2.2 The moderating forces of conflicts of interests

Conflicts of interests could be acute but have no material impact on the quality of analyst service because of mitigating forces. First of all, an analyst has an incentive to protect his/her own reputation. If a stock analyst always issues biased reports to help their employers win investment banking deals, investors will eventually recognize the bias and ignore the analysts’ future recommendations. As a result, the analyst will lose the ability to help his/her employers. Therefore, in the repeated interactions between analysts and investors, reputation is very important and can discipline an analyst’s opportunistic behavior.

Jackson (2005) shows that more accurate analysts have higher reputations. A highly reputed analyst is more capable of biasing his/her recommendations to

generate more trades. If the reputation is extremely valuable and extremely fragile, the analyst will ignore the pressure from the investment banking department and the brokerage department. Therefore, conflicts of interests do not have a material impact on analyst reports. Ljungqvist, Marston and Wilhelm (2006) also point out that an analyst is faced with a tradeoff between preserving private career concerns and potential short term economic payoffs associated with biased recommendations. The analyst is more likely to taint his/her advice when the potential economic payoff associated with the biased reports is large and when the reputation loss is less.

Many papers document the benefits of being selected as an All-American analyst as well as its disciplinary effect on analyst behavior. An analyst's ranking in the *Institutional Investor* annual poll is significantly associated with his/her compensation and his/her job security (Stickel, 1992). Therefore, the All-American analysts are concerned about maintaining their reputation. All-star analysts are quicker to downgrade their buy recommendations compared to their unranked peers. All-star analysts' forecasts remain accurate during hot markets while other analysts' do not (Fang and Yasuda, 2006a, 2006b). Clarke, Khorana, Patel and Rau (2007) also find that all-star analysts that switch their employers do not change their optimism in earnings forecasts and recommendations although they do revise their coverage decisions.

Institutional investors may moderate analysts' conflicts of interests for the following two reasons. Firstly, the trading commissions from institutional investors are an important source of income of analysts' employers. The quality of stock research is an important factor when institutional investors allocate trading commissions among brokers. Moreover, institutional investors determine analyst career prospects through voting in the *Institutional Investor* annual poll. Therefore analysts are responsive to the needs of institutional investors. Ljungqvist, Marston, Starks, Wei and Yan (2007) find that institutional ownership of stocks determines analyst coverage decisions and moderates analyst optimism relative to market consensus. Analysts also strive for higher forecast accuracy and downgrade

recommendations more quickly to bad news on stocks with higher institutional ownership.

What is more, the labor market also disciplines analyst bias. Research shows that more accurate analysts are better rewarded by the labor market. Mikhail, Walther and Willis (1999) show that an analyst who is less accurate than his/ her peers is more likely to be replaced in spite of the profitability of his/her recommendations. Hong and Kubik (2003) find that analysts that are more accurate have higher likelihoods to move to prestigious investment banks.

Financial institutions themselves have incentives to moderate the conflicts of interests faced by their analysts. Even if the buyer is at an information disadvantage in a financial transaction, he/she will not be hurt as long as both parties to the transaction form their expectations rationally. The buyer will enter into the transaction only when the price of the good is favorable enough to cover any losses that may arise from potential conflicts of interests. Thus, the seller (financial institution) bears the cost of any conflicts of interests and therefore has the incentive to reduce the impact of the conflicts of interests to maximize the selling price.

Jacob, Rock and Weber (2003) find that forecasts of quarterly earnings, annual earnings and long-term growth by investment bank analysts are more accurate and less optimistic than those from analysts of independent research firms. Clarke, Khorana, Patel and Rau (2004) also find that analysts' at large investment banks provide less optimistic and more accurate earnings forecasts, and are more likely to provide the first forecast for a firm in any given quarter. Abnormal returns following recommendations from these large investment banks are also higher than those following the advice of other financial institutions. Analysts do not change their optimism when moving to large investment banks.

2.3 The impacts of conflicts of interests on customers of analyst reports

Even if the aforementioned moderating mechanisms fail to function and analysts

decide to issue biased or fraudulent reports, customers are not necessarily hurt by those biased reports as long as they form their expectations rationally. The customers will discount the quality of those reports to make sure that they are not harmed by the potential conflicts of interests.

There are many empirical studies that examine whether conflicted analyst reports are inaccurate, and whether customers realize the conflicts of interests in analyst report and discount the credibility of them. Firstly, some papers compare the returns from acting on conflicted analysts' reports versus the returns from acting on independent analysts' reports. For example, Dechow, Hutton and Sloan (2000) find that post-offering underperformance is most pronounced for firms with the highest growth forecasts made by affiliated analysts. Barber, Lehavy and Truman (2007) find that following buy recommendations from independent analysts generate higher abnormal returns compared with following buy recommendations from investment bank analysts. This difference is more pronounced after the NASDAQ peaked and for firms with recent equity offerings. Meanwhile, sell ratings from investment banks earn more abnormal stock returns than sell ratings from independent research firms. However, other studies fail to find differences in abnormal returns from strategies that follow analyst reports from investment banks and those that follow analyst reports from other financial institutions (Clarke, Khorana, Patel and Rau, 2004). Some other studies concentrate on the market reaction to potentially conflicted analyst reports and to independent analyst reports. Lin and McNichols (1998) study a sample of stocks with seasoned offerings and find that hold recommendations from affiliated analysts are more informative than holds from other analysts. In particular, they show that investors treat affiliated analysts' hold recommendations as sells. Agrawal and Chen (2008) also find that the capital market discounts optimistic bias. On the other hand, Michaely and Womack (1999) find that investors only partially discount the recommendations by affiliated analysts and stock prices do not react as much to buy recommendations issued by underwriter analysts (analysts working for an underwriting bank) compared to non-underwriter analysts.

Evidence of analysts maintaining buy recommendations even after the stock prospects appear to deteriorate is often viewed as proof of conflicts of interests in analyst reports. For example, O'Brien, McNichols and Lin (2005) find that affiliated analysts downgrade their recommendations from a buy rating more slowly than independent analysts after equity offerings. However, Ljungqvist et al. (2007) find that analysts' responsiveness to bad news is unrelated to the strength of existing investment banking relationships.

The mixed empirical evidence is due in part to the difficulty in discovering conflicts of interests in analyst reports that vary across investor types. Institutional investors generally have cheaper ways to monitor the quality of analysts' services than retail investors, and they are more capable of disciplining the dishonest behavior of analysts compared with retail investors. Correspondingly, Malmendier and Shanthikumar (2007) find that large investors react to strong buy recommendations but not to buy recommendations, and they sell on hold recommendations. Small investors follow the recommendations literally. Also large investors discount recommendations from affiliated analysts while small investors fail to adjust for the distorted incentives of analysts. They also find that there is little evidence of differences in stock returns from investment strategies that follow recommendations from affiliated analysts versus those that follow unaffiliated recommendations.

2.4 Concluding Remarks

In conclusion, the extant research identifies several sources of conflicts of interests facing a typical analyst working for full-service brokerage firm. An analyst working for full-service brokerage house is pressured by its investment banking department to issue flattering reports on the existing or potential investment banking clients; is pressured by brokerage department to issue optimistic reports to boost trading volume; and is pressured by his/ her in-house asset management department to prop up its performance. However, the reputation concerns of analysts and their

employers discipline conflicts of interests. The labor market also plays an important role in containing conflicting reports. Large investors are more capable of protecting themselves from conflicts of interests in analyst reports than small investors. However, the mixed empirical evidence on the existence of conflicts of interests and their impacts on their clients suggest that there might be other underlying factors or influences facing a typical equity analyst. For example, institutional investors play a role in shaping analyst upward biased reports, as the trading commission from them is a source of stable income. Institutional investors' opinions and votes in the *Institutional Investor* annual poll is a clear metric of analyst performance and thus helps determine analyst career prospects.

Most of the published research to date relies on U.S. data and institutions. The purpose of my research is to extend this line of enquiry to China, a country with a fast developing financial infrastructure. In particular, my thesis empirically examines the impact of mutual fund clients' shareholdings on analyst's upward bias. My study contributes to the literature on conflicts of interests in financial industry by discovering another important source of conflict of interest that is omnipresent in the equity research industry.

Chapter 3. The development of China's mutual funds and brokerage firms

In order to help stabilize the stock markets and strengthen corporate governance the government made a strategic decision in year 2000 to develop securities mutual funds as institutional investors in tradable shares (China Securities Regulatory Commission, 2000).⁵ Since then, the mutual fund industry has grown dramatically. In 2002 and 2004, the National Council for Social Security Fund designated six and four mutual fund families, respectively, to manage the national security fund. This policy further boosts the mutual fund industry. As shown in Table1A, the number of mutual funds increased from 34 in 2000 to 368 in 2007. These funds are managed by 60 mutual fund families (named *Fund Management Companies* in China). The aggregate net asset value has grown from 84.56 billion RMB in 2000 to 3275.40 billion RMB seven years later. A few large fund families dominate China's mutual fund industry. As shown in Table1A, the total assets under management of the five largest mutual fund families in 2007 accounts for about 32% of total tradable shares held by the entire mutual fund industry⁶.

The mutual fund industry in China draws its inspiration from, and is organized along the lines of, mutual funds in the U.S. and other developed countries. They make their money from differences between the buying and selling prices of the fund units as well as from a management fee based on the total value of the fund. The mutual fund families advertise extensively for new unit holders and emphasize the performance of their funds. Competition is very fierce and so mutual fund managers are under pressure to improve investment returns. Many fund houses have their own research departments that search for undervalued securities. Thus, mutual funds are not entirely dependent on brokerage analysts for investment advice.

⁵ The rules governing mutual funds are codified in the Securities Investment Fund Law of 2003.

⁶ China's stocks are divided into tradable shares and non-tradable shares. While the former can be held by all investors and can be traded freely on the stock exchanges, the latter are exclusively held by the government and its designated agencies and generally cannot be traded on the stock exchanges. In 2005/6, a share reform program was implemented where all shares are to be made tradable after a lock up period expires (Firth, Lin and Zou, 2009a). The lock up period ends in 2008 or 2009.

[TABLE 1 HERE]

Table 1B presents a summary of the revenues and income of China's brokerage firms from 2002 to 2007. Prior to 2006, most brokerage firms in China suffered losses because of the poor performances of their proprietary investments in the stock market. In year 2005 there was a major reorganization of China's brokerage firm industry, which included a merger and acquisition wave among existing firms, bankruptcies of some financially unviable firms, and the entry of some new firms. In 2007, the brokerage firms reported significant earnings that exceeded 141 billion RMB. There are 66 full-service brokerage firms which offer both underwriting and brokerage services (they are the counterparts of investment banks in U.S.).

A major feature of China's brokerage industry is the substantial proportion of trading commissions in a brokerage firm's total revenue. During 2002 to 2007, the annual trading commission accounts for more than 51% of brokerage firms' total annual revenue, while the security underwriting fees contribute, on average, less than 5% of total revenue. Commissions paid by institutional investors are a relatively constant source of income compared to the commissions from retail investors, which are highly volatile in China⁷.

Many brokerages employ investment analysts to carry out research on stocks and make recommendations on what to buy and, occasionally, what to sell. The analysts' reports are sent to existing and potential institutional clients as well as to individual investors. Summary recommendations are often disclosed on web-sites and in financial newsletters and newspapers. Analysts' recommendations are therefore widely circulated and are effectively in the public domain. Thus, they can influence the investment decisions of many investors.

Periodically, mutual fund families poll their fund managers to help them decide how to allocate trading commissions among brokerage firms. This leads to allocations being based, in part, on which sell-side analyst provides more "supportive" research (i.e., that supports the mutual funds' existing stock holdings).

⁷ The analysis in this section comes from an article by Xin Jiang in the China Security Journal entitled "Fierce competition for commission from the mutual fund industry", September 6, 2008 (in Chinese).

Because commissions are so important to the brokerage firm, and hence an analyst's compensation, the analysts have strong economic incentives to make buy or strong buy recommendations on the stocks that are held by mutual fund clients and to resist making negative recommendations. An analyst's optimism on a specific stock will be positively related to the weight that stock has in the mutual funds' portfolios. Analyst optimism increases as the trading commissions paid by their mutual fund clients increases.

Many listed firms in China are controlled or owned by the government. The analysts might succumb to political pressure to bias positively their recommendations on the state owned listed firms. This effect is likely to be stronger for analysts employed by politically connected brokerage firms, where the CEOs of brokerage firms are former government officials. The politically connected managers in these brokerage firms will try to curry favor with the bureaucrats to gain political credits and maximize their political career prospects (Firth et al., 2009a). I empirically test this conjecture in my analysis.

Chapter 4. Empirical Analysis on Mutual Fund Relationships and Analyst

Recommendations

4.1 Introduction

In a recent paper, Mola and Guidolin (2009) identify a source of conflict that can arise in financial services firms that house mutual fund operations as well as brokerage units. They find that brokerage analysts in the U.S. upgrade their recommendations on stocks owned by mutual funds that are part of the same full-service financial group (these are termed affiliated mutual funds). Mola and Guidolin argue that the analysts are under pressure to recommend these stocks to improve the affiliated mutual fund performance.

This study extends the research of Mola and Guidolin to cases where brokerages and mutual funds do not have a common ownership. In particular, I examine how the business relations between a brokerage and an independently owned mutual fund might impact on analysts' investment recommendations. I argue that a broker has incentives to issue positively biased investment recommendations on those stocks already held by its mutual fund clients in order to prop up (or not to hurt) the performance of these institutional clients and thus earn more business (mainly in terms of trading commission) from them.

I organize the remainder of the Chapter as follows. Section 4.2 describes the sample and data used in this study. Section 4.3 to Section 4.8 discusses the empirical results.

4.2 Sample and data

The data used in this study are mainly from two large databases: the I/B/E/S database of research analyst recommendations and the WIND Financial Database. The sample period is from the first quarter of 2004 to the second quarter of 2008.

WIND is the leading integrated financial service platform of market quotes and financial data in China. It is widely used by academics and the finance industry. I focus on 2004-2008 for the following two reasons: firstly, WIND begins tracking analyst recommendations from 2004. Secondly, this period includes China's record-breaking bull market period (from June 6th, 2005 to October 16th, 2007) as well as the subsequent drastic stock market correction. The sample period allows me to examine the analyst behavior in two distinct market conditions, a bull market and a bear market. Table 2 presents definitions of the variables used in this study.

[TABLE 2 HERE]

4.2.1 Measures of analyst optimism

I obtain international investment banks' (e.g., Goldman Sachs, UBS) research analyst recommendations on China's stocks (both A share and B share⁸) from I/B/E/S. Analyst recommendations from domestic brokerage firms (such as CITIC Security Co. Ltd) are extracted from the WIND Financial Database. WIND records analyst recommendations in an identical way to I/B/E/S⁹. Each recommendation enters into WIND in real-time sequence with standardized five digit ratings identical to I/B/E/S. I reverse the rating codes in this study, so that 1 denotes a "sell" rating while 5 denotes a "strong buy".

I use a relative recommendation to measure an analyst's optimism. Here, I follow Ljungqvist et al. (2007) and take the individual investment recommendation featured in an analyst's report (strong buy, buy, hold, under perform and sell) and subtract the market consensus (the mean investment ratings of all the analysts covering the same stock in the same quarter). Table 3A presents the summary statistics across years. My sample consists of 18,790 analyst recommendations issued

⁸ The stocks listed in China are categorized into A shares and B shares. A shares are traded in RMB and the A share market is open to all domestic investors and qualified foreign institutional investors (QFII). B shares are traded in either U.S. dollars or Hong Kong dollars and the B share market was initially exclusive to foreign investors. Although China recently opened its B share market to domestic investors, there is relatively little trading as the investors do not have access to foreign currencies (U.S. and Hong Kong dollars).

⁹ WIND also has earnings forecast data but the coverage is quite limited. I therefore limit myself to analyses of investment recommendations. Previous studies document the advantage of using relative investment ratings rather than earnings forecasts to measure analysts' optimism (Ljungqvist et al., 2007).

by 1,613 analysts from 59 full-service brokerage firms on 1,354 stocks listed on the Shanghai and Shenzhen stock exchanges from 2004 to the first half of 2008. As shown in Table 3A, the “strong buy” and “buy” recommendations are much more common than the other three investment ratings during my sample period. More than 70% of recommendations are rated as “strong buy” or “buy”, while “under perform” and “sell” ratings account for only about 4% percent of the sample recommendations. The large growth in mutual funds and the prohibition of short selling in China may contribute to the preponderance of buy recommendations. Analysts also tend to make favorable investment recommendations in the U.S. (e.g., Mola and Guidolin, 2009).

Both the number of “buy” and “strong buy” recommendations and the market consensus recommendation have increased throughout the sample years, indicating that analyst optimism has grown regardless of market condition. As indicated in Table 3B, my sample includes a majority (87.22% and 80.60%, respectively) of the A shares listed on the Shanghai and Shenzhen stock exchanges. Analysts tend to neglect most of the B shares because of the relatively small investor pool and low turnover rate in the B share market. Stocks in the manufacturing and mining industry receive disproportionately more analyst coverage, followed by stocks in the financial and property sectors. Specifically, recommendations on manufacturing and mining stocks and on finance and property stocks account for 60% and 11%, respectively, of total observations. Such preferences toward specific industries suggest that analysts are strategic in choosing which stocks to cover (for similar evidence in the U.S., see McNichols and O’Brien, 1997; Ljungvist et al., 2007). As indicated in Table 3B, 27.13% of recommendations in my sample are of state-owned shares covered by politically connected analysts.

[TABLE 3 HERE]

4.2.2 Mutual fund clients' pressure

WIND has an institutional shareholding database and a database covering

details on commission payments made by each mutual fund to individual brokerage firms, constructed from the mutual funds' quarterly reports and half-year reports, respectively. The China Securities Regulatory Commission (CSRC, hereafter) requires each mutual fund to report its stockholdings in its quarterly report. According to the CSRC, each mutual fund must disclose details of their trading commission payments in its half-year report, including the total amount of stock trading commission and the distribution of the commission among brokerage firms.

I focus my tests on how the business relations between brokerage firms and their mutual fund clients have an impact on analyst optimism. A mutual fund is regarded as a client of analyst i 's brokerage firm if it reports commission payments to i 's brokerage firm in the most recent half-year report. An analyst i from brokerage firm b covering stock j is considered to be subject to pressure from b 's mutual fund clients if at least one of the mutual fund clients already hold stock j in its portfolio. For an analyst i working for brokerage firm b covering stock j in quarter t , I use two variables to measure the strength of the impact of broker-mutual fund business relation on analyst optimism (relative to market consensus). My first variable, *related holding*, is stock j 's weight in the aggregate portfolio of brokerage firm b 's mutual fund clients¹⁰ in quarter $t-1$. This measures the importance of stock j for the mutual fund clients. The variable is lagged one quarter to ensure that the mutual fund clients' investment size in stock j affects recommendations assigned by analyst i , not the reverse. My second variable, *commission*, is the commission payments made by mutual fund clients that already hold stock j covered by brokerage firm b as a proportion of the total trading commission revenue from the mutual fund industry paid to brokerage firm b . This variable is measured on a half-year basis and is lagged one half-year to exclude the potential reverse causality problem. This measurement captures the economic importance of those mutual fund clients to brokerage firm b . As shown in Table 4, the recommendations issued by analysts on stocks already held

¹⁰ To construct the variable *related holding*, firstly I aggregate the market values of stock j held by every mutual fund client of brokerage firm b at the end of quarter $t-1$. This aggregate market value of stock j constructed in the first step is then divided by the total net asset value of all of b 's mutual fund clients that held stock j at the end of quarter $t-1$.

by their brokerage firms' mutual fund clients (relation dummy) comprise 38% of the total recommendations in my sample. For those mutual fund clients that already hold the stocks when the analyst issues the recommendation on those stocks, the stocks account for 2.15% of their total portfolios on average.

[TABLE 4 HERE]

4.2.3 Political pressure

For an analyst i employed by brokerage firm b covering stock j in quarter t , I say that analyst i is under political pressure to inflate his/her investment ratings on stock j if 1) the CEO of brokerage firm b was a government official or a military officer before taking the position in the brokerage firm; and 2) government agencies own the shares of stock j . In order to capture the political pressure defined above, I construct a product of two variables. One is a dummy variable *CEO political dummy*, which is equal to one if the CEO of brokerage firm b was a government official or a military officer before taking the position in the brokerage firm, and zero otherwise¹¹. This dummy variable captures the connection between the brokerage firm and government. The other variable is *State own*, which is percent of shares held by various levels of governments and their agencies at the time the recommendation is issued. The variable $CEO_political \times Stateown$ is a product of *CEO political dummy* and *State own*. I manually collect brokerage firms' CEO political status data from the websites of brokerage firms. The state ownership data are available in the WIND Financial Database. Recommendations from politically connected brokerage firms comprise 43% of the total recommendations. The average state ownership of public listed companies is 27%.

4.2.4 Investment banking pressure

Previous studies indicate that investment bankers often pressure their in-house

¹¹ This definition is similar to Firth et al.'s (2009a) definition of the political connections of China's public-listed companies.

research departments to issue more optimistic reports on the stocks of their current or potential clients (e.g., Dugar and Nathan, 1995; Lin and McNichols, 1998; Michaely and Womack, 1999; Ljungvist et al., 2007). Therefore, I introduce a dummy variable to control for the potential preexisting investment bank relationship between analyst i 's brokerage firm and stock j . For an analyst i employed by brokerage firm b covering stock j in quarter t , the dummy variable *I-bank relation dummy* is equal to one if the investment banking department of brokerage firm b served as a lead or co-lead manager in j 's most recent seasoned-equity offering or debt issue prior to the recommendation being issued, or, if there is no seasoned-equity offering or debt issue, it is equal to one if brokerage firm b 's investment banking department was a lead or co-lead underwriter at the time of j 's initial public offering. A business relationship between the issuer and non-managing member of the underwriting syndicate is assumed to be weak (Michaely and Womack, 1999; Ellis, Michaely and O'Hara, 2000; Corwin and Schultz, 2005). Only 750 recommendations are issued by analysts subject to investment banking pressure, representing approximately 4% of total recommendations.

4.2.5 Company characteristics

I control for several firm characteristics. First, previous research studies (e.g., Ljungqvist et al., 2007; Mola and Guidolin, 2009) find that analysts are less likely to give in to investment banking or brokerage pressure when the stock is highly visible to institutional investors. To control for this potential effect, I follow Mola and Guidolin (2009) and use the variable *other fund own*, which is the number of the shares held by the other mutual funds (i.e., other than the brokerage firm b 's clients at the end of quarter $t-1$) divided by the total shares outstanding. This is a proxy for other institutional shareholdings in a publicly listed company¹². Second, most listed

¹² There exist other institutional investors in China's stock market, for example, insurance company, social security funds. However, these institutions have only recently been allowed to participate in stock market. I cannot get sufficient reliable data from my data sources. Qualified Foreign Institutional Investors (QFII) are allowed to participate in China's A-share market in late 2002. These foreign investors may impact analyst

companies in China suffer from information opaqueness although companies that list on the Hong Kong Stock Exchange, foreign stock exchange, or the B share market, which are open mainly to foreign investors, have a better information environment. The information environment of a firm is a deterministic factor of the analyst coverage decision and influences the accuracy of an analyst's report on that firm (Hope, 2003). Therefore, I calculate a dummy variable (*oversea list dummy*) which is equal to one if a firm has shares traded on an overseas stock exchange (including the Hong Kong Stock Exchange) or China B share market when the recommendation is issued, and zero otherwise. Table 4 shows that 15% of my sample recommendations are on stocks that have a foreign listing (including a B-share listing). Third, I use the most recent quarter-end proxy for Tobin's Q (Q), return on assets (ROA)¹³, and revenue-to-asset ratio (*revenue*) to capture a firm's growth prospects, profitability, and efficiency, respectively. Market-to-book ratio is defined as the sum of the market value of equity and book value of debt, divided by the book value of total assets. Return on assets is the quarterly earnings before interest and tax divided by total assets. Revenue-to-asset ratio is the total operational revenue scaled by total assets. I also calculate the dividend yield (*div yield*), which is the quarterly dividend per share divided by the share price at the end of the quarter. Log form of total assets (*firm size*) controls for the firm size. Each variable is lagged one quarter. Firm performance and firm size data are from the WIND Financial Database.

4.2.6 Brokerage firm characteristics

Studies in the U.S. suggest that prestigious investment banks are less likely to risk their reputation capital by pressuring their analysts to issue bullish reports (Ljungvist, Marston and Wilhelm, 2006). I therefore argue that analysts from internationally renowned investment banks care more about their ethical behavior

coverage decisions as well as analyst bias. Unfortunately, I am unable to find reliable data on the stockholdings of QFIIs. I appreciate that one anonymous examiner raise these concerns.

¹³ I use EBIT divided by total assets to calculate return on assets. Other studies use net income divided by total assets. The choice of numerator does not alter the qualitative results in this study.

and reputations than domestic brokerage firms do and therefore should be more conservative in their investment ratings. As a result, I use a dummy variable (*foreign broker dummy*) which is equal to one if the headquarter of the analyst's brokerage firm is located overseas, and zero otherwise. According to this criterion, 4% of my sample recommendations are issued by analysts from foreign-based brokerage firms (see Table 4). As another proxy for reputation I use the years (*broker experience*) since the brokerage firm was first established in China as a control for reputation. Some U.S. studies use the investment bank's share of the IPO underwriting market in previous years as a proxy for reputation (e.g., Ljungqvist et al., 2007). I do not use this proxy in my study because the international investment banks do not directly participate in China's domestic IPO market¹⁴.

4.2.7 Analyst characteristics

I also control for several analyst characteristics. First, I include an all-star analyst dummy. Mola and Guidolin (2009) find that all-star analysts are associated with more optimistic ratings. Furthermore, Hong and Kubik (2003) find that brokerage firms are likely to reward those analysts who promote stocks with ratings bolder than the consensus forecast. In this study, I use rankings from the *New Fortune Chinese Best Analysts* survey. This survey is China's counterpart of the U.S. *Institutional Investor* survey and is conducted over a large number of buy-side institutions (mainly mutual fund managers) every year. For an analyst i covering a stock j at quarter t , I define the analyst i as an all-star analyst (*all star dummy*) if i ranks in the top three of all the analysts covering stock j 's industry according to the

¹⁴ The *Administration Measures of Securities Issuance and Underwriting* set an entry barrier for new participants and foreign participants in the domestic equity offering underwriting market. Three foreign investment banks have set up joint ventures: Gaohua-Goldman Sachs (specific ownership information is not publicly available), CICC (in which Morgan Stanley has a 34.3% ownership), and UBS Security Co Ltd. (in which UBS has a 30% ownership). According to the *Security Association of China*, the above three security companies only account for 1.46%, 10.31% and 2.3% of the total security underwriting revenue, respectively, in the past six years. All the other foreign investment banks have never been lead or co-lead underwriters.

Weblink:

http://www.sac.net.cn/newcn/home/info_detail.jsp?info_id=1236073459100&info_type=CMS.STD&cate_id=81183692051100

most recent *New Fortune Chinese Best Analysts* survey. All-star analysts issue about 13% of my sample recommendations.

My second variable (*productivity*) is the number of reports issued by analyst i as a proportion of the total number of analyst reports issued by the brokerage firm that i works for in the year when the recommendation is issued. This variable measures an analyst's productivity and importance in his/her research department. The mean *productivity* is 8%.

My third variable is the number of industries (*industry coverage*) that the analyst covers in the year when the recommendation is issued. On average, an individual analyst covers 2.56 2-digit CSRC industry sectors (median = 2). My last variable (*seniority*) is the number of quarters since the analyst first showed up in the two databases. Hong et al. (2000) find that analysts in the U.S. are less bold early in their careers. Previous studies suggest that an analyst's experience has competing impacts on analyst optimism. On one hand, analysts with more experience in an industry are likely to develop superior private information that potentially reduces the optimism in recommendations. On the other hand, analysts with longer experience and a narrow focus are more likely to develop a good relationship with the management, making it difficult for them to question objectively managers' performances. This closeness to management can result in relatively optimistic recommendations (Cowen et al., 2006). In my sample, *seniority* has a mean of 13.66 quarters¹⁵.

4.2.8 Other controls

I use log form of quarterly indices of the stock exchanges where the stock lists (*log quarter index*) to control for market conditions. I also define *coverage_no* as the log form of the number of analysts covering that stock (Ljungvist et al., 2007).

¹⁵ There are several other analyst characteristics, for example, gender and age, which may affect analyst behavior. Unfortunately, we do not have biological information of individual analyst. I appreciate that one examiner brings this suggestions to me.

4.2.9 Company and analyst summary statistics

Table 5A reports the mean value of financial transparency, operational and financial performance, size, and ownership structure for firms receiving optimistic analyst coverage (relative to market consensus) and firms receiving equal-or-less than market consensus recommendations. I use the two-tailed t-statistic to test the significance of the differences in firm characteristics across these two subgroups. 18% of the covered firms that receive favorable analyst recommendations have their shares listed on an overseas stock exchange as well as the domestic A share market. In contrast, 13% of the covered firms that have neutral or negative relative analyst recommendations have their shares listed on a foreign stock market. The one quarter lagged ROA, proxy for Tobin's Q and revenue scaled by total assets are also higher for firms receiving optimistic recommendations than for firms receiving non-optimistic recommendations. All the differences are significant at the 1% significance level. These differences exist in both bull and bear markets. There is no significant difference in state ownership between firms receiving optimistic investment ratings and firms receiving non-optimistic investment ratings. In contrast, there is weak evidence that more optimistic forecasts are given to stocks with higher institutional share ownership. Overall, analysts tend to give recommendations that are more favorable to firms that have a more transparent information environment, higher profitability and efficiency, as well as better growth prospects.

In Table 5B, I compare the recommendations issued by analysts from foreign-based brokerage firms against recommendations issued by analysts from domestic brokerage firms, as well as *all-star* analyst recommendations and other analyst recommendations. I find that the proportions of "strong buy" and "buy" recommendations issued by analysts from foreign-based brokerage firms are significantly lower than those recommendations issued by analysts from domestic brokerage firms. This difference confirms my earlier conjecture that analysts from internationally renowned brokerage firms make recommendations that are more conservative because they are more concerned with their reputation capital.

Interestingly, *all-star* analysts are more optimistic than ordinary analysts are in terms of the proportion of “strong buy” ratings and for the average ratings and for the average ratings relative to market consensus. Thus, the designation of a coveted all-star ranking is associated with more optimistic recommendations.

[TABLE 5 HERE]

4.3 Mutual fund pressure and political pressure on analyst recommendations

4.3.1 Univariate analysis

Table 6A provides univariate analyses on the impact of the stockholdings of mutual fund clients on analyst optimism over the whole sample period and in bull and bear market periods¹⁶. For an analyst i employed by brokerage firm b covering stock j in quarter t , portfolio weight is defined as the per cent weight of stock j in the mutual fund clients’ portfolios at the end of quarter $t-1$. During my sample period, the median value of portfolio weight is 0.81%. Analysts are more optimistic (both in absolute levels and relative levels to market consensus) toward stocks that are held more heavily by their mutual fund clients. From the first tercile (low portfolio weight) to the third tercile (high portfolio weight), the average analyst investment rating increases from 3.98 to 4.27, and the average analyst optimism relative to market consensus increases from less optimistic than market consensus (-0.08) in the first tercile to more optimistic than market consensus (0.11) in the third tercile. I identify a similar trend in the bear market period, while in the bull market period, the difference in analyst optimism is not so apparent across the three terciles of portfolio weights. Both the average recommendation and the average recommendation relative to market consensus are statistically higher for analyst coverage on stocks held by mutual fund clients than those for analyst coverage on stocks not held by mutual fund clients (based on the two-tailed t-test). These differences exist in both bull

¹⁶ The bull market period lasts from June 6th, 2005 to October 16th, 2007. The rest of my sample period are bear market periods.

market and bear market periods. The evidence provides *prima facie* evidence in support of my argument that analyst optimism is driven by the stock holdings of brokerage firms' mutual fund clients.

[TABLE 6 HERE]

Table 6B tests analyst optimism for politically connected brokerage firms on state-owned shares. Analysts from politically connected brokerage firms are more optimistic about state-owned listed shares than are analysts from non-politically-connected brokerage firms, both in terms of average ratings and in terms of average ratings relative to market consensus. Two-tailed t-tests confirm the statistical significance of differences in optimism and this result holds both bull and bear market periods. Overall, the univariate test results in Table 6B confirm my argument that analysts from politically connected brokerage firms are under pressure to issue more optimistic recommendations (than market consensus) on state-owned shares.

4.3.2 Multivariate analysis

In this section, I conduct the multivariate analysis using the following empirical model:

$$F_{ijt} = C_{jt-1} + B_{it} + A_{it} + R_{ijt} + \varepsilon_{ijt}$$

Where F_{ijt} is analyst i 's stock recommendations (relative to consensus) for company j at time t . C_{jt-1} is the one quarter lagged vector of company characteristics as described in section 4.2.5. B_{it} and A_{it} control for the brokerage firm characteristics and analyst characteristics described in sections 4.2.6 and 4.2.7, respectively. R_{ijt} captures the strength of the pressures from mutual fund clients, politically-connected brokerage firm CEOs and investment banking departments (described in sections 4.2.2, 4.2.3, and 4.2.4, respectively) when analyst i issues a recommendation on stock j in quarter t .

The estimation model suggests a three dimensional panel set-up, which has

variation in three dimensions: analyst i , stock j , and recommendation quarter t . The unit of observation is an analyst i making a recommendation for company j in quarter t . However, there is no standard routine for the estimation of three-dimensional panel data¹⁷. I follow the literature (Ljungqvist et al., 2007) and estimate the model by focusing on one of the two random effects at a time. Specifically, I first include random analyst effects to remove the unobserved heterogeneity across different analysts, while ignoring the unobserved heterogeneity across stocks. Then I include random stock effects to remove the unobserved heterogeneity across stocks while ignoring the unobserved heterogeneity across different analysts.

Table 7 presents my focal empirical results. In all columns, the dependent variable is analyst recommendation relative to market consensus as defined in section 4.2.1. In columns 1 and 2, I only include one key variable----the stock's weight in the portfolio of the mutual fund clients, which captures the impact of mutual fund clients' pressure on analyst optimism. *Commission*, the proportion of trading commissions earned from the mutual funds that hold stock j (see section 4.2.2) enters into the model in columns 3 and 4 as an additional proxy for the pressure from mutual fund clients. The political pressure proxy enters into the regression in columns 5 and 6. As a robustness check, the last column presents empirical results from an ordered probit that models the three-level choice facing a typical analyst: issuing an above, at, or below consensus report. In columns 1, 3 and 5, I estimate the model using a panel GLS regression with random analyst effects. Columns 2, 4 and 6 report the empirical results with random stock effects.

[TABLE 7 HERE]

There are positive and statistically significant coefficients on *related holding* and *commission* in all of my models. These results are consistent with my arguments. Here, analysts are subjected to pressure or incentives from their brokerage firms to inflate their recommendations on the stocks that are already held by the broker's mutual fund clients. The pressure increases as the stock's weight in the mutual fund

¹⁷ Antweiler (2001) develops a random estimator for the special multi-dimensional panel in which the random effects are nested. However, in my model, the panel dimensions are not nested.

clients' portfolios increase or as the commission payments earned from those mutual fund clients that hold the stock increase (i.e., the commissions constitute a larger portion of total stock trading commission income from all mutual funds).

Preexisting underwriting ties between the company and the analyst's brokerage firm are positively and significantly related to optimistic analyst behavior, as indicated by the positive and significant coefficients on *I-bank relation dummy*. This result confirms that the well-documented investment banking pressure on analyst behavior in the U.S. also exists in China even though the underwriting fees constitute a small amount of brokerage firms' total revenues.

My proxy for the political pressure faced by analysts (*Ceo_political* × *Stateown*) is significantly and positively related to analysts' relative recommendations. The politically connected CEOs from brokerage firms pressure their in-house analysts to look more favorably (than market consensus) on firms that have high state ownership. The coefficient on state ownership (*State own*) becomes negative and significant when I include the political pressure variable in my regression. The negative and significant coefficients on state ownership indicate that the analysts are reluctant to make more favorable recommendations than market consensus on state controlled stocks. However, this conservative approach toward state controlled listed firms is modified if the CEO of the brokerage firm is politically connected to the government or state. Taking together the signs on state ownership and the interactive term between state ownership and the dummy for politically connected broker, we conclude that apart from pressure from business ties between brokerage firms and their mutual fund clients, analysts from politically connected brokerage firms bear additional pressure to bias their reports upward for listed firms that have high state ownership.

Some of the control variables are associated with analyst optimism. Analysts employed by internationally renowned investment banks are more conservative in issuing optimistic recommendations relative to market consensus, as indicated by the negative and significant coefficients on *foreign broker dummy*. The coefficient on

other fund own is negative and significant in most regressions, providing evidence for the conjecture that the presence of other mutual funds holding the stock moderates analyst optimism; a similar finding is also reported in the U.S. (Ljungqvist et al., 2007)¹⁸. Consistent with Mola and Guidolin (2009) I also find that all-star analysts issue more optimistic recommendations. Analysts at longer-established brokerages give more optimistic stock recommendations. All-star analysts are also likely to issue more aggressive reports¹⁹.

4.4 Endogenous coverage selection

My results might be driven by the fact that analysts strategically choose which stocks to cover. Previous research suggests that analysts selectively choose to publish reports about stocks that are held primarily by institutional investors (O'Brien and Bushman, 1990) and which they have positive views on (McNichols and O'Brien, 1997). Econometrically, this means that I observe a recommendation on a stock only if the analyst thinks it worthwhile to cover the stock. I offer two robustness checks to address this endogenous selection problem. Firstly, analysts usually have little discretion with respect to covering large firms and so selection bias will be negligible when I restrict my sample to relatively larger firms (Kolasinski and Kothari, 2007). As indicated in the first two columns of Table 8, I obtain qualitatively similar results when I restrict my sample to firms whose sizes are higher than the industry median firm size.

[TABLE 8 HERE]

Secondly, I re-estimate my model using the Heckman selection model²⁰ that

¹⁸ Due to the short history of China's mutual fund industry, China's mutual funds lack on efficient ways and expertise to monitor conflicted behaviors in equity research industry compared to their US counterpart. The coefficient on *other fund own* is less significant than that in US studies (e.g. Ljungqvist, et, al, 2007).

¹⁹ The coefficients on the *All star* dummy and *Broker experience* are positive and significant in columns 2, 4, and 6, but are not significant in columns 1, 3, and 5. The loss of significance could be driven by the inclusion of analyst random effects in the three columns.

²⁰ Recently, a few studies reveal the limitation of Heckman selection model in correcting self-selection bias. For example, Clatworthy, Makepeace and Peel (2009), as well as Francis and Lennox (2009), point out that Heckman two-step estimates are highly sensitive to changes in sample and model specification, particularly the absence of a valid instrumental variable. However, in this study, Heckman selection is practically feasible whereas other self-selection models, such as propensity score matching model, are difficult or impossible to implement. I am grateful for helpful comments from one examiner.

ignores any random effects. It is computationally infeasible to use the Heckman selection model in the presence of random effects because of my large sample size when I include all the cases in which a given brokerage firm b could provide research on stock j in a given quarter t . My procedure is as follows. I first create every possible banking-stock quarter, whether or not an analyst in a given brokerage firm covers a given stock in that quarter. Then I delete all the observations before a stock first enters into my sample or after it permanently leaves the sample. This strategy results in 514,729 possible bank-stock-quarter observations. The active coverage observations comprise 18,790 bank-stock quarters (3.7% of all the potential bank-stock quarters).

I use two instruments in my first step modeling of the analyst coverage decision. Firstly, I follow Ljungqvist et al. (2007) and use the number of existing recommendations from analyst i 's brokerage firm that cover stocks belonging to stock j 's CSRC industry²¹ as a proportion of the number of total existing recommendations issued by that brokerage firm (*broker industry cover*). Ljungqvist et al. (2006) and Ljungqvist et al. (2007) suggest that the broader the brokerage firm's existing coverage on firm j 's Fama and French three-factor industry (1997), the lower the cost of covering firm j is. Therefore, the analysts in that brokerage firm are more likely to cover stock j .

Secondly, I add a geographical coverage instrument. Using U.S. data, Malloy (2005) finds that geographic location and proximity are important determinants of the information advantages of some analysts over others. In China, regional development is very unbalanced. Therefore, some brokerage firms may develop information or expertise advantages in some specific regions and they are therefore more likely to cover the firms in those regions. Following this rationale, I argue that the broader the brokerage firm's existing coverage of the region in which firm j 's headquarter is located, the more expertise and knowledge the brokerage firm has and

²¹ The CSRC industry classification incorporates several international classification methodologies, including CUSIP, SIC and Fama-French Industry classification (see the *Guidelines of Industrial Classification on China's Listed Companies*, 2001, published by the CSRC).

its analysts are more likely to initiate coverage of the firms in the same location. Therefore, my second instrumental variable is the number of existing recommendations from analyst i 's brokerage firm that cover firms whose headquarters are in the same location as stock j as a proportion of the number of total existing recommendations issued by that brokerage firm (*broker region cover*). Location is defined by major city (Beijing, Shanghai) and province.

The last four columns of Table 8 present the results. The inverse Mill's Lambda are statistically significant at the 5% level or less, confirming the existence of selection bias. The positive and significant coefficients on the two instruments confirm that analysts are more likely to cover a stock if more stocks in the same industry and same location are already covered by the analysts' research departments. Furthermore, the probability that an analyst will cover a stock increases with the size of that stock in the portfolios of the mutual fund clients. This result further corroborates my initial finding that analysts have incentives to cater to the needs of their business-related mutual funds. Analysts from politically connected brokerage firms are inclined to publish reports on state-owned stocks. Not surprisingly, stocks of large firms (in terms of total assets) receive disproportionately more analyst coverage (Hayes, 1998). Moreover, the firms that are more profitable and more efficient also receive more analyst coverage. The evidence shows that analysts strategically select which stocks to cover. Analysts from internationally renowned brokerage firms issue research reports less frequently.

The results in the second step in Table 8 mirror the results in Table 7. The coefficients on pressure from mutual fund clients (*related holding* and *commission*), political pressure ($Ceo_political \times Stateown$) and investment banking pressure (*I-bank relation dummy*) are positive and significant, with similar statistical significance levels as the corresponding coefficients in Table 7. The other control variables also yield similar results.

4.5 The composition of mutual fund clients

So far, I have shown that the stockholdings of mutual fund clients help determine analyst optimism. However, the characteristics of mutual fund clients vary across brokerage firms, for example, the size of the individual mutual fund client itself. This variation implies that I can gain further insights into the effect of mutual fund clients' stockholdings on analyst optimism by considering the size of the mutual fund clients. It is plausible that larger mutual fund clients are more influential for the following two reasons. Firstly, mutual fund size is correlated with the potential commissions that the mutual fund can allocate among brokerage firms. Secondly, the size of assets under management of a mutual fund investor determines the weighting the mutual fund investor has when voting in the *New Fortune Chinese Best Analysts* survey.

To examine the client-size hypothesis, for an analyst i working for brokerage firm b covering stock j in quarter t , I first identify the largest mutual funds (top 20%) in terms of total equity value under management at the most recent year end. Then I construct two variables to decompose the aggregate level of stockholding by b 's mutual fund clients: *large related holding*, which captures the weight of stock j in the aggregate portfolio of b 's large mutual fund clients; and *small related holding*, which is the weight of stock j in the portfolio of b 's other mutual fund clients²².

I re-estimate the random effects model in the first four columns in Table 7, using the *large related holding* and *small related holding* instead of the aggregate weight of covered stock in mutual fund clients' portfolios. As indicated in Table 9, the coefficient of *large related holding* is positive and statistically significant at the 1% significance level, while the coefficient on *small related holding* is statistically insignificant (except in column 2 where the coefficient is significant at the 0.10 level). This result is robust when I incorporate *commission* into my model in the last four columns. Analysts care mainly about the stockholdings of large mutual fund clients

²² The detailed construction of these two variables is similar to the construction of the variable *related holding* in section 3.2.

and tend to make bolder recommendations on the stocks heavily held by big mutual fund clients in order to maintain good relationships with them.

[TABLE 9 HERE]

4.6 Mutual fund reactions to the recommendations

Anecdotal evidence in the U.S. suggests that the mutual funds can benefit from upward-biased analyst reports by divesting their positions on stocks that are touted by their affiliated analysts (e.g., Morgenson, 2001). To gain some further insight into the benefit that accrues to mutual fund clients from analyst optimism on their large stockholdings, I estimate a fixed effects panel regression model in which the change in weight of the stock in mutual fund clients' portfolios (between the end of quarter t and the end of quarter $t-1$) is explained by a number of variables, including a dummy for analyst optimism relative to market consensus.

As indicated in Table 10, the coefficients of both one quarter lagged analyst optimism and current analyst optimism are negative and significant, indicating that both the past and present analyst optimism on the stock are negatively related to changes in the weight of that stock in mutual fund clients' portfolios. A strong buy or buy recommendation will likely boost a stock's price, other things being equal. If the mutual funds believe the stock price of a specific analyst-recommended share is pumped too high they will sell that share to realize a gain. Thus the mutual fund benefits if the analyst at the brokerage they do business with makes a biased recommendation and the brokerage benefits from the business it does with the mutual fund. Such stock price manipulation is also prevalent in other emerging markets (e.g., Khwaja and Mian, 2005b).

[TABLE 10 HERE]

Changes in other mutual fund holdings of the stock and changes in the number of other mutual funds that hold the stock are significantly and positively related to the change in the stock's weight in the mutual fund clients' portfolios, which is

consistent with Mola and Guidolin's (2009) finding. Mutual fund clients also increase their exposure to a company's stock when the operational performance, dividend yield and market price of the company improve and when the market index increases.

My results help to allay concerns of reverse causality, where positive investment recommendations drive stock purchases by the mutual funds. I find the opposite. Mutual funds actually reduce their holdings of stocks that receive favorable recommendations from business-related analysts. This gives us confidence that the stockholdings of mutual funds influence analysts' recommendations and not vice-versa²³.

4.7 Bull and Bear market analysis on analyst optimism

In this section, I focus on testing whether the pressures from institutional clients and from the government affect analysts' behavior differently in bull market and bear market periods. As described previously, I define the bull market period as June 6th 2005 to October 16th 2007, and the rest of my sample period is defined as a bear market²⁴. I do a split-sample analysis according to the market condition. I estimate the model in the same way as described in Section 4.3.2.

Table 11 presents the regression results. Columns 1 and 3 present the regression results with panel analyst random effects while columns 2 and 4 present the regression results with panel stock random effects. Columns 1 and 2 show the results when I only include the recommendations issued during the bear market period. The last two columns present the results when I restrict my sample to the bull market period. The coefficients on *related holding* and *commission* are positive and significant in all columns. However, the coefficients on *Ceo_political*×*Stateown* are

²³ In Table 7 I address this issue by using lagged related holding. The implications from Table 8 are consistent with those from Table 7.

²⁴ This classification is widely acknowledged in the financial community. During the bull market period, the Shanghai Composite Stock Index surged from 1,100 points to over 6,000 points. During the bear market period that began in October 2007, the same index plunged from over 6,000 points to slightly higher than 2,000 points and has remained low since that time.

only positive and significant during the bear market period, indicating that political pressure is stronger during a bear market period. The government may ask its former employees, who are now CEOs in the brokerage firms, to impose more pressure on their analysts to inflate their recommendations on the stocks of state-owned companies in an attempt to preserve corporate values during market downturns. All the signs and significance levels of the other variables are qualitatively unchanged. In sum, the split-sample analysis indicates that analysts recommend stocks held by mutual fund clients in order to win the lucrative trading commission allotment from mutual funds regardless of market conditions. What is more, my analysis suggests that political pressure is used as a type of corporate bailout by the government when the economy is poor. This is similar in spirit to other bailout strategies documented in the literature, such as easy access to external financing for politically connected firms during financial crises (Faccio et al., 2006).

4.8 Stock returns associated with Analyst Optimism

4.8.1 Short-term stock returns associated with Analyst Optimism

In this section, I compare the 3-day market reaction to analyst recommendations on stocks that mutual fund clients already hold and recommendations on stocks that mutual fund clients do not hold. Day zero represents the analyst recommendation date. I use the standard market model (Sharpe, 1963) to compute the abnormal returns. The estimation period is from day -126 to day -7 before the analyst recommendation and the market index is the equally weighted returns on all stocks on the Shanghai or Shenzhen index (stock j is listed on either the Shanghai or the Shenzhen stock exchange). I categorize the mean 3-day abnormal return by the optimism of analyst coverage relative to market consensus and by the recommendation rating.

Table 12A shows that optimistic fund-related stock recommendations generate a

statistically significant ($p < .01$) positive return of 0.57%. Thus, the mutual fund client benefits from the favorable recommendations as the value of their portfolios increase. The positive performance is most pronounced for “strong buy” and “buy” recommendations. A negative stock return, -0.34%, is observed for sell recommendations. In sum, the recommendations have a positive effect on stock prices. Table 12A also shows that the returns for independent stock recommendations are significantly greater than for fund-related recommendations (for strong buy and buy). This implies that investors are able to recognize the optimistic bias in business-related analyst recommendations and discount the stock prices.

[TABLE 12 HERE]

4.8.2 Long-term stock returns associated with Analyst Optimism

I also examine the long run returns that accrue to investors acting on the investment recommendations. In particular, for every recommendation in my sample, I systematically act upon each recommendation by buying stock that receives a “strong buy” or “buy” rating and selling stock that receives an “under perform” or “sell” rating. I classify the recommendations into two categories: recommendations on stocks held by mutual fund clients and recommendations on stocks not held by mutual fund clients (independent recommendations). Each optimistic recommendation is assumed to stop influencing investment behavior 250 trading days after its report date unless the same analyst on the same stock issues a downgrade to “under perform or sell”. In these cases, the returns are measured up to the date of the change in recommendation (the downgrade). Similarly, each pessimistic recommendation is assumed to stop influencing investment behavior 250 days after its report date unless an upgrade to “buy” or “strong buy” is made by the same analyst on the same stock. Following Barber, Lehavy and Trueman (2007), I compute the average daily raw return, market-adjusted abnormal return, and abnormal returns from the market model.

Table 12B presents the results. Investing systematically upon optimistic recommendations relative to market consensus on stocks held by mutual fund clients produces an economically large and statistically negative mean daily market-adjusted return of -0.181%. The same investment strategy on stocks not held by mutual fund clients generates a daily market-adjusted return of -0.064%, which is not significant. For recommendations that are equal to or less optimistic than market consensus, the investment returns of recommendations on stocks held by mutual fund clients are higher than those of recommendations on stocks that are not held by mutual fund clients. However, the differences are not statistically significant.

Overall, the optimistic analyst recommendations on stocks held by mutual fund clients are associated with poorer investment returns compared to other analyst recommendations. Therefore, my results on the short-term and long-term investment returns from following the recommendations on the stocks that are held by mutual fund clients against the stocks with no mutual fund client holding refute the argument that analysts are more optimistic than market consensus because they have superior stock-picking ability. These results corroborate my other test results that find that analyst optimism on stocks held by mutual fund clients reflect one type of conflict of interest facing a typical analyst: analysts are sacrificing their objectivity by issuing optimistic reports on stocks held by mutual fund clients because of competition for favorable appraisals from mutual fund managers and competition for trading commissions allocated by the mutual fund industry.

Chapter 5. Conclusions

There is a growing awareness that there are substantial conflicts of interest in the financial services industry and these conflicts can lead to biased and even fraudulent actions by agents. A great deal of publicity has been given to cases where conflicts of interest have led to substantial losses to investors. Examples include front-running, insider trading on price-sensitive information, ponzi-schemes [e.g., Madoff, Stanford], biased analysts reports, and corporate scandals [Enron, Worldcom, Parmalat, Ahold, HIH]. Most of the publicity relating to conflicts of interest comes from the U.S. although other countries are not immune to these problems. Likewise, most of the research on conflicts of interest comes from the U.S.

My study extends prior research by examining another potential conflict of interest, namely analysts' giving favorable recommendations on stocks already held by the brokerage's mutual fund clients. Here, the analysts' bias their recommendations to win more brokerage commissions from the client. Opposite to the conventional view that analysts provide independent advice to clients, I argue that the clients influence the analysts' recommendations. My research extends prior studies (e.g., Mola and Guidolin, 2009) by examining the relations between mutual funds clients and brokerages that have business relations but no common ownership. Furthermore, I carry out my study using Chinese data. One advantage in doing this is that detailed commission fee data are available and this leads to finer tests than can be done with U.S. data. China is also an interesting setting for my research because very little is known about the financial services sector despite its extraordinary growth in the past ten years.

Using data on brokerage analysts' reports on Chinese stocks from 2004 to 2008, I find that 'buy' and 'strong buy' recommendations are made on stocks that are already owned by mutual fund clients of the brokerage. The evidence supports my argument that mutual funds pressure brokerages and their analysts to issue optimistic

recommendations on selected stocks (i.e., the stocks in the mutual funds portfolios). This pressure is greatest from large mutual fund clients and it occurs in both bull and bear markets. The state also exerts pressure on analysts' recommendations. In particular, some brokerages have political connections with the state and the analysts at these brokerages give recommendations that are more favorable to state-controlled listed firms although this effect is more pronounced in bear markets.

I find that in the short-term, stock prices do increase after a favorable investment recommendation and so mutual funds' performances improve. Furthermore, some mutual funds take advantage of a favorable investment recommendation by selling some of the recommended stocks. This positive stock price reaction is tempered by the fact that favorable recommendations on client-unrelated stocks earn even higher returns. Thus, investors recognize the analyst optimism and discount the share prices where there is a potential conflict of interest. In the longer-term, a policy of buying recommended stocks where there is a potential conflict of interest results in negative returns.

Finally, my study suffers some limitations. Two of the most important dimensions in an analyst report are buy or sell recommendations and forecasts of company earnings. While I examine the former, I do not examine the impact of mutual fund clients on analyst earnings forecasts because reliable data on analyst forecasts are unavailable at the time the study was conducted. In future work it will be interesting to expand my study to examine analyst earnings forecasts. Another limitation is that I do not have detailed information on the trading transactions of institutional investors. It is widely reported that institutional traders receive tips regarding the contents of forthcoming analysts' reports (Irvine, Lipson, Puckett, 2007). It would therefore be useful to examine the trading of institutions immediately before the release of analysts' initial buy recommendations. Unfortunately, the daily trading data of institutional investors is classified information and not available to researchers. If such information becomes available in the future, this will permit a detailed examination of mutual fund clients' trading behavior around the release of analyst

reports and this should yield interesting results.

Table 1 Mutual fund industry and security firms in China

Table 1A Mutual fund industry

		The Evolution of China's Mutual Fund Industry								
		2000	2001	2002	2003	2004	2005	2006	2007	
Number of Fund management companies	New	0	5	6	12	12	8	4	3	
	Cumulative Total	10	15	21	33	45	53	57	60	
Number of Funds	Total	34	51	72	114	166	231	323	368	
Net Asset Value (in billion yuan)	Total	84.56	81.80	124.40	176.24	327.28	510.39	818.48	3275.40	
% of tradable shares held by mutual funds		-	-	-	4.1%	4.6%	6.1%	9.4%	15.9%	
% of tradable shares held by top 5 fund houses				-	1.8%	1.8%	2.4%	3.8%	5.0%	
Net asset value of the top 5 fund houses (in billion yuan)		84.56	42.38	54.09	67.42	131.06	212.20	332.92	1023.56	
net asset value of the top 5 fund houses as a percent of total net asset value of mutual fund industry		100	51.81	43.48	38.25	40.42	41.58	40.68	31.25	

Source: compiled from www.jrj.com (webpage of "China Financial Industry")

Web Link: <http://news1.jrj.com.cn/news/2007-01-05/000001897594.html>

Table 1B Brokerage firms

		2002	2003	2004	2005	2006	2007
Annual operation income (in billion Yuan)	Total operation income	15.4	14.2	15.7	13.4	69.7	315.2
	Security trading commission	7.8	7.4	10.2	8.4	37.1	174.4
	% of total operation income	51.8%	52.2%	64.7%	62.5%	53.3%	55.3%
	Equity underwriting income	1.5	1.4	1.8	2.4	6.3	10.2
	% of total operation income	9.9%	9.8%	11.2%	17.6%	9.1%	3.2%
Gross profit (in billion Yuan)		-0.4	0.9	-1.4	-4.2	30.1	205.9
Net Profit		-1.0	0.3	-4.4	-5.6	25.8	141.1

Source: compiled from the WIND Financial Database

Table 2 Definitions of variables

Variables	
Relative recommendation	Individual investment recommendation minus the market consensus (the mean value of investment ratings of all the analysts covering the same stock in the same quarter).
Relation dummy	A dummy variable which is coded as one if the stock recommendation covers a firm that is already held by the brokerage's mutual fund clients.
Related holding	The weight of the stock covered by analyst i in quarter t in the aggregate portfolio of the mutual fund clients of i 's brokerage firm in quarter $t-1$.
Commission	Total commission payments from mutual fund clients that already hold stock j (covered by analyst i) to analyst i 's brokerage firm as a proportion of the total trading commission from institutional investors to i 's brokerage firm in quarter $t-1$.
CEO political dummy	A dummy that is equal to one if the CEO of a security firm was a government official or a military officer before taking the position in the brokerage firm, zero otherwise.
State own	Percent of shares owned by various levels of governments and its agencies.
Ceo_politicalxStateown	The interaction of the CEO political dummy and State own.
Other fund own	The percent ratio between the shares held by un-related mutual funds and total shares outstanding of the firm.
Oversea list dummy	A dummy that is equal to one if a firm has shares traded in an overseas stock exchange or China B share market when the recommendation is issued, zero otherwise.
ROA	Return on assets of the covered firm.
Q	The sum of the market value of equity and book value of long-term debt, divided by the book value of total assets.
Revenue	Operational revenue divided by total assets.
Firm size	Log form of total assets.
Div yield	Quarterly dividend per share divided by the closing stock price at the end of each quarter.
Foreign broker dummy	A dummy that is equal to one if the headquarter of the analyst's brokerage firm is located overseas, zero otherwise.
Broker experience	Number of years since the brokerage firm first established in China.
All star dummy	A dummy that is equal to one if the analyst is an "all-star" analyst when he/she issues the recommendation according to the most recent <i>New Fortune Chinese Best Analysts</i> survey.
Productivity	The number of analyst reports issued by analyst i as a proportion of the total number of analyst reports issued by the brokerage firm that i works for.
Industry coverage	The number of industries that the analyst covers.
Seniority	Number of quarters since the analyst first showed up in the two databases.
I-bank relation dummy	A dummy that is equal to one if the analyst's brokerage firm served as a lead or co-lead manager in the most recent equity or debt issue prior to the time the recommendation is issued, zero otherwise.
broker industry cover	The number of existing recommendations from analyst i 's brokerage firm that cover stocks belonging to stock j 's industry as a proportion of the number of total existing recommendations issued by that brokerage firm.
broker region cover	The number of existing recommendations from analyst i 's brokerage firm that cover firms whose headquarters are in the same location as stock j as a proportion of the number of total existing recommendations issued by that brokerage firm.
Coverage number	Log form of number of analysts covering the stock in quarter t .
Log quarter index	Log form of quarterly market index of the stock exchange on which the stock lists.

Table 3 Descriptive statistics of analyst-stock observations**Table 3A Descriptive statistics of analyst recommendation codes**

	2004-2008		2004		2005		2006		2007		First half of 2008	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
5(strong buy)	5,107	27.18	80	16.19	178	11.10	745	24.28	2,338	28.28	1,766	32.96
4(buy)	8,323	44.29	134	27.13	505	31.48	1,132	36.90	3,931	47.56	2,621	48.92
3(hold)	4,597	24.47	188	38.06	693	43.20	1,010	32.92	1,814	21.95	892	16.65
2(under perform)	571	3.04	47	9.51	155	9.66	142	4.63	156	1.89	71	1.33
1(sell)	192	1.02	45	9.11	73	4.55	39	1.27	27	0.33	8	0.15
No. of recommendations	18,790		494		1,604		3,068		8,685		5,409	
No. of brokerage firms	59		33		40		44		55		50	
No. of analysts	1,613		236		483		632		1,014		912	
No. of covered firms	1,354		323		762		870		1,054		833	
Average recommendation	3.94		3.31		3.34		3.78		4.02		4.13	

Table 3B Descriptive statistics for the sample of analyst-stock observations

	Number of stocks	% of the no. of stocks in the same category	% of the sample recommendations
Covered stocks	1,354	79.93%	100%
<i>Stock exchange</i>			
Shanghai A share	744	87.22%	62.38%
Shanghai B share	10	18.52%	0.26%
Shenzhen A share	590	80.60%	37.03%
Shenzhen B share	10	18.18%	0.33%
<i>Industry</i>			
Manufacturing and Mining	836	79.69%	59.76%
Info Tech	82	75.47%	5.15%
Utility	55	81.81%	4.49%
Finance and Properties	116	86.43%	11.21%
Other	265	82.86%	19.39%
<i>Pressures</i>			
Stocks held by mutual fund clients	607	35.83%	38.41%
State-owned shares covered by politically connected analysts	900	53.13%	27.13%
Stocks underwritten by analysts' security firms	352	20.78%	3.92%

The sample consists of 18,790 firm-analyst observation from the 1st quarter of 2004 to the 2nd quarter of 2008, using data from the WIND Financial Database and Institutional Brokers' Estimation System (I/B/E/S). I reverse the original recommendation code in the database, i.e. the recommendation score ranges from 1(sell) to 5 (strong buy). For cases in which the same analyst issues more than one different recommendation on a stock in quarter t , I keep the first recommendations he/she issues in that quarter. I remove all the recommendations staying in the databases for more than two years since they are likely to be stale. Furthermore, I remove all the recommendations in which the issuers' (analysts') names are missing because I cannot have any analyst-specific information on those recommendations. The two screening strategies result in 18,790 active recommendations. Industry classification follows the CSRC industry classification. The three kinds of pressures are defined in sections 3.2, 3.3 and 3.4, respectively.

Table 4 Summary statistics

Variables	Number of obs.	Mean	Median	Standard deviation
<i>Recommendation</i>				
Relative recommendation	18,790	-0.01	0	0.58
<i>Mutual fund pressure</i>				
Related holding	18,721	0.004	0	0.007
Commission	18,790	0.08	0.01	0.18
<i>Firm Characteristics</i>				
State own	18,514	0.27	0.26	0.26
Other fund own	18,790	0.14	0.08	0.17
Oversea list dummy	18,655	0.15	0	0.36
ROA	18,548	0.04	0.03	0.05
Q	16,265	2.35	1.75	1.98
Revenue	18,509	0.21	0.17	0.18
Firm size	18,665	13.27	12.96	1.75
Div yield	18,790	0.004	0	0.026
<i>Broker Characteristics</i>				
Foreign broker dummy	18,790	0.04	0	0.19
CEO political dummy	18,790	0.43	0	0.50
Broker experience	18,790	7.61	9	2.20
<i>Analyst Characteristics</i>				
All star dummy	18,790	0.13	0	0.34
Productivity	18,790	0.08	0.05	0.10
Industry coverage	18,790	2.56	2	1.69
Seniority (quarters)	18,790	13.66	10	11.88
<i>Investment bank pressure</i>				
I-bank relation dummy	18,790	0.04	0	0.19
<i>Other controls</i>				
Coverage no	18,790	4.26	3	3.56
Quarter index	18,748	5995.81	4058.59	4660.85

The sample consists of 18,790 firm-broker observation from the 1st quarter of 2004 to the 2nd quarter of 2008, representing the data from the WIND Financial Database and Institutional Brokers' Estimation System (I/B/E/S). The definitions of variables are provided in Table 2.

Table 5 Firm characteristics and analyst characteristics for stocks receiving investment ratings

Panel 5A Firm characteristics for stocks receiving investment ratings

	All time periods			Bull market period			Bear market period		
	Above market consensus	Equal or below mkt consensus	Difference	Above market consensus	Equal or below mkt consensus	Difference	Above market consensus	Equal or below mkt consensus	Difference
<i>Financial transparency</i>									
Oversea list	0.18	0.13	0.04***	0.15	0.12	0.03***	0.20	0.16	0.04***
<i>Firm performance</i>									
ROA	0.05	0.04	0.01***	0.04	0.035	0.005***	0.051	0.047	0.004***
Q	2.62	2.21	0.41***	3.32	2.92	0.40***	1.92	1.68	0.24***
Revenue	0.22	0.20	0.01***	0.21	0.20	0.01***	0.22	0.21	0.01***
Div yield	0.004	0.005	-0.001***	0.006	0.007	-0.001*	0.002	0.002	0.000*
<i>Firm size</i>									
Firm size	13.57	13.11	0.46***	13.33	12.87	0.46***	13.81	13.42	0.39***
<i>Ownership structure</i>									
State own	0.27	0.27	0.00	0.26	0.26	0.00	0.29	0.29	0.00
Institutional own	0.14	0.13	0.01*	0.13	0.12	0.01*	0.16	0.15	0.01*

Mean values of variables for financial transparency, firm performance, firm size and ownership structure are presented in respective rows. Difference is the comparison of the average values between firms receiving more favorable rating and firms receiving equal-or-less than market consensus ratings. I use a standard two-tail t-test to test the statistical significance of the differences. “***” and “*” stand for 1% significance level and 10% significance level, respectively. Bull market period is from June 6th, 2005 to October 16th, 2007; the rest of my sample period is a bear market period.

Panel 5B Analyst characteristics for stocks receiving investment ratings

	No. of ratings	Strong buy	Buy	Hold or worse	Average ratings	Average (Rec.-consensus)
Foreign broker	726	6.61%	29.48%	63.91%	3.15***	-0.54***
Domestic broker	18,064	28.01%	44.89%	27.10%	3.97	0.004
“All star” analyst	2,546	36.17%	41.08%	22.75%	4.11***	0.10***
Non- “all star” analyst	16,244	25.77%	44.80%	29.43%	3.91	-0.03

I exclude the sample recommendations where the analysts’ names are ambiguous. An analyst is from a foreign security firm if the headquarters of the analyst’s security firm is located overseas. For an analyst i covering a stock j , the analyst i is an all-star analyst (allstar) if i ranks in the top three of all the analysts covering stock j ’s industry according to the most recent *New Fortune Chinese Best Analysts* survey. I compare the difference of average recommendations and average relative recommendations between analysts from foreign security firms and those from domestic security firms, as well as between all-star analysts and ordinary analysts. I use standard two-tail t-tests to test the statistical significance of the differences. “***” stands for the 1% significance level.

Table 6 Univariate analysis on analyst ratings and institutional and political pressure**Panel 6A Analyst ratings and portfolio weight terciles of their mutual fund clients**

Portfolio weight terciles	Rating codes	All time periods	Bull market period	Bear market period
Independent reports Portfolio weight = 0 No. of Obs.= 11,572	5: Strong buy	21.40%	17.32%	33.45%
	4: Buy	43.37%	41.73%	46.02%
	1-3: Hold or worse	35.23%	40.95%	20.53%
	Average ratings	3.79	3.70	3.93
	Avg(rec.-consensus)	-0.05	-0.06	-0.03
1 st tercile Low portfolio weight Median= 0.43%	5: Strong buy	24.52%	19.78%	35.59%
	4: Buy	51.70%	49.45%	47.28%
	1-3: Hold or worse	23.77%	30.77%	17.14%
	Average ratings	3.98***	3.86***	4.09***
	Avg(rec.-consensus)	-0.08***	-0.11***	-0.05*
2 nd tercile Mid portfolio weight Median= 0.81%	5: Strong buy	40.73%	38.34%	35.67%
	4: Buy	45.76%	44.72%	47.29%
	1-3: Hold or worse	13.51%	16.94%	17.04%
	Average ratings	4.25***	4.19***	4.30***
	Avg(rec.-consensus)	0.06***	0.12***	0.02***
3 rd tercile High portfolio weight Median= 1.49%	5: Strong buy	44.10%	38.08%	35.72%
	4: Buy	42.06%	44.42%	47.21%
	1-3: Hold or worse	13.84%	17.50%	17.08%
	Average ratings	4.27***	4.17***	4.37***
	Avg(rec.-consensus)	0.11***	0.12***	0.11***
Overall related reports Median= 0.81% No. of Obs.= 7,218	5: Strong buy	36.45%	32.01%	35.53%
	4: Buy	46.51%	46.21%	47.07%
	1-3: Hold or worse	17.04%	21.78%	17.40%
	Average ratings	4.17***	4.07***	4.25***
	Avg(rec.-consensus)	0.03***	0.04***	0.02***

Panel 6B Analyst ratings and state ownership terciles of covered stocks

State ownership	Rating codes	All time periods	Bull market period	Bear market period
Recommendations on stocks with no state ownership No. of Obs.=6,675	5: Strong buy	26.80%	22.18%	29.86%
	4: Buy	45.35%	43.32%	44.74%
	1-3: Hold or worse	27.85%	34.50%	25.40%
	Average ratings	3.95	3.83	4.16
	Avg(rec.-consensus)	-0.02	-0.02	-0.01
Non-political-connected recommendations on state-owned stocks No. of Obs.=6,741	5: Strong buy	24.45%	20.10%	27.11%
	4: Buy	46.17%	45.34%	45.20%
	1-3: Hold or worse	29.39%	34.56%	27.69%
	Average ratings	3.87	3.77	3.97
	Avg(rec.-consensus)	-0.04	-0.02	-0.05
Politically connected recommendations on state-owned stocks No. of Obs.=5,098	5: Strong buy	31.27%	24.08%	32.60%
	4: Buy	41.35%	41.11%	39.62%
	1-3: Hold or worse	27.38%	34.81%	27.78%
	Average ratings	4.01***	3.86	4.14
	Avg(rec.-consensus)	0.05***	0.06***	0.06***

Portfolio weight is defined as the weight of stock j in all the mutual fund clients' portfolios at quarter $t-1$. In Panel A, "****" ("**") indicates that the mean value of absolute recommendation codes and relative recommendation codes issued by analysts who are subjected to pressure from their mutual fund clients are significantly different at or below the 1% (5%) significance level than the reports that are independent from mutual fund pressure according to two-tailed t-tests. In Panel B, "****" indicates that the mean value of absolute recommendation codes and relative recommendation codes issued by politically connected analysts on state-owned shares are significantly higher at or below the 1% significance level than their counterparts of non-political-connected analyst reports on state-owned shares according to two-tailed t-tests. The bull market period lasts from June 6th, 2005 to October 16th, 2007. The rest of my sample period are bear market periods.

Table7 Mutual fund client and political pressure on analysts' relative recommendations

	Analyst recommendations relative to market consensus						
	Panel regression with fixed effects						Ordered probit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Mutual fund pressure</i>							
Related holding _{t-1}	0.042 [0.000]***	0.054 [0.000]***	0.023 [0.003]***	0.034 [0.000]***	0.023 [0.003]***	0.033 [0.000]***	0.054 [0.003]***
Commission _{t-1}			0.230 [0.000]***	0.241 [0.000]***	0.230 [0.000]***	0.239 [0.000]***	0.704 [0.000]***
<i>Political pressure</i>							
Ceo_political×Stateown					0.059 [0.046]**	0.092 [0.000]***	0.112 [0.025]**
<i>Firm Characteristics</i>							
State own _{t-1}	-0.013 [0.489]	-0.006 [0.731]	-0.013 [0.461]	-0.006 [0.750]	-0.039 [0.080]*	-0.046 [0.031]**	-0.092 [0.034]**
Other fund own _{t-1}	-0.063 [0.032]**	-0.053 [0.078]*	-0.056 [0.054]*	-0.047 [0.119]	-0.056 [0.054]*	-0.045 [0.134]	-0.128 [0.053]*
Oversea list dummy	0.024 [0.074]*	0.008 [0.561]	0.030 [0.027]**	0.013 [0.339]	0.030 [0.029]**	0.013 [0.347]	0.036 [0.250]
ROA _{t-1}	0.041 [0.714]	0.015 [0.895]	0.047 [0.675]	0.266 [0.815]	0.051 [0.650]	0.041 [0.716]	-0.181 [0.429]
Q _{t-1}	0.001 [0.615]	0.001 [0.728]	-0.003 [0.381]	-0.003 [0.347]	-0.003 [0.386]	-0.003 [0.350]	-0.010 [0.123]
Revenue _{t-1}	-0.016 [0.544]	-0.009 [0.708]	-0.018 [0.495]	-0.012 [0.624]	-0.018 [0.501]	-0.011 [0.653]	0.023 [0.684]
Firm size _{t-1}	0.004 [0.446]	0.001 [0.868]	-0.007 [0.196]	-0.009 [0.070]*	-0.007 [0.214]	-0.008 [0.089]*	-0.034 [0.001]***
Div yield _{t-1}	-0.142 [0.537]	-0.134 [0.578]	-0.133 [0.561]	-0.138 [0.564]	-0.132 [0.564]	-0.134 [0.575]	-0.061 [0.875]
<i>Broker Characteristics</i>							
Foreign broker dummy	-0.602 [0.000]***	-0.600 [0.000]***	-0.581 [0.000]***	-0.581 [0.000]***	-0.572 [0.000]***	-0.565 [0.000]***	-0.720 [0.000]***
Broker experience	0.013 [0.182]	0.019 [0.001]***	0.014 [0.162]	0.019 [0.001]***	0.013 [0.206]	0.018 [0.003]***	0.019 [0.104]
<i>Analyst Characteristics</i>							
All star dummy	0.023 [0.303]	0.105 [0.000]***	0.022 [0.304]	0.107 [0.000]***	0.022 [0.303]	0.107 [0.000]***	0.185 [0.000]***
Productivity	0.011 [0.884]	-0.037 [0.501]	0.010 [0.890]	-0.042 [0.447]	0.014 [0.856]	-0.043 [0.435]	-0.149 [0.151]
Industry coverage	-0.004 [0.394]	-0.005 [0.095]*	-0.004 [0.334]	-0.005 [0.070]*	-0.004 [0.323]	-0.005 [0.074]*	-0.006 [0.284]
Seniority	0.001 [0.171]	-0.000 [0.577]	0.001 [0.058]*	-0.000 [0.848]	0.001 [0.066]*	-0.000 [0.741]	0.001 [0.522]
<i>Investment bank pressure</i>							
I-bank relation dummy	0.073 [0.001]***	0.090 [0.000]***	0.070 [0.002]***	0.087 [0.000]***	0.070 [0.002]***	0.086 [0.000]***	0.156 [0.001]***
<i>Other controls</i>							
Coverage no	0.006 [0.370]	0.000 [0.997]	0.005 [0.468]	-0.000 [0.947]	0.005 [0.481]	-0.001 [0.894]	0.006 [0.719]
Log quarter index	-0.011 [0.109]	-0.011 [0.107]	-0.013 [0.058]*	-0.012 [0.083]*	0.051 [0.650]	-0.012 [0.089]*	-0.015 [0.258]
Random analyst effects	Yes		Yes		Yes		
Random firm effects		Yes		Yes		Yes	
Wald Chi-squared	350.63	785.39	312.44	391.20	396.50	843.42	404.85
Prob>Chi-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R ²	0.045	0.048	0.044	0.047	0.048	0.051	0.015

Analysis time is 18 quarters, with the first quarter of 2004 representing time 0. Random effects GLS are panel regressions in which the random errors are decomposed into a cross-section,

illustrating stock analyst level (column 1, column 3 and column 5) or firm level heterogeneity (column 2, column 4 and column 6), and a time series component. The dependent variable is relative recommendations, defined as recommendations minus the quarterly market consensus. The definitions of independent variables are provided in Table 3. The ordered probit with robust standard errors in the last column models the three-level choice facing with a typical analyst: issuing an above, at, or below consensus recommendation. P values are in parenthesis. *, **, *** represent statistical significance at the 10%, 5%, and 1% percent levels, respectively. The number of observations in all models is 15,677. This is 3,113 less than the available number of firm-analyst quarters, because of missing observations on firm characteristic variables.

Table 8 Endogenous coverage selection

Variables	Recommendation relative to market consensus					
	Large firms only		Heckman selection model			
	(1)	(2)	(3)	(4)	(5)	(6)
		1 st step	2 nd step	1 st step	2 nd step	
<i>Mutual fund pressure</i>						
Related holding _{t-1}	0.032 [0.000]***	0.038 [0.000]***	0.312 [0.000]***	0.050 [0.000]***	0.300 [0.000]***	0.033 [0.000]***
Commission _{t-1}	0.183 [0.000]***	0.200 [0.000]***			0.243 [0.000]***	0.164 [0.000]***
<i>Political pressure</i>						
Ceo_political×Stateown	0.111 [0.009]***	0.136 [0.000]***	0.097 [0.004]***	0.061 [0.009]***	0.098 [0.004]***	0.061 [0.008]***
<i>Firm Characteristics</i>						
State own _{t-1}	-0.074 [0.025]**	-0.072 [0.024]**	1.305 [0.000]***	0.027 [0.203]	1.305 [0.000]***	0.023 [0.274]
Other fund own _{t-1}	-0.077 [0.087]*	-0.055 [0.238]	-0.099 [0.000]***	-0.003 [0.001]***	-0.099 [0.000]***	-0.002 [0.015]**
Oversea list dummy	0.022 [0.191]	0.010 [0.577]	0.629 [0.000]***	-0.003 [0.818]	0.622 [0.000]***	0.005 [0.685]
ROA _{t-1}	0.301 [0.109]	0.253 [0.180]	4.313 [0.000]***	0.113 [0.299]	4.312 [0.000]***	0.105 [0.332]
Q _{t-1}	-0.003 [0.599]	-0.005 [0.343]	0.141 [0.000]***	0.002 [0.512]	0.140 [0.000]***	-0.001 [0.610]
Revenue _{t-1}	-0.024 [0.584]	-0.020 [0.630]	0.532 [0.000]***	0.010 [0.677]	0.535 [0.000]***	0.007 [0.770]
Firm size _{t-1}	-0.004 [0.618]	-0.008 [0.323]	0.388 [0.000]***	0.001 [0.713]	0.381 [0.000]***	-0.007 [0.085]*
Div yield _{t-1}	-0.410 [0.235]	-0.430 [0.225]	-0.926 [0.000]***	-0.096 [0.674]	-0.921 [0.000]***	-0.095 [0.677]
<i>Broker Characteristics</i>						
Foreign broker dummy	-0.599 [0.000]***	-0.587 [0.000]***	-0.618 [0.000]***	-0.541 [0.000]***	-0.608 [0.000]***	-0.522 [0.000]***
Broker experience	0.031 [0.020]**	0.034 [0.000]***	-0.053 [0.000]***	0.017 [0.002]***	-0.053 [0.000]***	0.017 [0.002]***
<i>Analyst Characteristics</i>						
All star dummy	0.044 [0.154]	0.118 [0.000]***		0.104 [0.000]***		0.104 [0.000]***
Productivity	0.030 [0.777]	-0.032 [0.694]		-0.073 [0.160]		-0.085 [0.104]
Industry coverage	-0.006 [0.352]	-0.007 [0.102]		-0.003 [0.314]		-0.003 [0.328]
Seniority	0.001 [0.516]	-0.001 [0.193]		-0.000 [0.234]		-0.000 [0.351]
<i>I- bank pressure</i>						
I-bank relation dummy	0.045 [0.216]	0.065 [0.083]*	0.212 [0.000]***	0.113 [0.000]***	0.210 [0.000]***	0.111 [0.000]***
<i>Other controls</i>						
Coverage no	0.001 [0.905]	0.002 [0.853]	0.451 [0.000]***	0.008 [0.234]	0.450 [0.000]***	0.005 [0.502]
Log quarter index	-0.298 [0.007]***	-0.026 [0.021]**	0.339 [0.000]***	-0.003 [0.638]		-0.005 [0.444]
<i>Instruments</i>						
Broker industry cover			0.440 [0.000]***		0.441 [0.000]***	
Broker region cover			1.361 [0.000]***		1.358 [0.000]***	
Random analyst effects	Yes					
Random firm effects		Yes				
Mill's lambda				0.038 [0.002]***		0.025 [0.043]**
Wald Chi-squared	282.56	528.32		41818.55		41840.57
Prob>Chi-squared	0.000	0.000		0.000		0.000
Pseudo R ²	0.061	0.064				

Analysis time is 18 quarters, with the first quarter of 2004 representing time 0. The models in the first two columns replicate column 3 and column 4 in table 7 using the subsample for large firms only. Large firms are defined as the firms with sizes higher than the median firm size in each CSRC industry classification, ranked quarterly by total asset value. The last four columns use the full sample and are estimated as two-step Heckman selection models. The number of censored and uncensored observations is 499,052 and 15,677, respectively. Column 3 and column 5 are the first step, while column 4 and column 6 present the second step. I also report the Mill's lambda and its significance levels. The dependent variable is relative recommendations, defined as recommendations minus the quarterly market consensus. The definitions of independent variables and instruments are provided in Table 3. P values are in parenthesis. *, **, *** represent statistical significance at the 10%, 5%, and 1% percent levels, respectively.

Table 9 The composition of mutual fund clients and analysts' relative recommendation

Variables	Recommendation relative to market consensus					
	Panel regression with random effects					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Mutual fund pressure</i>						
Large related holding _{t-1}	2.399 [0.000]***	2.699 [0.000]***	1.514 [0.001]***	1.719 [0.000]***	1.512 [0.001]***	1.713 [0.000]***
Small related holding _{t-1}	0.425 [0.188]	0.619 [0.064]*	-0.131 [0.698]	0.033 [0.925]	-0.127 [0.706]	0.004 [0.991]
Commission _{t-1}			0.218 [0.000]***	0.233 [0.000]***	0.217 [0.000]***	0.231 [0.000]***
<i>Political pressure</i>						
Ceo_political×Stateown					0.059 [0.045]**	0.094 [0.000]***
<i>Firm Characteristics</i>						
State own _{t-1}	-0.014 [0.454]	-0.006 [0.740]	-0.015 [0.417]	-0.007 [0.716]	-0.040 [0.069]*	-0.047 [0.026]**
Other fund own _{t-1}	-0.056 [0.055]*	-0.046 [0.127]	-0.054 [0.065]*	-0.045 [0.136]	-0.054 [0.066]*	-0.143 [0.153]
Oversea list dummy	0.026 [0.059]*	0.009 [0.528]	0.029 [0.030]**	0.012 [0.376]	0.030 [0.032]**	0.012 [0.385]
ROA _{t-1}	0.046 [0.686]	0.024 [0.832]	0.054 [0.629]	0.037 [0.746]	0.058 [0.605]	0.052 [0.649]
Q _{t-1}	-0.000 [0.961]	-0.000 [0.895]	-0.003 [0.320]	-0.003 [0.305]	-0.003 [0.324]	-0.003 [0.308]
Revenue _{t-1}	-0.016 [0.531]	-0.010 [0.680]	-0.017 [0.524]	-0.011 [0.653]	-0.016 [0.530]	-0.010 [0.685]
Firm size _{t-1}	0.002 [0.729]	-0.000 [0.918]	-0.006 [0.239]	-0.008 [0.103]	-0.006 [0.258]	-0.008 [0.129]
Div yield _{t-1}	-0.153 [0.504]	-0.144 [0.548]	-0.142 [0.534]	-0.146 [0.543]	-0.142 [0.536]	-0.142 [0.554]
<i>Broker Characteristics</i>						
Foreign broker dummy	-0.603 [0.000]***	-0.605 [0.000]***	-0.586 [0.000]***	-0.588 [0.000]***	-0.578 [0.000]***	-0.573 [0.000]***
Broker experience	0.014 [0.170]	0.020 [0.001]***	0.014 [0.149]	0.020 [0.001]***	0.013 [0.192]	0.018 [0.002]***
<i>Analyst Characteristics</i>						
All star dummy	0.021 [0.318]	0.105 [0.000]***	0.022 [0.302]	0.107 [0.000]***	0.022 [0.301]	0.107 [0.000]***
Productivity	0.013 [0.867]	-0.033 [0.547]	0.008 [0.919]	-0.045 [0.414]	0.011 [0.884]	-0.046 [0.400]
Industry coverage	-0.004 [0.362]	-0.005 [0.084]*	-0.004 [0.324]	-0.005 [0.067]*	-0.004 [0.314]	-0.005 [0.070]*
Seniority	0.001 [0.149]	-0.000 [0.600]	0.001 [0.055]*	-0.000 [0.883]	0.001 [0.063]*	-0.000 [0.774]
<i>I- bank pressure</i>						
I-bank relation dummy	0.072 [0.002]***	0.088 [0.000]***	0.069 [0.002]***	0.086 [0.000]***	0.069 [0.002]***	0.086 [0.000]***
<i>Other controls</i>						
Coverage no	0.005 [0.477]	-0.001 0.884	0.005 [0.491]	-0.001 [0.926]	0.005 [0.505]	-0.001 [0.874]
Log quarter index	-0.011 [0.108]	-0.011 [0.117]	-0.013 [0.059]*	-0.012 [0.083]*	-0.132 [0.059]*	-0.012 [0.089]*
Random analyst effects	Yes		Yes		Yes	
Random firm effects		Yes		Yes		Yes
Wald Chi-squared	363.65	791.33	394.50	825.60	399.89	841.13
Prob>Chi-squared	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R ²	0.045	0.048	0.047	0.050	0.048	0.051

Large related holding is defined as the 20% largest mutual funds in terms of total equity value under management in the previous year. Small related holding is the non-large mutual funds. The dependent variable is analyst recommendation relative to market consensus. The definitions of the independent variables are provided in Table 3. The estimation models are identical to those in Table 7. P-values are in brackets. *, **, *** denote statistically significant at 10%, 5%, and 1% significance levels, respectively.

Table 10 Change in the portfolio weight of a covered stock and analyst optimism

Variables	Active change in portfolio weight			
	(1)	(2)	(3)	(4)
Relative recommendation dummy _t	-0.002 [0.062]*	-0.003 [0.037]**		
All star relative recommendation dummy _t	-0.001 [0.788]	-0.002 [0.601]		
Relative recommendation dummy _{t-1}			-0.003 [0.049]**	-0.004 [0.030]**
All star relative recommendation dummy _{t-1}			0.005 [0.158]	0.004 [0.232]
Change in ROA _t	0.070 [0.000]***	0.069 [0.000]***	0.070 [0.000]***	0.069 [0.000]***
Change in Revenue _t	0.000 [0.003]***	0.000 [0.001]***	0.000 [0.003]***	0.000 [0.001]***
Change in firm size _t	0.014 [0.000]***	0.014 [0.000]***	0.014 [0.000]***	0.014 [0.000]***
Change in Q _t	0.005 [0.000]***	0.005 [0.000]***	0.005 [0.000]***	0.005 [0.000]***
Change in dividend yield _t	0.092 [0.000]***	0.092 [0.000]***	0.092 [0.000]***	0.092 [0.000]***
Change in stock price _t	0.001 [0.000]***	0.001 [0.000]***	0.001 [0.000]***	0.001 [0.000]***
Change in stock index _t	0.020 [0.000]***	0.019 [0.000]***	0.020 [0.000]***	0.020 [0.000]***
Change in holdings by other mutual funds _t	0.040 [0.000]***	0.039 [0.000]***	0.040 [0.000]***	0.039 [0.000]***
Change in the no. of other mutual funds _t	0.014 [0.000]***	0.014 [0.000]***	0.014 [0.000]***	0.014 [0.000]***
Random broker effects	Yes		Yes	
Random firm effects		Yes		Yes
Wald Chi-squared	3734.81	3740.08	3733.95	3737.61
Prob>Chi-squared	0.000	0.000	0.000	0.000
Pseudo R ²	0.054	0.054	0.054	0.054

The dependent variable is the change in the weight of a covered stock in mutual fund clients' portfolios. The change is measured from the end of quarter t to the end of quarter $t-1$. Random effects GLS are panel regressions in which the random errors are decomposed into a cross-section, illustrating stock broker (brokerage firm) level (column 1 and column 3) or firm level heterogeneity (column 2 and column 4), and a time series component. The independent variables are measured as the change of the respective firm characteristic between quarter t and quarter $t-1$. *Relative recommendation dummy* is equal to one if at least one business-related analyst issues a more optimistic recommendation (relative to market consensus) on the stock held by the mutual fund clients, zero otherwise. *All-star relative recommendation dummy* is equal to one if at least one business-related all-star analyst issues a more optimistic recommendation (relative to market consensus) on the stock held by the mutual fund clients, zero otherwise. I use both contemporaneous relative recommendations and one quarter lagged relative recommendations. P-values are in parenthesis. *, **, *** denote significance at the 10%, 5%, 1% levels, respectively.

Table 11 Bull and Bear market analysis on analyst behavior

Variables	Recommendation relative to market consensus			
	Bear Market		Bull Market	
	(1)	(2)	(3)	(4)
<i>Mutual fund pressure</i>				
Related holding _{t-1}	0.023 [0.066]*	0.034 [0.010]***	0.022 [0.027]**	0.030 [0.004]***
Commission _{t-1}	0.173 [0.000]***	0.176 [0.001]***	0.296 [0.000]***	0.330 [0.000]***
<i>Political pressure</i>				
Ceo_political×Stateown	0.073 [0.100]*	0.155 [0.000]***	0.009 [0.821]	0.026 [0.444]
<i>Firm Characteristics</i>				
State own _{t-1}	-0.051 [0.143]	-0.053 [0.115]	-0.026 [0.369]	-0.034 [0.224]
Other fund own _{t-1}	-0.021 [0.612]	-0.018 [0.681]	-0.073 [0.070]*	-0.069 [0.094]*
Oversea list dummy	0.030 [0.101]	0.012 [0.540]	0.021 [0.281]	0.015 [0.435]
ROA _{t-1}	0.283 [0.075]*	0.250 [0.129]	-0.193 [0.231]	-0.180 [0.263]
Q _{t-1}	-0.009 [0.022]**	-0.007 [0.083]*	0.000 [0.973]	-0.001 [0.926]
Revenue _{t-1}	-0.034 [0.324]	-0.014 [0.679]	0.004 [0.927]	0.008 [0.832]
Firm size _{t-1}	-0.013 [0.099]*	-0.014 [0.065]*	0.001 [0.933]	0.005 [0.503]
Div yield _{t-1}	0.387 [0.468]	0.052 [0.927]	-0.284 [0.267]	-0.174 [0.510]
<i>Broker Characteristics</i>				
Foreign broker dummy	-0.574 [0.000]***	-0.500 [0.000]***	-0.581 [0.000]***	-0.593 [0.000]***
Broker experience	0.004 [0.783]	-0.003 [0.773]	0.025 [0.030]**	0.035 [0.000]***
<i>Analyst Characteristics</i>				
All star dummy	0.061 [0.085]*	0.102 [0.000]***	0.064 [0.015]**	0.108 [0.000]***
Productivity	0.040 [0.733]	-0.168 [0.041]**	0.079 [0.424]	0.034 [0.649]
Industry coverage	-0.000 [0.942]	-0.003 [0.561]	-0.005 [0.369]	-0.008 [0.044]**
Seniority	0.001 [0.096]*	0.001 [0.099]*	-0.001 [0.134]	-0.002 [0.007]***
<i>Investment bank pressure</i>				
I-bank relation dummy	0.050 [0.103]	0.083 [0.011]**	0.070 [0.032]**	0.086 [0.010]***
<i>Other controls</i>				
Coverage no	0.008 [0.379]	-0.002 [0.814]	0.001 [0.940]	-0.001 [0.908]
Log quarter index	-0.013 [0.182]	-0.018 [0.070]*	-0.004 [0.673]	-0.005 [0.599]
Random analyst Effects	Yes		Yes	
Random firm Effects		Yes		Yes
Wald Chi-squared	161.02	319.70	303.54	570.12
Prob>Chi-squared	0.000	0.000	0.000	0.000
Pseudo R ²	0.039	0.043	0.062	0.063

I split my sample into bear market period (column 1 and column 2) and bull market period (column 3 and column 4) and replicate my analysis in Table 7. The bull market period lasts from June 6th, 2005 to October 16th, 2007. The rest of my sample period are bear market periods. P values are in parenthesis. *, ** and *** represent statistical significance at 10%, 5%, and 1% significant levels, respectively.

Table 12 Investment returns from following analyst recommendations

Table 12A Mean 3-day abnormal return around the recommendation date

	Overall	Fund-relate d	Independent	Difference
All recommendations	0.49%	0.28%	0.62%	0.34% [0.000]***
More optimistic than market consensus	0.70%	0.57%	0.84%	0.27% [0.050]**
Less optimistic than market consensus	0.12% ⁺	0.04% ⁺	0.17%	0.13% [0.206]
Strong buy	1.02%	0.61%	1.44%	0.84% [0.000]***
Buy	0.52%	0.24%	0.71%	0.47% [0.000]***
Hold or worse	-0.01% ⁺	-0.34%	-0.00% ⁺	0.34% [0.046]**

I use the standard market model to compute the abnormal returns. The estimation period is from day -126 to day -7 before the analyst recommendation and the market index is the equally weighted returns on all stocks on the Shanghai or Shenzhen index (stock j is listed on either the Shanghai or the Shenzhen stock exchange). Day 0 marks the recommendation date. The three-day abnormal returns are statistically larger than 0 at the 1% significance level except for those with a “+” superscript. Difference is defined as the average daily abnormal return associated with fund-unrelated (independent) recommendations minus the fund-related recommendations. P values for two tailed statistics are presented in parenthesis. *, **, *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 12B Daily returns from a buy-and-hold strategy that acts on analyst recommendations

			Overall	Fund related recommendations (a)	Independent recommendations (b)	Difference (a)- (b)
More optimistic than market consensus	(1)	Raw return	0.025%	-0.045%	0.029%	-0.074%
	(2)	Mkt-adj. return	-0.048%	-0.181%**	-0.064%	-0.117%
	(3)	Market model	-0.000%	-0.060%	0.053%	-0.114%
Equal or less optimistic than market consensus	(4)	Raw return	0.105%	0.171%	0.083%	0.088%
	(5)	Mkt-adj. return	0.005%	0.044%	-0.021%	0.065%
	(6)	Market model	0.000%	0.047%	-0.041%	0.088%

This table reports the average daily raw buy-and-hold returns, average daily market-adjusted buy-and-hold returns and average daily abnormal returns from acting on the analyst recommendations.

Each recommendation is assumed to stop influencing investment behavior after 250 trading day after its report date unless a downgrade to “under perform” or “sell” is issued by the same analyst on the same stock for a “strong buy” or “buy” recommendation within 250 trading days, or an upgrade to “buy” or “strong buy” is issued by the same analyst on the same stock for an “under perform” or “sell” recommendation within the 250 trading days. I use a two-tailed t-test to examine whether market-adjusted returns and market model returns are statistically different from 0. In addition, I use a two-tailed t-test to examine whether the market-adjusted return and return from the market model are statistically different across fund-related analyst reports and independent analyst reports. *, ** and *** denotes statistical significance at the 10%, 5%, and 1% significant levels, respectively.

References

Agrawal, A. and M. Chen, 2008. Do analyst conflicts matter? Evidence from stock recommendations. *Journal of Law and Economics* 51, 503-537.

Antweiler, Werner, 2001. Nested random effects estimation in unbalanced panel data. *Journal of Econometrics* 101, 295-313.

Barber, Brad, Reuven Lehavy and Brett Trueman, 2007. Comparing the stock recommendation performance of investment banks and independent research firms. *Journal of Financial Economics* 85, 490-517.

Bajari, Patrick and John Krainer, 2004. An empirical model of stock analysts' recommendations: Market fundamentals, conflicts of interests, and peer effects. Unpublished working paper, National Bureau of Economic Research.

Bolton, Patrick, Xavier Freixa and Joel Shapiro, 2007. Conflicts of interest, information provision, and competition in the financial services industry. *Journal of Financial Economics* 85, 297-330.

Boni, L. and K. Womack, 2003. Solving the sell-side research problem: Insights from buy-side professionals. Working paper, Dartmouth College.

Bradley, Daniel J., Bradford D. Jordan and Jay R. Ritter, 2008. Analyst behavior following IPOs: The "Bubble Period" Evidence. *Review of Financial Studies* 21, 101-133.

Bradshaw, Mark T., Scott A. Richardson and Richard G. Sloan, 2006. The relation between corporate financing activities, analysts' forecasts and stock returns *Journal of Accounting and Economics* 42, 53-85.

Capital weekly. Who is the winner in the competition for mutual fund commission allocation? (in Chinese), Capital weekly, August 19th, 2008.

Chan, Louis K.C., Jason J. Karceski and Josef Lakonishok, 2006. Analysts' Conflict of Interest and Biases in Earnings Forecasts. *Journal of Financial and Quantitative Analysis*, forthcoming.

Chen, Gongmeng., Michael Firth, Yu Xin, Liping Xu, 2008. Control transfers, privatization, and corporate performance: Efficiency gains in China's listed companies. *Journal of Financial and Quantitative Analysis* 43, 161-190.

China Securities Regulatory Commission (CSRC). *Experimental Rules on Open-End Mutual Funds*. CSRC (2000), Beijing, China.

Claessens, Stijin, Erik Feijen, Luc Laeven, 2008, Political connections and preferential access to finance: The role of campaign contributions", *Journal of Financial Economics* 88, 554-580.

Clarke, Jonathan, Ajay Khorana, Ajay Patel and P. Raghavendra Rau, 2004. The good, the bad and the ugly? Differences in analyst behavior at investment banks, brokerages and independent research firms. Unpublished working paper, Purdue University.

Clarke, Jonathan, Ajay Khorana, Ajay Patel and P. Raghavendra Rau, 2007. The impact of all-star analyst job changes on their coverage choices and investment banking deal flow. *Journal of Financial Economics* 84, 713-737.

Clatworthy, Mark A., Gerald H. Makepeace and Michael J. Peel, 2009. Selection bias and the big four premium: New evidence using Heckman and matching models. *Accounting and Business Research* 39, 139-166.

Corwin, Shane A. and Paul Schultz, 2005. The role of IPO underwriting syndicates: Pricing, information production and underwriter competition. *Journal of Finance* 60, 443-486.

Cowen, Amanda, Boris Groysberg and Paul Healy, 2006. Which types of analyst firms are more optimistic? *Journal of Accounting and Economics* 41, 119-146.

Das, Somnath, Carolyn B. Levine and Shiva Sivaramakrishnan, 1998. Earnings predictability and bias in analysts' earnings forecasts. *The Accounting Review* 73, 277-294.

Dechow, Patricia, Amy P. Hutton and Richard G. Sloan, 2000. The relation between analysts' forecasts of long-term earnings growth and stock price performance following equity offerings. *Contemporary Accounting Research* 17, 1 - 32.

Dugar, Amitabh, and Siva Nathan, 1995. The effect of investment banking relationships on financial analysts' earnings investment recommendations. *Contemporary Accounting Research* 12, 131-160.

Ellis, Katrina, Roni Michaely and Maureen O'Hara, 2000. When the underwriter is the market maker: An examination of trading in the IPO aftermarket. *Journal of Finance* 60, 1039-1074.

Faccio, Mara, Ronald Masulis, and John J. McConnell, 2006. Political Connections and Corporate Bailouts. *Journal of Finance* 61, 2597-2635.

Fama, Eugene F and Kenneth R. French, 1997. Industry costs of equity. *Journal of Financial Economics* 43, 153-193.

Fang, Lily and Ayako Yasuda, 2006a. The effectiveness of reputation as a disciplinary device in sell-side research. Unpublished working paper, University of Pennsylvania.

Fang, Lily and Ayako Yasuda, 2006b. Are stars' opinions worth more? The relation between analyst reputation and recommendation values. Unpublished working paper, University of Pennsylvania.

Firth, Michael, Chen Lin, and Hong Zou, 2009a. Friend or Foe? The Role of State and Mutual Fund Ownership in the Split Share Structure Reform in China, *Journal of Financial and Quantitative Analysis*, forthcoming.

Firth, Michael, Chen Lin, Ping Liu, Sonia Wong, 2009b. Inside the Black Box: Bank Credit Allocation in China's Private Sector, *Journal of Banking and Finance*, forthcoming.

Francis, Jere R. and Clive S Lennox, 2009. Selection models in accounting research. Unpublished HKUST working paper and SSRN.

Hayes, R. 1998. The impact of trading commission incentives on analysts' stock coverage decisions and earnings forecasts. *Journal of Accounting Research* 36 (2): 299-320.

Heckman, James J., 1979. Sample selection bias as a specification error. *Econometrica* 47, 153-162.

Hong, Harrison, and Jeffrey D. Kubik, 2003, Analyzing the analysts: Career concerns and biased earnings forecasts, *Journal of Finance* 58, 313–351.

Hong, Harrison, Jeffrey D. Kubik, and Amit Solomon, 2000, Security analysts' career concerns and the herding of earnings forecasts, *Rand Journal of Economics* 31, 121–144.

Hope, Ole-Kristian, 2003. Disclosure practices, enforcement of accounting standards and analysts' forecast: An international study. *Journal of Accounting Research* 41, 235-272.

Irvine, Paul J., 2001. Do analysts generate trade for their firms? Evidence from the Toronto Stock Exchange. *Journal of Accounting and Economics* 30, 209-226

Irvine, Paul J., 2004. Analysts' forecasts and brokerage firm trading. *Accounting Review* 79, 125-149.

Irvine, Paul J., Marc Lipson, Andy Puckett, 2007. Tipping. *Review of Financial Studies* 20, 741-768.

Jiang, Xin, 2008. "The fierce competition for commission from mutual fund industry". *China Security Journal* (In Chinese), September 6, 2008.

Jackson, Andrew, 2005. Trade generation, reputation and sell-side analysts. *Journal of Finance* 60, 673-717.

Jacob, John, Steve Rock and David P. Weber, 2003. Do analysts at independent research firms make better earnings forecasts? Unpublished working paper. University of Colorado, Boulder.

James, Christopher and Jason Karceski, 2006. Strength of analyst coverage

following IPOs. *Journal of Financial Economics* 81, 1-34.

Khwaja, Asim I and Atif Mian, 2005a. Do lenders favor politically connected firms? *Quarterly Journal of Economics* 120, 1371-1411.

Khwaja, Asim I and Atif Mian, 2005b. Unchecked intermediaries: Price manipulation in an emerging stock market. *Journal of Financial Economics* 78, 203-241.

Kolasinski, Adam and S.P. Kothari, 2007. Investment banking and analyst objectivity: Evidence from forecasts and recommendations of analysts affiliated with M&A advisors. Working paper, Massachusetts Institute of Technology.

Laeven, Luc and Ross Levine, 2007. Is there a diversification discount in financial conglomerates? *Journal of Financial Economics* 85, 331-367.

Lang, Larry and Rene Stulz, 1994. Tobin's q, corporate diversification and firm performance. *Journal of Political Economy* 102, 1248- 1280.

Solomon, Deborah and Tom Lauricella, 2003. Morgan Stanley to settle with SEC. *Wall Street Journal* November 17, C9.

Lim, Terrance, 2001. Rationality and analysts' forecast bias. *Journal of Finance* 56, 396-385.

Lin, Hsiou-wei and Maureen F. McNichols, 1998. Underwriting relationships, analysts' earnings forecasts and investment recommendations. *Journal of Accounting and Economics* 25, 101-127.

Liu, H. and Zhang, X. 2008. Faded promise: An investigation of tacit rules of sell-side analysis. *21st Century Reporting*.

Ljungqvist, Alexander, Felicia Marston, Laura T. Starks, Kelsey D. Wei and Hong Yan, 2007. Conflicts of interest in sell-side research and the moderating role of institutional investors. *Journal of Financial Economics* 85, 420-456.

Ljungqvist, Alexander, Felicia Marston and William J Wilhelm, 2006. Competing for securities underwriting mandates: Banking relationships and analyst recommendations. *Journal of Finance* 81, 301-340.

Malloy Christopher, 2005. The geography of equity analysis, *Journal of Finance* 80, 719-755.

Malmendier, Ulrike and Devin Shanthikumar 2007. Are small investors naive about incentives? *Journal of Financial Economics* 85, 457 – 489.

McNichols, Maureen and Patricia O'Brien, 1997. Self-selection and analyst coverage. *Journal of Accounting Research* 35, 167-199.

Mehran, Hamid and Rene Stulz, 2007. The economics of conflicts of interest in financial institutions. *Journal of Financial Economics* 85, 267 - 296.

Michaely, Roni, and Kent L. Womack, 1999, Conflict of interest and the credibility of underwriter analyst recommendations. *Review of Financial Studies* 12, 653-686.

Mikhail, Michael, B., Beverly R. Walther and Richard H. Willis, 1999. Does forecast accuracy matter to security analysts? *Accounting Review* 74, 185-200.

Morgenson, Gretchen, 2001. "Buy, they say. But what do they do? IPO conflicts bedevil analysts." *New York Times*, May 27, p.1.

Mola, Simona and Massimo Guidolin, 2009. Affiliated mutual funds and analyst optimism. *Journal of Financial Economics*, Forthcoming.

O'Brien, Patricia, Maureen McNichols, H. Lin 2005. Analyst impartiality and investment banking relationships. *Journal of Accounting Research* 43, 623-650.

O'Brien, Patricia and Ravi Bhushan, 1990. Analysts following and institutional ownership. *Journal of Accounting Research (Suppl.)*, 55-76.

Reingold, Dan and Reingold, Jennifer, 2006. *Confessions of a Wall Street Analyst*. HarperCollins, New York.

Sharpe, William, 1963. A simplified model for portfolio analysis. *Management Science* 9, 277-293.

Stickel, Scott, 1992. Reputation and performance among security analysts. *The Journal of Finance* 47, 1811 - 1836.