경영학석사학위논문

한국 주식 시장 애널리스트의 투자의견에 대한 투자자들의 반응에 관한 실증연구

Empirical study of investors' reactions in response to analysts' recommendations in Korean stock market

2012 년 8 월

서울대학교 대학원

경영학과 재무금융전공

이동(LI DONG)

한국 주식 시장 애널리스트의 투자의견에 대한 투자자들의 반응에 관한 실증연구

Empirical study of investors' reactions in response to analysts' recommendations in Korean stock market

지도교수 조재호

이 논문을 경영학 석사학위논문으로 제출함

2012 년 8 월

서울대학교 대학원
경영학과 재무 금융 전공
이동(LIDONG)

경영학의 석사학위논문을 인준함

위 원 장 _____ (인)

부 위 원 장 _____ (인)

위 원 _____ (인)

Abstract

This study is intended to analyze Korean stock market's information efficiency by comparing investors' reactions in response to analysts' recommendations. Huge amounts of information are published in the market every day, and the investors probably choose whether to refer to the released information while making trading decisions or not. Definitely, the returns of these trading behaviors could be very different. I collected sample data for institutional investors and individual investors' related trading records from 2001 through 2010 of Korean stock market, in order to analyze what behaviors the investors have taken and the difference of these investment behaviors' performances after the information released in the market. The results are shown as follows.

First of all, very severe upward biases exist in Korean analysts' recommendations. Above 97 percentage of the total are positive recommendations, including Strong buy, Buy, and Hold, whereas merely approximately 3 percentage of the total recommendations are negative, namely Sell, and Strong sell.

Secondly, the behaviors in response to these recommendations are quite different between institutional investors and individual investors. Institutional investors seem to have known the upward biases involved in the analysts' recommendations. Therefore, they adjusted their investment decisions downward by one level, namely, made sell trading in response to hold, and made no adjustment of their positions in response to buy recommendations. Differently, individual investors didn't show us a clear pattern about their trading behaviors in response to the recommendations of analysts.

Finally, in analysis of the returns to these trading behaviors for the two groups, institutional investors who adjust downward the recommendations one level earned positive return, while individual investors who didn't refer to the recommendations show poor investment performances.

Key words : Analyst, Recommendation, Individual Investor, Institutional Investor, Investment Reaction

Student Number : 2010-24043

Contents

TABLES & FIGURES

I. Introduction

During past twenty years, Korea Stock Market has achieved a substantial improvement both in terms of market liquidity and its openness. Since Korean stock market opened to foreigners for a long period with a regulation stipulating foreigners to register in Foreign Investors Registration System, more and more capitals are continuously flowing into Korea stock market; meanwhile, Korean individual investors and institutional investors are both enthusiastic with investing in Korean Stock Market. According to a number of extant studies, nevertheless, among these three investors groups, individual investors have the biggest disadvantage comparing with other two groups, since information asymmetry exists between them. Some studies accounted the disadvantage born by individual investors for the trading frequency of individual investors. Frequent trading of the shares makes them pay for more transaction costs for every trade, which leads them to suffer from more losses. On the other hand, some authors argue that the big dichotomy in investment ability between institutional investors and individual investors plays a pivotal role in their very different investment performance. The individual investors are more subject to the less-rational information interpreting ability which determines their limited information accessibility and the capacity in properly interpreting the information released to the public. They don't work as professional investors as the managers who work at financial institutions. In addition, they are lack of the professional knowledge of investment and the methods in analysis. Conversely, the managers of institutions work for hours through to end every day, do substantial amounts of analysis and make much more sophisticated investment decisions. Their investment in the stock market are supported by their stakeholders or clients, therefore, if they don't play very prudently or failed in even one investment project, they are more likely to be escorted out of the investment field.

Be different with the viewpoints shown above, this paper will concentrate on the recommendations issued by the analysts working for the securities companies or independent research firms. As the information disclosed by

these professionals are broadly available to the public, both of individual investors and institutional investors could approach to the superior information without any obstacles, only if do they own a connecting device, namely, computer, with an access to the internet. In the “real world”, Korea possesses the fastest internet linking speed among all of the OECD countries, accordingly, the investors in Korea are more probably to access the information posted on the internet. If the recommendations are always available to every type of investors, they shall illustrate to react to the information immediately and follow the recommendations simultaneously, thereby make large profits in every day trading. One question should be addressed here, whether or not individual investors earned big profits during the past years? The observational results in the previous literatures demonstrate individual investors lost lots of money during the past years. However, this could not have been the case if individual investors reacted to the analysts’ recommendations tightly and carefully. In the case, they could earn lots of money. This is because that the recommendations are published by the analysts through continuous and deliberate researches. Alternatively, there is much false information being embedded into the recommendations. The observational result shows, in the case of Korean stock market, there are truly upward biases exist in analysts’ recommendations. From 2001 to 2010, there are 371,056 recommendations have been released to the public, however, approximately 90% of the recommendation are Strong Buy, Buy, at least Neutral, merely 10% are U/Weight or Sell-denominated recommendations, which gave strong sights to the investors of buying or remaining in the stock market. Then a problem should be mentioned here, which is when should investors sell their shares to make a profit, if they follow the advices given by the analysts, how could they be better-off through their investment? If there are no profound advices be issued by the analysts, both of these investors should make the investment decisions by their own judgment, in which procedure the distinction between individual investors and institutional investors could have a very important impacts on their rate of returns. As mentioned in the prior paragraph, comparing with the investors, typically, small investors, the institutional investors have

superior interpreting information ability; they could distinguish the recommendations, and judge whether biases are contained among the recommendations, then make a much more rational investment than individual investors. Therefore, this paper is more concentrating on the reactions to the recommendations between the individual investors group and institutional investors group. In U.S. stock market, the individual investors are literally follow the analysts' investment recommendations, even though extremely serious upward biases are embedded into the recommendations; However, institutional investors have already been aware of the upward biases including in the recommendations, they adjust their investment decisions as responses to the upward-bias recommendations. Especially, when the analysts are associated with the underwriter firms (Security firms that underwrite the recommending firms), more upward biased investment advices should exist quite seriously. The institutional investors, according to their career-sense, who could find the upward biased recommendation and do adjustments in advance, when invest in the recommended shares; In conversion, the individual investors are more feasibly be naive about the "incentives", which is due to the fact that their abilities are insufficient in recognizing between the true recommendations and the tricky ones. On the other hands, in case of the independent research firms, who should draw much more fair recommendations, as they are not tightly affiliated to the securities recommended by the analysts from those firms. On basis of these assumptions, the hypotheses in this paper are as follows:

(1) In Korea Stock Market, severe upward biases are encompassed in the recommendations issued by security research firms. Particularly, if the securities recommended by the firm which are affiliated to them (Security firms that underwrite the recommending firms), the upward biases are much more severe.

(2) Reactions of individual investors and institutional investors in response to the recommendations are totally different; Not aware of upward biases' existence in the recommendations, individual investors invest literally by following the analysts' recommendations; whereas institutional investors have already known the upward biases are contained in the recommendations, therefore, they adjusted the investment by lowering one level or two while investing in the stock market.

(3) The rate of return of the investment following the recommendations performs worse than the strategy of lowering one level.

The remaining parts of this paper are constructed as follows: (II) I demonstrate the Motivation & Dataset & Methodology of this paper, (III) Empirical Results: Recommendation analysis; Reactions to the recommendations; Rate of return of investment by following the recommendations, (IV) Explanations to the empirical results; (V) Conclusions.

II. Motivation & Dataset

2.1 Motivation

A series of international and domestic studies are concerned about the recommendations' impacts on the rate of return of the investors' trading behaviors. These papers do the researches by according to the recommendations published by the analysts, which are denoted as "Strong Buy = 5, Buy= 4, Neutral = 3, Sell = 2, Strong Sell = 1". They have confirmed that the recommendations make positive impacts on investors' investment decisions. Nevertheless, these papers are overly concentrated on the simulating investment and its result, rather than the empirical reactions to the recommendations. In conversion, this paper concentrate on the direct reactions between two investment groups, namely, individual investors and institutional investors. Factually, three investors groups exist in Korea stock market, associated with the previously mentioned two groups, foreign investors group is also a big direct investor group in South Korea. Even though these three investors groups play very import roles in Korea stock. The foreign investors group seems not to be curious with the recommendations, as the recommendations are released in Korean language, rather than English. Hereby, this paper especially focuses on the immediate reactions to the recommendations, rather than strategy test by following the recommendations. As mentioned before, this is due to the facts that upward biases are more likely to exist in the recommendations; moreover, the gap of information handing ability exist between these two groups. As a branch of the financial study fields, very different from the traditional financial studies, behavioral finance is more concerned with the psychological distinctions between the investors, which are more focusing on the information efficiency. The problem should be noticed is that even though we presumed the market is very efficient, namely, the prices of the securities are perhaps rightly reflecting the information, but it is still possible that the reactions of the information are very different, due to the distinct capacity to interpret released information, such as people with different gender, different

education background, different cultural circumstances and even different analytical ability, particularly, when facing to biased information exists in the public, the lack of properly decoding skill for the individual investors could make them bear losses or make them to situate in disadvantages.

If this were the truth, a couple of measures should be taken to cope with the less efficient market by government authorities. Recommendations are considered as important information to be published into the market by various research firms, by issuing numerous recommendations they give the investors instruction of which securities should they invest in, the proper timing for them to sell shares and buy shares, however, some recommendations maybe closed related to the analysts' clients, by issuing positive recommendations, they are able to continue further cooperation with their clients, accordingly, make continuous profits from the future cooperation, whereas if the recommendations are considered merely as references, then the individual investors and institutional investors should make their investment decisions according to their own judges on the market condition. Assume that individual investors or institutional investors apt to take the suggestions issued by analysts, and approximate to 97% of them are Buy or Neutral- denominated recommendations, then when is the proper timing for them to sell their holding shares to make profits by merely referring to analysts' recommendations. If no future sell-denominated recommendation issued, as stated before, the gap of information handing ability will come to be in effect. In this case, all investors should make the selling decisions by themselves, perhaps according to their investment skills, or their empirical observations, even their occupational feelings. Then the investment recommendations lose their initial intention, which is to give appropriate investment suggestions, help investors make rational decisions. In order to solve this problem, avoid the analysts linking special relationships with their clients, the authority, therefore, should implement corporate governance to supervise the quality of the recommendations. Moreover, individual investors and institutional investors should be aware of the distorted investment recommendations issued by the analysts, both of them should take adjustment while taking the recommendations, rather than

purely following the recommendations. In conclusion, the authority should make the market be more efficient, comparing to institutional investors, individual investors are always in the disadvantage position in terms of information asymmetry.

2.2. Dataset

Primarily, I should be grateful of the invaluable research resources provided by College of Business Administration in Seoul National University. Numerous databases are accessible in the Business School Library, which made the biggest contribution to this study. Since data is separately saved in different databases in the library, I collected the data from a series of databases. The most important database, which is the recommendations, is collected from FNGUIDE.COM, the sample periods are from 2001 through 2010 (The underwriters' database is only available from 2001 through 2010). FNGUIDE.COM database puts recommendations into five groups, and denominated as Strong Buy = 5, Buy = 4, Neutral = 3, U/Weight = 2, Sell = 1. The date, security's name, issuing research company, analyst, recommended price and advice are all collected in that database. The trading records, including the trading amount and trading volume of the two investor groups are attained from DATAGUIDE database, as a Microsoft Excel software based database, all the trading records are collected in that database. Whereas, the samples are positioned separately by security's codes, therefore, I manually downloaded the sample data from 2001 through 2010, including both of KOSPI and KOSDAQ's daily trading data. Unfortunately, the underwriters' information of every security is not available. Since the other underwriter's trading data is not available before 2001, I only could obtain the underwriters' data from 2001 through 2010. There were 806 firms newly listed with 30 underwriting security firms in both KOSPI and KOSDAQ stock market. This is very different from the U.S.A stock markets, since no investment banks exist in Korea so far. I got the earnings announcement data from INFOMAX. In order to calculate the rate of return by following each investment recommendations, I obtained the trading price data from KSMI2000, but from Jan. 2010, the data is not available anymore, therefore, the samples could only be got from Jan, 2001 to Dec, 2009. Finally, the Fama-3 factor data, including market capitalization, book value of Equity, and market value of equity, market returns for KOSPI and KOSDAQ are downloaded from KIS-Value database from 2001 to 2010.

2.3. Existed Literature Review

Numerous studies focus on the recommendations issued by analysts. These studies are intended to figure out the efficiency of the recommendations. For instance, some papers focus on informational distortions of analysts (Francis, Hanna, and Philbrick, 1997; Lin. et. al, 2003). In Michaely and Womack (1999), they document that the recommendations of affiliated analysts are more favorable than those of unaffiliated analysts. In Michaely and Womack (2005), the high ratio of buy over sell recommendations indicates that even unaffiliated analysts do not provide a balanced view (The result is very similar with my result for Korea stock market). Previous analyses of investor reaction to recommendations have been almost all based on return patterns, e.g. Womack (1996) finds significant three-day event returns to recommendation changes in the direction of the change. The evidence on return differences if analysts are affiliated is mixed. For initial public offering (IPO) underwriting affiliation, Lin and McNichols (1998) find that the market reacts significantly more negatively to hold recommendations issued by affiliated research firms than to unaffiliated recommendations, but significant differences in the longer run were not found out by them. Iskoz (2002) shows that institutions account for analyst' bias, as far as one can deduce from quarterly institutional ownership data. Mikhail et al. (2006) also analyze the separate reaction of small and large investors to recommendations by using dollar trading volume. Though, they do not find significant results for affiliated recommendations, possibly due to the skewness of the dollar measure for large trades. Ulrike & Devin (2007) shows that in U.S. stock market, there are seriously upward biases implanted in the recommendations by analysts. Moreover they use the trade-size algorithm developed in Lee and Radhakrishna (2000) to distinguish two groups of small investors and large investors, and then analyze the different reactions to the recommendations between affiliated ones and unaffiliated ones. As a robust test, they tested the returns of the strategies by following the recommendations. The event returns to small traders' net trade reaction

are significantly lower than those of large traders if we assume six- or twelve month holding periods; the difference is insignificant over three months.

Among the domestic studies in the recommendations of analysts, Kim Dong-soon et al. (2005) analyze that the return of investment following the domestic recommendations and foreign recommendations, their result shows that positive returns after the upgrade recommendations and negative returns after downgrade recommendations. Moreover, there is no difference between the impacts of the domestic and foreign recommendations. Kim Seong-shin(2010) analyzes the fund performance after the recommendation change. The author finds that the returns of the funds following the change of the recommendations are significantly positive. Comparing to the upgrade recommendations, the downgrade recommendations show more reliance to the funds. If the manages of the funds follow the investment recommendations then they will earn profits for their funds. However, these researches are all based on the simulating analyses, rather than the direct reactions of the investors to the recommendations. The empirical results are possibly different from the theoretical assumptions. Then this paper stands at the point that directly tests the reactions of the different investor groups, to analyze their reactions or responses to the recommendations, how they account for the incentives released to public in Korea stock market.

III. Empirical Results.

3.1 Recommendations' Upward Biases

The samples of the recommendations issued by analysts from security firms and independent research firms are obtained from 2001 through 2010, which consist of more than 371,000 recommendations published by the analysts. My result is illustrated in Table I shows that there are very serious upward biases in the recommendations, which is very similar with samples with Ulrike & Devin (2007). Among the 371,056 recommendations, there are only 5,865 U/Weight and Sell recommendations exist, merely 1.4% of the total samples in proportion. Also, it is notable that Korean analysts replace the Sell recommendation by U/Weight recommendation, and the Strong Sell recommendation by Sell recommendation. I estimate this might because of the psychological factor, the word "strong" is very easy to cause caution to the investors. Therefore, the Strong Buy (0.9%) is also rarely shown in the recommendation sample summary statistics. Conversely, Buy and Neutral recommendations stand for 97.8 percent in total sample, which contain 362,508 recommendations, associate with Strong Buy recommendations, they are totally 98.7 percentage of the whole sample. Very strong and severe upward biases are confirmed in the recommendations of analysts in Korea stock market so far. There are some patterns found in Table I. Firstly, in Neutral, U/Weight, Sell columns, the recommendations are gradually decreasing; In U/Weight column, from 2,257 of Year 2001 severely decreased to 50 of Year 2010, in case of Sell recommendations (from 256 of year 2001 to 0 of year 2010), more strangely, in 2003 and 2010, there were no sell(in U.S standard, Strong sell) recommendations issued by analysts. There were no securities worthy of selling at those two years, obviously, it's not the case. Oppositely, Strong-Buy (from 139 to 537, with a slight volatility but still gradually increasing pattern), Buy (from 14,935 to 29,190) recommendations are all shown the increasing patterns by almost 2 to 3 times; whereas Neutral recommendations achieved its peak in 2005 by 20,946, then constantly

drawing downward. I guess these losing proportion have been moved to the Buy recommendations' proportion. What should be concerned is that, during the 2008 and 2009, when the financial crisis happening, the U/Weight and Sell recommendations are extremely little, only 24 and 84 for U/weight, 2 and 4 for Sell recommendations in 2008, 2009 separately.

On the other hand, the recommendations issued by affiliated security firms, namely, the firms have been underwriters during the past ten years from 2001 through 2010 were only 113 recommendations. It's sure that the underwriters' information has a big limitation, which is only 805 firms' underwriter information is available in the database. If, the previously listed firms' underwriter information could have been confirmed, the sample would have been more extended. As far as I mastered, among these 113 affiliated recommendations, only 1 Strong Buy recommendations are 1

Table I Summery statistics

No. of Analysts' Recommendations From 2001 Through 2010 in Korea Stock Market

Year	Strong-Buy	Buy	Neutral	U/Weight	Sell	Sum
2001	139	14,935	14,428	2,257	256	32,015
2002	496	18,172	11,102	875	74	30,719
2003	180	11,923	8,096	300	0	20,499
2004	209	23,547	13,352	246	89	37,443
2005	177	41,549	20,946	282	84	63,038
2006	174	39,365	16,193	115	53	55,900
2007	136	25,460	6,256	55	15	31,922
2008	376	24,930	4,824	24	2	30,156
2009	359	27,518	6,763	84	4	34,728
2010	537	29,190	3,959	50	0	33,736
Mean	278	25,659	10,592	429	58	37,016
Max	537	41,549	20,946	2,257	256	63,038
Min	136	11,923	3,959	24	0	20,499
Sum	2783	256589	105919	4288	577	370,156
Proportion	0.9%	69.3%	28.6%	1.2%	0.2%	100.0%

U/Weight recommendations, no Sell – denominated recommendation has been issued; whereas 29.8% are Neutral (34) and 68.9% are Buy (78) recommendations. In spite of the limited sample set, we still could have a short glance at the severe upward biases of the recommendations issued by the affiliated security firms.

Someone may argue that there are selected biases existing in the subsamples, namely, underwriter data. Alternatively, I address another assumption, which is during 2001 to 2010, the security research firms who have been underwriters for at least once, then the firms is counted as Underwriter Firm(Abbreviation: UF). As shown in Table II, there are 27 firms in the whole sample, due to FNGUIDE.COM only provide the data in details for upgrade and downgrade recommendations, the sample abridged to 13,774 recommendations. In the Upgrade section, 89.55% of the whole recommendations are Buy recommendations from the UF(underwriter firms) group, comparing to 81.96% from Independent research firms. In Downgrade section, 30.44% of the whole recommendations are Buy recommendations for the UF group, comparing to 26.97% for Independent research firms. Whereas in Upgrade section, the independent research firms issued 13% of the Strong buy recommendations, however, the proportion of the UF group is only 4.42%, but account for the whole sample, the number of positive recommendations issued by UF group is significantly more than independent research firms.

Table II: Summary Statistics of Recommendations by Underwriter firms and Independent Research firms

The recommendations issued by UF(Underwriter firms) group and independent research firms group. I illustrate the specific firms' recommendations by each firms' na,e. The whole sample period is from 2001 through 2010, which contains 13,774 recommendations, each recommendations are categorized into 5 groups, they are denominated as Strong Buy = 5, Buy = 4, Neutral =3, U/Weight = 2, Sell =1.

Names of Financial Institutions		Recommendation Categories(Upgrade)					Total	Recommendation Categories(Downgrade)					Total
		5	4	3	2	1		5	4	3	2	1	
1	Hyundai Sec.	19	560	54	6	0	639	0	658	1	83	3	745
2	Samsung Sec.	6	554	53	4	0	617	0	302	275	60	21	658
3	Daewoo Sec.	0	244	2	0	0	246	0	25	565	6	4	600
4	MERITZ Sec.	32	439	55	3	0	529	0	77	424	10	62	573
5	Tong yang Sec.	28	466	46	7	0	547	0	388	110	65	6	569
6	Korea Invest.	0	478	26	2	0	506	0	31	504	21	3	559
7	Shinhan Invest.	7	416	23	0	0	446	0	173	319	32	1	525
8	SK Sec.	45	345	16	1	0	407	1	119	294	25	9	448
9	Shinyong Sec.	3	313	8	1	0	325	0	2	342	0	7	351
10	Hi-ib Sec.	3	270	2	0	0	275	0	25	288	0	4	317
11	Eugene Invest. & Sec.	53	174	17	0	0	244	0	102	156	23	2	283
12	Woori Invest & Sec.	9	221	7	0	0	237	0	9	254	11	0	274
13	Kyobo Sec.	37	146	9	0	0	192	0	37	209	9	0	255
14	Dongbu Sec.	7	153	32	0	0	192	0	12	169	46	0	227

Table II: Summary Statistics of Recommendations by Underwriter firms and Independent Research firms (Continued)

The recommendations issued by UF(Underwriter firms) group and independent research firms group. I illustrate the specific firms' recommendations by each firms' na,e. The whole sample period is from 2001 through 2010, which contains 13,774 recommendations, each recommendations are categorized into 5 groups, they are denominated as Strong Buy = 5, Buy = 4, Neutral =3, U/Weight = 2, Sell =1.

Names of Financial Institutions		Recommendation Categories(Upgrade)					Total	Recommendation Categories(Downgrade)					Total
		5	4	3	2	1		5	4	3	2	1	
15	Hana Deatoo Sec.	0	172	2	0	0	174	0	97	128	2	0	227
16	NH Sec.	8	115	1	0	0	124	0	6	159	0	3	168
17	Daishin Sec.	2	125	0	0	0	127	0	89	40	1	0	130
18	Miraeasset Sec.	1	108	1	0	0	110	0	28	95	4	0	127
19	KB Invest	0	82	0	0	0	82	0	1	98	0	1	100
20	HMC Sec.	9	80	1	0	0	90	0	14	82	0	0	96
21	Kiwoom Sec.	0	55	1	0	0	56	0	41	3	2	0	46
22	Hanyang Sec.	0	29	0	0	0	29	0	20	21	3	0	44
23	Solomon Sec.	4	39	0	0	0	43	0	4	33	0	1	38
24	IBK Sec.	3	29	1	0	0	33	0	4	27	0	0	31
25	Bookook Sec.	3	12	0	0	0	15	0	6	22	1	0	29
26	Golden Bridge Sec.	0	13	0	0	0	13	0	1	24	0	0	25
27	Etrade Sec.	0	15	0	0	0	15	0	0	16	0	0	16
SUM		279	5653	357	24	0	6313	1	2271	4658	404	127	7461
Propotion		4.42%	89.55%	5.65%	0.38%	0.00%	100%	0.01%	30.44%	62.43%	5.41%	1.70%	100%
Independent		199	1254	75	2	0	1530	0	294	723	66	7	1090
Propotion		13.01%	81.96%	4.90%	0.13%	0.00%	100%	0.00%	26.97%	66.33%	6.06%	0.64%	100%

3.2 Investors' Reactions

In above section, the existence of very serious upward biases in analysts' recommendations has been confirmed both of UF group and independent research firm group. It seems that in Korean stock market, the upward biases for independent research firms are not as serious as confirmed in American stock market in Ulrike et al. In this section, I attempt to test the direct reactions to the recommendations among the Korean investors. There are three investor groups in Korea stock market, which are individual investors, institutional investors and foreign investors, as foreign investors are not likely to refer to the recommendations issued by domestic investment recommendations in Korean language, besides they all belong to institutional investors, encompassing them will not make a difference between individual investors and institutional investors. Accordingly, I remove the foreign investors' data from the sample dataset, with two different investors group remained. The daily trading records are obtained from 2001 through 2010 by each firm listed in either KOSPI or KOSDAQ. The database has already divided the investor groups into individual investor group and institutional investor group. Therefore, I don't need to estimate the investors' type by using the algorithm method of LEE (1990) stated before.

3.2.1 Trading Imbalance

Firstly, I use the methodology used in Ulrike & Devin (2007). As a proxy for net buy pressure, I used three measures. The net number of trades for firm i, investor type x, and date t is defined as:

(1)

$$\boldsymbol{NB}_{i,x,t} = buys_{i,x,t} - sells_{i,x,t}.$$

The raw trade imbalance measure for firm i, investor type x, and date t is calculated as

(2)

$$\boldsymbol{TI}_{i,x,t} = \frac{buys_{i,x,t} - sells_{i,x,t}}{buys_{i,x,t} - sells_{i,x,t}}$$

I normalize this measure by subtracting the firm-year mean and dividing by the firm- year standard deviation, separately for each investor type, as in Shanthikumar (2003):

(3)

$$\boldsymbol{TI}^{\boldsymbol{abnormal}}_{\boldsymbol{i,x,t}} = \frac{TI_{i,x,t} - TI_{i,x,year(t)}}{SD(TI_{i,x,year(t)})}$$

The adjustments are made by year to account for changes in trading behavior over time and by firm to account for differences in individual and institutional investors' trading behaviors for different stocks. These normalizations allow this study to compare trading behaviors over time and among firms and replace year- and firm-fixed effects in the regression framework. The calculations are based on using the trading dollar amounts of trades. The advantage to taking these normalizations is that they effectively test the trading abnormal investment behaviors and limited the test parameters to be within -1.00 to 1.00.

3.2.2 Trading reactions of individual investors and institutional investors

Table 3 shows trading reactions following analysts' recommendations of individual investors and institutional investors, the formulas of calculating the abnormal trading behaviors are stated above. I run OLS regression on dummy variables on day 0 and 1. It is due to the fact that even if the recommendations release by analysts are written in Arabian numbers, like 1, 2, and so on. However, since they don't have any significance in mathematics, running them in OLS regression directly will have any economic and stochastic meaning, hence, I replaced them by 4 dummy variables, this can be easy to accomplish by SAS program. In order to distinguish the difference in trading behaviors between individual investors and institutional investors, I divided them into two columns. In the third column, I showed the difference by individual investors' trading reactions subtracting by institutional investors' trading reactions.

The trading reactions of each investor groups are shown in Table IV, as described in the above paragraph, I normalized the trading activities by three methods, I regress the normalized abnormal trade reaction on dummies for each recommendation level and interactions with an affiliation dummy, separately for individual investors and institutional investors.

In table IV , the first four panels are put with all recommendations, without earnings announcement dates, without reiterations, and the excluding of earnings announcement dates and reiterations, which gave a more intuitive picture of the reactions of each investor groups to the recommendations, whereas the excluding of both the earnings announcement dates and reiterations is intended to cut off the noised impacts by the investors' own investment decisions or the reiterated recommendation's effects. In the third column of each panel the difference

between individual investors and institutional investors is given. In terms of all recommendations, institutional investors illustrated a downward pattern, which is that they adjusted their investment behavior one level lowered to the recommendations, when Sell recommendation being released, the coefficient of their trading reaction is -0.199, U/weight recommendation, -0.12, however when the Hold recommendation being released the coefficient is -0.023, which has a pattern that a slightly lower than the recommendations, however, in All recommendation panel, the individual investors don't show us with any pattern. They seldom response to the recommendations by merely doing the investment at their own trading approaches. When Sell recommendations issued, they sell, when hold recommendation issued, the coefficient is -0.201, namely, they sell. When Strong buy recommendation issuing only, they acted as buying with coefficient of 0.134. The truth is also the same in other panels, when excluding earnings announcement dates only, and with reiteration, the individual investors still show us with an irregular coefficient change, whereas the institutional investors demonstrate more strong abnormal investment actions.

This result has two implications: (1) Only did institutional investors react to the recommendations with their own strategies by adjusting the recommendation levels; Comparing to the institutional investors, the individual investor group didn't show us with any pattern, which meant that they don't react in light of the recommendations. (2) When the recommendation is affiliated with underwriters, the institutional investors are able to account for the upward biased information, who acted by adjusting more than normal recommendations. However, the individual investors show as same reactions to affiliated recommendations as to all recommendations together.

Figure 1 Adjustment Pattern of Investors in response to Recommendations

	Recommendations	Institutional investors Downward Adjustment	Individual investors No response
Unaffiliated Analysts	Sell	Sell	Sell or buy
	U/Weight	Sell	Sell or buy
	Neutral	↓Sell	Sell or buy
	Buy	↓Weak buy or zero	Sell or buy
	Strong buy	↓(Less strong buy) buy	Sell or buy
Affiliated Analysts	Sell	Sell	Sell or buy
	U/Weight	Sell	Sell or buy
	Neutral	↓Sell	Sell or buy
	Buy	↓Weak buy or zero	Sell or buy
	Strong buy	↓(Less strong)buy or zero	Sell or buy

In figure 1, the reactions to the recommendations are relatively more intuitive. When recommendations are issued by unaffiliated analysts, the institutional investors slightly adjust the trading reaction by lowering one level, namely, to response to the Neutral recommendations, they shifted it to sell, in case of buy recommendation, they shifted it to weak buy or stay neutral.

The trading reactions to downgrade and upgrade recommendations are illustrated in the second part of Table IV. Being slightly different from the first parts in Table IV, the institutional investors still act as the above four panels, whereas individual investors show us a pattern, they are slightly following the recommendations issued by analysts, but most of the reactions seem to account for upgrade and downgrade trends, which mean that the individual investors are not more concerned about what are encompassed in the recommendations, but the changes of the recommendations play a more important role when they make decisions in response to analysts' recommendations.

Table III:Trading reactions to the recommendations (Regression Results)

OLS Regressions of normalized trade imbalance over event days 0 and 1 on dummies for recommendation level (Sell, U/weight, Hold, Buy, Strong Buy) and the financial institutions acted as main-underwriters from 2001 through 2010. The sample All Recommendations uses the FNGUIDE.COM database, which contains upgrade and downgrade recommendations only. The earnings announcement data are obtained from INFORMAX database from 2001 through 2010, which drops recommendations that fall within the three-trading-day window around earnings announcements for the same stock. The sample Excluding Reiterations drops reiterations of the same level of recommendation for the same stock by the same brokerage. The sample Excluding Days of Earnings Announcements and Excluding Reiterations is the intersection of the previous two samples. The standard errors are shown in parentheses.

	All Recommendations			**(1)Excluding Days of Earnings Announcements**			**(2)Excluding Reiterations**			**Excluding Condition (1) and (2)**		
	Ins'IN	Ind'IN	Diff. of Indv.-Inst.	Ins'IN	Ind'IN	Diff. of Indv.-Inst.	Ins'IN	Ind'IN	Diff. of Indv.-Inst.	Ins'IN	Ind'IN	Diff. of Indv.-Inst.
Sell	-0.199	-0.171	0.028	-0.505	-0.009	0.496	-0.196	-0.322	-0.126	-0.553	-0.023	0.53
	(0.032)	(0.037)	(0.040)	(0.048)	(0.056)	(0.062)	(0.048)	(0.051)	(0.055)	(0.048)	(0.040)	(0.049)
U/weight	-0.12	0.119	0.239	-0.325	0.141	0.466	-0.094	-0.119	-0.025	-0.237	0.324	0.561
	(0.025)	(0.036)	(0.047)	(0.041)	(0.051)	(0.053)	(0.027)	(0.031)	(0.034)	(0.031)	(0.048)	(0.049)
Hold	-0.023	-0.201	-0.178	-0.012	-0.097	-0.085	0.004	-0.305	-0.309	0.043	-0.179	-0.222
	(0.027)	(0.033)	(0.038)	(0.041)	(0.046)	(0.048)	(0.028)	(0.034)	(0.036)	(0.023)	(0.029)	(0.036)
Buy	0.012	-0.131	-0.143	0.018	-0.142	-0.16	0.068	-0.131	-0.199	0.018	-0.253	-0.271
	(0.013)	(0.017)	(0.019)	(0.015)	(0.021)	(0.023)	(0.015)	(0.017)	(0.022)	(0.016)	(0.017)	(0.022)
Strong Buy	0.344	0.134	-0.21	0.124	0.141	0.017	0.129	0.134	0.005	0.347	0.259	-0.088
	(0.021)	(0.022)	(0.033)	(0.024)	(0.022)	(0.028)	(0.024)	(0.023)	(0.025)	(0.023)	(0.031)	(0.033)
Sell	-0.189	-0.131	0.058	-0.237	-0.093	0.144	-0.287	-0.276	0.011	-0.388	-0.037	0.351
(Affiliated)	(0.024)	(0.027)	(0.048)	(0.022)	(0.036)	(0.038)	(0.052)	(0.055)	(0.063)	(0.049)	(0.054)	(0.062)
U/weight	-0.068	-0.119	-0.051	-0.423	0.111	0.534	-0.071	0.231	0.302	-0.332	0.175	0.507
(Affiliated)	(0.247)	(0.257)	(0.347)	(0.041)	(0.051)	(0.062)	(0.044)	(0.031)	(0.038)	(0.042)	(0.052)	(0.057)
Hold	-0.045	-0.221	-0.176	-0.442	-0.002	0.44	0.014	-0.315	-0.329	-0.225	-0.168	0.057
(Affiliated)	(0.073)	(0.082)	(0.098)	(0.041)	(0.048)	(0.053)	(0.031)	(0.034)	(0.037)	(0.023)	(0.027)	(0.041)
Buy	-0.022	-0.231	-0.209	-0.328	-0.031	0.297	0.047	-0.217	-0.264	0.032	-0.125	-0.157
(Affiliated)	(0.046)	(0.057)	(0.063)	(0.019)	(0.023)	(0.042)	(0.042)	(0.047)	(0.052)	(0.014)	(0.018)	(0.023)
Strong Buy	-0.247	0.436	0.683	-0.124	0.022	0.146	0.232	-0.025	-0.257	0.247	0.132	-0.115
(Affiliated)	(0.027)	(0.031)	(0.039)	(0.028)	(0.030)	(0.032)	(0.031)	(0.033)	(0.042)	(0.053)	(0.037)	(0.043)
Sample size	27,803	27,803		23,087	23,087		21,342	21,342		20,096	20,096	
R^2	0.0054	0.0078		0.0034	0.0045		0.0043	0.0086		0.0024	0.0079	

Table III:(Continued)

OLS Regressions of normalized trade imbalance over event days 0 and 1 on dummies for recommendation level (Sell, U/weight, Hold, Buy, Strong Buy) and the finanical institutions acted as an main-underwriter from 2001 through 2010. The sample All Recommendations uses the FNGUIDE.COM database, which contains upgrade and downgrade recommendations only. The earnings announcement data are obtained from INFORMAX database from 2001 through 2010, which drops recommendations that fall within the three-trading-day window around earnings announcements for the same stock. The sample Excluding Reiterations drops reiterations of the same level of recommendation for the same stock by the same brokerage. The sample Excluding Days of Earnings Announcements and Excluding Reiterations is the intersection of the previous two samples. The standard errors are shown in parentheses.

	Upgrades Recommendations			Downgrades Recommendations		
	Ins'IN	Ind'IN	Diff. of Indv.-Inst.	Ins'IN	Ind'IN	Diff. of Indv.-Inst.
Sell	-0.209	-0.221	-0.012	-0.633	-0.042	0.591
	(0.066)	0.057	(0.075)	(0.057)	(0.063)	(0.075)
U/weight	-0.029	-0.032	-0.003	-0.327	-0.367	-0.04
	(0.053)	(0.067)	(0.074)	(0.045)	(0.065)	(0.073)
Hold	0.017	-0.261	-0.278	-0.223	-0.279	-0.056
	(0.038)	(0.043)	(0.046)	(0.056)	(0.075)	(0.086)
Buy	0.268	0.126	-0.142	-0.029	0.129	0.158
	(0.023)	(0.027)	(0.034)	(0.023)	(0.032)	(0.043)
Strong Buy	0.327	0.342	0.015	0.253	0.248	-0.005
	(0.018)	(0.013)	(0.025)	(0.018)	(0.025)	(0.039)
Sell (Affiliated)	-0.198	-0.221	-0.023	-0.463	-0.045	0.418
	(0.072)	(0.085)	(0.092)	(0.067)	(0.078)	(0.083)
U/weight (Affiliated)	-0.022	-0.032	-0.01	-0.332	0.253	0.585
	(0.045)	(0.053)	(0.068)	(0.056)	(0.063)	(0.069)
Hold (Affiliated)	0.007	-0.421	-0.428	-0.227	-0.168	0.059
	(0.031)	(0.044)	(0.054)	(0.063)	(0.068)	(0.077)
Buy (Affiliated)	0.037	0.313	0.276	0.021	-0.125	-0.146
	(0.022)	(0.031)	(0.032)	(0.032)	(0.056)	(0.068)
Strong Buy (Affiliated)	0.312	-0.037	-0.349	0.089	0.132	0.043
	(0.022)	(0.024)	(0.032)	(0.023)	(0.044)	(0.053)
Sample size	19,825	19,825		7,978	7,978	
R^2	0.0055	0.0048		0.0037	0.0099	

3.3 Returns of the reactions to the recommendations

In this section, I examine whether the trading reactions following the recommendations of each investor group incur event returns. I use the simple buy-and-hold returns net of the value weighted KOSPI market returns. The market-adjusted return of stock j on date t is

$$A_{jt} = R_{jt} - R_{mt}$$

I regress the abnormal return on a constant and on the dollar value of net buyer-minus seller-initiated trades on event days 0 and 1. This analysis is composed of over three, six, and twelve months after each recommendation. As shown in Table IV, abnormal trades by individual investors predict significantly negative returns over the six-month horizon and insignificantly negative returns over three and twelve months (with p-values of 11% and 9%, respectively). Institutional traders' trading reaction predicts instead significantly positive abnormal returns over all horizons. The difference between the coefficients for institutional and individual traders is significant for six and twelve months and insignificant (at a p-value of 13%) for three months. Thus, if assume holding periods of six or twelve months, individual traders incur losses relative to large traders from their reactions to recommendations.

Table IV Event-time trading and post-event return analysis

Regressions of market-adjusted abnormal buy-and-hold returns in percent over the period of trading days indicated in parentheses in the first column on the Korean won value of daily net Buy- minus Sell- trades (in ₩ 10,000). Abnormal returns are calculated by using KOSPI Index. The sample is limited to all firms with at least one year of returns following the recommendation. The sample period is from Jan. 2001 through Dec. 2010. Standard errors in parentheses.

Trading Period	Individual Trades (in ₩ 10,000)	Institutional Trades (in ₩ 10,000)	Constant	R^2
3 months (2, 64)	- 0.2453 (0.1304)	0.0036 (0.0023)	0.1312 (0.0573)	0.0001
6 months (2, 128)	- 0.4259 (0.1325)	0.0049 (0.0032)	-0.0326 (0.1208)	0.0001
12 months (2, 255)	- 0.1708 (0.2743)	0.0238 (0.0065)	0.6531 (0.2107)	0.0001

3.4 Analyst recommendations and portfolio returns

The second approach is to examine the returns to investment strategies literally following analyst recommendations, namely, if a buy or strong buy recommendation is issued by analyst, the stock will be put in the long portfolio; if a sell or strong sell recommendation is issued, the stock will be moved into the short portfolio. In consideration of holding periods being three, six, and twelve months. A stock will be eliminated from each of the two portfolios when the analyst revises the recommendation to any level other than hold, stops covering the stock, or when the holding period expires naturally (1 year). In case of that an analyst issues a hold recommendation during the holding period of a stock, the holding period restarts. When multiple analysts issue the same type of recommendations for the same stock, the stock occurs repeatedly in the portfolio. The portfolio's composition is upgraded daily. I split the analysis into two parts, which are affiliated and unaffiliated recommendations. Whenever the short portfolio is empty, I move it out of the calculations. Fama-French 3-factor portfolio method is employed in this test to determine value-weighted buy-and-hold abnormal returns separately for the long and the short portfolio, the regression model is shown below:

$$\mathbf{(4)} \qquad R_{it} - R_{ft} = \alpha_i + \beta_i (R_{mt} - R_{ft}) + s_i SMB_t + h_i HML_t + \varepsilon_{it}$$

where R_{it} is the return of portfolio *i*, on day *t*; $R_{m,t}$ is the return of the market portfolio (Kospi Index) on day t; R_{ft} is the risk-free rate on day t; SML, and HML are the size, Book-to-Market factors; and α_i is the constant that estimates the abnormal return. To demonstrate the returns to selling rather than buying, I multiply all coefficients by -1 for the short portfolio.

Table V presents the daily returns in percent of the resulting portfolios. In the long portfolio, gross abnormal returns are insignificantly positive for

unaffiliated recommendations and mostly negative and significant for affiliated recommendations t-statistics between 2.09 and 3.15. In each case, the abnormal returns are worse in the portfolio of affiliated analysts than the portfolio of unaffiliated analysts. In the short portfolio, selling stocks with negative recommendations brings negative gross abnormal returns in each of the six portfolios. The estimated results are always more negative for affiliated than for unaffiliated analysts, even though the differences are not significant.

The results are also stronger if we use monthly instead of daily rebalancing. I consider a strategy of updating only once a month while still taking recommendations ‘‘literally.’’ At the end of each month, the investor trades on recommendations made during that month. Despite the lower turnover, the net returns are still significantly negative. Moreover, the gross return estimates are more consistently negative: the returns from buying any of the three affiliated long portfolios and the returns from selling any of the six (affiliated and unaffiliated) short portfolios are negative, though insignificant. The affiliated portfolio performs always worse than the corresponding unaffiliated portfolio. The difference is significant for the three-month long portfolio.

My findings confirm the statement in Barber and Odean (2000) that ‘‘trading is hazardous to (retail investors’) wealth.’’ One rationale to interpret my results is that investors are able to earn significantly higher returns if they executed trading in response to analyst recommendations.

Table V. Analyst' Recommendations and Portfolio Returns

Daily portfolio returns are in percentage. The Long Portfolios are formed by purchasing stocks after strong-buy and buy recommendations; the Short Portfolios are formed by selling after strong-sell and sell recommendations. Both sorts of portfolios are formed separately for unaffiliated and affiliated analyst recommendations and over holding periods of three, six, and twelve months. A position is held until the holding period expires in 3, 6 or 12 months, the corresponding analyst stops covering the stock, or the analyst issues a new recommendation other than a hold. Hold recommendations extend the current position of the stock by (up to) another holding period. All transactions take place at the end of the day of recommendation. MktMinRf, SMB, and, HML represent the market, size, and book-to-market factors respectively. The returns are shown by gross abnormal return (the intercept from the regression). Standard errors in parentheses.

	Returns to ***Buying*** the Long Portfolio						Returns to ***Selling*** the short Portfolio					
	3 Months		6 Months		1 Year		3 Months		6 Months		1 Year	
	Unaff.	Aff.	Unaff.	Aff.	Unaff.	Aff.	Unaff.	Aff.	Unaff.	Aff.	Unaff.	Aff.
MktMinRf	0.8980	0.9571	0.8469	0.8795	0.9575	0.9452	-0.0786	-0.2038	-0.7983	-1.0652	-0.8527	-0.9846
	(0.0198)	(0.0285)	(0.0138)	(0.0228)	(0.0201)	(0.0228)	(0.0243)	(0.1362)	(0.0211	(0.1326)	(0.0238)	(0.1073)
SMB	-0.4970	0.5436	-0.1012	0.2187	-0.4205	0.2763	0.5429	-0.6496	0.5323	-0.5987	0.9439	-0.7838
	(0.0224)	(0.0214)	(0.0212)	(0.0214)	(0.0263)	(0.0197)	(0.0247)	(0.1085)	(0.0302)	(0.1364)	(0.0232)	(0.1302)
HML	0.1296	0.1761	0.2011	0.2129	0.1824	0.2431	-0.2204	-0.0574	-0.5454	-0.1439	-0.2989	-0.1583
	(0.0187)	(0.0642)	(0.0201)	(0.0344)	(0.0325)	(0.0273)	(0.0215)	(0.2019)	(0.0182)	(0.2033)	(-0.0319)	(0.1455)
Constant	0.0233	0.0034	0.0032	0.0045	0.0087	-0.0158	-0.0151	-0.0248	-0.0324	-0.0469	-0.0676	-0.0553
	(0.0034)	(0.0324)	(0.0043)	(0.0121)	(0.0051)	(0.0142)	(0.0217)	(0.0625)	(0.0103)	(0.0421)	(0.0073)	(0.0524)
Observations	1624	290	1624	290	1624	290	1624	246	1624	274	1624	285
R-squared	0.91	0.49	0.91	0.56	0.91	0.58	0.87	0.19	0.89	0.33	0.76	0.22
Gross return	0.1242	0.0034	0.0097	-0.1450	0.0076	-0.0058	-0.0325	-0.0371	-0.0237	-0.0543	-0.0093	-0.0326

Notes: *Unaff. refers to Unaffiliated, and Aff. refers to Affiliated*

IV. Potential Interpretation

4.1. Feedback of Korean individual investors to mass media information

As another very pivotal information platform, the power of mass media is most likely to play a very important role in affecting investors' behaviors when they make investment decisions. According to 'the strategies to develop financial investment ability, focus on investor training', the main resources of acquiring knowledge in financial investment is (a).TV, Internet, or Radio and (b).Lectures on securities and (c).School education, and the percentage of these three resources for obtaining financial knowledge possess 65 percent in average among the interviewees in the investigation. TV and Internet as a very important knowledge platform for Korean investors to get information regarded financial market. One result of this study shows individual investors seem not to refer to the incentives of recommendations issued by analysts, the reason could be thought of the effects of the normal media. Everyday lots of news are released by Korean media, including newspaper, TV, internet media and so forth, it is easy for Korean investors to refer to this sort of free information then adjust their investment positions, rather than spending much time in acquiring the information which issued everyday by analysts. In Lily Fang and Joe Peress (2009), they confirm that investors closely pay attention to three most important newspaper media, and make adjustment according to the information released by the media in the U.S.A stock market.

4.2. Leading role in Korean stock market of foreign investors and Institutional investors

Korean stock market is very sensitive to the position changes of institutional investors and foreign investors. Every day, enormous amount of shares are sold and bought by foreign investors and by institutional investors. As being in the middle of these two big groups, Korean individual investors have to inevitably closely focus on the dynamic relations of these two sorts of investors. On the other hand, Korean analysts don't issue very valuable investment recommendations to help individual investors adjust their positions to deal with the position changes among foreign and institutional investors. E.g., in 2008, Korean market suffered from financial crisis as most of the countries all over the world, big panic happened among the investors. In the end of 2008, foreign investors unloaded their stocks in Korean market, Kospi Index even shrinks to its valley floor at 938.75, which is the lowest level among five years in history. Among this difficult period, they need proper investment recommendations that could lead them to escape from very 'hazardous situation'. However, in 2008 and 2009, only 26 of 64,884 recommendations were to advise the investors to underweight their shares. Serious underweighting strength caused great panic among individual investors, and lack of useful analysts' recommendation, investors should deal with that crisis by themselves.

V. Conclusions.

In Korea stock market, the situation is quite resemble to the U.S.A stock market, when analysts issuing investment recommendations, they always tend to add some upward biased information into the recommendations. This paper is employed to test this phenomenon and its effects to the individual investors and institutional investors. My result shows that the analysts are more willingly to issue positive recommendations. The reactions of individual investors and institutional investors to these investment recommendations are quite different. Institutional investors always adjust their investment behaviors in response to the analysts' recommendations, namely, they response to neutral recommendation by sell their shares, whereas, very different with the U.S.A stock market, Korean individual investors are less willingly to invest by reacting to the recommendation, they invest at their own interest, therefore, the pattern has not been shown in this studies.

Finally, in terms of the Buy – Hold returns, individual investors predict significantly negative returns over the six-month horizon and insignificantly negative returns over three and twelve; Institutional traders' trading reaction predicts instead significantly positive abnormal returns over all horizons. Moreover, the difference between the coefficients for institutional and individual traders is significant for six and twelve months but insignificant three months. Thus, if holding period is six or twelve months, individual traders incur losses relative to large traders from their reactions to recommendations.

REFERENCES

1. Foreign journals and working papers

Barber, B., Lehavy, R., McNichols, M., Trueman, B., 2004. Buys, holds, and sells: the distribution of investment banks' stock ratings and the implications for the profitability of analysts' recommendations. Working paper, UC Davis, Davis, CA.

Barber, B., Odean, T., 2000. Trading is hazardous to your wealth: the common stock investment performance of individual investors. Journal of Finance 55, 773–806.

Bhattacharya, N., 2001. Investors' trade size and trading responses around earnings announcements: an empirical investigation. Accounting Review 76, 221–244.

Boni, L., Womack, K., 2006. Analysts, industries, and price momentum. Jo

urnal of Financial and Quantitative Analysis 41, 85–109.

Bradley, D., Jordan, B., Ritter, J., 2003. The quiet period goes out with a bang. Journal of Finance 58, 1–36.

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

Brav, A., Lehavy, R., 2003. An empirical analysis of analysts' target prices: short-term informativeness and long term dynamics. Journal of Finance 58, 1933–1967.

Brav, A., Lehavy, R., Michaely, R., 2003. Using expectations to test asset pricing models. Working paper, Duke University, Durham, NC.

Cain, D., Loewenstein, G., Moore, D., 2005. The dirt on coming clean: perverse effects of disclosing conflicts of interest. Journal of Legal Studies 34, 1–25.

Chan, L., Karceski, J., Lakonishok, J., 2003. Analysts' conflict of interest and biases in earnings forecasts. NBER Working Paper No. 9544.

Daniel, K., Hirshleifer, D., Teoh, S., 2002. Investor psychology in capital markets: evidence and policy implications. Journal of Monetary Economics 49, 139–209.

Dugar, A., Nathan, S., 1995. The effect of investment banking relationships on financial analysts' earnings forecasts and investment recommendations. Contemporary Accounting Research 12, 131–160.

Francis, J., Hanna, J.D., Philbrick, D., 1997. Management communications with securities analysts. Journal of Accounting and Economics 24, 363–394.

Hong, H., Kubik, J., 2003. Analyzing the analysts: career concerns and biased earnings forecasts. Journal of Finance 58, 313–351.

International Organization of Securities Commissions, 2003. Report of the IOSCO Technical Committee on Analysts Conflicts of Interest (September).

Iskoz, S., 2002. Relative performance and institutional reaction to underwriter analyst recommendations. Working paper, Massachusetts Institute of Technology, Cambridge, MA.

Jegadeesh, N., Kim, J., Krische, S., Lee, C., 2004. Analyzing the analysts: when do recommendations add value? Journal of Finance 59, 1083–1124.

Kaniel, R., Saar, G., Titman, S., 2005. Individual investor sentiment and stock returns. Working paper, Duke University, Durham, NC.

Keim, D., Madhavan, A., 1998. The cost of institutional equity trades. Financial Analysts Journal 54, 50–69.

Lee, C., 1992. Earnings news and small traders: an intraday analysis. Journal of Accounting and Economics 15, 265–302.

Lee, C., Radhakrishna, B., 2000. Inferring investor behavior: evidence from TORQ data. Journal of Financial Markets 3, 83–111.

Lee, C., Ready, M., 1991. Inferring trade directions from intraday data. Journal of Finance 46, 733–746.

Lin, H., McNichols, M., O'Brien, P., 2003. Analyst impartiality and investment banking relations. Working paper, National Taiwan University, Taipei, Taiwan.

Malmendier, U., Shanthikumar, D., 2007. Do security analysts speak in two tongues? NBER, Working Paper.

Michaely, R., Womack, K., 2005. Brokerage recommendations: stylized characteristics, market responses, and biases. In: Thaler, R. (Ed.), Advances in Behavioral Finance II. Princeton University Press, Princeton, NJ.

Mikhail, M., Walther, B., Willis, R., 2006. When security analysts talk, who listens? Working paper, Arizona State University, Phoenix, AZ.

Odders-White, E., 2000. On the occurrence and consequences of inaccurate trade classification. Journal of Financial Markets 3, 259–286.

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

Womack, K., 1996. Do brokerage analysts' recommendations have investment value? Journal of Finance 51,137–167.

Lily Fang, Joel Peress, Media Coverage, 2009, and the Cross-section of Stock Returns, The Journal of Finance 64, 2023-2052.

2. Domestic references

Kim Dong-soon, Oem Seon-sheb, 2006. An analysis of impacts on securities' prices of foreign and domestic analysts' recommendations and the change of target security's price. Journal of Korean Securities Association,35, 75-108.

Kim Seong-shin, 2010. Analyst Recommendation Change and Fund Performance in Korea Fund Stock Market. Korean Management 80 ,1351-1370.

Kim Shang-gu et al. 2007, Availability and Information Asymmetry of the recommendations issued by analysts. Korean Finance Association, 35, 1-34.

윤계섭, 2006,금융능력 개발을 위한 전략과 방안 : 투자자교육을 중심으로, 서울대학교 경영연구소.

3. Internet linkages:

(1). Http://academic.naver.com

(2). Http://finance.Yahoo.com

(3). Http://dart.fss.co.kr

(4). Http://www.fnguide.co.kr

(5). Http://dl.nanet.go.kr

(6). Http://www.krx.co.kr

초 록

본 연구는 애널리스트의 투자의견에 대한 투자자의 반응을 비교분석함으로써 한국 주식 시장의 정보 효율성을 연구하고자 한다. 한국 주식시장에서 날마다 거대한 양의 정보가 유포되며 투자자가 투자 의사결정 시 이러한 정보에 참고 여부에 따라 그의 수익률도 다소 다를 수가 있다. 따라서, 애널리스트의 투자의견에 대응한 투자자 의사결정 및 그에 따른 수익률을 분석하기 위해 본인은 2001 년부터 2010 년까지 한국 주식시장의 기관투자자와 개인투자자에 관련되는 거래 기록을 수집하였다. 분석한 결과가 아래와 같다.

우선, 한국 애널리스트가 제시한 수 많은 투자의견 가운데 심각한 상향 편의(Upward bias)가 존재한다. 모든 애널리스트들이 제출한 투자의견에서는 강력매수 추천(Strong buy),매수 추천(buy), 중립 추천(Hold)을 포함한 97 퍼센트 이상은 긍정적인 투자의견이었으나 매도 추천(Sell), 강력매도 추천(Strong sell)를 포함한 부정적인 투자의견은 오직 3 퍼센트밖에 차지하지 못 한다.

둘째, 기관투자자와 개인투자자가 애널리스트의 투자의견에 대응한 행동도 매우 다르게 나왔는데 기관투자자들은 미리 애널리스트의 투자의견에서 상향 편의가 존재한다는 사실을 의식하여 투자 의사결정 시 한 단계로 낮추어 투자를 한다. 즉, 중립인 투자의견이 제시되면 그 의견에 따라 지속적으로 해당 주식을 소지하지 않고 오히려 매도를 하게 되며, 매수인 투자의견에 대해서는 아무런 조치를 취하지 않는다는 경향이 보였다. 이와 달리 개인투자자들은 애널리스트의 투자의견에 대한 거래 반응이 정확한 페턴을 보이지는 않는다.

마지막으로 투자자별 거래 실적을 분석해 봤다. 애널리스트의 투자의견을 한 단계 낮추어 투자를 하는 기관투자자의 경우 양(+)의 수익률을 얻었지만 개인투자자들은 좋지 못 한 투자 실적을 보여 줬다.

주요어 : 애널리스트, 투자의견, 개인투자자, 기관투자자, 투자반응
학 번 : 2010-24043