The Usefulness of Analysts' Target Prices to Foreign Institutional Investors: U.S. Evidence

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Abstract

This paper investigates whether foreign institutional investors in the United States earn future returns by responding to analysts target price revisions. to examine this issue, this study is using firm fixed effect and industry fixed effect regression in order to examine the effect of using analyst's target price revisions on future abnormal return for foreign institutional investors. We used 51,427 firm-quarter observations between 2003 and 2013 in the U.S. equity market. Different robust approaches were used to proxy foreign institutional trading.

We find a positive and significant increase in foreign institutional ownership in response to a positive change in analysts' target prices, which predict positive stock returns. The results are robust to controlling for other analysts' outputs, such as revisions to their earnings' forecasts and stock recommendations, in addition to other determinants of institutional trading. These results are also robust using different measures of institutional trading. In addition, the results show that foreign institutional trading based on target prices' revisions is more pronounced in firms with high information asymmetry. The results show that foreign institutional investors rely more on analysts in small firms and firms with low analyst coverage.

***JEL classification**:* G10

Keywords: Sell-Side analysts, institutional trading, institutional foreign investors, information asymmetry, target price revisions

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Introduction

As a whole, while institutional investors respond to analysts' target price revisions, this trading behaviour does not yield any excess returns (Lin et al., 2016). This may be due to the fact that, when released, the information provided by sell-side analysts is in the public domain and is, therefore, less profitable compared to trading on private information (Kacperczyk and Seru, 2007). However, institutional investors have varied access to private information, particularly foreign institutional investors, who are commonly regarded as the least informed of all groups (Baik et al., 2013). Sell-side analysts' target price revisions could, therefore, provide an important source of information to help foreign institutional investors identify profitable trading opportunities in the U.S. equity market. However, whether and how foreign institutional investors respond to analysts' target price changes is unclear.

Foreign institutional investors are regarded as large and sophisticated money managers with the ability to process and respond to public information, such as analysts' forecasts, in a timely manner (e.g., Brennan et al., 2005; Ferreira et al., 2017; Kacperczyk et al., 2018). However, rather than collecting and processing public information on firms in foreign markets, foreign institutional investors have been shown to exhibit a home bias and failed to act in a timely manner to information on their foreign holdings (e.g., Hau and Rey, 2008; Forbes, 2010; Baik et al., 2013). We, therefore, examine whether foreign institutional investors respond to analysts' target prices and, if so, the profitability of such trading.

Using 51,427 firm-quarter observations between 2003 and 2013 in the U.S. equity market, it is found that foreign institutional investors not only respond to analysts' target price revisions, but also predict significant excess returns when doing so. The results are robust to controlling for other analysts' outputs, such as revisions to their earnings' forecasts and stock recommendations, in addition to other determinants of institutional trading. These results are robust using different measures of institutional trading. The results also show that foreign institutional trading based on target prices' revisions is more pronounced in firms with high information asymmetry. The results show that foreign institutional investors rely more on analysts in small firms and firms with low analyst coverage. Taken together, the results in this paper support the view that foreign institutions benefit from "listening" to sell-side analysts who can help alleviate their relative information disadvantage when investing in foreign markets.This paper proceeds as follows. The next section discusses the relevant literature and develops hypotheses. Section 3 describes the methodology while section 4 shows the descriptive statistics and section 5 outlines the results. Finally, Section 6 presents the conclusions.

Literature Review and Hypotheses Development

Most foreign investments are channelled through institutional investors (Abdioglu et al., 2013), who prefer geographically close, well-developed markets, with a common language (Chan et al., 2005). While the literature agrees on the main determinants of foreign institutional ownership, the impact of such ownership remains highly debatable. On the one hand, foreign institutional ownership is associated with better and high-quality financial reporting comparability (Fang et al., 2015; Beuselinck et al., 2017), long-term investment and innovation output (Bena et al., 2017) and more informative prices on the firm level (Kacperczyk et al., 2018). On the other hand, foreign

institutional investors are geographically distant (Coval and Moskowitz, 1999), have cultural barriers (Kim et al., 2016) and are home-biased (Kang and Stulz, 1997). One of the main reasons behind the presence of the home-bias phenomenon is the information asymmetry gap between foreign and domestic investors (Kalev et al., 2008). While overall institutional investors are more informed than other investors in the capital market (Hendershott et al., 2015), foreign institutional investors are at an information disadvantage compared with their domestic peers (Kang and Kim, 2010).

Therefore, foreign institutional investors have always been interested in firms with high quality of corporate disclosure (Aggarwal et al., 2005; Gelos and Wei, 2005; Covrig et al., 2007). Foreign institutional investors also prefer large, liquid firms with low information asymmetry (Baik et al., 2013; Abdioglu et al., 2015) and firms with higher levels of governance (Aggarwal et al., 2011), a large number of foreign operations (Cai and Warnock, 2012), and high analyst coverage stocks (Ferreira and Matos, 2008; Kacperczyk et al., 2018). Similarly, foreign institutional investors prefer investing in the U.S. due to the development of their financial system (Forbes, 2010), in large, liquid firms that are followed by higher numbers of analysts. Yet, they generate lower future return compared with their domestic peers (Baik et al., 2013). This can be explained by the poor stock picking abilities to foreign institutional investors. However, whether and how analysts' forecasts help foreign institutional investors to mitigate their information disadvantage remains largely unexplored.

Analysts disseminate financial information to various users, including institutional investors, whose demand, for financial information motivates analysts to follow the firms to benefit from the trading commissions (O'Brien and Bhushan, 1990). Further, brokerage houses' dependency on institutional investors for trading commissions leads to a high association between the informativeness of analysts' research and the percentage of shares held by institutional investors (Frankel et al., 2006). This relationship between analysts and institutional investors has led to a field of research that studies the relative importance of various types of analysts' outputs to institutional investors such as earnings forecasts, stock recommendations and target prices.

As a group, institutional investors rely on analysts' earnings' forecasts (Walther, 1997), trade based on information contained in target prices (Lin et al., 2016) and generate excess returns when trading on analysts' stock recommendations (Chen and Cheng, 2006; Green, 2006; Irvine et al., 2007). However, when considering their size, large sophisticated institutional investors appear to be more aware of the inherent bias and conflicts in analysts' recommendations, compared to small investors who naively follow the analysts' advice (Malmendier and Shanthikumar, 2007; Mikhail et al., 2007; Malmendier and Shanthikumar, 2014). Consequently, small investors generate significantly lower abnormal returns, compared to large investors who, being aware of the analysts' biased recommendations, place comparatively more weight on the analysts' earnings forecasts (Malmendier and Shanthikumar, 2014).

Except for the before mentioned studies examining the differential effects of the investors' size, institutional investors are generally regarded as a homogenous user of analysts' outputs. However, foreign institutional investors differ significantly in both their demand for and ability to acquire, information on their foreign shareholdings. Compared to domestic institutional

investors, foreign institutional investors are more sensitive to public information (Brennan et al., 2005) and their trading behaviour differs according to the level of analyst coverage (Ferreira et al., 2017). Thus, a high analyst presence appears to be a valuable source of information to foreign institutional investors who are unfamiliar with the host-country capital market (Baik et al., 2013). However, foreign institutional investors may be home-biased and less inclined to gather and process information about fundamentals in foreign markets. To date, whether foreign institutional investors would benefit from trading based on analysts' forecasts remains largely unexplored. Analysts' reports include mainly stock recommendations, earnings forecasts and target price.

While previous literature focused on analysts' earnings forecasts and recommendations, recently, scholarars started to focus more on analysts' target prices. This increased attention is justified by the availability of data (Feldman et al., 2012). In addition, Asquith et al. (2005) mentioned that market reacts more to target price revisions compared with earnings forecasts revisions. Moreover, analysts explicitly express their opinions when setting target prices (Huang et al., 2009) and revise them more frequently than stock recommendations (Lin et al., 2016). Furthermore, Analysts' target price considered to contains distinct information, to which investors react, even in the presence of stock recommendation and earnings' forecasts (Asquith et al., 2005). In contrast with stock recommendations and earnings' forecasts, target prices are a verifiable signal that can easily be compared among analysts (Gleason et al., 2013).Therfore, this paper focuses on target prices revisions while controllong for earnings forecasts revisions and analysts stock recommendations.

Overall, institutional investors respond to target price revisions. Yet, this trading behaviour is not associated with any future returns (Lin et al., 2016). This might be explained by the proposition that fund managers who trade based on public information, such as analysts' recommendations' underperform their peers who trade based on private information (Kacperczyk and Seru, 2007). Yet, not all types of institutional investors have access to the private information. In particular, foreign institutional investors have limited access to the private information. Therefore, they might benefit from analysts' target price revisions. Thus, this paper tests the following hypothesis:

H1: *Foreign institutional investors trade in the same direction as analyst target prices revisions.*

Lastly and more importantly, we aim to shed light on the profitability of foreign institutional investors' trading based on target prices' revisions. While Lin et al. (2016) fail to find evidence that overall institutional investors' reliance on target prices is associated with any future abnormal returns, this may be due to the lack of profitability of the public information compared to the private information to sophisticated money managers (Kacperczyk and Seru, 2007). Yet, neither Lin et al. (2016) nor the above-mentioned papers shed light on the profitability of analysts' forecasts for less informed institutional investors such as foreign institutional investors. Foreign institutional investors act as less informed than their domestic peers (Ferreira et al., 2017). In the U.S., foreign institutional investors have poor stock picking ability, which leads to significant negative future return (Baik et al., 2013). Thus, we propose that foreign institutional investors trading based on the analysts' target price revisions will improve foreign institutional investors' abilities to pick profitable stocks and, therefore, alleviate their information disadvantage in the capital market.

This proposition is also motivated by the debate surrounding the profitability of public information. On the one hand, institutional investors' trading based on analysts' stock recommendations leads to excess returns (Chen and Cheng, 2006; Green, 2006; Irvine et al., 2007). On the other hand, reliance on publicly available information, such as analysts' stock recommendations signals low managerial abilities (Kacperczyk and Seru, 2007). Therefore, it is crucial to investigate the impact of following analysts' forecasts on a unique type of institutional investors' profitability. Therefore, this paper aims to test the following hypothesis:

H2: *Foreign institutional investors' reaction to target price revisions will contribute positively to their future returns.*

Methodology

Institutional Investors Trading

Various measures were used to proxy institutional trading in the prior literature. The key difference between these measures is the choice among the number of institutions and the number of shares they hold (Edelen et al., 2016). This paper uses various measures to proxy institutional trading, as explained below.

We start by the most conventional measure in the literature, the changes in the percentage of institutional ownership. We follow Chen and Cheng (2006), Jiang (2010) and Lin et al. (2016), among others, and construct the first trading measure as follows:

$$\Delta IO_{it} = (IO_{it} - IO_{it-1}) \times 100 \quad (1)$$

Where

IO_{it}: is the number of shares held by foreign institutional investors at the end of the quarter scaled by the number of shares outstanding at the end of the quarter.

Yet, Sias and Starks (2015) note that - for many firms - the percentage of shares held by institutional investors might decline due to events which affect only the number of shares outstanding such as an employee stock option during the quarter. This type of event affects the percentage of institutional ownership without any real institutional trading. Thus, to overcome this issue, we adopt the measure proposed by Sias and Starks (2015) and calculate an alternative measure of foreign institutional trading as follows:

$$\Delta INS_{it} = \frac{INST_{it} - INST_{it-1}}{\#\text{Shares-Outstanding}_{it}} \times 100 \quad (2)$$

where

$INST_{it}$: the number of shares held by foreign institutional investors at the end of the current quarter.

$\#\text{Shares-Outstanding}_{it}$: the number of shares outstanding at the end of the current quarter.

However, Guo and Qiu (2016) propose that using changes in the number of institutional investors is a better measure of informed trading for several reasons. First, institutional investors are heterogeneous regarding their informativeness. Thus, more informed institutional investors buy and sell to less informed institutional investors, a behaviour which cannot be captured using the changes in the overall number of shares owned. However, both types of transaction are captured by the changes in the number of institutions.[4] Second, substantial changes in the institutional ownership have a significant influence on the stock price and are easily observed by other investors in the market. However, the exit and entry decisions will only be observed by other investors on the date the 13F is filed. In addition, Edelen et al. (2016) argue that this measure provides an "equal-weighted account" to each manager, and overcomes the problems of the demands of a few large institutions. Furthermore, Edelen et al. (2016) argue that changes in the number of shares held by institutional investors might be due to portfolio rebalancing and the ongoing adjustment in the positions which represent trade without information, while there is a high probability that the entry and exit decisions are related to the presence of new information.

Thus, we will use the percentage of change in the number of foreign institutional investors as an additional proxy for their response to the target price revisions. This measure of institutional trading studies the wide institutional response (e.g., whether new managers are buying or selling based on the analysts' outputs) by examining changes in the number of institutional investment managers in two subsequent quarters. Following Guo and Qiu (2016), the percentage change in the number of institutional managers holding a stock (ΔMAN_{it}) is calculated as follows:

$$\Delta II_{it} = \frac{II_{it} - II_{it-1}}{II_{it-1}} \times 100 \qquad (3)$$

Where

II_{it}: is the number of foreign institutional investors who hold the stock at the end of the current quarter.

The Model

Prior studies have documented a positive association between overall institutional trading and earnings' revisions, stock recommendations and target prices (Chen and Cheng, 2006; Lin et al., 2016). In addition, research has found that analysts' coverage is positively associated with the levels of foreign institutional trading (Ferreira et al., 2017). This paper contributes to both strands of literature by directly examining the usefulness of analysts' forecasts to foreign institutional investors. Therefore, to test the first hypothesis, we extend the methodology of Chen and Cheng (2006) and Lin et al. (2016) to examine the foreign institutional investors trading based on target price revisions as follows:

[4] Guo and Qiu (2016) specifically argue that more informed institutions will buy from less informed institutions. Yet, less informed institutions are highly unlikely to liquidate their positions entirely. In such cases, changes in the number of institutions can capture what changes in the shares held cannot.

$$TRADING = \beta_0 + \beta_1 \Delta TP + \beta_2 \Delta EPS + \beta_3 \Delta REC + \beta_4 \Delta TURN + \beta_5 \Delta DIV + \beta_6 LOG(MV) + \beta_7 PB + \beta_8 PE + \beta_9 SG + \beta_{10} MRET_{it-2,it} + \beta_{11} MRET_{it-4,it-2} + \beta_{12} \Delta VOL + \beta_{13} \Delta BETA + \beta_{14} SPindex + \beta_{15} Time + \beta_{16} Industry + \varepsilon \quad (4)$$

where TRADING: is either ΔIO or ΔINST or ΔII for foreign institutional investors as explained in equations 1, 2 and 3. ΔTP is the quarterly percentage change in the target prices (TP). TP is the target prices at the end of the current quarter. Analysts' target price at the end of the quarter is the average of all analysts' target prices at the end of the quarter. In this paper, we control for several variables that are shown in the extant literature to influence institutional trading. First, following Chen and Cheng (2006), we control for changes in stock recommendations (ΔREC), which are shown to be associated with institutional trading. We also control for analysts' earnings forecasts' revisions (ΔEPS) which are shown to positively impact institutional trading. Next, following Gompers and Metrick (2001), we also control for the quarterly changes in share turnover ratio (ΔTURN), dividends (ΔDIV), and the natural logarithm of market value LOG(MV), which proxy for institutional investors' preference towards liquid, prudent and profitable stocks, which we expect to be positively associated with institutional trading.

While institutional investors may buy stocks with a high book-to-market ratio (Gompers and Metrick, 2001), they may, instead, prefer glamour stocks (Sharma et al., 2008; Chen and Cheng, 2006). We, therefore, include a control for the book-to-price ratio (BP) but without predicting the direction of association with institutional trading. Institutional investors are expected to be positive-feedback traders who buy the past winners and sell the past losers. Momentum trading is captured using market-adjusted cumulative return in the prior two quarters ($MRET_{it-2, it}$) as well as the adjusted cumulative return in the six months before the quarter t-2 ($MRET_{it-4, it-2}$). Thus, $MRET_{it-2, it}$ and $MRET_{it-4, it-2}$ are expected to be positively associated with institutional investors' trading. Then, following Bennett et al. (2003), we control for institutional investors' appetite for risk by including the quarterly changes in beta (ΔBETA) and firm-specific volatility (ΔVOL). We predict a negative association between institutional trading and ΔBETA, but a positive association between institutional trading and ΔVOL. Lastly, we also control for adding and dropping from the Standard and Poor index as the institutional investors should act as prudent investors (Gompers and Metrick, 2001). Thus, they are expected to trade in the firms following the index changes. Calculation of the control variables can be found in Table 1, below.

Table 1: Variables Definitions

Variable		Definition
IO_Ttl	=	The number of shares held by all institutional investors divided by the number of shares outstanding at the end of the current quarter
IO_Dom	=	The number of shares held by domestic institutional investors divided by the number of shares outstanding at the end of the current quarter
IO_For	=	The number of shares held by foreign institutional investors divided by the number of shares outstanding at the end of the current quarter
ΔIO_Ttl	=	The quarterly change in the total institutional ownership (II_Ttl)
ΔIO_Dom	=	The quarterly change in the total domestic institutional ownership (II_Dom)
ΔIO_For	=	The quarterly change in the total foreign institutional ownership (II_For)
II_Ttl	=	The number of all institutional investors in the firm in the current quarter
II_Dom	=	The number of domestic institutional investors in the firm in the current quarter
II_For	=	The number of foreign institutional investors in the firm in the current quarter
ΔII_Ttl	=	The quarterly percentage change in the number of institutional investors (II_Ttl)
ΔII_Dom	=	The quarterly percentage change in the number of domestic institutional investors
ΔII_For	=	The quarterly percentage change in the number of foreign institutional investors (II_For)
TP	=	The most recent consensus target price in the current quarter.
ΔTP	=	The quarterly percentage change in TP
EPS	=	The most recent annual consensus earnings forecasts in the current quarter
ΔEPS	=	The quarterly change in EPS scaled by the stock price at the end of the current quarter
REC	=	The analysts' consensus stock recommendation in quarter t, whereby recommendations are scaled as follows: 5. Strong Buy, 4. Buy, 3. Hold, 2. Sell and 1. Strong Sell
ΔREC	=	A dummy variable that equals one if consensus analysts upgrade their recommendations and zero otherwise
TURN	=	The average of the monthly turnover ratio over the past six months preceding quarter t, whereby the monthly turnover ratio is calculated as the monthly trading volume divided by the number of shares outstanding at the end of the month
ΔTURN	=	The quarterly change in TURN
DIV	=	Cash dividend during quarter t divided by the stock price at the end of the current quarter
ΔDIV	=	The quarterly change in DIV
MV	=	The market value of equity calculated as the number of shares outstanding at the end of the current quarter multiplied by the price at the end of the current quarter
LOG (MV)	=	The natural logarithm of MV
PB	=	The market value at the end of the current quarter divided by the book value of common equity at the end of the current quarter
$MRET_{t-2,t}$	=	Market-adjusted cumulative monthly stock return over the preceding 6 months of the current quarter
$MRET_{t-4,t-2}$	=	Market-adjusted cumulative monthly stock return over the preceding 7 to 12 months of the current quarter
VOL	=	Volatility calculated as the standard deviation of the monthly stock returns of firm i in the six months preceding the current quarter
ΔVOL	=	The quarterly change in VOL
BETA	=	Beta is calculated as the coefficients of a regression of the monthly return of the firm on the value-weighted index return over the 36 months prior to the end of the quarter
ΔBETA	=	The quarterly change in BETA
SPindex	=	A dummy variable which takes a value 1 if the stock was added to the Standard and Poor index, −1 if it was dropped from the same index and zero otherwise
Dum_TP	=	An indicator variable that equals one if the value of Target price revisions is equal to or greater than zero and zero otherwise
Analysts' Coverage	=	The number of analysts issued earnings forecast from I/B/E/S summary file at the end of the current quarter
$Size_{Dummy}$	=	An indicator variable that equals one if the value of LOG(MV) is greater than the median of LOG (MV) in particular year and zero otherwise
$Analyst_{Dummy}$	=	An indicator variable that equals one if the Analysts' Coverage is greater than the median of analysts' coverage in particular year and zero otherwise

Data and Sample Selection

We start by collecting analysts' annual earnings forecasts, annual cash flow forecasts, stock recommendations, and target prices for all U.S. companies from I/B/E/S from the second quarter of 2003 to the fourth quarter of 2013.[5] We then remove all observations with insufficient information to calculate quarterly revisions in earnings forecasts, stock recommendations, or target prices, and restrict the sample to firms with non-missing share prices from CRSP, traded on NYSE, AMEX, and NASDAQ, and with share codes 10 and 11. This provides an initial sample of 124,025 firm-quarter observations as shown in Table 2. From this initial sample, we exclude 20,966 firm quarter observations in the financial services industry and 11,191 firm quarter observations in the utility industry.

Next, we remove 8,446 firm-quarters with insufficient data on Thomson-Reuters 13F institutional holding database required to calculate the main institutional trading variables. In addition, for this paper, we also remove 3,067 firm-quarter observations with missing foreign institutional holding data. Since, in this paper, we are interested in the foreign institutional investors trading, we restrict the sample to firm-quarter observations which have the data required to calculate the foreign institutional trading variables. In addition, for this paper, we require the firm to be followed by at least three analysts.[6] Therefore, we exclude 14,778 firm quarter observations. Finally, we exclude observations missing the required data needed to calculate the control variables from CRSP and COMPUSTAT. The final sample, therefore, consists of 2,834 unique firms with 51,427 firm-quarter observations as shown in Table 2. We winsorize all continuous variables at the 1% and 99% level to minimize the effect of outliers.

Table 2: Sample selection

	Firm - quarters observations
Initial sample from I/B/E/S from 2003 to 2013	124,025
Less: financial and utility firms	(32,175)
Less: firms missing institutional holding information from 13F	(8,446)
Less: firms missing foreign institutional trading information from 13F	(3,067)
Less: firms with less than three analysts' following	(14,778)
Less: firms missing information to calculate the controlling variables from CRSP and COMPUSTAT	(14,132)
Final Sample	51,427

Notes:This table shows the sample selection process followed to arrive at the final sample of 51,427 U.S. firm-quarters observations between the second quarter of 2003 and the fourth quarter of 2013.

[5] We start the sample period in the second quarter of 2003 to avoid any confounding effects of significant regulatory changes leading up to this date from Regulation FD and the Global Research Analyst Settlement agreement. With the approval of Rule 2711 and NYSE Rule 472, these changes aimed to increase the objectivity of analysts, restore confidence in the capital market and protect investors.

[6] We use the I/B/E/S earnings forecast summary file at the end of the quarter to determine the number of analysts following the firm.

Descriptive Statistics

Descriptive statistics for the key variables are reported in Table 3 and show that institutional investors hold 72.5% of the shares (IO_Ttl) for the average firm-quarter, represented by 214 institutional investors (II_Ttl). Splitting institutional investors according to their geographic presence shows that the majority of institutional investors in the U.S. are domestic. Specifically, on average, foreign/(domestic) institutional investors hold 5.1% (67.3%) of a firm's shares in a given quarter, represented by 21/(193) institutional investors. Related to analysts' outputs, the average firm has target price of $33.3, an earnings forecast of $1.4 and consensus stock recommendation of 3.62 (REC). An analysis of the quarterly change in these outputs over the sample period shows that while analysts appear to raise their average target prices, they lower their earnings forecasts. The descriptive statistics for control variables show that the sample has a small number of large firms as shown by an average/(median) market capitalization of $6.314 billion/($1.251 billion) at the end of the quarter. Further, the average firm reports a market to book ratio of 3.28, a dividend yield of 0.2% and a cumulative market-adjusted return in the prior six months of 5.11%. The measure of share turnover (TURN) shows that on average, 22.5% of a firm's shares were traded over each quarter. For the measures of risk, the average volatility (VOL_{it}) in each quarter is 11.1% and the average beta (BETA) is 1.43.

Table 3: Pooled Descriptive Statistics

Variable	p25	Mean	sd	p50	p75
IO_Ttl	18.4%	72.5%	17.9%	76.5%	98.5%
IO_Dom	16.4%	67.3%	17.1%	70.6%	94.0%
IO_For	0.1%	5.1%	3.5%	4.7%	16.8%
ΔIO_Ttl	-2.21	0.136	4.96	0.171	2.61
ΔIO_Dom	-2.23	0.11	4.79	0.117	2.57
ΔIO_For	-0.476	0.016	1.61	0.047	0.644
ΔINST_Ttl	-2.15	0.356	5.18	0.236	2.77
ΔINST_Dom	-2.14	0.32	4.98	0.183	2.73
ΔINST_For	-0.466	0.028	1.61	0.053	0.652
II_Ttl	93	214	206	143	252
II_Dom	87	193	187	132	222
II_For	6	21	22.8	11	28
ΔII_Ttl	-4.35	1.42	9.47	0.844	6.32
ΔII_Dom	-4.61	1.27	9.59	0.575	6.2
ΔII_For	-8.33	6.08	27.4	0	16.7
TP	14.2	33.3	29.2	25.3	42.6
ΔTP	-0.050	0.029	0.165	0.024	0.105
REC	3	3.62	0.677	3.6	4
ΔREC	0	0.609	0.488	1	1
EPS	0.377	1.4	1.85	1.09	2.13
ΔEPS	-0.003	-0.002	0.035	0.000	0.005
TURN	0.118	0.225	0.159	0.181	0.279
ΔTURN	-0.022	-0.001	0.052	-0.001	0.02
DIV	0	0.002	0.003	0	0.003
ΔDIV	0	0	0.002	0	0
MV	438	6314	16834	1251	4,050
LOG (MV)	6.08	7.29	1.61	7.13	8.31
PB	1.57	3.28	2.96	2.43	3.82

$MRET_{it-2, it}$	-0.121	0.0511	0.288	0.021	0.177
$MRET_{it-4,it-2}$	-0.122	0.059	0.303	0.025	0.187
VOL	0.065	0.111	0.064	0.096	0.14
ΔVOL	-0.024	-0.003	0.045	-0.002	0.02
BETA	0.834	1.43	0.864	1.29	1.86
ΔBETA	-0.102	-0.001	0.258	0.003	0.108
SPindex	0	0.006	0.189	0	0

Notes: This table summarizes the main sample statistics of key variables for the 51,724 firm-quarter observations in the sample of listed U.S. companies between the second quarter of 2003 and the fourth quarter of 2013. See Table 1 for variables' definitions.

Empirical Results

Institutional Investors' Trading Based on Target Price Revisions

Table 4 presents the regression estimates for Equation 4. We proxy foreign institutional trading using three different measures. Column 1 of Table 4 uses the quarterly change in the percentage of foreign institutional ownership (ΔIO_For). Column 2 of Table 4 uses the quarterly change in the number of shares held by foreign institutional investors scaled by the number of shares outstanding at the end of the quarter (ΔINST_For), while column 3 of Table 4 uses the percentage change in the number of foreign institutional investors as the dependent variable. All of the regressions include industry fixed effects using the 49 Fama-French classification in addition to time fixed effect. We find that the coefficient of (ΔTP) is positive and significant at 1% level across all regressions, consistent with the predictions in the first hypothesis. Foreign institutional investors trade based on analysts' target prices even after controlling for analysts' earnings revisions and stock recommendations. This trading is economically meaningful, as an increase in one standard deviation of target prices boosts foreign institutional trading by 0.32%. As a comparison, a one standard deviation increase of earnings' forecasts revisions (ΔEPS) and adjusted market return ($MRET_{it-2, it}$) will boost foreign institutional trading by 0.015% and 0.075%, respectively.

The results also show that foreign institutional investors' trade based on analysts' earnings forecasts revisions. Yet, we fail to find evidence that foreign institutional investors respond to the recommendations revisions as evidenced by Chen and Cheng (2006) who document that, overall, institutional investors respond to sell-side analysts' recommendations. However, the results are consistent with Malmendier and Shanthikumar (2014) who argue that institutional investors do not trade based on the analysts' recommendations. The results for control variables are consistent with prior studies and with the predictions in the methodology section. Specifically, we find that foreign institutional investors are momentum traders who buy the past winners and sell the past losers, evidenced by the significant coefficients of the two momentum variables. Although, using the before mentioned model, we cannot rule out the possibility that there is few factors that can impact both the analysts forecasts and institutional trading, we tried to control for most of the variables that have been documented in the prior literature.[7]

[7] Thank you to one of our anonymous reviewers for mentioning this.

Table 4: Regression of Foreign Institutional Trading on Analysts' Revisions

VARIABLES	ΔIO_For (1)	ΔINST_For (2)	ΔII_For (3)
ΔTP	0.191***	0.228***	24.264***
	(0.040)	(0.040)	(0.818)
ΔEPS	0.422***	0.428***	18.900***
	(0.163)	(0.163)	(3.348)
ΔREC	-0.040***	-0.037***	-0.126
	(0.011)	(0.011)	(0.233)
ΔTURN	0.317***	0.393***	6.238***
	(0.113)	(0.113)	(2.319)
ΔDIV	-2.710	-3.249	69.851
	(3.324)	(3.317)	(68.169)
LOG(MV)	0.017***	0.007**	-1.095***
	(0.004)	(0.004)	(0.074)
PB	0.002	0.001	0.156***
	(0.002)	(0.002)	(0.042)
$MRET_{it-2, it}$	0.259***	0.297***	7.668***
	(0.021)	(0.021)	(0.437)
$MRET_{it-4,it-2}$	0.052***	0.068***	2.028***
	(0.019)	(0.019)	(0.386)
ΔVOL	0.076	0.087	0.234
	(0.129)	(0.129)	(2.651)
ΔBETA	0.015	0.017	-0.527
	(0.021)	(0.021)	(0.438)
SPindex	0.032	0.045	1.646***
	(0.029)	(0.029)	(0.603)
Constant	0.310*	0.391**	14.735***
	(0.159)	(0.158)	(3.252)
Observations	51,427	51,427	51,427
Time Effect	YES	YES	YES
Industry Effect	YES	YES	YES
R-squared	0.422	0.420	0.160
Adj. R-squared	0.421	0.419	0.159

Notes: This table presents the regression results of the three proxies of foreign trading change in the percentage of institutional ownership (ΔIO_For), changes in the number of shares held by foreign institutional investors (ΔINST_For) and quarterly percentage of changes in the number of foreign institutional investors (ΔII_For) on the analysts' target price revisions (ΔTP) and other determinates of institutional trading. Standard errors are presented in parentheses. *** p<0.01, ** p<0.05 and * p<0.1. Standard errors are adjusted for firm-level clustering and are robust to heteroscedasticity and autocorrelation. See Table 1 for variables' definitions.

$MRET_{it-2, it}$ and $MRET_{it-4,it-2}$. We also confirm that foreign institutional investors prefer liquid firms.

Yet, the prior analyses do not show how foreign institutional investors benefit from the analyses. In section 5.2, we will test whether foreign institutional investors trading based on analysts' target prices will alleviate their information disadvantage and generate a future abnormal return.

Future Returns Predictability, Foreign Institutional Trading, and Analysts' Revisions

To examine whether foreign institutional investors might benefit from trading based on target price revisions, we adopt the methodology of Gompers and Metrick (2001) and examine the association between the future returns in the subsequent quarter and the changes in institutional ownership as an indicator of the return predictability of institutional trading. Then, we follow the methodology of Brown et al. (2013) and interact the analysts target price revisions with foreign institutional trading to capture the impact of foreign institutional trading explained by target price revisions on the future stock return.[8] We also modify Gompers and Metrick (2001) by using the measure of Sias and Starks (2015) for institutional trading in addition to the Guo and Qiu (2016) measure. In columns 1, 2 and 3 of Table 5, we use the cumulative market-adjusted return in the subsequent quarter as the dependent variable, while in columns 4, 5 and 6 of Table 5, we use the cumulative market-adjusted stock return in the subsequent year as the dependent variables. The results show that target price revisions are positively associated with market-adjusted return in the subsequent quarter, while foreign institutional investors' trading is negatively and significantly associated with the future returns in the subsequent quarter.

The negative coefficient of changes in institutional ownership can be explained by their poor ability to predict the future return due to the information disadvantage they face as foreigners (Baik et al., 2013). While the link between foreign institutional investors' trading and subsequent return has been shown by Baik et al. (2013), we aim to test whether the negative association can be alleviated by responding to analysts' target prices revisions. Thus, in Table 5, we introduce the interaction term between foreign institutional trading and target price revisions' indicator variable which is supposed to capture the incremental contribution of target price revisions on foreign institutional investors trading.

The positive sign of the coefficients of the interaction term suggesting that the institutional trading is explained by the target prices revisions decrease the negative relationship between foreign institutional trading and subsequent future return. The results are consistent using the three proxies of institutional trading. The positive sign of the coefficients of the interaction term supports the prediction in the second hypothesis that foreign institutional investors' response to the analysts' target price revisions contributes positively to foreign institutional investors' profitability.

Following Yan and Zhang (2009), we also use the market-adjusted return in the subsequent year to check whether the impact of such trading lasts for a year. The result for the interaction term remains positive, but insignificant at the 5% level. This might be explained by the short-term value of analysts' forecasts in general.

[8] To ease the interpretation, we transform the analysts' target price revisions (ΔTP) to an indicator variable that equals one if the analysts upgrade or did not change their forecasts and zero otherwise. The results remain similar if we use analysts' target price revisions as a continuous variable.

Table 5: Regression of Future Returns on Foreign Institutional Trading and Analysts' Revisions

VARIABLES	Adj-Ret $_{t:t+1}$			Adj-Ret $_{t:t+4}$		
	(1)	(2)	(3)	(4)	(5)	(6)
Dum_TP	1.734***	1.735***	1.691***	0.057***	0.058***	0.054***
	(0.186)	(0.186)	(0.190)	(0.004)	(0.004)	(0.004)
ΔIO_For	-0.353***			-0.007***		
	(0.104)			(0.002)		
ΔIO_For×Dum_TP	0.292***			0.000		
	(0.113)			(0.002)		
ΔINST_For		-0.380***			-0.008***	
		(0.105)			(0.002)	
ΔINST_For×Dum_TP		0.286**			0.001	
		(0.113)			(0.002)	
ΔII_For			-0.012*			-0.001***
			(0.006)			(0.000)
ΔII_For×ΔTP			0.016**			0.001***
			(0.007)			(0.000)
IO_For$_{it-1}$	-6.629**	-6.916**		-0.138	-0.141	
	(3.120)	(3.133)		(0.118)	(0.119)	
II_For$_{it-1}$			0.006			-0.001***
			(0.007)			(0.000)
TURN	-0.463	-0.439	-0.730	-0.056**	-0.055**	-0.060**
	(0.697)	(0.697)	(0.686)	(0.024)	(0.024)	(0.024)
DIV	45.875*	45.453*	44.082	0.334	0.322	0.649
	(27.601)	(27.595)	(27.766)	(0.965)	(0.966)	(0.967)
LOG(MV)	-0.225***	-0.225***	-0.355***	-0.005**	-0.005**	0.004
	(0.062)	(0.062)	(0.114)	(0.002)	(0.002)	(0.004)
PB	-0.031	-0.031	-0.026	0.003**	0.002**	0.002**
	(0.034)	(0.034)	(0.034)	(0.001)	(0.001)	(0.001)
MRET$_{it-2,it}$	-2.169***	-2.156***	-2.155***	-0.090***	-0.090***	-0.094***
	(0.378)	(0.379)	(0.378)	(0.009)	(0.009)	(0.009)
MRET$_{it-4,it-2}$	-1.443***	-1.441***	-1.411***	-0.046***	-0.046***	-0.048***
	(0.334)	(0.334)	(0.334)	(0.009)	(0.009)	(0.009)
SPindex	-0.636*	-0.634*	-0.640*	-0.005	-0.005	-0.005
	(0.335)	(0.334)	(0.335)	(0.006)	(0.006)	(0.006)
Constant	7.654***	7.687***	7.998***	0.141***	0.142***	0.072
	(1.367)	(1.367)	(1.539)	(0.038)	(0.038)	(0.044)
Observations	51,427	51,427	51,427	51,427	51,427	51,427
Time Effect	YES	YES	YES	YES	YES	YES
Industry Effect	YES	YES	YES	YES	YES	YES
R-squared	0.060	0.060	0.060	0.064	0.064	0.064
Adj. R-squared	0.0582	0.0582	0.0580	0.0620	0.0621	0.0626

Notes: This table presents the regression results of one quarter ahead and one year ahead market-adjusted return on foreign institutional trading, prior quarter analysts' outputs, the interaction between foreign institutional trading and prior quarter target price indicator variable and other control variables. Standard errors are presented in parentheses. *** p<0.01, ** p<0.05 and * p<0.1. Standard errors are adjusted for firm-level clustering and are robust to heteroscedasticity and autocorrelation. See Table 1 for the variables' definitions.

In an unreported test, we examine the price impact over a longer horizon to test whether foreign institutional investors trading based on analysts' target price revisions cause return reversals. We fail to find any evidence of reversals over the four quarters or eight quarters following the period covered in Table 5.

Further Analyses

In this section, we follow Brown et al. (2013) and Lin et al. (2016) and use the prior quarter target prices and other analysts' forecasts to ensure that we are not simply capturing simultaneous changes in analysts' forecasts and institutional trading. This methodology also ensures that foreign institutional investors have sufficient time to respond to the information. Therefore, in Tables 6 and 7, we repeat the initial analyses in Table 4 and Table 5 using the prior quarter analysts' forecasts. The results remain qualitatively similar. Specifically, in Table 6, the coefficient of (ΔTP_{it-1}) remains positive and significant at 5% level across all regressions. In Table 7, the interaction term between the foreign institutional trading and the prior target price is positive and marginally significant at 10%. Overall, the prior results confirmed that foreign institutional investors respond to target price revisions.

Table 6: Regression of Foreign Institutional Trading on Lagged Analysts' Forecasts Revisions

VARIABLES	ΔIO_For (1)	ΔINST_For (2)	ΔII_For (3)
ΔTP_{it_1}	0.084*	0.107**	4.556***
	(0.049)	(0.048)	(1.006)
ΔEPS_{it_1}	0.550***	0.400**	0.465
	(0.161)	(0.161)	(3.343)
ΔREC_{it_1}	-0.017	-0.014	0.102
	(0.011)	(0.011)	(0.235)
ΔTURN	0.307***	0.381***	4.661**
	(0.113)	(0.113)	(2.341)
ΔDIV	-3.788	-4.451	-44.931
	(3.321)	(3.315)	(68.753)
LOG(MV)	0.018***	0.009**	-0.954***
	(0.004)	(0.004)	(0.075)
PB	0.003	0.003	0.289***
	(0.002)	(0.002)	(0.042)
$MRET_{it-2,\ it}$	0.254***	0.293***	10.221***
	(0.027)	(0.027)	(0.554)
$MRET_{it-4,it-2}$	0.043**	0.059***	1.727***
	(0.019)	(0.019)	(0.394)
ΔVOL	0.089	0.099	1.611
	(0.129)	(0.129)	(2.678)
ΔBETA	0.015	0.015	-0.657
	(0.021)	(0.021)	(0.442)
SPindex	0.033	0.046	1.754***
	(0.029)	(0.029)	(0.609)
Constant	0.295*	0.377**	14.650***
	(0.159)	(0.158)	(3.286)
Observations	51,427	51,427	51,427
Time Effect	YES	YES	YES
Industry Effect	YES	YES	YES
R-squared	0.422	0.420	0.144
Adj. R-squared	0.421	0.419	0.142

Notes This table presents the regression results of the three proxies of foreign trading change in the percentage of institutional ownership (ΔIO_For), changes in the number of shares held by foreign institutional investors (ΔINST_For) and quarterly percentage of changes in the number of foreign institutional investors (ΔII_For) on the prior quarter analysts target price revisions (ΔTP), and other determinates of institutional trading. Standard errors are presented in parentheses. *** p<0.01, ** p<0.05 and * p<0.1. Standard errors are adjusted for firm-level clustering and are robust to heteroscedasticity and autocorrelation. See Table 1 for variables definitions.

Table 7: Regressions of Future Returns on Foreign Institutional Trading and Lagged analysts' Revisions

VARIABLES	Adj-Ret $_{t:t+1}$			Adj-Ret $_{t:t+4}$		
	(1)	(2)	(3)	(4)	(5)	(6)
Dum_TP_{t-1}	0.913***	0.916***	0.833***	0.029***	0.029***	0.027***
	(0.202)	(0.202)	(0.205)	(0.004)	(0.004)	(0.005)
ΔIO_For	-0.293***			-0.006***		
	(0.105)			(0.002)		
$\Delta IO\_For \times Dum\_TP_{t-1}$	0.197*			-0.002		
	(0.115)			(0.003)		
ΔINST_For		-0.314***			-0.007***	
		(0.106)			(0.002)	
$\Delta INST\_For \times Dum\_TP_{t-1}$		0.183			-0.001	
		(0.115)			(0.003)	
ΔII_For			-0.009			-0.000***
			(0.006)			(0.000)
$\Delta II\_For \times Dum\_TP_{t-1}$			0.016**			0.000*
			(0.007)			(0.000)
IO_For_{it-1}			0.001			-0.001***
			(0.007)			(0.000)
II_For_{it-1}	-7.374**	-7.633**		-0.158	-0.160	
	(3.161)	(3.173)		(0.120)	(0.120)	
TURN	-0.711	-0.686	-0.962	-0.064***	-0.064***	-0.068***
	(0.705)	(0.705)	(0.695)	(0.025)	(0.025)	(0.024)
DIV	34.802	34.404	34.435	-0.039	-0.051	0.339
	(27.768)	(27.764)	(27.952)	(0.972)	(0.972)	(0.973)
LOG(MV)	-0.192***	-0.191***	-0.267**	-0.004*	-0.004*	0.006
	(0.062)	(0.062)	(0.115)	(0.002)	(0.002)	(0.004)
PB	-0.013	-0.013	-0.010	0.003**	0.003**	0.003**
	(0.034)	(0.034)	(0.034)	(0.001)	(0.001)	(0.001)
$MRET_{it-2,it}$	-2.212***	-2.202***	-2.243***	-0.090***	-0.090***	-0.095***
	(0.412)	(0.412)	(0.412)	(0.010)	(0.010)	(0.010)
$MRET_{it-4,it-2}$	-1.531***	-1.529***	-1.514***	-0.048***	-0.048***	-0.051***
	(0.338)	(0.338)	(0.338)	(0.009)	(0.009)	(0.009)
SPindex	-0.607*	-0.604*	-0.621*	-0.005	-0.005	-0.004
	(0.336)	(0.336)	(0.335)	(0.006)	(0.006)	(0.006)
Constant	8.315***	8.345***	8.296***	0.164***	0.164***	0.081*
	(1.386)	(1.386)	(1.552)	(0.038)	(0.038)	(0.044)
Observations	51,427	51,427	51,427	51,427	51,427	51,427
Time Effect	YES	YES	YES	YES	YES	YES
Industry Effect	YES	YES	YES	YES	YES	YES
R-squared	0.059	0.059	0.058	0.061	0.061	0.061
Adj. R-squared	0.0569	0.0569	0.0567	0.0589	0.0590	0.0593

Notes: This table presents the regression results of one quarter ahead and one year ahead market-adjusted return on foreign institutional trading, prior quarter analysts' outputs, the interaction between foreign institutional trading and prior quarter target price indicator variable and other control variables. Standard errors are presented in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Standard errors are adjusted for firm-level clustering and are robust to heteroscedasticity and autocorrelation. See Table 1 for variables definitions.

Institutional investors' response to analysts' target price revisions is more pronounced in small firms and firms with lower analysts' coverage due to high information asymmetry in this type of firm (Lin et al., 2016). Therefore, the analysts' opinion is more valuable to institutional investors. Consequently, we posit that foreign institutional investors will be more interested in analysts' target price revisions for smaller firms and firms with lower analysts' coverage. To examine the impact of size and analysts' coverage, we use an interaction term for the firm size and analysts' coverage with the target prices' revisions.

Table 8 shows the estimates of the regression for Equation 4 in addition to the firm size and interaction term between analysts' target price revisions and firm size. To ease interpretation, we transform the firm size variable LOG(MV) to a dummy variable that equals one if the firm's size is larger than the median of the firm size variable in a particular year and zero otherwise ($Size_{Dummy}$). For brevity, we only report the firm size dummy variable, the target price revisions and the interaction term between the two variables. The results in Table 8 are consistent with Lin et al. (2016). Specifically, the coefficient of target price revisions is positive and significant for all regressions (ΔTP), while the interaction term between the firm size and target price is negative and significant. Therefore, the results show that foreign institutional trading based on target prices is more pronounced for small firms and this association diminishes for large firms.

In Table 9, we show the estimates of the regression for Equation 4 in addition to the analysts' coverage and the interaction term between analysts' target price revisions and analysts' coverage. To ease interpretation, we transform the analysts' coverage (Analysts' Coverage) to a dummy variable that equals one if the analysts' coverage is larger than the median of the analysts' coverage variable in a particular year and zero otherwise ($Analyt_{Dummy}$). For brevity, we only report the analysts' coverage dummy variable, the target price revisions and the interaction term between the two variables.

The results show that the analysts' coverage moderates the association between the target price revisions and foreign institutional trading. While the coefficient of target price revision is positive and highly significant, the interaction term between the number of analysts following the firm and target price revisions is negative and significant, suggesting that analysts' target price revisions are less valuable to foreign institutional investors when the number of analysts covering the firm increases. Overall, the results in Table 8 and Table 9 show that foreign institutional investors value analysts' target price revisions more when the firm is subject to high information asymmetry.

Table 8: Moderating Effect of Size on Foreign Institutional Investors Trading based on Analysts' Target Price Revisions

VARIABLES	ΔIO_For (1)	ΔINST_For (2)	ΔII_For (3)
ΔTP_{it}	0.300***	0.315***	25.814***
	(0.050)	(0.050)	(1.251)
$Size_{Dummy}$	0.043***	0.013	-2.954***
	(0.009)	(0.009)	(0.158)
$Size_{Dummy} \times \Delta TP_{it}$	-0.334***	-0.263***	-5.509***
	(0.080)	(0.079)	(1.460)
Constant	0.397***	0.424***	8.504***
	(0.059)	(0.065)	(1.412)
Observations	51,427	51,427	51,427
Control Variables	YES	YES	YES
Time Effect	YES	YES	YES
Industry Effect	YES	YES	YES
R-squared	0.422	0.421	0.161
Adj. R-squared	0.421	0.420	0.159

Notes: This table presents the regression results of the three proxies of foreign trading change in the percentage of institutional ownership (ΔIO_For), changes in the number of shares held by foreign institutional investors (ΔINST_For) and quarterly percentage of changes in the number of foreign institutional investors (ΔII_For) on the analysts' target price revisions (ΔTP), firms size dummy ($Size_{Dummy}$), the interaction term between target price revisions and firms size dummy. Standard errors are presented in parentheses. *** p<0.01, ** p<0.05 and * p<0.1. Standard errors are adjusted for firm-level clustering and are robust to heteroscedasticity and autocorrelation. See Table 1 for variables' definitions

Table 9 Moderating Impact of Analysts' Following on Foreign Institutional Investors Trading and Analysts Target Price Revisions

VARIABLES	ΔIO_For (1)	ΔINST_For (2)	ΔII_For (3)
ΔTP_{it}	0.290***	0.310***	23.677***
	(0.051)	(0.051)	(1.239)
$Analyst_{Dummy}$	0.046***	0.025***	-2.744***
	(0.010)	(0.010)	(0.160)
$Analyst_{Dummy} \times \Delta TP_{it}$	-0.272***	-0.233***	-0.174
	(0.082)	(0.082)	(1.494)
Constant	0.407***	0.424***	7.813***
	(0.060)	(0.063)	(1.260)
Observations	51,427	51,427	51,427
Control Variables	YES	YES	YES
Time Effect	YES	YES	YES
Industry Effect	YES	YES	YES
R-squared	0.422	0.421	0.160

Notes: This table presents the regression results of the three proxies of foreign trading change in the percentage of institutional ownership (ΔIO_For), changes in the number of shares held by foreign institutional investors (ΔINST_For) and quarterly percentage of changes in the number of foreign institutional investors (ΔII_For) on the analysts' target price revisions (ΔTP), number of analysts following dummy ($Analyst_{Dummy}$), the interaction term between target price revisions and number of analysts following dummy and other determinates of institutional trading. Standard errors are presented in parentheses. *** p<0.01, ** p<0.05 and * p<0.1. Standard errors are adjusted for firm-level clustering and are robust to heteroscedasticity and autocorrelation. See Table 1 for variables' definitions

Conclusion

In this paper, we have examined the usefulness of analysts' target prices to a unique type of investors. In particular, we have tested whether foreign institutional investors respond to revisions in target prices. More importantly, how such behaviour impacts the predictibality of stock returns in the subsequent quarter (2013), shows that foreign institutional investors are at an information disadvantage. Therefore, their earn negative future abnormal returns due to their poor stock picking ability in the host country. Building directly on that, we argued that analysts are informed users of financial information who disseminate valuable information to market participants. Therefore, foreign institutional investors might benefit from analysts' target price revisions to identify mispriced stocks. In line with the prediction of this paper, we found a positive and significant increase in foreign institutional ownership in response to a positive change in analysts' target prices, which leads to positive future abnormal returns. These results hold after controlling for a set of comprehensive factors that impact institutional trading.

Overall, we have provided evidence that analysts play a crucial role in disseminating information to different types of market participants, such as foreign institutional investors. More importantly, we show that foreign institutional trading based on analysts' target price, promotes price discovery. Therefore, this paper has strong implications for enhancing our general knowledge of how foreign institutional investors can perform better in the capital market.

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