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Behavioral Bias Analysis of Anchoring in Insider Trading: An Empirical Study Using the 52-Week High Indicator on the Ho Chi Minh Stock Exchange during the 2016-2025 Period

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Abstract

This research examines the presence of anchoring bias in insider trading decisions among firms listed on the Ho Chi Minh Stock Exchange. The analysis employs monthly panel data from companies consistently included in the VN30 index over the period January 2016 to December 2025. Insider trading decisions are proxied by the Net Purchase Ratio (NPR), while the 52-week high ratio is used to capture anchoring behavior related to stock price movements. The empirical results show that the 52-week high ratio has a negative and statistically significant effect on NPR, with a coefficient of −0.9866 and a p-value of 0.0007. This finding indicates that when stock prices approach their 52-week high levels, insiders tend to increase selling activity relative to buying. Conversely, when prices move away from this reference point, insiders are more inclined to engage in purchasing activity. The overall regression model is statistically significant, as indicated by an F-statistic probability of 0.0383, although the explanatory power remains relatively low, with an R-squared value of 0.0231. Furthermore, control variables including return, momentum, firm size, illiquidity, and turnover do not exhibit significant effects on insider trading decisions. Robustness testing confirms the consistency of the main findings. These results suggest that insider behavior is more strongly influenced by the relative position of stock prices to the 52-week high than by firm-specific characteristics. Overall, the findings provide evidence that insider trading decisions are not purely driven by private information, but are also shaped by behavioral biases, particularly anchoring to historical price levels.

INTRODUCTION

Insider trading has long been discussed in the financial literature as a trading activity conducted by corporate insiders who possess superior access to non-public information. Traditional financial theory generally assumes that insiders behave rationally and make trading decisions based on private information regarding a firm's future prospects and intrinsic value. Under this perspective, insider transactions are expected to reflect informed trading activities that can predict future stock performance. However, developments in the behavioral finance literature suggest that even informed market participants are not entirely free from cognitive biases when making investment decisions.

One of the most widely discussed behavioral biases in financial markets is anchoring bias. Anchoring occurs when individuals rely excessively on a particular reference point when evaluating new information and making decisions (Ahmed & Rura, 2024). In the stock market, historical price levels often serve as psychological benchmarks that influence investor behavior. George and Hwang (2004) documented that the 52-week high serves as an important reference point in explaining momentum effects, where investors tend to anchor their expectations around previous peak prices. Stocks trading near their 52-week high are generally perceived differently from stocks moving away from that level, even when fundamental information remains unchanged.

The influence of the 52-week high indicator has been extensively examined in studies involving retail investors and institutional investors (Chang et al., 2017; Della Vedova et al., 2021, 2023; Guo, 2021; Thalassinos et al., 2025). Nevertheless, limited research has investigated whether insiders, who theoretically possess superior private information, are also affected by anchoring behavior. This issue is significant because insider trading decisions are often assumed to be fully rational and information-driven. In reality, insiders may still use publicly available information as a psychological benchmark when evaluating their own private information. Lee and Piqueira (2017) found that insiders in the United States stock market tend to increase selling activity when stock prices approach their 52-week high and increase buying activity when prices move away from this benchmark. Their findings suggest that anchoring bias may influence insider trading behavior despite insiders' informational advantages (Li et al., 2019; Lin & Pan, 2025; Nafila & Wibowo, 2020).

Although studies on anchoring bias and insider trading have developed in mature markets such as the United States, empirical evidence from emerging markets remains relatively limited. Market structure, investor behavior, information asymmetry, and regulatory environments in emerging markets differ substantially from those in developed markets, potentially producing different insider trading patterns (Bewaji, 2012; Budsaratragoon et al., 2012; Dote-Pardo & Severino-González, 2026). The Ho Chi Minh Stock Exchange provides an interesting setting for examining this issue, as Vietnam represents one of the rapidly growing emerging capital markets in Southeast Asia while also maintaining legal insider trading disclosure regulations. Unlike several developed markets where disclosures are commonly reported after transaction execution, insider trading regulations in Vietnam require insiders to publicly announce both trading plans and transaction results, creating a unique informational environment for market participants (Lefebvre & Mazza, 2023; Thi Quynh Anh et al., 2026).

Previous studies have mainly focused on insider profitability, market efficiency, or momentum effects in isolation. Research specifically examining anchoring bias in insider trading decisions within emerging markets remains scarce. In addition, prior studies often classify insiders into several categories, whereas empirical evidence regarding aggregate insider trading behavior using panel data from emerging markets is still limited. Therefore, this study contributes to the literature by examining whether anchoring bias associated with the 52-week high influences insider trading decisions in the Vietnamese stock market, using panel data from firms consistently included in the VN30 during the period 2016–2025.

This study uses the Net Purchase Ratio (NPR) as a proxy for insider trading decisions and employs the 52-week high ratio as the primary independent variable representing anchoring behavior. Several control variables — including return, momentum, firm size, illiquidity, and turnover — are also incorporated into the regression model. Based on behavioral finance theory and prior empirical findings, this study proposes the hypothesis that stock prices approaching the 52-week high negatively affect insider net purchase decisions, indicating a greater tendency for insiders to sell shares relative to buying. Accordingly, the objective of this study is to examine the effect of anchoring behavior toward the 52-week high indicator on insider trading decisions in the Vietnamese stock market using panel data regression analysis.

This research is expected to provide both theoretical and practical benefits. Theoretically, the study contributes to the development of the behavioral finance literature by extending the application of anchoring bias theory to insider trading behavior in emerging markets, particularly the Ho Chi Minh Stock Exchange. The findings enrich the understanding that even informed traders, such as corporate insiders, are not entirely immune to cognitive biases when making investment decisions. Additionally, this research serves as a reference for future studies examining the interaction between behavioral biases and insider trading in different market contexts. Practically, the findings are beneficial for several stakeholders. For investors and market participants, the results provide insights into how insiders tend to behave when stock prices approach historical highs, which can be used to anticipate market movements. For regulators and policymakers, this study highlights the importance of monitoring insider trading patterns and considering behavioral factors in market surveillance. For corporate insiders themselves, the findings serve as a reminder to remain aware of potential cognitive biases when making trading decisions based on private information. Furthermore, for academic researchers, this study offers empirical evidence from an emerging market that can be compared with findings from similar studies in developed markets.

METHOD

This study employed a quantitative research approach using panel data regression analysis to examine the effect of anchoring bias toward the 52-Week High indicator on insider trading decisions. The analysis focused on companies listed on the Ho Chi Minh Stock Exchange and consistently included in the VN30 index during the observation period from January 2016 to December 2025. Monthly data were used in order to capture changes in insider trading behavior and stock price movements over time.

The sample selection process applied purposive sampling criteria. Firms were selected based on the availability and consistency of insider trading and financial market data throughout the observation period. The final sample consisted of 28 companies with a total of 575 unbalanced panel observations. Data related to insider trading activities, stock prices, returns, trading volume, and firm characteristics were collected from publicly available financial databases and official market disclosures. Insider trading decisions were proxied using the Net Purchase Ratio (NPR), which measures the relative dominance of insider buying and selling activities within a particular period.

The primary independent variable in this study was the 52-Week High ratio (WH_RATIO), which was used as a proxy for anchoring behavior related to historical stock price levels. Several control variables were incorporated into the model, including stock return (RET), momentum (MOM), firm size measured by the natural logarithm of market capitalization (LNMCAP), illiquidity measured using logarithmic transformation (LNILIQ), and stock turnover represented by logarithmic turnover ratio (LNTO). These variables were included to control for firm-specific characteristics that may influence insider trading decisions.

The regression model employed in this study is specified as follows:

$$NPR_{it} = \alpha + \beta_1 WH\_RATIO_{it} + \beta_2 RET_{it} + \beta_3 MOM_{it} + \beta_4 LNMCAP_{it} + \beta_5 LNILIQ_{it} + \beta_6 LNTO_{it} + \varepsilon_{it}$$

where NPR_{it}represents the Net Purchase Ratio of firm $i$in period t, αdenotes the intercept, β represents regression coefficients, and ε_{it} is the error term.

Data processing and statistical analysis were conducted using EViews. Descriptive statistics were initially performed to examine the distribution and characteristics of the variables. Pearson correlation analysis was then conducted to identify the direction and strength of relationships among variables as well as to detect potential multicollinearity issues. The panel regression estimation process involved several model selection procedures. The Chow test was applied to determine the appropriate model between pooled least squares and fixed effects, while the Hausman test was conducted to select between fixed effect and random effect models. Based on the results of these tests, the random effect model was selected as the most appropriate estimation approach for this study. To ensure the consistency of the empirical findings, a robustness test was additionally conducted using alternative estimation procedures within the panel regression framework. The robustness analysis aimed to confirm whether the relationship between the 52-Week High ratio and insider trading decisions remained stable across different estimation specifications.

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistical analysis was conducted to provide an overview of the characteristics and distribution of the research variables. The analysis includes the mean, median, and standard deviation values for each variable used in the study. The results of the descriptive statistics are presented in Table 1.

Table 1. Descriptive Statistics

Variable	Mean	Median	Std. Dev
NPR	-0.1439	0.0151	0.4700
AINSI	0.4251	0.9849	0.00004
DINSI	0.5749	-0.0007	0.00020

Source: Author's calculation based on monthly panel data from Ho Chi Minh Stock Exchange (2016–2025)

The descriptive statistics indicate that the average value of the Net Purchase Ratio (NPR) is negative at -0.1439. This finding suggests that, on average, insider trading activities during the observation period were dominated by selling transactions rather than purchasing transactions. The relatively large standard deviation of NPR indicates considerable variation in insider trading behavior among firms and across periods. Such variation reflects differences in market conditions, stock price movements, and insider responses toward available information.

The descriptive results also show that the mean value of DINSI is higher than AINSI, indicating that insider selling activities tended to be more dominant than buying activities during the sample period. This pattern may reflect insiders' tendency to realize gains when stock prices approach relatively high valuation levels. The findings provide preliminary evidence that insider trading behavior may be associated with specific price reference points, particularly the 52-Week High indicator.

Pearson Correlation Analysis

Pearson correlation analysis was conducted to examine the relationship among variables and to identify potential multicollinearity problems within the regression model. The correlation matrix results are presented in Table 2.

Table 2. Pearson Correlation Matrix

Variable	NPR	WH_RATIO	RET	MOM	LNMCAP	LNILIQ	LNTO
NPR	1.0000	-0.1385	-0.0066	0.0464	0.0405	0.0053	-0.0301
WH_RATIO	-0.1385	1.0000	-0.0200	-0.0231	0.1232	0.0232	-0.0707
RET	-0.0066	-0.0200	1.0000	0.3951	-0.0375	-0.1048	0.0680
MOM	0.0464	-0.0231	0.3951	1.0000	-0.0255	-0.1997	0.1427
LNMCAP	0.0405	0.1232	-0.0375	-0.0255	1.0000	0.8517	-0.9702
LNILIQ	0.0053	0.0232	-0.1048	-0.1997	0.8517	1.0000	-0.8871
LNTO	-0.0301	-0.0707	0.0680	0.1427	-0.9702	-0.8871	1.0000

Source: Author's calculation using EViews (2025)

The correlation results show that WH_RATIO has a negative relationship with NPR (-0.1385), indicating that insider net purchasing activity decreases as stock prices move closer to their 52-week high level. This finding provides preliminary support for the hypothesis that insiders tend to increase selling activities when prices approach historical peak levels. Most correlation coefficients among independent variables remain below 0.80, suggesting that multicollinearity is generally not a serious issue within the regression model. However, several control variables, particularly LNMCAP and LNTO, exhibit relatively high correlations. Despite this condition, the variables were retained because they represent different aspects of firm characteristics and market activity that remain theoretically relevant for the model. Moreover, the regression estimation still produced stable coefficients and statistically interpretable results.

Panel Regression Model Selection

Before conducting the regression analysis, model selection procedures were performed using the Chow test and Hausman test to determine the most appropriate panel regression specification. The Chow test results indicate that the fixed effect model is preferable to the pooled least squares model, as reflected by the probability value below the 5% significance level. This finding suggests that there are differences in firm-specific characteristics across companies included in the sample.

Subsequently, the Hausman test was conducted to determine whether the fixed effect or random effect model should be used. The Hausman test produced a probability value of 0.1839, which is greater than 0.05. Therefore, the null hypothesis could not be rejected, indicating that the random effect model is more appropriate for the analysis. Based on these results, the final regression estimation employed the random effect model.

Regression Results

The regression analysis was conducted to examine the effect of the 52-Week High ratio on insider trading decisions proxied by the Net Purchase Ratio (NPR). The regression results are presented in Table 3.

Table 3. Random Effect Regression Results

Variable	Coefficient	t-Statistic	Probability
C	-0.4126	-0.1101	0.9124
WH_RATIO	-0.9866	-3.4272	0.0007
RET	-784.8789	-0.7641	0.4452
MOM	157.5060	0.5114	0.6092
LNMCAP	0.0585	0.9025	0.3672
LNILIQ	-0.0080	-0.3829	0.7019
LNTO	0.0196	0.5257	0.5993

Model Statistics	Value
R-squared	0.0231
F-statistic	2.2373
Prob(F-statistic)	0.0383

Source: Panel data regression analysis using EViews (author, 2025)

The regression results show that WH_RATIO has a negative and statistically significant effect on NPR with a coefficient value of -0.9866 and a probability value of 0.0007. This finding indicates that when stock prices move closer to their 52-week high level, insider net purchasing activity decreases significantly. In practical terms, insiders tend to engage in more selling activities relative to buying activities when stock prices approach historical peak levels.

This result supports the hypothesis that insider trading decisions are influenced by anchoring behavior toward the 52-Week High indicator. Although insiders possess superior information compared to public investors, their decisions still appear to be influenced by publicly observable price reference points. The tendency to increase selling activity near the 52-Week High may reflect insiders' perception that stock prices have reached relatively high valuation levels, encouraging profit realization behavior.

The findings are consistent with the behavioral finance argument proposed by Tversky and Kahneman (1974), which states that individuals frequently rely on reference points when making decisions under uncertainty. In this study, the 52-Week High functions as a psychological benchmark that affects insider perceptions regarding stock valuation and trading timing. The results also align with the findings of Lee and Piqueira (2017), who documented that insiders in the United States stock market exhibit similar trading behavior around the 52-Week High indicator.

Meanwhile, the control variables, including return, momentum, firm size, illiquidity, and turnover, do not show statistically significant effects on NPR. These results suggest that insider trading decisions within the sample are more strongly associated with the stock price position relative to the 52-Week High rather than short-term firm-specific characteristics. This finding indicates that behavioral factors may play a stronger role in insider trading decisions than several conventional financial indicators.

The overall regression model is statistically significant, as indicated by the Prob(F-statistic) value of 0.0383. This result demonstrates that the independent and control variables collectively contribute to explaining insider trading behavior. However, the R-squared value of 0.0231 indicates that the model explains approximately 2.31% of the variation in NPR. Although the explanatory power is relatively limited, this condition is common in behavioral finance studies involving trading decisions because investor behavior is influenced by many unobservable psychological and informational factors.

Robustness Test

A robustness test was conducted to examine the consistency of the regression findings using alternative estimation specifications within the panel regression framework (Boonyanet et al., 2024). The robustness analysis produced results that remained consistent with the primary regression model. The WH_RATIO variable continued to exhibit a negative and statistically significant relationship with NPR, indicating that the main findings of the study are stable across estimation approaches.

The consistency of the robustness test strengthens the argument that insider trading behavior is systematically influenced by anchoring toward the 52-Week High indicator (Lasfer & Ye, 2024; Lin & Pan, 2025). The persistence of the negative coefficient across models suggests that the observed relationship is not driven solely by model specification or estimation technique. Therefore, the study provides relatively robust empirical evidence regarding the presence of anchoring bias in insider trading decisions within the Vietnamese stock market.

Overall, the findings of this study demonstrate that insider trading behavior cannot be explained solely by informational advantages or rational valuation considerations. Instead, insider decisions also appear to be influenced by behavioral biases related to historical stock price references. These findings contribute to the growing literature in behavioral finance by showing that even informed market participants remain susceptible to psychological anchoring effects in investment decision-making.

CONCLUSION

This study examines the effect of anchoring behavior toward the 52-week high indicator on insider trading decisions in the Vietnamese stock market. Using panel data from firms included in the VN30 during 2016–2025, the findings show that the 52-week high ratio has a negative and significant effect on the Net Purchase Ratio (NPR). The results indicate that insiders tend to increase selling activity when stock prices approach their 52-week high levels and increase buying activity when prices move away from the benchmark.

The findings support the hypothesis that insider trading decisions are influenced not only by private information but also by anchoring bias toward historical price references. Robustness testing further confirms the consistency of the results. This study contributes to the behavioral finance literature by providing evidence that even informed market participants remain susceptible to psychological biases in investment decision-making, particularly in emerging markets such as the Ho Chi Minh Stock Exchange. Future studies may incorporate additional behavioral or macroeconomic variables and compare insider trading behavior across different emerging markets to obtain broader empirical evidence regarding anchoring effects in financial markets.

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