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PENNY STOCK RETURNS IN THE MALAYSIAN STOCK MARKET: COGNITIVE HEURISTIC PERSPECTIVES

RENDIMENTOS DAS AÇÕES DE BAIXO VALOR NO MERCADO DE AÇÕES DA MALÁSIA: PERSPECTIVAS HEURÍSTICAS COGNITIVAS

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Sharifah Nadhira Syed Sallehuddin*
***Universiti Kuala Lumpur Business School, Kuala Lumpur, Malaysia
Orcid: https://orcid.org/0009-0009-2879-9831
nadhira.sallehuddin@s.unikl.edu.my

Naziruddin Abdullah*
***Universiti Kuala Lumpur Business School, Kuala Lumpur, Malaysia
Orcid: https://orcid.org/0000-0001-9517-8474
naziruddin@unikl.edu.my

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Abstract
In recent years, the prevalence of penny stock fever has risen in the Malaysian stock market, sparking interest among individual investors due to the potential for higher returns. Commonly, individual investors overlook fundamental and technical analysis when investing in penny stocks because of the nature of these stocks. Thus, this study is crucial for examining penny stock returns in the Malaysian stock market from a cognitive heuristic perspective. Specifically, this study employs monthly panel data of 26 penny property firms from 1st January 2019 to 31st May 2025. The dependent variable is penny stock returns in the Malaysian stock market, and the main independent variables are overconfidence, anchoring, and herding. Furthermore, this study employs three static panel data methods, namely Pooled Ordinary Least Squares (Pooled OLS), Fixed Effects Model (FEM), and Random Effects Model (REM). It examined the specific effects of Pooled OLS, REM, and FEM using the Poolability test, the Breusch-Pagan (Lagrange Multiplier) Test, and the Hausman Test. Subsequently, three diagnostic tests are conducted: descriptive analysis, the serial correlation test, and the heteroskedasticity test. Based on these analyses, Malaysian investors exhibit irrationality in their investment decision-making, driven by overconfidence, anchoring, and herding.

Keywords: Penny Stock Returns. Cognitive Heuristics. Malaysian Stock Market.

Resumo
Nos últimos anos, a popularidade das penny stocks tem crescido no mercado de ações da Malásia, despertando o interesse dos investidores de varejo devido ao potencial de retornos mais elevados. Normalmente, os investidores de varejo ignoram a análise fundamentalista e técnica ao investir em penny stocks devido à natureza dessas ações. Assim, este estudo é crucial para examinar os retornos das penny stocks no mercado de ações da Malásia a partir de uma perspectiva heurística cognitiva. Especificamente, este estudo utiliza dados de painel mensais de 26 empresas imobiliárias de penny stocks, do dia 1º de janeiro de 2019 ao dia 31 de maio de 2025. A variável dependente é o retorno das penny stocks no mercado de ações da Malásia, e as principais variáveis independentes são o excesso de confiança, a âncora e o comportamento gregário. Além disso, este estudo emprega três métodos de dados de painel estáticos, a saber: Mínimos Quadrados Ordinários Agrupados (Pooled OLS), Modelo de Efeitos Fixos (FEM) e Modelo de Efeitos Aleatórios (REM). Ele examinou os efeitos específicos do Pooled OLS, REM e FEM utilizando o teste de Poolability, o teste de Breusch-Pagan (Multiplicador de Lagrange) e o teste de Hausman. Posteriormente, são realizados três testes diagnósticos: análise descritiva, o teste de correlação serial e o teste de heterocedasticidade. Com base nessas análises, os investidores malaios demonstram irracionalidade em suas decisões de investimento, impulsionadas pelo excesso de

confiança, ancoragem e comportamento gregário.

Palavras-chave: *Retornos de Penny Stocks. Heurísticas Cognitivas. Mercado de Ações da Malásia.*

1 INTRODUCTION

In the past six years, the penny stock market has particularly focused on individual investors with an intensive introduction to investment. As evidenced in the Malaysian stock market, the individual investors' Average Trading Value (ATDV) increased by 236 percent from 2019 to exceed the historical record of RM1,589 billion in 2020 (Securities Commission Malaysia [SCM], 2021). Simultaneously, 83 percent of trading activity among individual investors was invested in the penny stock market (SCM, 2021; Nasihin *et al*., 2021). This is due to the prolonged stock market slump, which occurred as the world faced a pandemic wave that pushed the global economy to the edge of recession. Thus, penny stocks have been an optimal investment option due to their low prices (Yi, 2020).

Penny stocks are commonly characterized as high-risk securities, high information asymmetry, speculative in nature, and illiquid (Song & Park, 2019). Notably, individual investors often overlook fundamental and technical analysis when investing in penny stocks, given the nature of these stocks. These characteristics render their nature and difficulty in aligning with the Efficient Market Hypothesis (EMH) theory. According to Fama (1970), the EMH posits that investors are rational and that the stock market fully reflects all available information. In particular, it indicated that investors are always rational in their investment decisions and that stock prices fully reflect all available information in the financial market. However, the presence of a pandemic wave indicates dynamic forces within speculative markets that are not linked to the fundamental factors. Thus, this study prompts a re-examination of the empirical puzzles of individual investors' rationality during investment decision-making and of the EMH that have not been addressed.

The rationality of individual investors and the EMH theory in the financial market have been questioned in recent decades. Thus, a paradigm shift is likely driven by cognitive heuristics in investment decision-making. Prior studies have revealed that most individual investors can achieve high returns in the financial markets (Dai & Zhu, 2020; Campbell *et al*., 2019). However, some investors consistently underperform due to a lack of theoretical knowledge of financial markets, the presence of stock market anomalies, and the prevalence of cognitive heuristics in investment decision-making (Ahmad & Wu, 2024; Chhapra *et al*., 2018). As a result, cognitive heuristics can lead individual investors to make irrational investment decisions, resulting in suboptimal returns from the stock market. This may cause the stock market to either overreact or underreact, contradicting EMH theory and rendering the market inefficient (Ahmad 2024; Shah *et al*., 2018).

In addition, cognitive heuristics are mental shortcuts that facilitate decision-making by reducing the complexity of information processing. In other words, individual investors are allowed to make quick judgments and decisions, relying on prior experience rather than thoughtful discussion. Cognitive heuristics also have advantages in managing situations characterized by uncertainty and time constraints. Nevertheless, their dependence may lead to irrational investment decisions due to biases and judgment errors (Ahmad *et al*., 2025; Piotrowski & Bunnings, 2022). Thus, this study offers fresh insights for individual investors by examining penny stock returns in the Malaysian stock market from a cognitive perspective.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Theoretical framework

Bounded rationality theory was proposed by Simon (1995), which posits that these investors lack theoretical knowledge, cognitive heuristics constraints, and time constraints, rather than consistently seeking the most plausible option during decision-making. In other words, bounded rationality theory represents irrational investors' behavior in decision-making. Cognitive heuristics also represent the biases that investors employ. These biases arise from investors' bounded rationality during decision-making and their attempts to mitigate the risk of loss in uncertain circumstances. Specifically,

investors who rely on cognitive heuristics tend to minimize mental effort during decision-making, leading to judgment errors (Ahmad & Shah, 2022). Consequently, market anomalies persist, leading to irrational investment decisions and subsequently diminished investment performance, which may contribute to the stock market becoming inefficient (Shah *et al*., 2018). This contradicts the EMH, which posits that investors' rationality and the stock market fully reflect information efficiency. Hence, to bridge this gap in the existing literature review, this study explores investors' cognitive heuristics, such as overconfidence, anchoring, and herding, affecting penny stock returns in the Malaysian stock market.

2.2 Penny stock return

Prior studies examined fundamental factors affecting penny stock returns in the Indonesian stock market (Buditomo *et al*., 2024), the Korean stock market (Song & Park, 2019), the Malaysian stock market (Thangavelu, 2019), and the United States (US) stock market (Liu *et al*., 2015; Liu *et al*., 2011). Regarding fundamental factors, Buditomo *et al*. (2024) employed profitability, market size, book-to-market, investment, and penny stock returns. The methods used are descriptive statistics and multiple regression analysis. On the other hand, Song and Park (2019) employed size, book-to-market, momentum, liquidity, trading volume, price-earnings ratio, and penny-stock returns, using the spanning test. Similarly, Thangavelu (2019) examined size, book-to-market, momentum, investment, profitability, and penny stock returns, using the Vector Error Correction Model Granger causality method. Conversely, Liu *et al*. (2015; 2011) analyzed institutional investors, size, idiosyncratic volatility, liquidity, short-interest ratio, book-to-market, and momentum, with both studies applying time-series regression. Nonetheless, they failed to demonstrate that fundamental factors affect penny stock returns across the Indonesian, Korean, Malaysian, and US markets. Thus, introducing irrational factors, specifically cognitive heuristics, as an explanatory power, may be a plausible explanation of penny stock returns in the Malaysian stock market.

2.3 Overconfidence

Overconfidence is a cognitive heuristic bias characterized by excessive reliance on individual intuitive reasoning, judgment, and cognitive capabilities (Pompian, 2011). Overconfidence occurs when individuals exhibit excessive optimism in their preliminary evaluation and then slowly integrate new information into their final evaluation (Busenitz & Barney, 1997). In the investment context, investors who trade penny stocks are often engaged in high-risk activities. Therefore, they exhibit overconfidence in their investment decision-making (Chang *et al*., 2012). Following the arguments, Dittrich *et al*. (2005) posited that overconfidence is positively associated with optimal returns in investment decision-making. Consequently, trading frequency in the stock market will rise, prompting investors to assume greater risk to achieve higher returns (Tan *et al*., 2024; Kourtidis *et al*., 2015). Following this study, the hypotheses are established:

Hypothesis 1 (H_0): Overconfidence has no impact on penny stock returns in the Malaysian stock market.

Hypothesis 1 (H_1): Overconfidence has a positive impact on penny stock returns in the Malaysian stock market.

2.4 Anchoring

Anchoring is a cognitive heuristic bias in which individuals rely excessively on the initial piece of information presented (the "anchor") during decision-making. After an anchor is established, subsequent judgments are formed by deviating from it, leading to bias in the interpretation of additional information relative to the anchor (Kahneman *et al*., 1982). Furthermore, Chen *et al*. (2009) emphasized that using stock prices as anchors may lead to confirmation bias, causing investors to focus on information that supports their pre-existing beliefs. In addition, penny stocks might create a psychological barrier for investors, as they may anchor on past diminished performance, fear additional losses, and neglect favorable market conditions. As Jiang *et al*. (2023) highlighted, an excessive reliance on anchoring among individual investors leads to more adverse reactions to new information. Hence, these behaviors demonstrate a decline in stock price. In short, collective behavior might lead to a negative perception of penny stocks, causing them to

be regarded as less favorable than their intrinsic worth. Following this study establishes the hypotheses:

Hypothesis 2 (H_0): Anchoring has no impact on penny stock returns in the Malaysian stock market.

Hypothesis 2 (H_1): Anchoring has a negative impact on penny stock returns in the Malaysian stock market.

2.5 Herding

Herding is another cognitive heuristic bias, as the tendency to follow the trading pattern of other investors (Chiang & Zheng, 2010). Specifically, herding occurs due to high levels of uncertainty, insufficient information, and unreliable knowledge in investment decisions (Fernandez *et al*., 2011; Kumar & Goyal, 2016). In prior studies by Jabeen *et al*. (2020), herding leads to excessive trading among individual investors in the stock market, thereby negatively affecting their investment decisions. Due to imperfect investor expectations, frequent changes in decision-making in the absence of substantial new information, investors' psychological factors, market bubbles, and market trends (Dai & Zhu, 2022). As a result, investors may make irrational investment decisions, potentially leading to stock market under- or overreactions, thereby contributing to stock market inefficiency. Based on this study, the following hypotheses are established:

Hypothesis 3 (H_0): Herding has no impact on penny stock returns in the Malaysian stock market.

Hypothesis 3 (H_1): Herding has a negative impact on penny stock returns in the Malaysian stock market.

3 DATA AND METHODOLOGY

3.1 Data, sources, and methods

This study employs monthly panel data of 26 penny property firms from 1st January 2019 to 31st May 2025. To be more precise, this study employs 26 penny property firms, which are stocks traded below RM1 per share in the Malaysian stock market. This

study began its sample period on 1st January 2019, in line with the COVID-19 pandemic, and ended it on 31st May 2025, as the most recent observation period this study can cover. Notably, all data sources are retrieved from the Bloomberg terminal. Conversely, the dependent variable is 26 penny property stock returns in the Malaysian stock market, and the main independent variables are overconfidence, anchoring, and herding.

Moreover, this study employs three static panel data methods, namely Pooled Ordinary Least Squares (Pooled OLS), Fixed Effects Model (FEM), and Random Effects Model (REM). The Pooled OLS implies that both the intercept and the slope remain constant across firms and over time. Simultaneously, the error term captures differences across firms and over time, aligning with the classical assumptions of OLS (Law, 2018). The REM assumes that individual-specific effects are random variables (Law, 2018). Meanwhile, the FEM is employed when the individual-specific effect is modeled as individual-specific intercepts to be estimated (Law, 2018). Hence, to assess the specific effects among Pooled OLS, REM, and FEM, this study employed the Poolability test, the Breusch-Pagan (LM) Test, and the Hausman Test.

3.2 Diagnostic test

This study conducted three diagnostic tests: descriptive analysis, serial correlation test, and heteroskedasticity test. The descriptive analysis presents a preliminary summary of the data to understand penny stock returns, overconfidence, anchoring, and herding in the Malaysian stock market. Moreover, the serial correlation test assumes that the error term is serially correlated if the estimated correlation between any two observations is non-zero. Hence, the error term is considered to be serially correlated. According to Studenmund (2021), the serial correlation leads to two consequences. First, OLS will no longer be the estimator with minimum variance. Second, it leads to a biased OLS estimator of SE($\hat{B}$)s[1], resulting in the hypothesis testing being invalid. In other words, serial correlation is primarily caused by specification errors, such as omitting relevant variables, nonlinearity, measurement errors, or an inaccurate functional form. Lastly, the

[1] SE represents standard errors and ($\hat{B}$)s represents an estimated coefficient in linear regression (Studenmund, 2021).

heteroskedasticity test indicates that the variance around the regression line varies, suggesting that the relationship among penny stock returns, overconfidence, anchoring, and herding remains inconsistent despite changes in these variables (Pesaran, 2015).

3.3 Measurement of variables

This study examines the performance of penny stocks as the dependent variable in the Malaysian stock market. Interestingly, the term "penny stock" may vary or be recognized solely within a country's specific market trading environment (Thangayelu, 2019). Therefore, this study has employed 26 penny property firms, defined as penny stocks trading below RM1 per share on the Malaysian stock market, as the SCM (2025) has not established any official price guidelines for identifying and categorizing penny stocks. Additionally, this study employed the measurement developed by Negara and Wibowo (2021) to calculate penny stock returns. The measurement of penny stock returns is presented in Equation (1):

$$PSR_i = \frac{CP_1 - CP_0}{CP_0} \times 100, \qquad (1)$$

where

PSR_i = Penny stock return on the current month of the *ith* firm

CP_1 = Closing price on the current month of the *ith* firm

CP_0 = Closing price on the prior month of the *ith* firm

Subsequently, the other main independent variables consist of overconfidence, anchoring, and herding. Table 1 presents the summary of measurements for the dependent and main independent variables.

Table 1

Summary of Measurement Dependent and Independent Variables

No.	Variables	Notation	Units	Measurements	Past studies
1	Penny Stock Returns	PSR	%	$= \frac{CP_1 - CP_0}{CP_0} \times 100$	Negara and Wibowo (2021)
2	Overconfidence	O	Ratio	$= \frac{Turnover_i}{TNOSi}$	Chang *et al*. (2015)
3	Anchoring	A	RM	$= \frac{Current\ Price}{Historical\ High\ Price}$	Bhootra (2018)
4	Herding	H	Units	$= \sqrt{\frac{R_{it} - Rm_t}{N_{-1}}}$	Javaira and Hassan (2015)

Notes: CP_i = closing price of the current month of ith firm, CP_0 = closing price of the month of ith firm, $Turnover_i$ = turnover of the current month of ith firm, $TNOS_i$ = total number of outstanding shares of the current month of ith firm, Current Price = current price of the current month of ith firm, Historical High Price = high price of the current month ith firm, R_{it} = stock returns of the current month of ith firm, R_{mt} = market return of the current month of ith firm.

The empirical model is as follows:

Model: Penny Stock Returns

$$LSPSR_i = \alpha + \beta_1 LO_{1it} + \beta_2 LA_{2it} + \beta_3 LH_{3it} + \mu_i + \lambda_t + \nu_{it} \qquad (2)$$

where

PSR = Penny Stock Returns
i = ith firms
t = Time
α = Constant Term
β = Beta Coefficients
L = Natural logarithm
O = Overconfidence
A = Anchoring
H = Herding
μ_i = Individual-specific effects
λ_t = Time
ν_it = Error term

4 RESULTS AND DISCUSSION

4.1 Descriptive statistics

This study conducted descriptive statistics as a preliminary analysis and summary of the data to comprehend penny stock returns, overconfidence, anchoring, and herding in the Malaysian stock market. As presented in Table 2, the overall[2] mean of penny stock returns is 4.604, and the standard deviation is 0.172. The minimum and maximum of penny stock returns are 2.398 and 7.013. Furthermore, the overall mean of overconfidence is 13.815, and the standard deviation is 2.171. The minimum and maximum values of overconfidence are 3.296 and 20.305, respectively. The overall mean of anchoring is 26.251, and the standard deviation is 2.901. The minimum and maximum of anchoring are -2.303 and 1.47. Lastly, the highest overall mean of herding is 26.251, and the highest standard deviation is 48.353. The minimum and maximum of herding are 0 and 371.209.

Table 2

Descriptive Statistics of Penny Stock Returns

Variable		Mean	Std. Dev.	Min	Max
LPSR	Overall	4.604	0.172	2.398	7.013
	Between		0.017	4.563	4.655
	Within		0.171	2.439	7.054
LO	Overall	13.815	2.171	3.296	20.305
	Between		1.431	10.416	17.358
	Within		1.656	6.112	19.434
LA	Overall	-0.297	2.901	-2.303	1.47
	Between		0.148	-0.685	-0.09
	Within		0.251	-1.914	1.762
H	Overall	26.251	48.353	0	371.209
	Between		32.855	11.037	179.377
	Within		36.05	-153.126	324.931

Notes: L represents natural Logarithm, LPSR represents Log Penny Stock Returns, LO represents Log Overconfidence, LA represents Log Anchoring, and H represents Herding.

[2] Overall mean refers to the statistical measure of the average of a variable, obtained by adding up all observations in a dataset and dividing that by the total number observations (Law, 2018).

4.2 Static panel data analysis

Table 3 depicts regression results on penny stock returns from three static panels: Pooled OLS, REM, and FEM, in one-way and two-way. The coefficient, standard error, and p-value of Pooled OLS appear similar to REM in both one-way and two-way. From a one-way and two-way perspective, overconfidence has a positive impact and is significant at the 1 percent level in penny stock returns. Conversely, anchoring has a negative impact and is significant at the 1 percent level on penny stock returns. Simultaneously, both f-statistics in the one-way and two-way demonstrate significance at the 1 percent level. As Law (2018) highlighted, there may be biases: Pooled OLS may suffer from heteroskedasticity bias, and REM may exhibit random individual-specific effects. As a result, it violates the classical assumptions of OLS and is no longer considered BLUE[3]. Furthermore, this study employed FEM to address heterogeneity bias and random individual-specific effects that may arise from Pooled OLS and REM. The FEM results depicted that overconfidence has a positive impact and anchoring has a negative impact on penny stock returns, significant at the 1 percent level in a one-way perspective. On the other hand, from a two-way perspective, overconfidence and herding have a positive impact. They are significant at the 1 percent level for penny stock returns, while anchoring has a negative impact and is also significant at the 1 percent level. Both f-statistics in the one-way and two-way are significant at the 1 percent level, thereby indicating the overall significance of the regression in this model.

Apart from that, this study examined the specific effects of Pooled OLS, REM, and FEM using the Poolability Test, the Breusch-Pagan (LM) Test, and the Hausman Test (see Table 3). The first specific test is the Poolability Test (Pooled OLS versus FEM). The test results for the one-way exhibit that the p-value is 0.066, which is less than the 10 percent significance level. However, the results of the two-way reveal that the p-value is 0.000, which is significant at the 1 percent level. Thus, FEM is preferred over Pooled OLS in this model. Subsequently, the second specific test is the Breusch-Pagan (LM) test (Pooled OLS versus REM). Both one-way and two-way test results demonstrate that the p-values are 1, indicating insignificant results. Hence, Pooled OLS is preferred over REM

[3] BLUE represents the Best Linear Unbiased Estimator (Studenmund, 2021).

in this model. The third specific test is the Hausman Test (REM versus FEM). Both test results for one-way and two-way present that the p-values are 0.000 and 1 percent of the significance level, respectively, indicating that FEM is preferred over REM in this model. Therefore, FEM is the best estimator for explaining penny stock returns in the Malaysian stock market from a cognitive heuristics perspective.

Moreover, this study examined two other diagnostic tests: serial correlation and heteroskedasticity. The Wooldridge test is used to determine whether the error term exhibits first-order serial correlation (Law, 2018). The test's result demonstrates that the p-value is greater than the 1 percent significance level. Hence, serial correlation is present in this study. Notably, the presence of serial correlation can lead to bias and inefficient estimation of penny stock returns, as well as overconfidence, anchoring, and herding. The coefficient estimated in this study may be inconsistent, leading to underestimation or overestimation. Consequently, this can affect the reliability of hypothesis testing (Studenmund, 2021). On the other hand, the Modified Wald test is employed to determine the validity of the heteroskedasticity assumption (Pesaran, 2015). The test's result reveals that the p-value is significant at the 1 percent level and thus, this study has no issue with heteroskedasticity.

Overconfidence is expected to affect penny stock returns in the Malaysian stock market positively. In fact, overconfidence has a positive coefficient of 0.009, a standard error of 0.003, and is significant at the 1 percent level for penny stock returns. Aligning with Chang *et al*. (2012) and Chaung and Susmel (2011), investors who trade penny stocks are often engaged in high-risk investments. Hence, they exhibit overconfidence in their investment decision-making. Dittrich *et al*. (2005) also stated that overconfidence is positively associated with optimal returns in investment decision-making. Based on this evidence, Hypothesis 1 (H_1) posits that overconfidence positively affects penny stock returns in the Malaysian stock market.

Conversely, anchoring is expected to negatively affect penny stock returns in the Malaysian stock market. Anchoring has a negative coefficient of 0.106, a standard error of 0.016, and is significant at the 1 percent level for penny stock returns. The anchoring led to diminished returns in penny stocks due to fear of additional losses and the neglect of favorable developments in the stock market. Hence, the collective investors' behavior leads to a negative perception of penny stocks. In sum, penny stocks are considered less

favorable than their intrinsic value (Jiang *et al*., 2023). Therefore, this aligns with Hypothesis 2 (H_2), which posits that anchoring has a negative impact on penny stock returns in the Malaysian stock market.

Furthermore, herding is expected to affect penny stock returns in the Malaysian stock market negatively. However, as it turns out, herding has a positive coefficient of 0.001, with a standard error of 0.0003, and it is significant at the 1 percent level for penny stock returns. Thus, it failed to demonstrate a negative impact on penny stock returns, similar to Dai and Zhu (2022) and Jabeen *et al*. (2020). As such, the herding hypothesis contradicts the study's expected finding.

Consequently, this study aligns with prior studies by Mand and Sifat (2021) and Chiang and Zheng (2010), which revealed herding behavior in the Asian stock market. In other words, herding involves the imitation of investors' behavior during investment decision-making in the Asian stock market. This phenomenon describes a scenario in which investors conform to the majority's investment decisions, disregarding their own information, even though they are aware of its accuracy (Jabee *et al*., 2022). In this context, these investors act consciously or unconsciously, whether through intentional choice or an intellectual bias (Van Campenhout and Verhestaeten, 2010).

5 CONCLUSION

Overall, this study is crucial for examining penny stock returns in the Malaysian stock market from a cognitive heuristic perspective. This study employed monthly panel data of 26 penny property firms from 1st January 2019 to 31st May 2025. In particular, the dependent variable is penny stock returns in the Malaysian stock market, and the main independent variables are overconfidence, anchoring, and herding. Specifically, overconfidence positively and anchoring negatively impact the penny stock returns in the Malaysian stock market. However, herding has a positive impact on penny stock returns in the Malaysian stock market. As such, the herding hypothesis contradicts the study's expected finding. Consequently, these results indicate that Malaysian investors exhibit irrationality in their investment decision-making, driven by overconfidence, anchoring, and herding.

Last but not least, one recommendation for future studies is outlined. This study recommends extending the observation period to include the pre- and post-Coronavirus Disease 2019 periods for a more comprehensive comparison of findings in the Malaysian stock market.

Table 3

Static Panel Data

	ONE-WAY			TWO-WAY		
	POLS	REM	FEM	POLS	REM	FEM
CONSTANT	4.491	4.491	4.429	4.577	4.577	4.236
	(0.025)	(0.025)	(0.321)	(0.051)	(0.051)	(0.098)
LO	0.007	0.007	0.01	0.006	0.006	0.009
	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.003)***
LA	-0.086	-0.086	-0.112	-0.088	-0.088	-0.106
	(0.013)***	(0.013)***	(0.015)***	(0.014)***	(0.014)***	(0.016)***
H	-0.00009	-0.00009	0.0002	-0.0003	-0.0003	0.0008
	(0.00008)	(0.00008)	(0.032)***	(0.0001)***	(0.0001)***	(0.0003)***
F-Statistics	19.61	58.82	26.92	3.16	240.18	3.09
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Poolability Test		1.46 (0.066)*			1.68 (0.000)***	
Breusch-Pagan (LM) Test	450.04 (1.000)			261.38 (1.000)		
Hausman Test		29.30 (0.000)***			30.30 (0.000)***	
Observations		2,002	2,002	2,002	2,002	2,002
Serial Correlation				0.751		
Heteroskedasticity				0.394		
				2935.55 (0.000)***		

Notes: L represents natural Logarithm, LPSR represents Log Penny Stock Returns, LO represents Log Overconfidence, LA represents Log Anchoring, and H represents Herding. Figures in the parentheses are standard errors, except for the F-Statistics, Poolability Test, Breusch-Pagan (LM) Test, Hausman Test, Serial Correlation, and Heteroskedasticity, which are p-values. *** indicates a 1 percent significance level, ** indicates a 5 percent significance level, and * indicates a 10 percent significance level.

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