# THE DETERMINANTS OF SHORT-TERM AND LONG-TERM PERFORMANCE OF INITIAL PUBLIC OFFERING: EVIDENCE FROM THE STOCK EXCHANGE OF THAILAND (SET) AND MARKET FOR ALTERNATIVE INVESTMENT (MAI)

Chittakrij PEUNGSUGK[1]
1 Faculty of Commerce and Accountancy, Chulalongkorn University, Thailand; 6784027026@student.chula.ac.th

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## ABSTRACT
This study examines the determinants of short- and long-term IPO performance in the Stock Exchange of Thailand (SET) and the Market for Alternative Investment (mai) using IPO samples from 2014–2021. The research investigates how institutional market participants influence cumulative abnormal returns across various time horizons. Grounded in information asymmetry, certification, and signaling theories, the study applies multiple linear regression using OLS to analyze IPO performance. Findings show clear differences between the two markets. In the SET, underwriter reputation has no significant certification effect in either the short or long term. Institutional investor ownership has no short-term influence but shows a negative impact on three-year post-IPO cumulative abnormal returns. By contrast, Big-4 auditors have a consistently positive effect across all horizons. In the mai, underwriter reputation—measured by past IPO clients' offering size—provides significant certification, reducing short-term information asymmetry. Institutional investor ownership is insignificant, while Big-4 auditors show no short-term effect but positively influence two-year cumulative abnormal returns. The results imply that the SET's institutional environment diminishes the relevance of underwriter reputation while reinforcing Big-4 auditor signals. In the retail-driven mai, tangible certification through underwriter deal-scale reputation becomes more critical. This extended version enhances the previous paper by adding robustness checks using alternative measures of underwriter reputation. Only the past clients' offering size–based measure shows a negatively significant impact on short-term cumulative abnormal returns. The study also identifies a systematic bias not detected previously when upgraded mai firms were included in long-term analysis. Additionally, it provides cross-environment insights comparing SET and mai.
**Keywords:** Initial Public Offering (IPO), Short-term performance, Long-term performance, Stock Exchange of Thailand (SET), Market for Alternative Investment (mai)

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# INTRODUCTION

Initial Public Offering (IPO) is an important milestone in a company's operation. This enables firms to raise capital for growth, and expansion. Price fluctuation after IPO process is common in emerging markets like Thailand. While developed markets typically experience less price fluctuation around 15%, emerging markets often see much higher levels due to greater information asymmetry and less developed institutional frameworks.

Information asymmetry as proposed by Akerlof (1978) is the main cause of IPO pricing inefficiencies in which investors have gap of less information than issuers and their advisors, creating risk about firm value and future performance as well as agency conflict between different business parties (Rock, 1986; Ritter & Welch, 2002). To reduce the gap, firms employ various certification mechanisms which includes using reputable underwriters, promoting institutional investment, and appointing prestigious auditing firms (Booth & Smith, 1986). These mechanisms serve as quality signals that can potentially reduce initial price fluctuation and increase long-term performance (Beatty & Ritter, 1986; Carter & Manaster, 1990).

The phenomenon of IPO underpricing in which the initial offer price is set below the true market value has been documented across global markets. IPO underpricing gives investors a short-term return after the IPO. However, the magnitude and determinants of underpricing vary significantly across different economies and periods. In Thailand, examining the influence of key market participants such as underwriters following Boonchuaymetta and Chuanrommanee (2013), institutional investors following Dumrongwong (2020), and auditors on IPO performance provides valuable insights into the efficiency of Thai capital market.

Underwriter reputation is a significant thing to consider in the IPO. Prestigious underwriters bring credibility to offerings and may reduce information asymmetry between issuers and investors (Hu et al., 2021). Some studies find that reputable underwriters decrease underpricing (Carter & Manaster, 1990), while others suggest the opposite effects. Understanding how underwriter reputation influences both short and long-term IPO performance in Thai market can provide important contributions to the industry.

Institutional investors are also crucial stakeholder in the IPO ecosystem. Their participation signals confidence in the offering and may influence both short-term and long-term performance. Examining the relationship between institutional participations and IPO performance in Thailand offers insights into how they shape market outcomes in emerging economies. Dumrongwong (2020) studies the effect of percentage of institutional investors' holdings in Thailand and gives insights that high percentage of institutional investors' holdings associate with less underpricing of the firm. Moreover, Chemmanur et al. (2010) document that institutional investors have superior stock-picking ability in IPOs, and their continued ownership is associated with better long-term IPO performance.

The role of external auditors in the IPO process has also gotten attention. Big-4 auditors which are Deloitte, KPMG, PWC, and EY, generally give higher audit quality (Sundarasen et al., 2018). Using high-quality auditors also positively impacts long-term IPO performance, an effect that persists independently of underwriter reputation (Datta et al., 2024). By reducing information asymmetry, prestigious auditors may influence both short-term return and subsequent long-term performance.

Additionally, firm-specific characteristics such as offering size, firm age, total liabilities to total asset ratio, price to book value, average yearly sales, average yearly ROE, and traded value as well as market condition like market sentiment are also examined to control and moderate the relationships between the key institutional participants and IPO performance.

Therefore, this study investigates both the short-term and long-term performance of IPOs in the Stock Exchange of Thailand (SET) and the Market for Alternative Investment (mai), and the factors that influence short-term and subsequent long-term performance following the framework from Hu et al. (2021) and İlbasmış (2023).

# LITERATURE REVIEWS

**The effect of underwriter reputation on short-term IPO performance**

Certification theory suggests that reputable underwriters can reduce information asymmetry by staking their reputation capital on the quality of issuers they bring to market (Booth & Smith, 1986). Prestigious underwriters tend to choose high quality firms to protect and promote their reputation in the underwriting process. Therefore, good reputation underwriters tend to negatively associate with short-term IPO returns as indicated by Carter and Manaster (1990). Hu et al. (2021) who follow underwriter reputation measures from Megginson and Weiss (1991) and Su and Bangassa (2011) also support the previous claims that the firms that use prestigious underwriters tend to have less IPO underpricing and short-term returns in which prestigious underwriters can reduce short-term IPO returns. This also signals to the market that the firms they underwrite have good performance and less uncertainty of prospects. Good underwriters try to reduce the underpricing as much as possible to make their clients get the most benefit from the money that they have raised, because if the first trading closed price is not the same as the IPO price that the issuers get, the issuers may loss benefits from price appreciation in the secondary market. Thus, this study hypothesizes

H1: Underwriter reputation negatively impacts short-term IPO performance.

**The effect of percentage of institutional participation on short-term IPO performance**

Institutional investors can help reduce information asymmetry in IPO markets. Within information asymmetry theory by Akerlof (1978), institutional investors function as sophisticated participants whose superior analysis capabilities help bridge knowledge gaps between issuers and other investors. From a certification theory perspective, institutional investors validate IPO quality through their participation by purchasing shares at the IPO process. As signaling mechanisms, substantial institutional ownership serves as a credible indicator of firm quality that, according to Allen and Faulhaber (1989), helps high-quality firms distinguish themselves from lower-quality counterparts. Field and Lowry (2009) find that institutional investors help reduce uncertainty and underpricing because institutional investors may invest in firms that have less information asymmetry. The reason is that institutional investors have better resources, expertise, and access to information than regular individual investors. Therefore, they have more ability to know which IPO offering price of which firms reflect the true intrinsic value of that firm. This signals that the firm is a high-quality firm and has less uncertainty. This makes the company doesn't need to offer a big discount (underpricing) or premium of the uncertainty to attract investors. Thus, this study hypothesizes

H2: Institutional investor ownership negatively impacts short-term IPO performance.

**The effect of big-4 auditor on short-term IPO performance**

Under information asymmetry theory by Akerlof (1978), auditors bridge the knowledge gap between issuers and investors by verifying financial information (Titman & Trueman, 1986). Certification theory suggests that prestigious auditors stake their reputation capital on the quality of financial disclosures, thereby transferring credibility to the IPO firm (Booth & Smith, 1986). As signaling mechanisms, high-quality auditors serve as observable indicators that issuers are confident in their financial reporting and have nothing to hide (Datar et al., 1991). The involvement of one of the big-4 audit firms which are Deloitte, Klynveld Peat Marwick Goerdeler (KPMG), Price Waterhouse Coopers (PWC), and Ernst & Young )EY) is widely regarded as a signal of financial reliability. Firms audited by big-4 firm are expected to have more sound financial statements which decrease the information asymmetry between issuers and investors. According to the asymmetric information theory, lower information asymmetry leads to more accurate pricing, which in turn reduces the extent of IPO underpricing. This aligns with findings from prior research (Michaely & Shaw, 1995), because high-quality financial disclosure reduces the need for firms to underprice their IPOs to attract

investors in the market. The claim is also supported by Sundarasen et al. (2018). Thus, this study hypothesizes:

H3: Big-4 auditor negatively impacts short-term IPO performance.

**The effect of underwriter reputation on long-term IPO performance**

From a certification theory perspective, prestigious underwriters stake their reputation on the issuer's quality which provides credible validation that extends beyond listing day (Booth & Smith, 1986; Carter & Manaster, 1990). As signaling mechanisms by Allen and Faulhaber (1989), high-reputation underwriters represent difficult-to-imitate indicators of firm quality that help differentiate superior companies in the market. These signals last over time, influencing long-term market perceptions of the firm. Prestigious underwriters tend to choose to do IPO for the firms that will have outstanding market performance after IPO in the long-term horizon. The reasons are reputational capital protection, superior screening capabilities, information advantages, and higher bargaining power. As prestigious underwriters have valuable reputations built over many years, they carefully select high-quality firm to protect their reputations. Hence, firms that utilize prestigious underwriters for their IPOs tend to demonstrate superior long-term post-IPO performance (Carter et al., 1998; Su & Bangassa, 2011; Hu et al., 2021). Hence, this discussion leads to the following hypothesis.

H4: Underwriter reputation positively impacts long-term IPO performance.

**The effect of institutional investors on long-term IPO performance**

Information asymmetey by Akelof (1978) is the main cause of certification and signaling theory which explain the relationship between the percentage of institutional investors holding and long-term post-IPO performance. From a signaling perspective, substantial institutional ownership represents a quality indicator that helps distinguish superior firms from weaker ones in extended periods (Allen & Faulhaber, 1989). Following findings by Chemmanur et al. (2010), firms that have a high percentage of institutional investors holding at IPO tend to have better long-term post-IPO performance. Hence, this leads to the following hypothesis.

H5: Institutional investor ownership positively impacts long-term IPO performance.

**The effect of big-4 auditor on long-term IPO performance**

Information asymmetry by Akelof (1978), certification theory by Booth and Smith (1986), and also signaling theory by Ross (1977) are crucial explanations to why the big-4 auditor chooses to audit IPO firms that tend to have good long-term performance. In the long-term performance, big-4 auditor may have the power to make the management of the firm to provide remarkable operating results. This claim is supported by Michaely and Shaw (1995) who find superior long-term performance with firms with high-quality auditors, which are big-4 auditors, at the IPO process. Recently, research done by Datta et al. (2024) also finds a similar result. Hence, this discussion leads to the following hypothesis.

H6: Big-4 auditor positively impacts IPO long-term performance. From the literature review, the conceptual framework can be drawn as shown in Figure 1

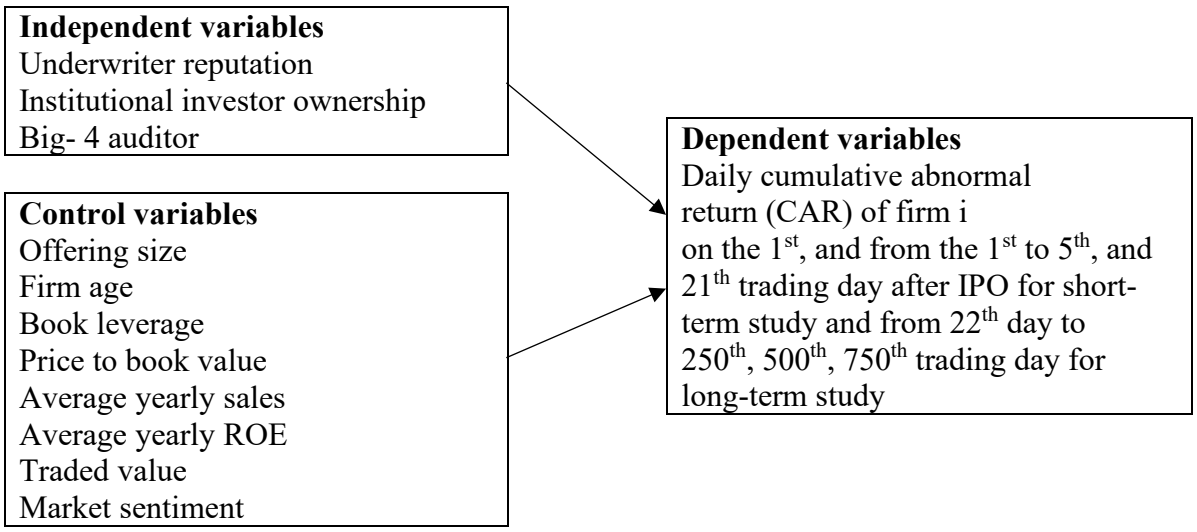


**Figure1** Conceptual Framework

## RESEARCH METHODOLOGY

This study examines the relationship between the short-term performance and long-term performance of IPO stocks from listed companies on both The Stock Exchange of Thailand and Market for Alternative Investment (mai) from 2014- 2021, excluding the IFF, PFUND, and REITS. The data is collected from SET website, SEC website, and from the Ministry of Commerce website. The daily stock and market return are collected from LSEG, and Bloomberg terminal. Underwriter, institutional investor, and auditor information are taken from filling from SEC website. Information concerning the particulars of each offering including the size of offering, age of the firm, debt to asset ratio, price to book value, average yearly sales revenue, average yearly return on equity, first day traded values, and proxy for market sentiment 1 day prior to the listing date are also retrieved from filling from SEC website, SET website, and LSEG. Most of the data is collected by hand.

There are total of 119 and 121 sample IPO firms from SET and mai that are used for this study. The reason of choosing the period from 2014-2021 is to have enough data points for statistical analysis and enough data points for long-term performance measure which is 1,2 and 3 years post IPO performance. The sample focuses all industries in Thailand to have the entire coverage of variation of firm characteristics, business models, corporate strategies, and market conditions across the Thai economy. This is to guarantee comparability and decrease industry-specific bias that can disconcert the statistical analysis.

The dependent variable is the daily cumulative abnormal return ($CAR_i$) on the first trading day (1st) and on the first trading day to 5th and 21st trading day after IPO day which is 1 week and 1 month after IPO for short-term and from day 22nd to 250th, 500th and 750th trading day after IPO day for 1, 2 and 3 years after IPO for long-term study following İlbasmış (2023).

The independent variables include three certification mechanisms. First, underwriter reputation ($REP_i$)is calculated as the ratio of total offering size of all IPO firms that the underwriter managed in the past five years divided by the total offering size of all IPOs in the market during the same period, expressed as a percentage, adapted from Hu et al. (2021). Second, institutional investor participation ($INST_i$) is measured as the percentage of offering shares allocated to institutional investors at the IPO, adapted from Dumrongwong (2020). Third, auditor prestige ($AUDIT_i$) is a dummy variable equaling 1 if the firm's auditor belongs to the Big-4 auditor which is Deloitte, KPMG, PwC, and EY (Sundarasen et al., 2018; Datta et al., 2023).

The study also uses firm and market characteristics as control variables like other IPO papers. Those variables are the natural logarithm of offering size ($ln(OFFER_i)$), the natural logarithm of the age of the firm from the establishment date to listing date ($ln(AGE_i)$), the debt to asset

ratio ($D/A_i$), the opening price to 1-year post IPO book value ($P/BV_i$), the natural logarithm of 3 years average yearly revenue from sales before IPO ($ln(SALE_i)$), the 3 years yearly average return on equity before IPO ($ln(ROE_i)$), the natural logarithm of the first trading day traded value ($ln(VAL_i)$), and the proxy for market sentiment using 1 day before listing 21 days simple moving average of daily index return ($MKTSENT_i$). The industry and year fixed effects are also employed in this study. Therefore, the empirical regression model in this study is the following cross-sectional multiple linear regression using OLS approach or equation 1.

$$CAR_i = \alpha + \beta_1 REP_i + \beta_2 INST_i + \beta_3 AUDIT_i + \beta_4 ln(OFFER_i) + \beta_5 ln(AGE_i) + \beta_6 D/A_i + \beta_7 P/BV_i + \beta_8 ln(SALE_i) + \beta_9 ROE_i + \beta_{10} ln(VAL_i) + \beta_{11} MKTSENT_i + IND + YEAR + \in_i$$

$CAR_i$ is the daily cumulative abnormal return on the first trading day (1st) and from the first trading day to 5th and 21th trading day for short-term study and from 22nd day to 250th, 500th and 750th trading day for long-term study. Therefore, the hypothesis testing is to test the sign and magnitude of $\beta_1$ $to$ $\beta_3$ separately between SET and mai. Hence, the regression must be run 3 times for short-term study and 3 times for long-term study based on $CAR_i$ at each day.

## RESEARCH RESULTS

This section shows empirical results of the study examining the impact of institutional participants which are reputation of underwriter, percentage of institutional investor ownership, and big-4 auditor on short-term and long-term IPO performance of both markets. This section is divided to 3 sections which are descriptive statistics, correlation analysis, and regression results.

**Table 1** SET Descriptive Statistics

| Variable | Unit | Mean | Std. Deviation | Min | Max |
|---|---|---|---|---|---|
| $CAR_1$ | % | 30.00 | 41.41 | -20.63 | 200.58 |
| $CAR_5$ | % | 30.13 | 41.75 | -27.98 | 189.8 |
| $CAR_{21}$ | % | 25.63 | 44.81 | -95.26 | 159.94 |
| $CAR_{250}$ | % | 6.9 | 57.83 | -146.69 | 281.09 |
| $CAR_{500}$ | % | 0.88 | 70.78 | -127.52 | 287.97 |
| $CAR_{750}$ | % | -10.28 | 82.69 | -188.72 | 293.85 |
| $REP_i$ | % | 7.25 | 7.06 | 0.00 | 27.27 |
| $INST_i$ | % | 25.93 | 22.04 | 0.00 | 82.87 |
| $AUDIT_i$ | Dummy (1,0) | 0.77 | 0.42 | 0.00 | 1 |
| $ln(OFFER_i)$ | Natural logarithm of thousand Bahts | 14.35 | 1.28 | 12.31 | 18.17 |
| $ln(AGE_i)$ | Natural logarithm of age in days | 8.53 | 0.87 | 5.82 | 10.66 |
| $D/A_i$ | % | 59.51 | 17.03 | 20.12 | 91.07 |
| $P/BV_i$ | Ratio of multiple | 6.60 | 6.21 | 0.88 | 44.66 |
| $ln\ (SALE_i)$ | Natural logarithm of thousand Bahts | 14.66 | 1.42 | 11.22 | 20.09 |
| $ROE_i$ | % | 26.56 | 18.63 | -3.60 | 106.56 |
| $ln(VAL_i)$ | Natural logarithm of thousand Bahts | 14.93 | 0.91 | 10.67 | 17.67 |
| $MKTSENT_i$ | % | 0.02 | 0.18 | -0.34 | 0.87 |

**Table 2** mai Descriptive Statistics

| Variable | Unit | Mean | Std. Deviation | Min | Max |
|---|---|---|---|---|---|
| $CAR_1$ | % | 60.23 | 66.92 | -29.11 | 201.59 |
| $CAR_5$ | % | 55.12 | 68.07 | -41.04 | 227.84 |
| $CAR_{21}$ | % | 68.18 | 48.86 | -115.09 | 215.56 |
| $CAR_{250}$ | % | 5.14 | 46.33 | -145.17 | 163.34 |
| $CAR_{500}$ | % | 0.88 | 70.78 | -127.52 | 287.97 |
| $CAR_{750}$ | % | 15.57 | 73.92 | -151.00 | 236.56 |
| $REP_i$ | % | 4.26 | 9.70 | 0.00 | 86.11 |
| $INST_i$ | % | 3.9 | 9.81 | 0.00 | 47.10 |
| $AUDIT_i$ | Dummy (1,0) | 0.53 | 0.50 | 0.00 | 1 |
| $ln(OFFER_i)$ | Natural logarithm of thousand Bahts | 12.65 | 0.77 | 11.01 | 14.95 |
| $ln(AGE_i)$ | Natural logarithm of age in days | 8.50 | 0.64 | 6.57 | 9.52 |
| $D/A_i$ | % | 58.2 | 18.41 | 14.51 | 95.01 |
| $P/BV_i$ | Ratio of multiple | 6.25 | 5.27 | 1.30 | 27.83 |
| $ln\ (SALE_i)$ | Natural logarithm of thousand Bahts | 13.08 | 0.79 | 10.87 | 15.01 |
| $ROE_i$ | % | 24.00 | 27.68 | -126.23 | 135.63 |
| $ln(VAL_i)$ | Natural logarithm of thousand Bahts | 13.97 | 1.04 | 10.95 | 15.74 |
| $MKTSENT_i$ | % | 0.07 | 0.29 | -0.57 | 0.84 |

Note that $CAR_1$, $CAR_5, CAR_{21}, CAR_{250}, CAR_{500}, CAR_{750}$ are the cumulative abnormal return on the 1st, 5th, 21th trading day for short-term study and on 250th, 500th and 750th trading day for long-term study.

Correlation analysis is shown by correlation matrix. A correlation matrix displays pairwise correlation coefficients between all variables in the dataset, with values ranging from -1 to +1 indicating the strength and direction of linear relationships. It serves many purposes such as providing an initial overview of how variables move together, and helping detect multicollinearity. This study analyzes correlation between variables in both SET and mai market separately as shown in the following table 3 and table 4.

**Table 3** SET Correlation Matrix

| | CAR1 | CAR5 | CAR21 | CAR250 | CAR500 | CAR750 | REP | INST | AUDIT | ln(OFFER) | ln(AGE) | DA | PBV | ln(SALE) | ROE | ln(VAL) | SENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAR1 | 1 | | | | | | | | | | | | | | | | |
| CAR5 | 0.952*** | 1 | | | | | | | | | | | | | | | |
| CAR21 | 0.759*** | 0.812*** | 1 | | | | | | | | | | | | | | |
| CAR250 | 0.056 | 0.055 | 0.022 | 1 | | | | | | | | | | | | | |
| CAR500 | -0.066 | -0.053 | -0.082 | 0.843*** | 1 | | | | | | | | | | | | |
| CAR750 | -0.109 | -0.1 | -0.164* | 0.727*** | 0.909*** | 1 | | | | | | | | | | | |
| REP | -0.012 | 0.003 | 0.005 | -0.037 | 0.083 | 0.086 | 1 | | | | | | | | | | |
| INST | -0.112 | -0.024 | 0.028 | -0.07 | -0.02 | -0.032 | 0.439*** | 1 | | | | | | | | | |
| AUDIT | 0.116 | 0.145 | 0.106 | 0.165* | 0.249*** | 0.267*** | 0.232** | 0.258*** | 1 | | | | | | | | |
| ln(OFFER) | -0.243*** | -0.190** | -0.14 | -0.095 | 0.011 | 0.04 | 0.352*** | 0.476*** | 0.220** | 1 | | | | | | | |
| ln(AGE) | 0.04 | 0.043 | 0.073 | 0.045 | -0.017 | -0.049 | -0.084 | -0.051 | -0.111 | -0.02 | 1 | | | | | | |
| DA | -0.003 | 0.035 | 0.012 | 0.199** | 0.148 | 0.088 | 0.240** | 0.136 | -0.026 | 0.143 | 0.014 | 1 | | | | | |
| PBV | 0.037 | 0.083 | 0.161* | -0.250*** | -0.099 | -0.109 | 0.267*** | 0.137 | 0.07 | 0.15 | -0.169* | 0.247*** | 1 | | | | |
| ln(SALE) | -0.288*** | -0.264*** | -0.214** | 0.091 | 0.136 | 0.128 | 0.262*** | 0.342*** | 0.101 | 0.726*** | 0.044 | 0.210** | -0.057 | 1 | | | |
| ROE | 0.052 | 0.088 | 0.061 | -0.141 | -0.062 | -0.114 | 0.176* | -0.039 | -0.055 | 0.032 | -0.181* | 0.281*** | 0.587*** | -0.016 | 1 | | |
| ln(VAL) | 0.272*** | 0.309*** | 0.314*** | -0.209** | -0.161* | -0.193** | 0.242*** | 0.308*** | 0.113 | 0.578*** | 0.03 | 0.078 | 0.218** | 0.353*** | 0.171* | 1 | |
| SENT | 0.241** | 0.237** | 0.177* | -0.151 | -0.236** | -0.198** | -0.028 | -0.08 | -0.047 | -0.160* | -0.025 | 0.154 | 0.157* | -0.252*** | 0.082 | -0.101 | 1 |

*** p < 0.01, ** p < 0.05, * p < 0.10

Fortunately, there are no multicollinearity among independent and control variables in this study in SET market. The highest correlation coefficient value is 0.726 with 1% significance between the natural logarithm of offering size ($ln(OFFER_i)$ ) and the natural logarithm of average sales ($ln(SALE_i)$). However, it is below the thereshold value at 0.8.

**Table 4** mai Correlation Matrix

| | CAR1 | CAR5 | CAR21 | CAR250 | CAR500 | CAR750 | REP | INST | AUDIT | ln(OFFER) | ln(AGE) | DA | PBV | ln(SALE) | ROE | ln(VAL) | SENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAR1 | 1 | | | | | | | | | | | | | | | | |
| CAR5 | 0.964*** | 1 | | | | | | | | | | | | | | | |
| CAR21 | 0.884*** | 0.910*** | 1 | | | | | | | | | | | | | | |
| CAR250 | -0.093 | -0.063 | 0.038 | 1 | | | | | | | | | | | | | |
| CAR500 | 0.073 | 0.073 | 0.13 | 0.636*** | 1 | | | | | | | | | | | | |
| CAR750 | 0.018 | 0.032 | 0.057 | 0.489*** | 0.670*** | 1 | | | | | | | | | | | |
| REP | 0.039 | 0.024 | 0.033 | -0.016 | -0.012 | 0.032 | 1 | | | | | | | | | | |
| INST | -0.033 | -0.01 | -0.093 | -0.12 | -0.111 | -0.153 | -0.127 | 1 | | | | | | | | | |
| AUDIT | -0.069 | -0.041 | 0.023 | -0.004 | 0.176* | 0.01 | -0.006 | 0.155 | 1 | | | | | | | | |
| ln(OFFER) | -0.331*** | -0.271*** | -0.222** | -0.089 | -0.256*** | -0.313*** | -0.176* | 0.435*** | 0.171* | 1 | | | | | | | |
| ln(AGE) | 0.12 | 0.133 | 0.11 | 0.002 | -0.042 | -0.071 | 0.013 | -0.229** | -0.081 | -0.324*** | 1 | | | | | | |
| DA | -0.131 | -0.144 | -0.11 | -0.065 | -0.173* | -0.243** | -0.109 | 0.05 | 0.015 | 0.331*** | -0.13 | 1 | | | | | |
| PBV | 0.07 | 0.094 | 0.141 | -0.052 | -0.121 | -0.154 | 0.07 | 0.114 | 0.149 | 0.399*** | 0.012 | 0.206** | 1 | | | | |
| ln(SALE) | -0.228** | -0.229** | -0.234** | 0.002 | -0.175* | -0.265*** | -0.181* | -0.008 | -0.03 | 0.238** | 0.097 | 0.259*** | -0.132 | 1 | | | |
| ROE | 0.217** | 0.212** | 0.193** | 0.101 | 0.026 | -0.103 | 0.112 | -0.046 | -0.118 | -0.136 | 0.103 | -0.131 | 0.167* | -0.198** | 1 | | |
| ln(VAL) | 0.190** | 0.167* | 0.15 | 0.009 | -0.109 | -0.181* | -0.001 | 0.164* | -0.106 | 0.358*** | -0.07 | 0.167* | 0.188** | 0.13 | 0.171* | 1 | |
| SENT | 0.443*** | 0.469*** | 0.373*** | -0.086 | -0.008 | -0.121 | 0.051 | 0.091 | -0.026 | -0.156 | 0.014 | -0.112 | -0.072 | -0.038 | 0.05 | 0.105 | 1 |

*** p < 0.01, ** p < 0.05, * p < 0.10

Luckily, there are no multicollinearity among independent and control variables in this study in mai market. The highest correlation coefficient value is 0.435 with 1% significance between the natural logarithm of offering size ($ln(OFFER_i)$ ) and the percentage of allocated shares to institutional investor ($INST_i$). However, it is much below the threshold value at 0.8. Table 5 shows the regression result of SET market. $AUDIT_i$ has a positive coefficient throughout the study period from short-term to long-term with the coefficient value ranging from 16.4993 to 59.0043. The coefficient is significant at 10% on the 1st, 21st and 250th trading day, and significant at 5% at 5th, 500th and 750th trading day. This aligns with Chang et al. (2008) that indicated that auditor quality positively impacts with short-term IPO returns, and Titman and Trueman (1986) that prestigious auditor positively effects IPO long-term performance. Therefore, **hypothesis 3 is rejected, but hypothesis 6 is accepted**. This can suggest that long-term investor should overweight big-4 audited IPO firms in the portfolios. However, $REP_i$ shows weak positive coefficients for $CAR_1$, $CAR_{250}$, $CAR_{500}$, and $CAR_{750}$ ,and weak negative coefficient for $CAR_5$ $and$ $CAR_{21}$. The value ranges from -0.3350 to 1.1095. All values are statistically insignificant across both short and long-term horizons. This contradicts Carter and Manaster (1990) and Hu et al. (2021). This suggests underwriter reputation provides no certification benefits in SET, either immediately or over time. **This does not support hypothesis 1 and 4.** Hence, regulators should not assume prestigious underwriters ensure better pricing outcomes. Lastly, $INST_i$ displays inconsistently insignificant short-term coefficients with the value of -0.1496 to 0.0617, but it turns negative for $CAR_{250,}CAR_{500}$ and significantly negative for $CAR_{750}$ with the value of -1.0297 with 5% significance, indicating possibility of selling pressure from lock-up period expiration. This contradicts Field and Lowry (2009). **Thus, hypothesis 2 is not supported, and hypothesis 5 is rejected**. This may suggest that institutional allocations should not be marketed as quality signals to short-term retail investors. For control variable, $ln(OFFER_i)$ also shows negative impact to the cumulative abnormal return from the first trading up to 1-month trading day. This follows Allen and Faulhaber (1989) and tells that firms leaving money on table should consider larger offerings rather than seeking other certification mechanism for short-term period. Moreover, $MKTSENT_i$ also shows positive short-term significance which are consistent with Loughran and Ritter (2002). This tells that Firms should consider delaying IPOs during peak market enthusiasm to reduce money left on table. $ln(VAL_i)$ also shows positive persistent impact to the short-term abnormal return.

**Table 5** SET Regression Result

| | (1) | (5) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|
| | $CAR_1$ | $CAR_5$ | $CAR_{21}$ | $CAR_{250}$ | $CAR_{500}$ | $CAR_{750}$ |
| $REP_i$ | 0.1171 | -0.1005 | -0.3350 | 0.3289 | 0.9926 | 1.1095 |
| | (0.7102) | (0.7027) | (0.9537) | (1.0128) | (1.1424) | (1.3223) |
| $INST_i$ | -0.1496 | 0.0277 | 0.0617 | -0.3468 | -0.6553 | -1.0297** |
| | (0.1959) | (0.2202) | (0.2664) | (0.3636) | (0.4105) | (0.4901) |
| $AUDIT_i$ | 17.2825* | 19.5621** | 16.4993* | 28.4213* | 45.4778** | 59.0043** |
| | (9.8116) | (9.6763) | (9.1119) | (14.8596) | (18.1825) | (22.9812) |
| $ln(OFFER_i)$ | -23.1543*** | -22.2239*** | -21.1335*** | -12.6346 | -6.8685 | 1.4138 |
| | (5.6095) | (5.9048) | (6.2752) | (8.6132) | (10.0710) | (11.9379) |
| $ln(AGE_i)$ | 2.3883 | 3.2800 | 3.9464 | 1.3184 | 5.0367 | -2.4832 |
| | (3.6192) | (3.5969) | (3.9771) | (6.3769) | (7.8381) | (8.8192) |
| $D/A_i$ | -0.0638 | -0.0426 | -0.1160 | 0.5620 | 0.2348 | 0.2677 |
| | (0.1963) | (0.2050) | (0.2271) | (0.4762) | (0.5350) | (0.6573) |
| $P/BV_i$ | -0.1224 | -0.0579 | 1.3272 | -1.6625 | -0.6714 | -1.1769 |
| | (0.5951) | (0.5830) | (0.9139) | (1.0706) | (1.3374) | (1.4352) |
| $ln(SALE_i)$ | 3.0428 | 2.7571 | 5.4985 | 11.0230 | 9.6501 | 8.8401 |
| | (4.2589) | (4.3672) | (5.2534) | (7.2607) | (9.1414) | (11.6617) |
| $ROE_i$ | -0.0208 | 0.0856 | -0.2230 | 0.0723 | 0.3729 | 0.0093 |
| | (0.2279) | (0.1815) | (0.4144) | (0.3874) | (0.5430) | (0.7088) |
| $ln(VAL_i)$ | 33.7886*** | 32.5684*** | 30.5902*** | -7.4391 | -12.4587 | 17.7189 |
| | (7.6945) | (6.9656) | (7.5455) | (11.8631) | (11.0422) | (14.7163) |
| $MKTSENT_i$ | 36.1591* | 37.3559** | 35.6294 | -54.7362 | -70.0383 | -57.1433 |
| | (18.5119) | (17.7658) | (24.4468) | (36.6588) | (57.7674) | (65.1751) |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 113 | 113 | 113 | 113 | 113 | 113 |
| Adj Rsq | 0.6315 | 0.6223 | 0.539 | 0.4277 | 0.4498 | 0.3830 |

*** p < 0.01, ** p < 0.05, * p < 0.10

**Table 6** mai Regression Result

| | (1) | (5) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|
| | $CAR_1$ | $CAR_5$ | $CAR_{21}$ | $CAR_{250}$ | $CAR_{500}$ | $CAR_{750}$ |
| $REP_i$ | -1.4897*** | -1.5679*** | -1.5654** | -0.1025 | -0.5586 | -0.3334 |
| | (0.5330) | (0.5525) | (0.6587) | (0.7279) | (1.2569) | (1.5463) |
| $INST_i$ | 0.3020 | 0.0782 | -0.8573 | -0.4812 | -0.3523 | -0.6601 |
| | (0.5729) | (0.7002) | (1.1807) | (0.7096) | (0.8023) | (0.7571) |
| $AUDIT_i$ | -3.3690 | -2.5780 | 6.8398 | 6.6586 | 31.9275** | 3.6053 |
| | (10.8540) | (11.1413) | (13.9978) | (11.8946) | (14.1293) | (16.4801) |
| $ln(OFFER_i)$ | -43.5863*** | -30.7441*** | -24.0387* | -1.1057 | -20.7277 | -32.8052** |
| | (11.4381) | (11.6953) | (13.7585) | (10.8044) | (12.7405) | (13.5102) |
| $ln(AGE_i)$ | -0.5867 | 3.7839 | 1.5293 | -4.0574 | -9.9527 | -16.6794 |
| | (7.6382) | (8.3348) | (10.6766) | (9.9608) | (11.5007) | (13.1947) |
| $D/A_i$ | -0.0421 | -0.0740 | -0.0518 | -0.0033 | -0.0811 | -0.1025 |
| | (0.3509) | (0.3422) | (0.3757) | (0.3342) | (0.4052) | (0.7279) |
| $P/BV_i$ | 3.2135* | 2.6386* | 3.0377* | 0.0259 | 0.1439 | 0.0464 |
| | (1.7007) | (1.4952) | (1.5859) | (1.4892) | (2.0197) | (2.0478) |
| $ln(SALE_i)$ | -6.0263 | -8.9380 | -12.2368 | -2.9297 | -12.7502 | -25.6964** |
| | (9.1686) | (9.7198) | (11.8473) | (8.7249) | (10.6169) | (12.0595) |
| $ROE_i$ | 0.2667 | 0.3342 | 0.3427 | 0.3210 | 0.1827 | -0.1977 |
| | (0.2301) | (0.2184) | (0.2774) | (0.2127) | (0.2636) | (0.3264) |
| $ln(VAL_i)$ | 9.0769 | 3.3255 | 1.9052 | 1.2360 | 2.2681 | 4.3718 |
| | (9.9984) | (9.2329) | (10.2617) | (7.7593) | (8.8939) | (13.7718) |
| $MKTSENT_i$ | 19.1331 | 33.7121 | 23.4428 | 4.4457 | 10.2779 | -39.6512 |
| | (27.9768) | (29.4475) | (30.9520) | (22.1367) | (28.8676) | (36.5148) |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 111 | 111 | 111 | 111 | 111 | 111 |
| Adj Rsq | 0.6297 | 0.6125 | 0.51 | 0.1770 | 0.2482 | 0.3973 |

*** p < 0.01, ** p < 0.05, * p < 0.10

Table 6 shows the regression result from mai market. $REP_i$ shows 1% significantly negative short-term coefficient throughout the period with the value of -1.5679 to -1.4897 at the 1st,5th, and 21th trading day. This supports with Carter et al. (1998) and Hu et al. (2021) that prestigious underwriter negatively impacts short-term IPO underpricing and promote pricing efficiency. However, the coefficient is insignificant in the long-term which also contradicts Carter et al. (1998). **Evidently, this supports hypothesis 1, but doesn't support hypothesis 4**. This is the evidence that reputation of underwriter cannot certify the long-term firm quality. IPO firms can be beneficial from more pricing efficiency by selecting high reputation underwriter, but investors cannot rely on reputation of underwriter for certifying long-term IPO returns. However, $INST_i$ shows inconsistent and insignificant coefficient value throughout the short-term and long-term time horizons. **Hence, this does not support both hypothesis 2, and 5**. The value ranges from -0.8573 to 0.3020. The values are negative on the 1st, and 5th trading day and turn positive in the following days which contradicts Field and Lowry (2009).From the result, this recommends that firms in mai should not waste effort courting institutional investors for certification purposes. Lastly, $AUDIT_i$ shows insignificant negative coefficient for the 1st, and 5th trading day and turn positive in the following days. However, the value is significant on the 500th trading day or 2 years after IPO. This suggests that big-4 auditors can predict firms with strong 1-2 year fundamentals but cannot predict beyond 2-3 years in high-uncertainty growth firms. **As a result, hypothesis 3 is not supported, but hypothesis 6 is supported**. This aligns with Michaely and Shaw (1995). This implies that very long-term investors (3+ years) gain no advantage from Big-4 certification. For control variable, $ln(OFFER_i)$ also shows negative impact to the cumulative abnormal return from the first trading up to 1-month trading day. This follows Allen and Faulhaber (1989) and tells that firms leaving money on table should consider larger offerings size to solve the problem However, it has negatively significant coefficient at 3-year horizon which may indicate the overinvestment of the firm at $.P/BV_i$ is also significant at 10% on the 1st, 5th and 21th trading day, but it loses significance in the long-term. This implies that high valuation firm positively impact the short-term return and can flavor investors at the IPO. Finally, $ln(SALE_i)$ shows 5% negative significance at the end of the long-term period. This may indicate that firms with high pre-IPO sales revenue are overvalued in the short-term. This may also indicate that firms that have high pre-IPO sales revenue have slower growth than their counterparts with lower pre-IPO sales revenue. Therefore, they may not grow as fast to meet investors' expectation in the long-term.
**Robustness check**: For long-term study in mai market, there are some firms that upgrade the trading market from mai to SET during the study period which can be 1st, 2nd or 3rd year after IPO. Therefore, the study performs additional analysis in mai market. Table 6 is re-examined without the firms that upgrade the trading market from mai to SET to investigate the potential systematic bias of cumulative abnormal return from upgrading the market. Results confirm the robustness of our main findings. All certification and signaling variables based on the hypothesis ($REP_i, AUDIT_i, INST_i$) maintain their results in significance pattern. Moreover, another impactful control variables in the long-term like the natural logarithm of offering size ($ln(OFFER_i)$) also maintains its significance pattern. The only small notable change occurs with the natural logarithm of yearly average sales ($ln(SALE_i)$) at the 3-year horizon, which loses its statistical significance after excluding movers. This pattern may suggest the original negative relationship reflected selection dynamics in which successful high-sales firms systematically upgrade to SET while unsuccessful ones remain rather than fundamental quality deterioration. This means that at first high yearly average sales revenue firms have been overvalued in the short-term. Consequently, this may lead to the negative cumulative abnormal return in the long-term. However, this effect disappears after excluding the firms that upgrade to SET. This may imply that firms that have high yearly average sales revenue are firms that tend to upgrade to SET in the long-term. Therefore, the negatively significant value of

$ln(SALE_i)$ at the 3-year horizon before excluding firms that upgrade to SET represents systematic bias rather than a true economic relationship. Critically, the robustness of all hypothesis-related variables confirms the study main certification mechanism findings are not driven by systematic bias of changing the trading market. Another important robustness check is to test the robustness of the main result with different underwriter reputation measures. In the study, reputation of the underwriter is measured by the ratio of total offering size of past IPO clients of the underwriter to total offering size of all IPO firms in the last 5 years in percentage. Therefore, the study adds more reputation measures and re-run the multiple linear regression again in both markets. The study adds 2 additional reputation measures. One reputation measure is measured by the ratio of total number of IPOs managed by the underwriter of firm i in the past 5 years divided by the total number of IPOs in the market in the past 5 years before the deal of firm i in percentage. Another reputation measure is measured by the ratio of total number of total income raised by the underwriter of firm i in the past 2 years divided by the total number of total income raised by all underwriters that participate in IPO deals in the market in the past 2 years before the deal of firm i in percentage. The study re-examines the regression result of table 5 and 6 again in both markets using 2 additional reputation measures. The result shows that there are none of 2 additional reputation measures achieve statistically significant in the regression in both short-term and long-term analysis in both markets. This means that investors in both market do not perceive these additional reputation measures as signals that certify for information reflecting the true value of the firm in the short-term and predict the superior long-term performance of the firm in the long-term. Therefore, there is only underwriter reputation based on the total past IPO clients' offering size in the original result that achieves negative significance in mai market in the short-term. This can imply that investors in mai market only perceive this reputation measure as signal that certifies for information reflecting the true value of the firm in the short-term. However, other certification variables as well as control variables still achieve the same statistically significant pattern like the same original result. This tells the robustness of other certification variables and control variables in the study. These comprehensive differences show how SET's institutional dominance creates environments where traditional certification mechanisms become redundant, while mai's retail dominance, and speculative patterns create severe information asymmetries which need tangible certification mechanism specifically deal-scale underwriter reputation, delayed auditor recognition, and size-based certification. This suggests regulatory policy should adopt market-specific disclosure requirements. Mai market may be benefited from simplified disclosures emphasizing underwriter deal scale and auditor quality, while SET may emphasize institutional-relevant metrics like sophisticated projections and governance.

## DISCUSSION & CONCLUSION

This study examines certification mechanisms in Thai IPO markets using 119 SET and 121 mai offerings from 2014-2021. Certification mechanisms function differently across market segments which reflects institutional versus retail-dominated environments. In SET, underwriter reputation shows no significant effects on short-term or long-term performance. Institutional participation predicts significantly negative three-year cumulative abnormal returns with value of -1.0297 at 5% significance which may reflect the possibility of selling pressure by lock-up expirations. Big-4 auditors demonstrate positive short-term effects with the value of 16.4993 to 19.5621 with 10% and 5% significance and strong long-term performance with value of 59.0043 with 1% significance on the 750$^{th}$ trading day. This suggests that big-4 auditor is a good certification intermediary for long-term performance. In mai, underwriter reputation significantly impacts in reducing short-term underpricing with coefficient value of -1.4897 for $CAR_1$,-1.5679 for $CAR_5$ at 1% significance level and -1.5654

for $CAR_{21}$at 5% significance level but provides no long-term quality selection. This is the only underwriter reputation measure that has negatively significant impact in the study after performing robustness check using additional reputation measure. This means that investors in mai only perceive this reputation measure as certification signal. Institutional participation remains insignificant across all horizons. Big-4 auditors show mid-term positive effects with value of 31.9275 at 5% significance for $CAR_{500}$ that fades by year three. Practitioners should prioritize offering size maximization, with SET firms engaging big-4 auditors for long-term value and mai firms selecting high-reputation underwriters based on high total past IPO clients offering size for immediate cost reduction. Investors can invest in big-4 audited IPOs to get higher cumulative abnormal return in both short and long-term. However, investors must be aware of investing in mai IPO with high-reputation underwriters based on high total past IPO clients offering size. This possibly lead to lower cumulative abnormal return in the short-term.

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**Data Availability Statement:** The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

**Conflicts of Interest:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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