

SEO Underpricing and Market Condition – Evidence from the Listed Companies in Taiwan

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Abstract

The purpose of this study is to investigate the factors that influence the underwriting price of seasoned equity offerings (SEOs) for listed companies in Taiwan. The market method, income method, and capital method are utilized to evaluate firm value. Additionally, we examine whether listed companies align with the market conditions hypothesis when issuing SEOs during the period from January 1, 2009, to December 31, 2019. In this study, we categorize the sample data into four market periods. The empirical results demonstrate that regardless of the business valuation method employed, during bull markets, the results consistently align with market conditions. Consequently, the compliance of listed companies with market conditions when conducting SEOs significantly impacts the underwriting price.

Keywords: *SEO Underpricing, Market Conditions, Business Valuation.*

Introduction

As a company needs funds, it could pursue financing through direct and/or indirect channels. In Taiwan, indirect financing is subject to legal restrictions. According to Article 29 of the Banking Law, non-banking entities are prohibited from accepting deposits and conducting credit or lending activities. As a result, banks play a crucial intermediary role between fund deficit units and surplus units in the realm of indirect financing. Traditionally, companies preferred to use indirect financing to raise funds. However, in recent years, with Taiwan's rapid economic growth, direct financing has expanded significantly. Compared to indirect financing, the cost of raising funds through indirect channels is higher. This has prompted companies to increasingly opt for direct financing, raising capital by issuing stocks or bonds. Direct financing helps companies overcome the challenges of limited liquidity and higher costs associated with indirect finance. Whether the reason for a listed company's cash capital increase is to expand capital, repay liabilities, or secure sufficient capital for investment, cash capital increases remain the most significant financing channel for listed companies in Taiwan. Qiu et al. (2007) pointed out that, compared to other countries, more than half of Taiwanese companies undertake seasoned equity offerings (SEOs) within nine months after their initial listing. Qiu et al. (2007) also highlighted a common trend among Taiwanese companies to return to the capital market for additional fundraising shortly after listing, indicating that this is a frequent occurrence in Taiwan's corporate landscape.

Compared to other countries, Taiwan imposes several restrictions on the underwriting price of stocks, with different regulations depending on the placement methods employed. When listed companies conduct SEOs, the underwriting prices are subject to various limitations, and the price range is generally higher than that of newly listed companies undergoing their initial public offering (IPO). In recent years, restrictions on the IPO process have been significantly relaxed. Consequently, it is widely perceived that the underwriting price for cash capital increases does not require as extensive an analysis as the determination of the underwriting price for newly listed stocks.

The process of SEOs is indeed quite complex, making it crucial to optimize every opportunity for such funding. The amount of funds raised is closely tied to the underwriting price. If the underwriting price is set too high, investor interest may decrease, potentially leading to insufficient capital raised. Conversely, if the price is set too low, it can undervalue the company, causing a decline in stock price and potentially leading to volatile fluctuations. Thus, determining the appropriate underwriting price for a cash capital

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increase is essential. It requires balancing between maximizing investor interest and ensuring the company's value is not compromised, thereby avoiding significant stock price volatility.

This study aims to understand what factors affect how underwriting prices are determined when Taiwanese companies raise cash capital. To do this, it uses several valuation methods: the stock price-to-book value ratio method (Cheng and McNamara, 2000), the comparable listed OTC company method, and the asset method (Alford, 1992). The study focuses on companies listed in 2009 that raised capital in 2019. It analyzes market conditions-bull, bear, and consolidation-and employs a multiple linear regression model to examine the difference between the underwriting price and the stock's closing price after the capital increase. The goal is to identify factors affecting underwriting price setting, reduce the gap between the underwriting price and the stock's closing price, and help companies set accurate underwriting prices to maximize funds raised.

Literature Review

The findings from Islam et al. (2010) suggested that larger companies and those with longer histories might offer wider discounts to attract investors, potentially due to perceived risk or the need to align with investor expectations. On the other hand, a larger underwriting scale typically results in lower underwriting prices, likely due to increased competition and demand, which can lead to more favorable terms for the issuer. Similarly, the industry category can influence the discount range, with some industries potentially offering more stable or predictable returns, thereby impacting the discount rate and underwriting price.

Hanley (1993) suggested that experienced underwriters have a better ability to attract investors who provide valuable information, which can lead to more informed adjustments to the underwriting price. This information is crucial as it can affect the perceived risk and value of the offering. Lin and Fok (1997) showed that a lower winning rate correlates with a lower discount, which implies that if investors are optimistic about the company's future stock price and profitability, they are willing to accept a smaller discount. This optimism often reflects confidence in the company's operational quality and future performance, reducing the need for a significant discount to attract investors.

Barry and Brown (1985) found that as a stock's listing age increases, the probability of experiencing excess returns tends to decrease. This observation suggests that older stocks, with a longer history of trading and performance data, are perceived as less risky, and thus investors require a lower risk premium. Over time, as more information about the company becomes available and is absorbed into the stock price, the potential for excess returns diminishes, reflecting the reduced uncertainty and information risk associated with the stock.

Garfinkel (1993) demonstrated that older companies tend to have lower excess returns after listing, supporting the idea that a longer establishment age is associated with reduced information risk. Over time, the reliability of information about the company improves, which can lead to lower underwriting prices. This occurs because investors perceive less uncertainty and risk with older, well-established companies, thereby reducing the need for significant discounts or lower underwriting prices to attract investors.

Logue (1973) highlighted that larger companies typically have greater bargaining power with underwriters, which allows them to negotiate more favorable terms. As a result, these larger companies often experience lower post-IPO excess returns compared to smaller companies. This is because the larger companies' stronger bargaining power can lead to more favorable underwriting prices and reduced need for post-IPO price adjustments. In contrast, smaller companies might have to offer larger discounts or face higher post-IPO excess returns due to their weaker negotiating position and higher perceived risk.

Stein (1996) suggested that rational managers can exploit market inefficiencies by issuing more shares when stock prices are overvalued, thereby capitalizing on the inflated valuations. Conversely, if stock prices are undervalued, managers might repurchase shares to stabilize or boost the stock price. This behavior reflects the strategic use of market timing to optimize the company's financial position based on market conditions.

Alti (2006) found that market timing significantly influences short-term financing decisions but has a less pronounced effect on long-term financing decisions. His research also showed that during hot markets, where stock prices are high, there is a positive relationship between stock returns and stock issuance. This suggests that companies are more likely to issue new shares when market conditions are favorable and stock prices are elevated, as it allows them to raise capital at higher valuations.

Baker and Wurgler (2002) emphasized that companies tend to issue new shares when their stock prices are high and acquire external stocks when prices are lower. This pattern reflects market inefficiency, with companies taking advantage of favorable market conditions for equity issuance. Consequently, cash capital increases are influenced by market timing, causing the volume of stock issuance to fluctuate with market conditions.

Wadhwa and Syamala (2019) found that market timing plays a more pronounced role in bull markets, as opposed to cold markets, in the context of cash capital increases. This indicates that market timing can significantly influence the underwriting price of cash capital increase stocks.

Pástor and Veronesi (2005) argued that company managers' expectations about future market conditions are crucial in determining the timing of new stock issuances. Their outlook on the market plays a significant role in deciding when to issue stocks. Additionally, Pagan and Sossounov (2003) distinguished between bull and bear markets to analyze the relationship between underwriting prices and the stock's closing price on the listing day. They found a significant positive correlation between risk and reward in bull markets, while in bear markets, the correlation between risk and reward was significantly negative.

Liao (2008) suggests that the market conditions theory primarily focuses on past and present market conditions, which makes it insufficiently compelling to fully support the theory. As a result, there is skepticism about whether the market conditions theory has a significant impact on the underwriting price of cash capital increases in Taiwan.

Hovakimian (2010) studied market feedback and equity issuance, finding that the book value to market value ratio (M/B) plays a key role in corporate stock issuance decisions. The study highlighted that the timing of stock issuance is influenced by market conditions. Similarly, Helwege and Liang (2002) discovered that companies often decide the timing of IPOs based on the activity and popularity of market transactions, reflecting the importance of favorable market conditions for equity issuance decisions.

Research Methodology

Hypotheses

Following the literature, we incorporate market conditions to reduce the disparity between the underwriting price of seasoned equity offerings and the actual stock price after listing. Our aim is to identify the pricing method that most closely reflects the true value. To achieve this, we propose the following hypothesis:

Market conditions would have an impact on the gap between the seasoned equity offerings of underwriting price and the actual closing price after listed.

Empirical Model

Following Pástor and Veronesi (2005), Pagan and Sossounov (2003) and Hovakimian (2010), We build the following linear regression model to verify the market conditions theory:

$$S_{t_CU_{i,y}} = \alpha_0 + \alpha_{SCPE} S_{t_CPE_{i,y}} + \alpha_{SCPBR} S_{t_CPBR_{i,y}} + \alpha_{SCA} S_{t_CA_{i,y}} + \alpha_{UR} UR_{i,y} + \alpha_{ARR} ARR_{i,y} + \alpha_{SIZE} LN\ SIZE_{i,y} + \alpha_{PAGE} PAGE_{i,y} + \alpha_{EAGE} EAGE_{i,y} + \varepsilon_{i,y}$$

where

$S_{t_CU_{i,y}}$: The absolute value of the difference between the closing price on the t-th day after the SEOs stock distribution date and the underwriting price of company i in year y, if $t=1, 5$; the average closing price of company i over the 30 days after the SEOs stock distribution date, if $t=30$; $y=2009-2019$.

$S_{t_CPE_{i,y}}$: The absolute value of the ratio of the difference between the closing price on the t-th day after the SEOs stock distribution date and the enterprise value to the firm value measured using the price-to-earnings ratio method, if $t=1, 5$; the average closing price of company i over the 30 days after the SEOs stock distribution date, if $t=30$; $y=2009-2019$.

$S_{t_CPBR_{i,y}}$: The absolute value of the ratio of the difference between the closing price on the t-th day after the SEOs stock distribution date and the firm value to the firm value measured using the stock price-to-net value, if $t=1, 5$; the average closing price of company i over the 30 days after the SEOs stock distribution date, if $t=30$; $y=2009-2019$.

$S_{t_CA_{i,y}}$: The absolute value of the ratio of the difference between the closing price on the t-th day after the SEOs stock distribution date and the firm value to the enterprise value measured using the asset method, if $t=1, 5$; the average closing price of company i over the 30 days after the SEOs stock distribution date, $t=30$; $y=2009-2019$.

$UR_{i,y}$: Underwriter reputation of company i in year y. $UR=0$: The underwriter's market share is less than 50%. $UR=1$: The underwriter's market share is more than 50%

$ARR_{i,y}$: Annual return rate of company i in year y = $[(\text{closing price} \times (1 + \text{Ex-rights subscription rate} + \text{The current ex-rights free allotment rate}) + \text{Cash dividends paid in the current period}) \div (\text{Closing price in the previous period} + \text{Ex-rights subscription rate} \times \text{current ex-rights cash subscription price} - 1)] \times 100$ (%).

$\ln SIZE_i$: Logarithm of total assets = $\ln(\text{total assets})$

$WINNING_{i,y}$: Winning rate of seasoned equity offerings (SEOs)

$PAGE_{i,y}$: Listing years

$EAGE_{i,y}$: Years of Establishment

Empirical Results

Data Source

On September 14, 2008, Lehman Brothers in the United States filed for bankruptcy, kicking off the global stock market crash and triggering a global financial tsunami. No country was spared, including Taiwan, which was severely affected. In view of the above events, in order to avoid extreme data affecting the study. The sample period is from January 1, 2009 to December 31, 2019, a total of 11 years. It is mainly companies that have seasoned equity offerings (SEOs) during the sample period. The explained variables include t the absolute value of the difference between the closing price on the t-th day after the SEOs stock distribution date and the underwriting price of company i in year y, if $t=1, 5$; the average closing price of company i over the 30 days after the SEOs stock distribution date, if $t=30$. The company's establishment time, the company's listing time, the company's total assets, and the current year return rates are all extracted from the database of Taiwan Economic Journal. A total of 692 initial samples were collected from a total of 472 companies, and the data was screened based on the following conditions: (1) If there is more than one seasoned equity offerings in the same year, seasoned equity offerings with relatively low amounts would be excluded based on the total underwriting amount. (2) If the price-to-earnings ratio or the stock price-to-net value ratio is 0, or the information on the above two items is incomplete due to other factors, the most important value multiplier in the enterprise evaluation would be 0 or missing, and it would be lost as

calculating the enterprise value. Because the value multiplier is missing and cannot be calculated, samples with price-to-earnings ratios, stock price-to-book value ratios of 0 or incomplete data are excluded. (3) Any variable has a missing value. After screening, the final sample included 419 data points and a total of 311 companies for hypothesis verification and analysis.

Whole Market Period

The present study aims to verify whether market conditions affect the gap between the cash capital increase underwriting price and the actual closing price after listing under different enterprise evaluation methods. The sample period spans 11 years and is divided into four distinct market-condition periods: the overall market, bull market, bear market, and consolidation periods. Tables 1 to 4 present the empirical results.

The estimates for the whole market period as shown in Table 1, the estimated coefficients of the absolute value of the ratio of the difference between the closing price after the SEOs stock distribution date and the underwriting price after the SEOs stock distribution date and the firm value to the firm value measured using the asset method (SCA) through Models I, II and III are significantly different from 0. It means that the greater the value of the firm measured using the asset method, the greater absolute value of the difference between the closing price of SEOs and underwriting price.

The estimates for the overall market period, as shown in Table 1, indicate that the estimated coefficients of the absolute value of the ratio between the difference in the closing price after the SEOs stock distribution date and the underwriting price after the SEOs stock distribution date and the firm value, measured using the asset method (SCA), are significantly different from zero in Models I, II, and III. This suggests that the greater the firm's value measured using the asset method, the larger the absolute difference between the closing price of SEOs and underwriting price.

The rate of return (ARR) has a significant impact on the absolute value of the difference between the closing price after the SEOs stock distribution date and the underwriting price. This means that the higher the rate of return, the greater the absolute difference between the closing price and the underwriting price. Additionally, the winning rate (WINNING) also has a significantly negative impact on the absolute value of the difference between the closing price after the SEOs stock distribution date and the underwriting price.

Table 1 Estimates during the Whole Market Period

		Explained Variable		
		Model I	Model I	Model III
		S1_CU	S5_CU	S30_CU
Intercept		0.2272***	0.2196***	0.2507***
t-statistic		2.9255	2.7092	2.8773
Explanatory Variables				
	SCPE	-0.0033	-0.0078	-0.0050
	t-statistic	-0.1027	-0.2374	-0.1450
	SCPBR	-0.0054	0.0000	0.0016
	t-statistic	-0.4974	0.0036	0.1348

	SCA	0.0313***	0.0339***	0.0287**
	t-statistic	2.8586	2.9836	2.2866
Controllable Variables				
	UR	0.0016	0.0079	0.0079
	t-statistic	0.1037	0.5034	0.4633
	EAGE	0.0010	0.0015**	0.0016**
	t-statistic	1.4133	2.0567	2.0028
	PAGE	0.0002	-0.0002	-0.0004
	t-statistic	0.1632	-0.2123	-0.2877
	ARR	0.0008***	0.0008***	0.0011***
	t-statistic	7.5094	7.4187	8.8833
	WINNING	-0.0018***	-0.0017***	-0.0016***
	t-statistic	-6.0439	-5.4700	-4.7586
	lnSIZE	-0.0059	-0.0059	-0.0073
	t-statistic	-1.3819	-1.2996	-1.4924
n		419	419	419
Adjusted R-squared		0.2493	0.2513	0.2663
F-statistic		16.4238	16.5866	17.8557
Probability(F-statistic)		0.0000	0.0000	0.0000

Note: “***”, “**”, and “*” denote significance at the 1 %, 5%, and 10% levels, respectively.

Bull Market Period

Table 2 report several key insights during the bull market period. the estimated coefficients of the absolute value of the ratio of the difference of the closing price after the SEOs stock distribution date and the underwriting price after the SEOs stock distribution date and the firm value to the firm value measured using the market method (SCPBR) through Models I, and II are significantly different from 0. It means that the greater the value of the firm measured using the market method, the smaller absolute value of the difference of the closing price of SEOs and underwriting price. However, the estimated coefficients of the absolute value of the ratio of the difference between the closing price after the SEOs stock distribution date and the underwriting price after the SEOs stock distribution date and the firm value to the firm value measured using the asset method (SCA) through Models I, and II are significantly different from 0. It means that the greater the value of the firm measured using the asset method, the smaller absolute value of the difference of the closing price of SEOs and underwriting price.

The rate of return (ARR) has a significant impact on the absolute value of the difference between the closing price after the SEOs stock distribution date and the underwriting price. This means that the higher the rate of return, the greater the absolute difference between the closing price and the underwriting price. Additionally, the winning rate (WINNING) also has a significantly negative impact on the absolute value

of the difference between the closing price after the SEOs stock distribution date and the underwriting price. These findings highlight how different evaluation methods and variables influence the pricing dynamics during bull markets.

Table 2 Estimates during the Bull Market Period

		Explained Variable		
		Model I	Model I	Model III
		S1_CU	S5_CU	S30_CU
Intercept		0.2063**	0.1832*	0.2384**
t-statistic		2.0911	1.8002	2.1019
Explanatory Variables				
	SCPE	-0.0245	-0.0250	-0.0209
	t-statistic	-0.6484	-0.6423	-0.5029
	SCPBR	-0.0264*	-0.0262*	-0.0224
	t-statistic	-1.7041	-1.6444	-1.2953
	SCA	0.0542***	0.0611***	0.0535***
	t-statistic	3.5945	3.9780	3.0700
Controllable Variables				
	UR _{i,y}	0.0113	0.0124	0.0041
	t-statistic	0.5708	0.6071	0.1792
	EAGE	0.0015	0.0018**	0.0016
	t-statistic	1.5959	1.8224	1.5253
	PAGE	-0.0006	-0.0006	0.0001
	t-statistic	-0.4058	-0.4095	0.0703
	ARR	0.0011***	0.0011***	0.0015***
	t-statistic	6.8614	7.1458	8.5594
	WINNING	-0.0022***	-0.0023***	-0.0023***
	t-statistic	-4.6603	-4.5956	-4.1945
	lnSIZE	-0.0043	-0.0032	-0.0058
	t-statistic	-0.7673	-0.5663	-0.9082
N		264	264	264
Adjusted R- squared		0.2809	0.3023	0.3186

F-statistic	12.4168	13.6595	14.6636
Probability(F-statistic)	0.0000	0.0000	0.0000

Note: “***”, “**”, and “*” denote significance at the 1 %, 5%, and 10% levels, respectively.

Bear Market Period

The estimates during bear market period in Table 3 show that no variables has a significant impact during the period. This suggests that within bear markets period, typical factors influencing underwriting prices or firm value might not hold the same relevance or effect as they do in more favorable market conditions, such as bull markets.

Table 3 Estimates during the Bear Market Period

		Explained Variable		
		Model I	Model I	Model III
		S1_CU	S5_CU	S30_CU
Intercept		0.0186	-0.0486	-0.2465
t-statistic		0.0808	-0.1833	-0.7387
Explanatory Variables				
	SCPE	0.0414	0.0893	0.2468
	t-statistic	0.3485	0.6718	1.3635
	SCPBR	0.0296	0.0309	0.0421
	t-statistic	0.9758	0.8790	0.9163
	SCA	0.0580	0.0668	0.0586
	t-statistic	1.4088	1.3290	0.8882
Controllable Variables				
	UR	-0.0357	-0.0045	0.0428
	t-statistic	-0.8059	-0.0889	0.6593
	EAGE	0.0017	0.0017	0.0019
	t-statistic	0.8833	0.7696	0.6968
	PAGE	-0.0013	-0.0014	-0.0023
	t-statistic	-0.3886	-0.3660	-0.4900
	ARR	-0.0002	0.0002	0.0002

	t-statistic	-0.2156	0.2112	0.1814
	WINNING	-0.0010	-0.0011	-0.0014
	t-statistic	-1.3897	-1.3232	-1.3204
	lnSIZE	0.0019	0.0046	0.0077
	t-statistic	0.1600	0.3354	0.4558
n		47	47	47
Adjusted R-squared		0.1861	0.1682	0.0677
F-statistic		2.1688	2.0337	1.3711
Probability(F-statistic)		0.0476	0.0629	0.2362

Note: “***”, “**”, and “*” denote significance at the 1 %, 5%, and 10% levels, respectively.

Consolidation Period

As shown in Table 4, the coefficients of ARR (Annual Return Rate) across all three models are significantly positive at the 1% significance level. This finding indicates that ARR affects the absolute value of the difference between the closing price after the SEOs stock distribution date and the underwriting price, with a higher ARR leading to a smaller absolute difference. Likewise, the winning rate (WINNING) has a significant impact on this absolute difference, as a higher winning rate is associated with a smaller gap between the closing price and the underwriting price. Furthermore, company size plays an essential role, particularly on the fifth day after the cash capital increase allocation, where larger companies tend to show smaller differences between the average closing price and the underwriting price. These results emphasize the various factors that influence pricing dynamics during consolidation periods.

Table 4 Estimates during the Consolidation Period

		Explained Variable		
		Model I	Model I	Model III
		S1_CU	S5_CU	S30_CU
Intercept		0.3142**	0.3467**	0.3651***
t-statistic		1.9488	2.0582	2.6614
Explanatory Variables				
	SCPE	0.0592	0.0482	0.0085
	t-statistic	0.7922	0.6208	0.1336
	SCPBR	-0.0132	-0.0048	0.0069
	t-statistic	-0.6320	-0.2256	0.4069

	SCA	-0.0043	-0.0054	-0.0072
	<i>t</i> -statistic	-0.2244	-0.2710	-0.4354
Controllable Variables				
	UR	-0.0204	-0.0010	0.0064
	<i>t</i> -statistic	-0.7208	-0.0331	0.2619
	EAGE	-0.0011	0.0005	0.0006
	<i>t</i> -statistic	-0.8235	0.3680	0.5255
	PAGE	0.0026	0.0006	-0.0001
	<i>t</i> -statistic	1.3239	0.2782	-0.0662
	ARR	0.0007***	0.0007***	0.0007***
	<i>t</i> -statistic	3.9714	3.9521	4.5633
	WINNING	-0.001***	-0.0012**	-0.000718*
	<i>t</i> -statistic	-3.0042	-2.4022	-1.8247
	lnSIZE	-0.0113	-0.0145*	-0.0146**
	<i>t</i> -statistic	-1.3661	-1.6514	-2.0448
n		108	108	108
Adjusted R-squared		0.2225	0.1791	0.2258
F-statistic		4.4022	3.5935	4.4669
Probability(F-statistic)		0.0001	0.0007	0.0001

Note: “***”, “**”, and “*” denote significance at the 1 %, 5%, and 10% levels, respectively.

In summary, our study highlights that in both the overall and bull market period, the firm value reaches significant levels across different valuation methods (market method, stock price-to-net value ratio, and asset method). These results align with previous researches, underscoring the importance of market conditions. Our findings reflect the complexity of market behavior in Taiwan, with market conditions playing a prominent role.

Concluding Remarks

The aim of the present study is to explore the factors of affecting underwriting prices as Taiwan listed companies conduct SEOs , Additionally, it examines whether Taiwanese companies consider market conditions as handling SEOs We find that the closing price is fixed after the SEOs stock distribution date, and the stock price to net value ratio of market method is employed to evaluate the firm value, the greater the absolute value of the difference between the closing price after the SEOs stock distribution date, the smaller the firm value.

It means that the negative relationship of the absolute value of the difference between the closing price after the SEOs stock distribution date and the underwriting price (SCU) and the absolute value of the

difference between the closing price after the SEOs stock distribution date and the firm value (SCPBR). Therefore, the SCU is positively related to the firm value.

Conversely, the closing price is fixed after the SEOs stock distribution date, and the stock price to net value ratio of asset approach is employed to evaluate the firm value, the higher the absolute value of the difference between the closing price after the SEOs stock distribution date, the greater the firm value. It implies that the positive relationship of the absolute value of the difference between the closing price and the underwriting price (SCU) and the absolute value of the difference between the closing price after the SEOs stock distribution date and the firm value (SCA). Therefore, the SCU is negatively related to the firm value.

The longer the company has been established and the number of years it has been listed on the stock market, the lower the post-IPO excess return rate. The empirical result is consistent with those in Barry and Brown (1985) and Garfinkel (1993). It could be inferred that the longer the company has been established, the lower the underwriting price will be. The greater the absolute value of the difference between the closing price and the underwriting price after the cash capital increase and coupon allocation; the winning rate and company size are inversely related to the absolute value of the difference between the closing price and the underwriting price after the SEOs stock distribution date. The winning rate and company size can represent investors' recognition of the company's operating quality, so the underwriting price would be high. The absolute value of the difference between the closing price and the underwriting price after would shrink.

It's interesting that our study highlights a strong impact of market conditions, especially during bull-market periods, when using valuation methods like the stock price to net value ratio or the asset method. This aligns well with Wadhwa and Syamala (2019), who also observed significant effects of market conditions on valuation.

References

- Alford, A. (1992). The Effect of the Set of Comparable Firms on the Accuracy of the Price-earnings Valuation Method. *Journal of Accounting Research*, 30(1), 94-108.
- Alti, A. (2006). How Persistent Is the Impact of Market Timing on Capital Structure? *Journal of Finance*, 61(4), 1681-1710.
- Baker, M. & Wurgler, J. (2002). Market Timing and Capital Structure. *Journal of Finance*, 57(1), 1-32.
- Barry, C. B., & Brown S. J. (1985). Differential Information and Security Market Equilibrium. *Journal of Financial and Quantitative Analysis*, 20(4), 407-422.
- Benveniste, L. M., Ljungqvist, A. Wilhelm, Jr., W. J., & Yu, Xiaoyun (2003). Evidence of Information Spillovers in the Production of Investment Banking Services. *Journal of Finance*, 57(2), 557-608.
- Cheng, A., & McNamara, R. (2000). The Valuation Accuracy of the Price-Earnings and Price-Book Benchmark Valuation Methods. *Review of Quantitative Finance and Accounting*, 15(4), 349-370.
- Flannery M. J., & Rangan K. P. (2006). Partial Adjustment toward Target Capital Structures. *Journal of Financial Economics*, 79(3), 469-506.
- Garfinkel, J. A. (1993). IPO Underpricing, Insider Selling and Subsequent Equity Offerings: Is Underpricing a Signal of Quality. *Financial Management*, 22(1), 74-83.
- Hanley, K. W. (1993). The Underpricing of Initial Public Offerings and the Partial Adjustment Phenomenon. *Journal of Financial Economics*, 34(2), 231-250.
- Helwege, J., & Liang, N. (2004). Initial Public Offerings in Hot and Cold Markets. *Journal Article*, 39(3), 541-569.
- Hovakimian, A. (2006). Are Observed Capital Structures Determined by Equity Market Timing? *Journal of Financial and Quantitative Analysis*, 41(1), 221-243.
- Islam, M. A. & Ali, R. & Ahmad, Z. (2010). Underpricing of IPOs: the Case of Bangladesh. *Global Economy and Finance Journal*, 3(1), 44-61.
- Lin, T. H., & Fok, R. C. W. (1997). The Information Content of IPO Price Adjustment. *International Journal of Finance*, 52, 650-667.
- Logue D. E. (1973). On the Pricing of Unseasoned Equity Issues: 1965-1969. *Journal Article*, 8(1), 91-103.
- Pagan, A. R., & Sossounov, K. A. (2003). A Simple Framework for Analyzing Bull and Bear Markets. *Journal of Applied Econometrics*, 18(1), 23-46.
- Plaksen, E. (2006). Information Revelation Efficiency in IPO: How Early Do Stock Prices Incorporate the Empire Building Problem? Working Paper, University of Zürich.
- Pagano, M., Panetta, F., & Zingales, L. (1998). Why Do Companies Go Public? an Empirical Analysis. *Journal of Finance*, 53(1), 27-64.
- Wadhwa, K., & Syamala, S. R. (2019). Role of Market Timing and Market Conditions: Evidence from Seasoned Equity Offerings. *North American Journal of Economics and Finance*, 48(c), 555-566.