The link between over-subscription ratio and investor heterogeneity – evidence from Malaysian fixed-price IPOs

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ABSTRACT

This paper examines the impact of investor demand, measured by the over-subscription ratio (OSR), on the divergence of opinion among prospective investors. The sample comprises 131 IPOs listed on Bursa Malaysia from 2010 to 2018. The results indicate that OSR significantly amplifies investors' divergence of opinions, contributing to their different trading behaviors, and leading to greater underpricing and market inefficiency on the first day of listing. The effect is particularly pronounced for IPOs listed on the ACE Board and during hot issue periods. These findings highlight the significant negative impact of OSR on market efficiency and investor behavior on the first day of listing. They suggest that future issuers should consider pricing their IPO issues using the book-building method, which could reduce divergence of opinion and enhance overall market efficiency, despite the costlier pricing method. Finally, market participants, including investors and issuers, can leverage these insights to make more informed decisions in IPO markets that rely on the fixed-price method.

Contribution/ Originality: This study is among the few studies that have investigated the direct link between the over-subscription ratio and investors' divergence of opinion in the Malaysian IPO market. The findings highlight the presence of a bandwagon effect, which amplifies investors' heterogeneity, leading to a greater price range and inefficiency on the first trading day.

1. INTRODUCTION

The fixed-price mechanism is the primary method of pricing IPOs in Malaysia, compared to other methods such as the book-building method used by developed countries. Most of the IPO issues within the Malaysian IPO market are considered smaller in size and less liquid compared to other developed and developing markets (Ong, Mohd-Rashid, & Taufil-Mohd, 2021). Furthermore, IPO issuers in Malaysia prefer the fixed-price mechanism due to its cost-effectiveness and lower risk compared to the book-building approach (Hanafi, 2021). However, the major drawback of the fixed-price method is that the offer price is restricted between the issuer and the underwriter and does not allow future investors to participate in determining the offer price (Kao & Chen, 2020). Such a practice will result in greater divergence of opinion (Ong, Mohd-Rashid, & Taufil-Mohd, 2020) in comparison to the book-building method that takes investors' opinions into account when setting the offer price, which helps in reducing divergence of opinion (Kao, Chiang, & Chen, 2024).

During the IPO process, investors naturally will formulate different opinions and perspectives about the true value of the offer, leading to divergence among investors (Kao & Chen, 2020). Such divergence is mainly caused by

information asymmetry, where naturally the issuer and the underwriter are more knowledgeable about the listed firm than prospective investors, as the prospectus is their main source of information for investors (Boulton, Smart, & Zutter, 2020). Furthermore, the fixed-price method magnifies divergence of opinion by not allowing them to participate in the IPO process, nor allowing them to adjust their valuations by submitting their bids about the offer price (Huang, Chiang, Lin, & Lin, 2017). Such a practice will have a subsequent effect on IPOs initial returns (Tuyon & Ahmad, 2018).

Another exclusive feature of the fixed-price method is the over-subscription ratio (OSR), which allows IPO market participants to gauge investors' demand for the listing firm's issues (Mehmood, Mohd-Rashid, Abdul-Rahim, & Aman-Ullah, 2024). Even though it is a very simplistic and straightforward measurement for gauging investors' demand within the market, it remains the only measurement available for market participants to capture investors' demand. According to Arora and Singh (2020), Usually, a high OSR often triggers a bandwagon effect, which in turn helps increase divergence of opinion. On the other hand, a high OSR helps enhance the issuing firm's reputation and potentially leads to more favourable future capital-raising opportunities during seasonal offerings (Alanazi, Liu, & Al-Zoubi, 2016).

Based on signalling theory, OSR is considered ex-ante information that prospective investors rely on in formulating their investment decisions (Albada, Abusham, Ong, & Al Qatiti, 2025). Higher OSR can be seen as a good signal by investors and leads to greater market confidence and higher underpricing (Field & Lowry, 2009). However, the argument of the present study takes another direction by focusing on the linkages between investors' demand and divergence of opinion within the Malaysian IPO market. Specifically, the study is interested in evaluating the positive effect of investors' demand, measured by OSR, in elevating speculative activity among prospective investors, which in turn leads to a widening price range. Leading to higher initial returns, with an average rate of 50.3% in the Malaysian IPO market. Furthermore, the study is interested in OSR.

Within the literature, several studies have investigated the effect of firm-level decisions such as offer period, IPO timing, offer price, and issue size prestige signals such as underwriter, auditor, and board reputation Sharia-compliant status (Tajuddin, Mohd Rashid, Khaw, & Che Yahya, 2019), and religious compliance (Alqahtani & Boulanouar, 2017) on OSR. While other studies investigate the bidirectional causality between IPO returns and OSR in China (Geertsema & Lu, 2019) or the determinants of investors' demand for SME IPOs in India (Arora & Singh, 2020). However, there is still limited research on the relationship between investors' demand and investors' investment decision-making (Mehmood et al., 2024). Specifically, the present study addresses this gap by investigating investors' demand, measured by OSR, on divergence of opinion during the first day of listing in an environment characterized by high information asymmetry and underpricing due to reliance on the fixed-price method.

The study results provided several important insights into the IPO literature, particularly for the Malaysian IPO literature. First, the study results managed to identify a significant positive effect of investors' demand on divergence of opinion. This suggests that higher investors' demand leads to higher divergence of opinion among investors, which subsequently drives higher initial returns, supporting the presence of a bandwagon effect in the Malaysian IPO market. Second, the results identified another important factor that influences divergence of opinion, which is the listing board. Specifically, listed issues on the ACE Board have a higher divergence of opinion around them than issues listed on the Main Board. This is due to the speculative nature of the ACE-listed firms.

The implications of these findings extend beyond academic curiosity. Market participants, including investors and issuers, can leverage these insights to make more informed decisions in the IPO space. Regulators can benefit from a nuanced understanding of the factors driving under-pricing to refine policies and foster a more efficient and transparent IPO market. The comprehensive nature of this analysis positions it as a valuable contribution to the broader discourse on IPO under-pricing, offering actionable insights for various stakeholders navigating the dynamic landscape of financial markets.

The following section reviews the relevant literature, while Section 3 outlines the data and methodology. Section 4 discusses the findings, and Section 5 concludes the paper.

2. LITERATURE REVIEW

The framework presented by Rock (1986) and Welch (1992) explains the role of divergence of opinion on IPOs initial return. According to Rock's model, there is an asymmetric distribution of information between uninformed and informed investors in the IPO market. Uninformed investors have less knowledge about the true value of the offering, which provides a competitive advantage to informed investors. As a result, informed investors tend to invest in undervalued securities, while uninformed investors invest indiscriminately in all available issues. This leads to higher demand for undervalued issues from both informed and uninformed investors. However, overpriced securities are only demanded from uninformed investors. This phenomenon is known as the winner's curse.

On the other hand, Welch's cascade model, also known as the bandwagon effect, suggests that investor investment decisions are influenced by the investment choices of informed investors in addition to market-related information available to investors. This means that even if some investors have positive information about a company's shares, they may still choose to follow the actions of well-informed investors. This can result in low demand for unattractive stocks.

In the IPO market, the behavior of investors is greatly affected by the information available before the listing. According to Beatty and Ritter (1986) ex-ante information includes all publicly available information before an IPO. This information may be interpreted differently by different investors, causing confusion about the true value of the company's shares. The interpretation of this information can also influence market efficiency and lead to under-pricing or deviations in stock prices from their intrinsic fundamental values (Fama & French, 2007). This is particularly evident in the Malaysian market, where the fixed-price system is widely used, neglecting the opinions and expectations of potential investors. This mechanism fosters speculation among investors, leading to a wider gap between market price and offer price (Colombo, Meoli, & Vismara, 2019). In such situations, the signaling effect becomes more important as it aims to convey accurate signals to potential investors about the company's quality.

Several studies have explored the relationship between underpricing and OSR in Malaysia. Jelic, Saadouni, and Briston (2001) and Wan-Hussin (2005) found a significant positive relationship between OSR and initial returns, suggesting that higher investors' demand leads to greater underpricing. Furthermore, focused on IPO timing, concluding that issuers should time their listing with periods of high initial returns and low IPO volume to increase investors' demand. Additionally, they reported a negative relationship between offer price and investors' demand. Other studies focused on the effect of board composition (Kumar & Dhanda, 2013), pre-IPO profitability (Benveniste & Busaba, 1997), and promoter ownership (Banerjee & Rangamani, 2015) on investors' demand. On the other hand, Mehmood, Mohd-Rashid, and Ahmad (2020) reported that the pricing mechanism plays a role in determining investors' demand. They documented that the fixed-price method in Pakistan leads to lower investors' demand compared to the book-building method. Moreover, Arora and Singh (2020) concluded that listing delays, issue price, and pricing mechanism have a negative effect on investors' demand, while underwriter reputation, firm size, and a hot market have a positive effect.

Several studies investigated factors that may influence divergence of opinion. Examined the relationship between IPO OSR, underpricing, listing board, and offer size on divergence of opinion, finding that smaller, highly underpriced IPOs listed on the MESDAQ Market tend to exhibit higher levels of divergence of opinion. Additionally, observed a negative relationship between institutional investors' participation and flipping activity, suggesting that institutional investors may play a moderating role in reducing divergence of opinion in IPO pricing. Albada et al. (2025) implemented a machine learning method, specifically the random forest technique, to conclude that investors' demand, divergence of opinion among investors, and offer price are the most crucial predictors of IPO initial returns. Argued

that Sharia status has no signaling effect on investors' demand, while using a sample of 350 IPOs listed on the Kuala Lumpur Stock Exchange (KLSE) between 2004 and 2021.

3. DATA AND METHODOLOGY

This study examines a sample of 131 IPOs listed on Bursa Malaysia that employed the fixed-price method as the pricing mechanism over the period from January 2010 to December 2018. We excluded 10 IPOs that employed the book-building method during this period. The study begins in January 2010 for two main reasons. First, to exclude the impact of the 2008 subprime crisis, which disrupted global stock markets, including Malaysia, as IPO investors' demand can be significantly affected by such economic events. Second, to reflect structural changes made by Bursa Malaysia in August 2009 to promote capital flow, attract investments, and make the Malaysian stock market more appealing to both local and foreign firms. Prior to this, Bursa Malaysia had three listing boards: the Main Board, Second Board, and MESDAQ. After the restructuring, the Main and Second Boards merged to become the Main Board, while MESDAQ was rebranded as the ACE Board. By starting the sample period from 2010, we account for this new classification of listing boards in exploring the relationship between investors' demand and divergence of opinion. Our data were obtained from several sources.

- Bursa Malaysia website (http://www.bursamalaysia.com).
- Yahoo Finance website (https://finance.yahoo.com).
- i3 investor website (https://klse.i3investor.com).
- Star Online website (http:// biz.thestar.com.my).
- One Million Dollar blog (http://1-million-dollar-blog.com).

The regression model is specified by Equation 1.

$$Price\ Range = \beta_1 + \beta_2\ OSR + \beta_3 ACE\ vs\ Main + \beta_4 Hot\ vs\ Cold + \beta_5\ Low\ offer\ vs\ High\ offer + \beta_6 Private\ vs\ Non-private + \beta_7\ First\ day\ offer\ over\ Total\ unit\ offered + \epsilon \quad (1)$$

In this study, the dependent variable is divergence of opinion, measured through the first-day price range. The first-day price range is calculated by dividing the difference between the highest (Optimistic) and lowest (Pessimistic) prices on the first day of listing by the lowest price. This approach more accurately reflects the actual price range. A larger (Smaller) price range indicates greater (lesser) divergence in investor opinions. Prior studies (e.g., (Cao, Leng, Liu, & Megginson, 2016; Gao, Brockman, Meng, & Yan, 2020; Garfinkel, 2009)) suggest that investor behaviour manifested through decisions to buy or sell affects the trading price range. As the IPO price is determined by interactions of various factors, information uncertainty can lead to disagreements and price dispersion (Liu & Wang, 2019). The key independent variable of interest is the IPO OSR, representing the number of times an IPO is oversubscribed. To account for additional ex-ante factors that could influence the price range, we include several control variables, such as the ratio of first-day volume to total units offered, the listing status of IPOs (ACE Board versus Main Board), hot versus cold IPOs to proxy for market conditions, offer price categories (low versus high), and the type of IPO placement (private versus non-private). The ratio of first-day trading volume to total units offered is calculated by dividing total trading volume on the first day by the number of shares offered. Dummy variables are used to capture the various IPO ex-ante characteristics: a dummy variable is 1 for IPOs listed on the ACE Board and 0 for Main Board IPOs; a dummy variable is 1 for hot IPOs and 0 for cold IPOs; a dummy variable is 1 for low offer prices and 0 for high offer prices; a dummy variable is 1 for private placements IPOs and 0 for non-private placements IPOs. These dummy variables control for investor opinions based on different IPO characteristics, which may increase divergence of opinion, leading to a wider price range.

To examine the relationships among key variables, this study employs a multi-model regression framework. Model 1 uses OLS regression as a baseline. Model 2 applies stepwise regression to identify the most predictive variables and mitigate multicollinearity (Hair, Black, Babin, & Anderson, 2010). Model 3 implements hierarchical multiple regression in two stages: first assessing control variables, then evaluating the incremental contribution of

the independent variable. To address OLS limitations, particularly its focus on the mean and sensitivity to non-normality and heteroscedasticity, Model 4 adopts quantile regression (QR). QR captures the full distribution of the price range, including extreme values, offering deeper insights into pricing dynamics. This is critical given that the Shapiro-Wilk test rejected normality at the 1% level. As shown in Figure 1, substantial variability in price ranges underscores the necessity of a distribution-sensitive approach. Together, these methods provide a robust, comprehensive analysis of how OSR influences divergence of opinion in the Malaysian IPO market.
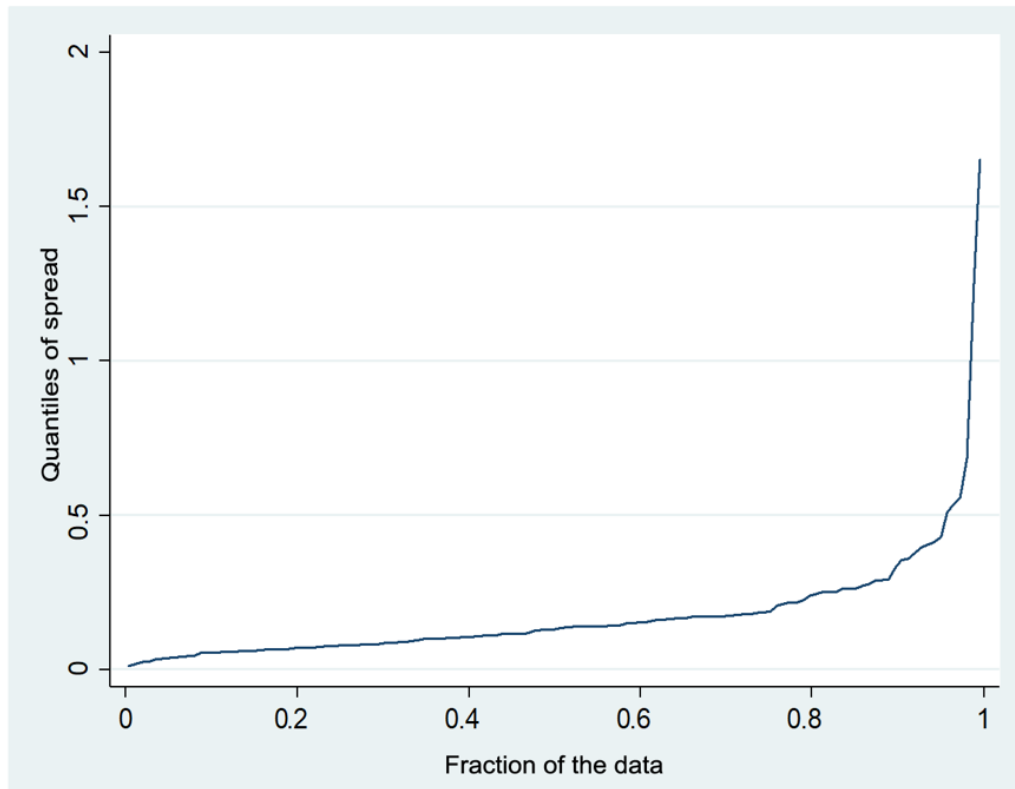

Figure 1. Quantile plot for the first-day price range.

4. RESULTS AND DISCUSSION

Table 1 presents the descriptive statistics for the main study variables, while Table 2 provides a comparison of the mean initial returns and price range.

Table 1. Descriptive statistics.

Variables	Mean	Median	Std. Dev.	Min.	Max.
Panel A: Hot IPOs (n=65)					
Initial return (%)	38.1	22.22	42.59	11.11	288.89
Price range (%)	23.77	16.67	25.66	4	165.06
OSR (times)	36.34	19.4	53.14	1.38	315.17
Offer price (RM)	0.83	0.54	0.95	0.12	5.05
Panel B: Cold IPOs (n=66)					
Initial return (%)	-0.86	2.93	12.05	-66.84	10.87
Price range (%)	11.51	9.23	8.12	1.03	40.38
OSR (times)	9.78	6.13	10.25	-0.5	49.94
Offer price (RM)	1.11	0.8	1.11	0.13	8
Panel C: Private placement IPOs (n=101)					
Initial return (%)	21.87	13.51	40.41	-66.84	288.89
Price range (%)	19.17	13.92	21.75	1.75	165.06
OSR (times)	26.57	13.11	44.69	-0.5	315.17
Offer price (RM)	0.79	0.6	0.89	0.12	8
Panel D: Non-Private placement IPOs (n=30)					
Initial return (%)	7.02	5.12	15.35	-26	45
Price range (%)	12.3	8.93	10.1	1.03	41.18

Variables	Mean	Median	Std. Dev.	Min.	Max.
OSR (times)	10.78	6.26	13.33	0.81	63.92
Offer price (RM)	1.57	1.13	1.29	0.13	5.05
Panel E: ACE board (n=48)					
Initial return (%)	37.72	21.2	51.71	-24.21	288.89
Price range (%)	27.62	18.39	27.82	5.26	165.06
OSR (times)	44.09	23.18	59.84	2.08	315.17
Offer price (RM)	0.36	0.3	0.21	0.12	1.08
Panel F: Main board (n=83)					
Initial return (%)	7.33	5.83	16.2	-66.84	47.06
Price range (%)	11.8	9.88	9.48	1.03	68.42
OSR (times)	10.74	8.16	10.18	-0.5	63.92
Offer price (RM)	1.32	0.97	1.16	0.5	8
Panel G: Overall (n=131)					
Initial return (%)	18.47	10.87	36.72	-66.84	288.89
Price range (%)	17.6	13.01	19.87	1.03	165.06
OSR (Times)	22.98	10.76	40.25	-0.5	315.17
Offer price (RM)	0.97	0.65	1.04	0.12	8

Note: The full sample is divided into two sub-samples using a cutoff point of 10.87 percent, where the hot sub-sample is greater than the cutoff point and the cold sub-sample is below the cutoff point.

In Table 1, Panels A and B show that price ranges vary between hot and cold IPOs, with hot IPOs exhibiting an average range of 23.77%, compared to 11.51% for cold IPOs. Panel A of Table 2 reports a significant difference in the mean price ranges between hot and cold IPOs. Krigman, Shaw, and Womack (1999) suggest that high levels of first-day selling of block shares in hot IPOs are linked to greater divergence of opinion among investors. As the supply of IPOs increases, so does the debate among investors about which issues present the best investment opportunities. A notable difference is observed in the average first-day price range between private placement IPOs (19.17%) and non-private placement IPOs (12.30%). However, in Table 2, the results in Panel B indicate no significant difference between the two groups, contradicting the winner's curse explanation. In Panel E, the average price range for IPOs listed on the ACE board (27.62%) is substantially higher than that for IPOs on the Main board (11.80%) in Panel F. This supports the presence of a size effect, as smaller, younger IPOs on the ACE board exhibit higher divergence of opinion and are perceived as riskier than those listed on the Main board. Panel C of Table 2 further confirms these findings, showing a significantly higher average price range for listed issues on the ACE Board in comparison to those listed on the Main Board.

Table 2. Results of the independent t-test on the equality of means of initial returns and of price range, between different types of IPOs, and between different listing boards.

Category	N	Mean (%)	
		Initial return (%)	Price range (%)
Panel A: Hot vs. Cold IPOs			
Hot IPOs	65	38.1	23.77
Cold IPOs	66	-0.86	11.51
Result of the t-test		t-stat. = 7.100***# (p-value = 0.000)	t-stat. = 3.674*** ## (p-value = 0.000)
Panel B: Private placement vs. Non-Private placement IPOs			
Private placement IPOs	101	21.87	19.17
Non-private placement IPOs	30	7.02	12.3
Result of the t-test		t-stat. = 1.97 (p -value = 0.051)	t-stat. = 1.67 (p -value = 0.097)
Panel C: ACE board vs. Main board IPOs			
ACE board	48	37.72	27.62
Main board	83	7.33	11.8
Result of the t-test		t-stat. = 3.96***@ (p -value = 0.000)	t-stat. = 3.815***@@ (p -value = 0.000)

Note: Based on Levene's test for equality of variances # assume unequal variances (F-value=16.340; p-value=0.000). ## assume unequal variances (F-value=10.877; p-value=0.001). @Assume unequal variances (F-value=24.725; p-value=0.000). @@ Assume unequal variances (F-value =24.896; p-value=0.000). *** Significant at the 1 percent level.

In Table 1, for the overall sample in Panel G, the average initial return is 18.47%, with an average price range of 17.60%. Previous Malaysian studies have reported average initial returns between 30% and 40% (Ahmad-Zaluki & Kect, 2012; Sundarasen & Leong, 2012; Tajuddin et al., 2019). However, some studies show lower initial returns. For instance, Yaakub and Sherif (2019) reported an average initial return of 17.53% for 320 IPOs from 2004 to 2013. This decline is attributed to the Securities Commission's relaxation of restrictions on offer prices, allowing them to be market-determined (Yaakub & Sherif, 2019). This shift enables underwriters and listing firms to set offer prices closer to market value, aligning with investor expectations and reducing divergence of opinion, which in turn minimizes the initial price drift and contributes to lower initial returns in the Malaysian IPO market. The average OSR is 22.98 times, which is lower than the ratios reported in previous studies, such as 33.59 times by 43.71 times by and 44 times by Dawson (1987). The variation in average OSR across studies is attributed to differences in the study periods.

Table 3. Results of OLS regression (Model 1) and the step wise regression (Model 2).

Variable	Coefficient	t-statistic	p-value	VIF
Dependent variable: Price range				
Panel A: Enter method				
Constant	6.062	1.8	0.074	–
Over-subscription ratio	0.227	5.425***	0	1.446
Private vs. non-private placement IPOs	1.045	0.3	0.765	1.095
Low offer price vs. high offer price	–0.765	–0.21	0.834	1.697
Hot vs. cold IPOs	2.976	0.947	0.346	1.264
ACE board vs. Main board	6.434	1.665*	0.098	1.773
Ratio of first-day volume / total unit offered	3.36	1.028	0.306	1.399
F-value=12.764*** (p-value=0.000); Adjusted R2=0.352; Durbin-Watson D= 1.978				
Panel B: Stepwise Method				
Constant	9.077	5.064***	0.000	–
Over-subscription ratio	0.253	6.698***	0.000	1.191
ACE board vs. Main board	7.373	2.342***	0.021**	1.191
F-value=37.479*** (p-value=0.000); Adjusted R2=0.359; Durbin-Watson D= 2.030				

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

In Table 3, Panel A presents the OLS regression results (Model 1), indicating that only the OSR is significant in explaining the first-day price range. The findings in Panel B, based on stepwise regression (Model 2), show that both OSR and the listing board dummy variable are significant. The stepwise method also reveals the order of variable contributions, with the OSR entering first, followed by the listing board variable. The model yields an adjusted R² of 0.359 and a Durbin-Watson statistic of 2.030. These results support the hypothesis of a bandwagon, suggesting that high OSR attracts additional investors who follow market trends, thereby increasing divergence of opinion. The results align with Rock (1986) model, which posits that higher first-day returns are driven by greater demand. As demand for IPOs increases, so does the diversity of investor opinions and expectations regarding the true value of the listing firm. High OSR is a common phenomenon in markets using the fixed-price method, and prior studies have emphasized the impact of investors' demand on IPO outcomes. For example, Cornelli and Goldreich (2003) document a positive relationship between the OSR and IPO aftermarket performance, while Reber and Fong (2006) find that subscription levels influence mispricing in Singapore. Our findings contribute to this literature by confirming that investors' demand, as indicated by the OSR, influences the divergence of opinion, which in turn affects initial IPO returns. Additionally, the results also reveal weak evidence of a size effect, indicating that IPOs listed on the ACE Board exhibit greater divergence of opinion as shown by a larger first-day price range than those listed on the Main Board. IPOs listed on the ACE Board are typically smaller and less established than those on the Main Board, making them appear riskier to potential investors. This increased perceived risk leads to greater variation in investor expectations, further contributing to higher divergence of opinion. This aligns with the findings of Yong and Albada (2018) who argue that smaller IPOs are more susceptible to speculative activity, resulting in greater ex-ante uncertainty compared to larger offerings.

Table 4. Results of the hierarchical multiple regression analysis (Model 3).

Variable	Coefficient	t-value	p-value	Odds ratio
Dependent variable: Price range				
Panel A: only control variables				
Constant	3.49	0.945	0.347	-
Ratio of first-day volume over total units offered	9.53	2.807***	0.006	1.23
ACE board versus main board	10.972	2.626***	0.01	1.69
Hot versus cold IPOs	5.286	1.532	0.128	1.241
Low offer price versus high offer price	-0.595	-0.147	0.883	1.697
Private versus non-private placement IPOs	2.497	0.649	0.517	1.088
F-value=7.683*** (p-value=0.000); Adjusted R2=0.204; Durbin-Watson D= 1.929				
Panel B: Control variables plus the independent variable.				
Constant	6.062	1.800*	0.074	-
Ratio of first-day volume over total units offered	3.36	1.028	0.306	1.399
ACE board versus main board	6.434	1.665*	0.098	1.773
Hot versus cold IPOs	2.976	0.947	0.346	1.264
Low offer price versus high offer price	-0.765	-0.21	0.834	1.697
Private versus non-private placement IPOs	1.045	0.3	0.765	1.095
OSR	0.227	5.425***	0	1.446
F-value=12.764*** (p-value=0.000); Adjusted R2=0.352; Durbin-Watson D= 1.978				
Panel C: Control Variable ACE. Board versus Main Board plus the independent variable.				
Constant	9.077	5.064	0	-
ACE boards versus main board	7.373	2.342*	0.098	1.191
Over-subscription ratio	0.253	6.698***	0	1.191
F-value=37.479*** (p-value=0.000); Adjusted R2=0.359; Durbin-Watson D= 2.030				

Note: * and *** denote significance levels at the 10% and 1% respectively.

Table 4 presents the results of the hierarchical multiple regression analysis (Model 3). The control variables include dummy variables for the ACE versus the Main board, hot versus cold IPOs, low versus high offer price, and the ratio of first-day volume to total units offered. In the initial regression model, which includes only the control variables, the R-squared value is 0.204. After incorporating the OSR as the key independent variable of interest, the explanatory power of the model increases, with the R-squared rising from 20.4% to 35.2%. Additionally, the F-statistic increases from 7.683 (p-value = 0.000) to 12.764 (p-value = 0.000), indicating a significant improvement in the model's goodness of fit. The findings are supportive of the OLS results (Model 1) presented earlier in Table 3 show that both OSR and IPOs listed on the ACE Board are significant in explaining the first-day price range, suggesting an increase in the divergence of opinion.

Table 5 presents the QR (Model 4) results on the relationship between IPO first-day price range and the ex-ante variables of the study. The QR results demonstrate that OSR has a significant positive effect at the higher quantile level (75th percentile) at the 10% level, where divergence of opinion is especially pronounced. Regarding this, any increase in the OSR leads to greater variability in investors' beliefs, as more investors rush to bid on the highly subscribed IPOs as soon as they are available for trading. This excess demand places upward pressure on the post-IPO price, contributing to higher under-pricing and a larger first-day price range. Further supporting this, the QR results reveal that IPOs listed on the ACE Board exhibit higher divergence of opinion across all quantiles. This finding suggests that smaller and riskier IPOs listed on the ACE Board result in a wider range of investor opinions. Additionally, the ratio of first-day trading volume to total units offered is significant and positively related to the first-day price range at all quantiles, a relationship not observed in the OLS analysis. This finding implies that increased trading volume is associated with a wider price range, supporting Karpoff (1986) theoretical model, which suggests that higher trading volume reflects either differing interpretations of available information or divergent expectations among investors. This interpretation is consistent with previous studies by Hong and Stein (2003) and all of which link greater trading activity to increased investor disagreement and divergence of opinion.

Table 5. Results of the quantile regression (Model 4).

Variable	Lower quantile at 20% spread	Middle quantile at 50% spread	Upper quantile at 75% spread
Dependent variable: Price range			
Over-subscription ratio	-0.000271	0.000208	0.00142*
	(-1.31)	(0.69)	(2.33)
ACE board versus main board	0.0516**	0.0635*	0.123*
	(2.71)	(2.29)	(2.19)
Hot versus cold IPOs	0.0176	0.0285	0.0265
	(1.14)	(1.27)	(0.58)
Low offer price versus high offer price	-0.00450	-0.00443	0.0233
	(-0.25)	(-0.17)	(0.44)
Private versus non-private placement IPOs	0.0180	0.00804	0.00388
	(1.05)	(0.32)	(0.08)
Ratio of first-day volume over total units offered	0.0520**	0.0738**	0.105*
	(3.22)	(3.15)	(2.22)
Constant	0.0336	0.0439	0.0495
	(1.44)	(1.30)	(0.72)

Note: **, * denote significance at the 5%, and 10% levels, respectively. Standard errors are shown in parentheses.

5. CONCLUSION

This study examines the relationship between the oversubscription ratio (OSR) and investors' divergence of opinion, proxied by first-day price ranges for a sample of 131 Malaysian fixed-price IPOs. In fixed-price IPOs, investors do not reveal their valuations until after the IPO starts trading, resulting in diverging interpretations of IPO ex-ante information.

Our findings underscore the significant influence of OSR on divergence of opinion, explained through the lens of bandwagon theory, suggesting that high IPO oversubscription attracts investors who follow market trends instead of performing their own assessment of the IPO's intrinsic value. Such behavior results in large price ranges on the first day of trading, as investors take advantage of high IPO demand driven by sentiment rather than fundamental valuations.

The fixed-price method, by restricting investors from disclosing their private valuations, increases their dependence on ex-ante information, thereby exacerbating divergence of opinion. Additionally, our results indicate that IPOs listed on the ACE Board, characterized by smaller and more speculative firms, exhibit greater divergence of opinion, as indicated by significantly higher first-day price ranges compared to those listed on the Main Board. Hot IPOs are associated with higher first-day price ranges, suggesting greater divergence of opinion. While privately placed IPOs have higher price ranges than non-privately placed IPOs, the difference is not significant. In sum, this study contributes to a deeper understanding of the various ex-ante information impacting first-day price ranges in the Malaysian IPO market.

Understanding the relationship between OSR and price range provides insights for predicting initial returns and managing the risk of speculative trading. The findings also highlight to regulators the need for closer monitoring and oversight of IPOs with high oversubscription ratios due to their associated larger price ranges, especially those IPOs listed on the ACE Board.

Based on the findings, the presence of divergence of opinion in fixed-price IPOs implies that the use of the book-building method may help promote better price discovery, reduce price swings, and mitigate divergence of opinion in the Malaysian IPO market. Future research could extend these findings by comparing the effectiveness of the book-building method against the fixed-price method in reducing divergence of opinion and enhancing IPO pricing accuracy.

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