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Divergence of beliefs and IPO initial return: the quasi-moderating role of investor demand

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Abstract

Purpose – This study aims to investigate the moderating role of investor demand on the relationship between the investors' divergence of beliefs and the first-day initial public offering (IPO) return.
Design/methodology/approach – The study sample covers the period from 2010 to 2019 and consists of 117 IPOs that are priced using the fixed price and listed on the Malaysian stock exchange (Bursa Malaysia). This study employed both the ordinary least square (OLS) and the quantile regression (QR) methods.
Findings – Investor demand, proxied by the over-subscription ratio (OSR), plays a moderating role in increasing the effect of investors' divergence of beliefs on initial return, and the moderation effects vary across the quantile of initial return. Pure moderation effects are observed at the bottom and top quantiles, suggesting that investor demand is necessary for divergence of beliefs to influence IPO initial return. However, at the middle quantile of initial return, investor demand is a quasi-moderator. That is, the OSR not only moderates the relationship between the divergence of beliefs and initial return but also has a positive effect on the initial return.
Practical implications – Investors' excessive demand for an IPO issue exacerbates the IPO under-pricing issue induced by a divergence of beliefs amongst investors, thus rendering greater equity market inefficiency.
Originality/value – To the authors' knowledge, this study is amongst the first to empirically investigate the moderating role of investor demand on the investors' divergence of beliefs and IPO initial return relationship.

Keywords Initial public offerings (IPOs), Divergence of beliefs, Investor demand, Over-subscription ratio (OSR), Quasi-moderator

Paper type Research paper

1. Introduction

Over the last few decades, there has been intense disapproval in the use of the fixed-price public offer method over its counterpart, the book-building method for marketing initial public offerings (IPOs). Nevertheless, the use of the fixed-price method remains dominantly pervasive in some emerging markets. This dominance is ascribable to the fact that IPOs in emerging markets, like Malaysia, are smaller in size than those unveiled in more developed markets (Ahmad-Zaluki *et al.*, 2007) and are characterised as a not-so-liquid capital market (Ong *et al.*, 2021). Furthermore, Benveniste and Busaba (1997) argued that smaller issues

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using the fixed-price method can avoid the fixed costs of the book-building method, which is the case in the Malaysian IPO market.

In the fixed-price regime, the beliefs of investors concerning the true intrinsic value of the listing firm are not taken into consideration because the offer price is pre-settled before the listing date between the issuer and the underwriter (Badru and Ahmad-Zaluki, 2018). Thus, investors' divergence of beliefs in the fixed-price regime is believed to be high (Albada *et al.*, 2020; Kao and Chen, 2020). On the other hand, in the book-building method, the offer price is set after taking into account the expectations of prospective investors concerning the true value of the issue, which would improve information disclosure (Zheng *et al.*, 2005).

Furthermore, according to Huang *et al.* (2019), investors' divergence of beliefs is a crucial factor owing to its ability to influence asset price formations and return generations during the first day of listing, which leads to a spike in under-pricing in response to the elevations in investors' divergence of beliefs levels (Vega, 2006) and disrupts the market efficiency (Daniel *et al.*, 2002). The divergence of beliefs arises because of the different interpretations that IPO investors have formed on the basis of the available pre-listing information (Hong and Stein, 2007; Fama and French, 2007). Thus, it is imperative to investigate investors' divergence of beliefs in the Malaysian IPO market, where new issues are mainly priced by relying on the fixed-price regime, which is accompanied by a high level of information asymmetry.

In the presence of investors' divergence of beliefs due to *ex ante* uncertainty, the present study delved into the moderating role of investor demand, which is proxied by the over-subscription ratio (OSR) and can be identified as *ex ante* information. In the fixed-price method, information on investor demand plays a vital role in giving an estimate of investment demand to the general investing public and the issuing firm (Albada *et al.*, 2019). This significance is steamed from the scarcity of pre-listing information available to prospective investors in the fixed-price regime, especially in gauging investor demand, owing to their non-participation in the IPO offer price setting. Thus, demand information allows both prospective investors and the issuing firm to acquire some knowledge about the market demand for issues of the listing firm (Vong, 2006). Furthermore, the importance of demand information goes beyond just gauging market demand; it also provides a prediction of the future, where newly listed firms with higher demand are expected to have more preferable opportunities in future offerings as a result of the gained reputation from favourable demand at the IPO stage, in addition to more liquidity for the listing firm stocks (Alanazi *et al.*, 2016; Vong, 2006; Ritter, 1998). This leads us to believe that investor demand plays a positive moderating role on investors' divergence of beliefs and IPO initial return relationship.

The motivation behind this study, in part, is answering the call of Low and Yong (2011) and Alqahtani and Boulanouar (2017) for deeper investigation and further enhancing our understanding of the effect of investor demand on all parties involved in IPOs such as prospective investors, issuing firms, regulators and policymakers. In addition, the findings of this study will contribute to the extant literature by providing new evidence regarding the moderating role that investor demand may have on the relationship between investor divergence of beliefs and under-pricing. Apparently, investor demand literature can be easily segregated into two dimensions. First, as a determining factor of IPO initial return (Tajuddin *et al.*, 2019) or investors' divergence of beliefs (Albada *et al.*, 2019, 2020). Second, investigating the determinant factors of investor demand (Albada *et al.*, 2019; Mehmood and Mohd-Rashid, 2020 ; Low and Yong, 2011; Alqahtani and Boulanouar, 2017). To the authors' knowledge, this study is amongst the first to empirically investigate the moderating role of investor demand on the investors' divergence of beliefs and initial return relationship. This was accomplished by investigating a sample of 117 IPOs listed on Bursa Malaysia between 2010 and 2019.

Another contribution is the reliance on the signalling theory and insights from behavioural finance to explore how investor demand influences the short-term IPO outcomes of under-pricing by exerting additional pressure on investors' divergence of beliefs

levels during the listing process. The present study argues that prospective investors face difficulties in perceiving the potential value of IPOs in the fixed-price regime because of the high levels of information asymmetry and uncertainty (Liu *et al.*, 2020; Albada *et al.*, 2020), this will force investors to look for valid signals such as *ex ante* information to gauge potential firm value. This means that investor demand may serve as an important signal in determining good investment opportunities in the IPO market. Thus, based on the signalling theory, we expect that investor demand information may act as an important signal that plays a part in influencing investors' behaviour and choices during the IPO process. Our argument is based on the premise that when a listing firm's economic potential is rare in the fixed-price method, potential investors will rely on *ex ante* information to form an understanding of the relatively new firm (Albada *et al.*, 2020); in this case, investor demand information can play this signalling role.

The results show that investor demand, proxied by OSR, has a significant moderating role in increasing the effect of investors' divergence of beliefs on initial return and the moderation effects vary across the quantile of initial return. The moderation effects can be explained by the signalling theory, as investor demand for IPOs is driven by capital gain. Pure moderation effects are observed at the bottom and top quantiles, suggesting that investor demand is necessary for divergence of beliefs to influence IPO initial return. These results might be driven by investors' overreaction to the information about IPO quality. However, at the 50th percentile of initial return, investor demand is a quasi-moderator. That is, the OSR not only moderates the relationship between the divergence of beliefs and initial return but also has a positive effect on the initial return. The results also show that flipping activities have a significant positive effect on initial returns and Main Market issues are accompanied by lower initial returns than access, certainty, efficiency (ACE) Market issues.

The remainder of this paper is structured as follows. Section 2 presents an overview of pertinent literature. Section 3 describes the data and methodology employed in this study, and Section 4 presents and discusses the results. Section 5 concludes the paper and offers some policy implications of the study.

2. Literature review

Over-subscription is built on the theory that the number of issues offered to the public is less than investor demand, and thus, OSR indicates how many times the issues of the newly listed firm have over-subscribed. This means that OSR is an adequate indicator of investor demand (Albada *et al.*, 2019). The moment new over-subscribed issues are available for trading, higher investor demand in the secondary market exerts additional pressure on the market prices leading to under-pricing. The relationship between investor demand, investors' divergence of beliefs and IPO initial return was covered by the prior theoretical and empirical literature. For example, Dhamija and Arora (2017) postulated that the positive relationship between investor demand and IPO initial return is attributable to a large number of "privileged" investors who increase the demand for newly listed issues in accordance with favourable information obtained from the prospectus. This surge in demand pushes the market prices during the first day of trading, resulting in a higher return. Rock's (1986) and Welch's (1992) models provide the theoretical explanation concerning the issue of demand for new issues.

According to Rock's (1986) model, information asymmetry exists between informed and uninformed investors, where the former is better informed about the true value of IPO shares than the latter. Such a situation provides informed investors with the upper hand over their uninformed counterparts. As a result, informed investors only invest in under-priced issues and stay away from overpriced issues. Contrarily, uninformed investors bid randomly against all the available new issues. This results in under-priced issues receiving biding from both uninformed and informed investors, while overpriced issues receive biding from only

uninformed investors. The implication is that uninformed investors have a lower probability of receiving under-priced issues in comparison to overpriced issues, which results in the winner's curse problem.

Welch's (1992) cascade model or bandwagon effect argues that investors' investment decisions are not solely based on the information they managed to gather from the market but also influenced by the investment decisions of well-informed investors. In other words, some investors base their investment decisions by mimicking well-informed investors even if they have favourable information about the listing firm issues. This suggests that some investors are not willing to invest in unattractive issues with fewer investors demands. The cascade model's proposed solution for the prevention of low subscription is for issuing firms to entice potential investors by under-pricing, which initiates a demand cascade.

The divergence of beliefs is ascribable to different interpretations that IPO investors have formed according to the available pre-listing information (Hong and Stein, 2007; Fama and French, 2007). This causes the price to drift further from its intrinsic value (Vega, 2006) and disrupts the market efficiency (Daniel *et al.*, 2002) because investors' divergence of beliefs influences the demand and supply forces of financial assets and causes the prices of the assets to deviate from their fair fundamental value. Furthermore, based on Rock's (1986) and Welch's (1992) models, it can be inferred that investors' behaviour in the IPO market to a large extent is driven by pre-available information before the listing, and such behaviours become more prominent and pronounced in the Malaysian market, which employs the fixed-price mechanism, which does not consider the beliefs and expectations of prospective investors in pricing the new issues. Such pricing practice fuels prospective investors' speculations regarding the listing firm intrinsic value, resulting in greater divergence of beliefs, which widens the rift between market price and offer price. Thus, the first hypothesis developed in the present is as follows:

H1. Investors' divergence of beliefs has a significant positive effect on IPO under-pricing on the first day of trading.

Based on Rock's (1986) and Welch's (1992) models, a key conclusion that could be formed is that investor demand would either snowball and exert additional pressure on the price drift leading to higher under-pricing or remain within the marginal expectations of the market. According to the literature, this relationship remains one of the least explored, despite the abundance in the IPO under-pricing studies (Alqahtani and Boulanouar, 2017). Combining the cascade model and winner's curse problem with the fixed-price regime high information asymmetry issue, one would expect that oversubscribed issues by informed investors would negate a positive (or negative) effect on uninformed investors' investment decisions. Thus, investor demand would snowball or remain low. This would affect investors sentiment, leading to over-optimism (over-pessimism), higher (lower) investor demands and higher (lower) price drift during the first day of listing, which could increase (decrease) under-pricing (Baker and Wurgler, 2006). Moreover, fixed-price regime IPO is characterised by high initial return leading to significant short-run overreactions (Huang *et al.*, 2017), creating exaggerated optimism levels amongst investors (Albada *et al.*, 2019). In other words, a higher level of information uncertainty associated with fixed-price IPOs generally increases investor disagreement, which leads to higher price drifts. In addition, Albada *et al.* (2019) reported that Malaysian investors interpret *ex ante* information from the perspective of capital gain that can be achieved from under-pricing than from the perspective of issuing firm quality. This is possible because investors can achieve riskless quick profit directly from under-pricing. Thus, one could argue that investors in Malaysia view investor demand (OSR information) as a possible signalling tool to investigate the profitability of new issues.

As investors have access to only imperfect firm-specific information during the listing process, investor demand can be regarded as a piece of *ex ante* information that investors can

use in evaluating IPO issues. This means that an IPO with a higher level of demand information is expected to perform a more favourable during listing as reflected by the optimism and confidence of prospective investors. The information available in the prospectus will have a significant impact on public investors' enthusiasm towards the new listing offer (Michala, 2019). In addition, this would generate a higher degree of interest amongst investors as a result of the bandwagon effect, which in turn lead to a higher divergence of beliefs (Low and Yong, 2011). The increasing investor demand creates more variation in investors' expectations and thus generates larger differences in beliefs as a result of a larger pool of investors interested in new issues. Thus, owing to its great importance, investor demand plays a pivotal role in the success of IPOs, the behavioural implications of investors' divergence of beliefs and under-pricing (Albada *et al.*, 2019). Building on such arguments, this study posits that highly demanded issues could be a potential candidate for speculative activities once the issues of the newly listed firm are traded on the open market, and the high speculative trading activities can potentially lead to a higher level of divergence of beliefs amongst investors. In line with the aforementioned arguments, this study developed its second hypothesis:

H2. Investor demand plays a moderating role on the relationship between the investors' divergence of beliefs and initial return.

3. Data and methodology

3.1 Data

The study period is from January 2010 until December 2019. January 2010 was considered the starting point of the study to take advantage of the new listing board classification that took place in August 2009, where Bursa Malaysia formerly comprised three major boards (namely the Main Board, the Second Board and MESDAQ). Consequently, the Main Board and Second Board were merged into a new listing board known as the Main Market, while the MESDAQ was re-branded as the ACE Market. The rationale for this restructuring was to facilitate convenient access to capital flow and investments, as well as render the Malaysian stock market to become a more attractive funding channel for local and foreign firms. The study sample excludes those few IPOs that used the book-building pricing method (39 IPOs) during this period and those unique issues (104 IPOs), which is not available for retail investors. Thus, the final sample consists of 117 fixed priced IPOs listed on the Malaysian stock exchange Bursa Malaysia.

3.2 Control variables

The current study identified six control variables enumerated as follows:

(1) Offer price: If set too high, it will lead to lower investor demand because of lower potential capital gain from under-pricing (Albada *et al.*, 2019).

(2) Flipping activities: Investors tend to flip their investments during the first day of listing to profit from the riskless capital gain, which leads to a higher price drift (Huang *et al.*, 2017).

(3) Underwriter, auditor and board reputation: These are potential *ex ante* signals that can be used by investors to identify good investment opportunities (Albada *et al.*, 2020).

(4) Private placement controls for the bandwagon effect (Yong, 2011).

(5) Listing board: In Malaysia, the listing board consists primarily of two boards, the Main Market and the ACE Market. IPOs listed on the ACE Market are characterised as riskier and more speculative in nature (Bessembinder *et al.*, 2015).

(6) Sharia-compliant status: Yaakub and Sherif (2019) reported a significant positive relationship between Sharia-compliant status and IPO initial return, suggesting that Sharia-compliant status increases under-pricing to signal their quality to prospective investors.

3.3 Empirical model

Equation (1) presents the cross-sectional regression model using ordinary least square (OLS) and quantile regression (QR) to examine the moderating role of investor demand on the relationship between the investors' divergence of beliefs and IPO initial return.

$$\begin{aligned} \mathrm{IR} = {} & \alpha + \beta_1 \mathrm{Range}_i + \beta_2 \mathrm{OSR}_i + \beta_3 \mathrm{Range} \times \mathrm{OSR}_i + \beta_4 \mathrm{OfferP}_i + \beta_5 \mathrm{Flipping}_i + \\ & \beta_6 \mathrm{UR3}_i + \beta_7 AR3_i + \beta_8 \mathrm{BoardS}_i + \beta_9 \mathrm{PrivateP}_i + \beta_{10} \mathrm{ListingB}_i + \beta_{11} \mathrm{Sharia}_i + \varepsilon_i \end{aligned} \quad (1)$$

Where IR represents the first-day initial return of newly listed issues (offer-to-open), measured as the return from the offer price to the first opening price in the aftermarket to capture IPO under-pricing. The initial return is widely known as the closing price and covers the period from the issuing date to the end of the first trading day (Ritter, 1998). However, Barry and Jennings (1993) were the first to suggest the use of opening price performance in evaluating the first day returns. They argued that opening price analysis (offer-to-open) is better than closing price analysis because the latter is inefficient in furnishing a clear answer regarding the beneficiary of short-run under-pricing. Furthermore, they concluded that most of the initial return caused by the under-pricing of IPOs happens at the opening transaction. Thus, the present empirical model was analysed using the opening price analysis. In addition, using the closing price analysis as a dependent variable resulted in a very weak model, where the model managed to achieve an R-square of 0.252 which pales in comparison to using opening price as a dependent variable.

Range measures the investors' divergence of beliefs during the first day of listing, which is the difference between the highest and the lowest price in the secondary market, divided by the closing price of the first day of listing. OSR is a proxy for investor demand as shown in Equation (2). OfferP is the offer price of the listing firm. Flipping represents investors' flipping activities, which is proxied by dividing the opening first-day trading volume by the total number of shares issued (Che-Yahya *et al.*, 2014).

Equation (2) describes the OSR measurement:

$$OSR = \frac{Total\ number\ of\ IPOs\ Subscribed}{Total\ Offer\ Units} \quad (2)$$

UR stands for underwriter reputation, a dummy variable that takes 1 for a listing firm that is underwritten by one of the top 3 underwriters in Malaysia, which are AmInvestment Bank Berhad, CIMB Investment Bank Berhad and RHB Investment Bank Berhad. AR stands for auditor reputation, a dummy variable that takes 1 for a listing firm audited by one of the top three auditors in Malaysia, namely Ernst & Young, KPMG and Crowe Horwath [1]. Boards stand for board reputation, which counts the number of members in the board of directors. A number of studies have affirmed board size as a good indication of reputation and quality (such as Certo, 2003).

PrivateP, which represents the involvement of institutional investors, is calculated by dividing institutional investor-allocated shares by the total number of shares issued. ListingB refers to the listing board of the new issues, a dummy variable that assumes the value 1 for issues listed on the Main Market. Sharia is a dummy variable that is equal to 1 for Sharia-compliant status.

4. Results

4.1 Descriptive statistics

The descriptive statistics are summarised in Table 1. The study found an average initial return of 21% (offer-to-open). This is slightly higher than the finding of Albada *et al.*'s (2019) for Malaysia's IPO return of 19.58% covering a period from 2004 to 2015. In addition, the present study found an average price range of 18%, which is lower than the findings of Albada *et al.* (2019), who reported an average price range of 23.6%. Moreover, the current study reports an average investor demand of 25.15 times, which is significantly lower than the findings of other studies such as Low and Yong (2011) and Albada *et al.* (2019), where the authors reported an average investor demand of 33.59 times and 36.62 times, respectively. Furthermore, Malaysia has a relatively higher average subscription level as compared to other emerging economies like Bangladesh of 20.20 times (Rahman *et al.*, 2017), Pakistan of 2.52 times (Mehmood and Mohd-Rashid, 2020) and India of 10.28 (Arora and Singh, 2020). In accordance with Chowdhry and Sherman's (1996) model, fixed-price regime issues are characterised by extreme OSRs in comparison to book-building issues, which is attributable to the high level of uncertainty. The mean value shows that around 44% of the study samples have been audited by one of the top three auditors. Moreover, around 33% of the study samples have been underwritten by one of the top three underwriters. Finally, the mean value shows that the majority of the study samples hold a Sharia-compliant status.

Variable	Obs	Mean	Std. Dev	Min	Max
Offer price	117	0.65	0.43	0.12	2.2
Open price	117	0.74	0.46	0.14	2.7
Closing price	117	0.73	0.47	0.14	2.55
OSR	117	25.16	41.86	0.35	315.17
Initial return	117	0.21	0.39	−0.67	2.88
Board size	117	6.70	1.57	3	12
Total units offered (million)	117	119	225	11	2,150
High price day 1	117	0.818	0.51	0.16	2.73
Low price day 1	117	0.70	0.46	0.14	2.54
Price range	117	0.18	0.18	0.01	1.59
Volume on day 1 (million)	117	77.1	72	0.1157	368
Flipping	117	1.05	1.15	0.003	6.70
Private placement (PP) (million)	117	65.5	69.3	0	491.0
PP to total units offered	117	0.82	0.85	0	6.27
Underwriter reputation	117	0.33	0.47	0	1
Auditor reputation	117	0.44	0.49	0	1
Sharia-compliant status	117	0.7	0.46	0	1

Table 1.
Descriptive analysis

4.2 Regression results and discussions

4.2.1 OLS regression results. Table 2 reports the results of OLS regression. The diagnostics tests show that our model does not suffer from any heteroscedasticity, skewness, or kurtosis problems. Furthermore, the Jarque–Bera normality test shows that our model violates the normality assumption. Thus, the current study also utilised the QR analysis, which can overcome the non-normality of data (Badru and Ahmad-Zaluki, 2018). The results show that price range has a significant positive relationship with the initial return, showing that IPO under-pricing increases as the levels of investors' divergence of beliefs increases because of higher price drift. This result substantiates the findings of previous studies (such as Albada *et al.*, 2020; Low and Yong, 2013). The results also show a highly significant positive relationship between investor demand and initial return. This suggests that a higher investor

Variable	OLS	VIF
Dependent: Initial return		
Price range	7.181**	1.52
OSR	14.11***	1.2
Offer price	−0.0736	1.77
Flipping activities	0.0133	1.62
Range × OSR	0.00500***	1.24
Underwriter reputation	10.95**	1.27
Auditor reputation	6.345	1.31
Board size	0.0337	1.15
Private placement	0.0141	1.32
Listing board	−11.04*	2.08
Sharia-compliant status	4.358	1.11
Constant	−10.67	
Number of observations	117	
R-square	0.657	
Adj. *R*-squared	0.621	
F-value	18.27***	
Diagnostics tests	**Chi-squares**	***p*-values**
White's test for heteroskedasticity	76.3	0.3420
Skewness	12.51	0.3264
Kurtosis	3.35	0.0672
Jarque-Bera normality test	143.6	0.00

Note(s): ***, **, * denote significance at 1, 5, and 10% levels, respectively

Table 2. OLS regression using investors' demand as a moderator variable

demand leads to a higher initial return because excessive demand would push up the aftermarket prices. The finding reported by Ong *et al.* (2020) is congruous with the results of the present study.

Furthermore, the results show that investor demand moderates the relationship between investors' divergence of beliefs and initial return. That is, the divergence of beliefs has a positive effect on the initial return for every increase in investor demand. In addition, investor demand has a significant direct positive effect on initial return. This implies that investor demand is merely a quasi-moderator as it did not fully moderate the relationship between divergence of beliefs and initial return.

However, the full effect of the study relationship is still unclear as we need to evaluate the impact of independent variables across the distribution of the dependent variable, i.e. during the high and low points of initial return. This will further enable the study to grasp a deeper understanding of the effect of investor demand on initial return. Therefore, the current study implemented the QR analysis, which enables us to present the distribution of the dependent variable in different quantile (e.g. 25th, 50th and 75th). This provides us with the opportunity, to explore the "influencing effect" of the independent variables at different points of the distribution of the dependent variable. Figure 1 depicts the differences in the mean, maximum and minimum values of the first-day initial return.

4.2.2 QR results. The results of QR are reported in Table 3. The findings show that investor demand plays a moderating role in influencing the effect of divergence of beliefs on initial return, and the moderating effects vary across different quantile of the initial return distribution. Pure moderation effects are observed at the top and bottom quantile (75th and 25th percentiles, respectively), whereas quasi-moderation occurs at the middle quantile of the initial return (50th percentile). At the bottom quantile (25th percentile), IPOs are characterised by a low level of initial return, hence suggesting that low-quality IPOs do not attract many

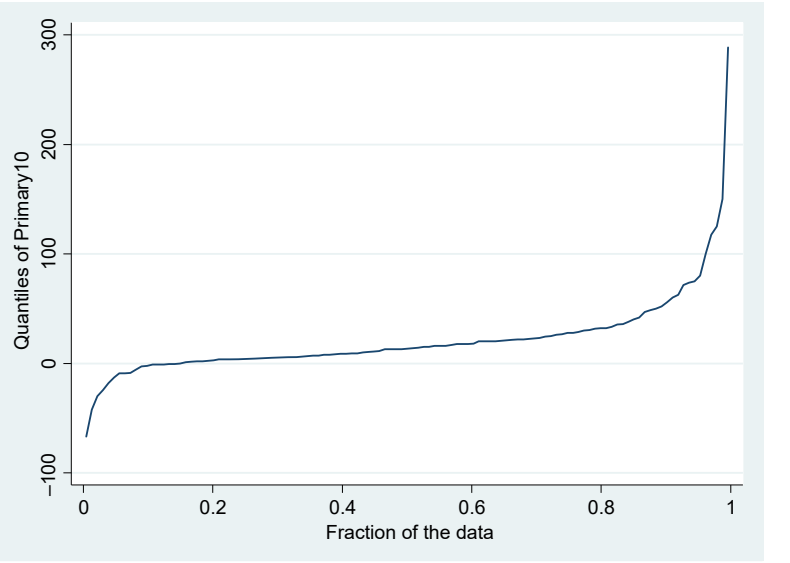

Figure 1.
Quantile plot for the first-day initial return

Variables	25th	50th	75th
Dependent: Initial return			
Price range	2.158	5.648**	8.906*
OSR	6.929*	8.878***	11.91*
Offer price	−0.0705	0.0639	0.0449
Flipping activities	0.0171	0.0438**	0.0482
Range × OSR	0.00546***	0.00505***	0.00466***
Underwriter reputation	2.101	7.110*	7.762
Auditor reputation	4.281	−0.281	1.922
Board size	1.325	−0.147	−1.396
Private placement	0.0130	−0.0166	−0.0203
Listing board	−4.625	−12.70***	−12.29
Sharia-compliant status	2.297	4.780	5.507
Constant	−12.04	−8.884	−2.518
Pseudo R^2	0.272	0.350	0.4212

Note(s): ***, **, * denote significance at the one 1, 5, and 10% levels, respectively

Table 3.
Quantile regression using investors' demand as a moderator variable

investors. Lower investor demand of the IPOs indicates the presence of a relatively smaller pool of investors, which in turn results in lower divergence of beliefs. The positive and significant interaction term suggests that the lower the demand, the lesser the influence of divergence of beliefs on initial return. On the other hand, at the top quantile of the initial return distribution (75th percentile), IPOs are characterised as highly under-priced. Undoubtedly, such IPOs are highly demanded by investors. As investor demand is influenced by their opinions or expectations about the new issue, increasing investor demand results in larger opinion differences or greater variations in investor expectations because of the presence of a larger pool of investors. At the top quantile of initial return, the interaction term is also positive and highly significant, suggesting that the higher the investor demand, the greater the influence of divergence of beliefs on IPO initial return.

Additionally, the results also show that divergence of beliefs is not significant at the bottom quantile and weakly significant at the top quantile in explaining the initial return. This indicates that on its own, the divergence of beliefs is not sufficient to influence IPO initial return. Furthermore, the results also reveal that investor demand is only marginally significant at both the bottom and top quantiles, thereby suggesting that on its own, investor demand plays no important role in influencing IPO initial return. This implies that investor demand fully moderates the effect of investors' divergence of beliefs on initial return because, by itself, investor demand is not independently associated with the initial return. In other words, investor demand is a pure moderator at the bottom and top quantiles of the initial return distribution. Altogether, the presence of pure moderation effects implies that investor demand is necessary for investors' divergence of beliefs to influence IPO initial return.

One explanation for the full moderation effect is that investors are either overly pessimistic or optimistic about the information on IPO capital gain. Albada *et al.* (2019) indicated that Malaysian investors are chiefly driven by capital gain. At the bottom quantile, IPOs are characterised by low levels of initial return, and according to Allen and Faulhaber's (1989) signalling explanation, these IPOs are essentially low-quality issues. Since these are low-demand IPOs, investors are more likely to underestimate the prospect of these low-quality issues as no significant capital gain can be achieved from them during the first day of trading. Hence, investor demand for such IPOs is driven by their overly pessimistic reactions to the information about the firm capital gain and this overreaction explains the full moderation effect of investor demand. Contrarily, at the top quantile, IPOs are mostly highly under-priced and are thus associated with high-quality offerings and significant capital gain. These are high-demand IPOs and investor demand for such IPOs are largely driven by their overly optimistic reactions to information on the quality and quick gain of the issuing firms, which can explain why investor demand fully moderates the relationship between divergence of beliefs and initial return. This is supported by the results of the flipping activities control variable, as it has a significant positive effect on initial return. Chong *et al.* (2009) and Chong (2009) concluded that investors in Malaysia prefer to flip their IPO holdings at the earliest opportunity because this allows them to benefit from the quick capital gain, and such decision appears to be the wisest for both winning and losing investors. This suggests that investors will flock to buy the new issues to take advantage of the riskless capital gain, causing demand for the issue to increase, leading to higher price drift and consequently higher initial return.

At the middle quantile of the initial return distribution, investor demand serves merely as a quasi-moderator. That is, it partially moderates the relationship between divergence of beliefs and initial return because it is also independently associated with the initial return. That is, on its own, investor demand is positively and highly significant in influencing IPO initial return. Similarly, investors' divergence of beliefs by itself is also positively and significantly associated with the initial return. The results at the middle quantile are in consonance with those of the OLS.

The results of the control variables show that underwriter reputation has a weak positive effect on initial return. The listing board is negatively related to the initial return and is highly significant. This means that firms listed on the Main Market experience lower price drift than those firms listed on the ACE Market (Yong and Albada, 2018) and thus have a lower level of initial return.

5. Conclusion

Motivated by the essential role of investor demand in the IPO success and the significance of divergence of beliefs in influencing asset prices especially in IPO markets, which rely on fixed-price mechanisms, this study used a sample of 117 IPOs, listed on Bursa Malaysia from January 2010 to December 2019 to examine the moderating role of investor demand on the

relationship between the divergence of beliefs and IPO initial return. In addition to the OLS regression method, this study employed the QR technique to attain a comprehensive picture of the moderation effects across different quantiles of the dependent variable. The OLS results showed that investor demand only serves as a quasi-moderator of the relationship between investors' divergence of beliefs and initial return. Moreover, investors demand has a significant and direct positive effect on initial return.

Interesting results emerged from the use of the QR technique. The findings show that while investor demand plays a pure moderating role in the relationship between divergence of beliefs and initial return at the bottom and top quantiles, it serves only as a quasi-moderator at the middle quantile of the initial return distribution. The role of investor demand as a moderator can be rationalised using the signalling theory where an investor's demand for IPOs is driven by capital gain. The positive moderation effect indicates that the higher the investor demand, the greater the influence of investors' divergence of beliefs on IPO initial returns. Higher quality issues attract a larger pool of investors, and the increasing demand leads to greater divergence of beliefs amongst investors, which results in higher drift between market price and offer price, hence higher IPO initial return.

The study findings offer useful practical implications that potential investors should invest in IPOs with high levels of investment demand, which serve as a signal of high capital gain issues. Investors in the Malaysian equity market appear to be more interested in the capital gain than in the quality of the listing firm, possibly because of the reason that investors benefit directly from the under-pricing issues.

This study made the first attempt at integrating the investor demand into the existing understanding of the IPO process. In particular, we encourage researchers to explore other aspects that may moderate divergence of beliefs and initial return relationship. This study examined the role of stakeholders in shaping short-term outcomes. However, future research can help advance the current understanding of the IPO process by providing in-depth insights into how pre-IPO stakeholders behave post-IPO under the book-building regime.

Note

1. The number of IPO issues managed by the lead investment bank (underwriter) or auditing firm are used to measure their reputation over the study period. This method was implemented by previous studies, for example, Albada *et al.* (2019), to measure underwriter reputation, and by Albada *et al.* (2020) to measure auditor reputation.

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