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Earnings forecast disclosures and oversubscription rates of fixed-price initial public offerings (IPOs): the case of Malaysia

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Abstract

Purpose – The main purpose of this study is to examine the disclosure of earnings forecasts in firms' prospectuses to explain investor demands or, in other words, oversubscription rates of Malaysian initial public offerings (IPOs).

Design/methodology/approach – Ordinary least squares and robust methods were used to examine cross-sectional data comprising 466 fixed-price IPOs reported for the period from January 2000 to February 2020 on Bursa Malaysia.

Findings – The results showed that IPOs with earnings forecasts obtained higher oversubscription rates than those without earnings forecasts. IPOs with earnings forecasts provide value-relevant signals to prospective investors about the good prospects of firms, resulting in an increase in the demand for IPO shares. For the IPO samples listed during the global financial crisis (GFC) period, IPOs with earnings forecasts had negative impacts on the oversubscription rates. These results were robust to quantile methods and the two-stage least squares method.

Research limitations/implications – The research findings provide fresh information for investors regarding the importance of earnings forecasts as a trustworthy signal of a firm's quality when making share subscription decisions.

Practical implications – The regulator is advised to encourage issuers to include earnings forecasts in their prospectuses since such forecasts help to increase the demand for IPOs.

Originality/value – This study contributes to the literature by offering empirical evidence regarding the signalling impact of earnings forecast disclosures on investor demands for Malaysian IPOs. Moreover, this study provides evidence demonstrating the impact of earnings forecast disclosures on oversubscription rates of Malaysian IPOs during the GFC period.

Keywords Earnings forecasts, GFC, IPO, Oversubscription rates, Signalling

Paper type Research paper

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1. Introduction

Firms go public to raise funds from investors. Underwriters play an essential role in promoting the firms that intend to list in the initial public offering (IPO) market to potential investors. The subscription rate is an accurate indicator of a firm's stock market value. If the number of bids received exceeds the number of shares offered to each investor group, it means that the IPOs are oversubscribed. In Malaysia, many people invest in the stock market; hence, IPOs are usually oversubscribed. For instance, empirical evidence from Wan-Hussin (2005), Low and Yong (2011), Tajuddin *et al.* (2015) and Albada *et al.* (2019) reported oversubscription rates of 36.74, 33.59, 30.45 and 33.62 times, respectively, for Malaysian IPOs. The use of the fixed-price method by the majority of Malaysian firms leads to higher oversubscription rates because the offer prices of fixed-price IPOs are determined by the underwriters and issuers before the listing date (Yong and Albada, 2018). As a result, issuers must deal with unknown investor demands for new issues. In contrast, under the book-building mechanism, underwriters incorporate the demands of institutional investors in setting the final offer prices. Issuers and underwriters obtain the market demands for the new issues, thus enabling them to adjust the IPO prices as required. Chowdhry and Sherman (1996a) showed that most of the fixed-price IPOs from most Asian countries experienced massive oversubscription rates compared to IPOs from the countries that used the book-building mechanism. The reason given is that the oversubscription rates of IPOs are based on the assumption that investor demands for new shares are higher than the number of new shares supplied by the IPO issuers, implying that once the shares are accessible for trading, the investors who have subscribed to the shares will place the bids. The unexpected high investor demands for the new issues will cause the initial market prices to increase, eventually resulting in higher underpricing, which is attributable to the higher price drift. Thus, this study focuses on the importance of oversubscription rates in the Malaysian market because the fixed-price mechanism process restricts underwriters from gauging private information from investors during the IPO pricing stage.

A vast number of studies have been conducted in Malaysia regarding the factors affecting the oversubscription rates of fixed-price IPOs. Low and Yong (2011) identified several determinants of the level of oversubscription rates of fixed-price IPOs, namely, offer price, investors' enthusiasm, opportunity cost of fund and IPO volume. Tajuddin *et al.* (2018) found that Shariah IPOs experienced lower oversubscription rates than non-Shariah IPOs. Furthermore, the findings of Albada *et al.* (2019, 2020) showed that IPOs certified by reputable underwriters and auditors experienced low oversubscription rates among the fixed-price IPOs in Malaysia. Overall, the current study puts forward the notion that other pre-IPO information from IPO prospectuses affects the oversubscription rates, and this topic was not discussed in prior studies. Since investor demand is an important driver of IPO success, the present study aims to investigate the impact of disclosure of accounting information, such as earnings forecasts, on oversubscription rates. Such disclosure of material information reduces firms' cost of capital and agency issues surrounding IPOs (Healy and Palepu, 2001). Furthermore, the accounting information disclosure could increase the transparency of firms going public and strengthen the firms' reputation.

Even though earnings forecasts are essential for conveying a firm's quality and reducing uncertainty, the relationship between earnings forecasts and oversubscription rates remains unknown. Earnings forecasts may be disclosed either mandatorily or voluntarily, depending on the regulations in the countries where firms wish to list their IPOs (Ammer and Ahmad-Zaluki, 2017; Cazavan-Jeny and Jeanjean, 2007). Prior research by Clarkson *et al.* (1992) and Jog and McConomy (2003) imply that earnings forecasts disclosures that are made voluntarily in prospectuses serve as a costly signal that convey firms' quality and help reduce underpricing by diminishing the uncertainties surrounding IPOs. This voluntary

accounting information disclosure serves as a guide for investors in their investment decision-making. However, these prior works did not provide definite evidence on whether the availability of earnings forecasts in prospectuses could attract investors to participate in the IPO market.

In Malaysia, an amendment to the regulation in February 2008 has changed the requirement for earnings forecast disclosure from mandatory to voluntary (Securities Commission [SC], 2019). In addition, the IPO market in Malaysia is considered to have severe uncertainties, as firms intending to list in emerging markets are characterised as firms with low information efficiencies (Eldomiaty, 2008). Ammer and Ahmad-Zaluki (2017) posit that voluntary earnings forecast disclosures can be effective in improving the accuracy of earnings forecasts. However, a recent study by Ong *et al.* (2021) found that under a voluntary regime, Malaysian IPOs that disclosed earnings forecasts were undervalued by underwriters due to investors' belief that the information on earnings forecasts in IPO prospectuses was inaccurate. It is difficult for earnings forecasts to be accurate due to unanticipated variables. Chong and Ho (2007) and He (2018) contend that issuers may conceal "bad news" from the public either by not releasing earnings forecasts or by presenting biased earnings. Therefore, investors may expect significant returns from their share subscriptions. In this regard, the current study investigates whether the inclusion of earnings estimates in prospectuses may assist investors in deciding whether to purchase shares in Malaysian IPOs. This study uses ordinary least squares (OLS) and robust methodologies to examine the relationship between IPO investor demand and the disclosure of earnings forecasts.

Moreover, the current study deliberates on the aspect of the global financial crisis (GFC) that potentially affects the signalling role of earnings forecast disclosure in influencing oversubscription rates. The GFC started in the USA in 2007 due to the acts of some of the world's largest financial institutions. It stemmed from the deregulation of the financial industry, particularly, in the subprime mortgage sector. Crotty (2009) asserted that the GFC was the nastiest financial crisis since the Great Depression. The seriousness of this crisis impelled the world economy to the edge of depression and subsequently, adversely impacted the world economy and stock markets (KPMG Report, 2009). Ultimately, the consequences of the crisis in the USA were felt in the Malaysian economy, with detrimental effects on the quality of reported earnings forecasts. Persakis and Latridis (2015) found that the adverse impact of the GFC caused deteriorations in the earnings qualities of firms. A financial crisis exposes investors to greater uncertainties (Crotty, 2009). The GFC adversely influenced stock markets around the world and potentially eroded investors' confidence in the earnings forecast information provided by IPO firms. Remarkably, such a complex matter has not been discussed in prior research.

This article is further expanded in the following manner. Section 2 reviews the literature, followed by the methodology in Section 3. Section 4 interprets and discusses the empirical results, and the conclusion and implications of this article are provided in Section 5.

2. Related literature and hypothesis development

2.1 Earnings forecast disclosures and oversubscription rates

Earnings forecasts estimate what a firm is expected to earn before the end of the accounting period (Aggarwal *et al.*, 1993). Auditors can forecast IPO firms' future earnings using specific data from their accounting records. The anticipated earnings made available in IPO prospectuses could offer considerable information to potential investors for their consideration of whether to subscribe in the IPO shares. Signalling theory unveils that earnings forecasts have signalling powers because issuers include them as private information to potential investors (Verrecchia, 1983). Several prior empirical studies have used signalling

theory to explain why earnings forecasts are disclosed (e.g. Allaya and Toumi, 2020; Chong and Ho, 2007; Cazavan-Jeny and Jeanjean, 2007; Drobetz *et al.*, 2017). According to Clarkson *et al.* (1992) and Lev and Penman (1990), firms with "good" news are more likely to reveal earnings forecasts in IPO prospectuses to differentiate themselves from firms with "unfavourable news". According to Kim and Ritter (1999), using forecasted earnings data to value firms can lead to inaccurate valuations, particularly, for relatively new firms. When given the option, young and high-risk companies choose not to disclose forecasted earnings information in their prospectuses. Chong and Ho (2007) and Allaya and Toumi (2020) documented that large and old IPO issuers were inclined to include forecasted earnings in prospectuses due to their wider business experiences in managing financial issues.

Furthermore, previous studies (e.g. Jog and McConomy, 2003; Shi *et al.*, 2008; Bédard *et al.*, 2016) found that the degree of underpricing fell when anticipated profits were disclosed in IPO prospectuses. A recent study by Azevedo *et al.* (2021) offers new insights regarding constructing models for profit estimates when analysing stock price volatility and long-term performance. Such an innovative strategy for forecasting earnings significantly enhances stock price accuracy. The value-relevance of earnings forecasts in a prospectus indicates a firm's quality and helps reduce the information asymmetry surrounding IPOs. Steered from the above arguments, investors who seek IPOs with lower risk profiles will be attracted and inclined to subscribe to them. This study argues that the availability of information on estimated profits may increase investors' demand. Thus, the study established the following hypothesis:

H1. The inclusion of earnings forecasts in IPO prospectuses increases the oversubscription rates of IPO firms.

2.2 Influence of the global financial crisis (GFC) on the relationship between earnings forecast disclosures and oversubscription rates

An idea is built by the current study whereby the focus is on elucidating the impact of the signalling role of forecasted earnings information on the oversubscription rates of fixed-price IPOs during the GFC period. According to Crotty (2009), the GFC stemmed from an increase in subprime mortgage borrowing activities. The subprime crisis caused the global stock markets to plummet drastically. The situation worsened extremely when enormous financial institutions, for instance, Lehman Brothers, JP Morgan, Goldman Sachs, Citibank and the Bank of America experienced massive financial failures that caused an economic recession in the USA. In the case of IPOs, if firms go public during a crisis period, they are considered risky because the market tends to be bearish during such period. Prior studies found that the IPOs issued during the subprime crisis period underwent lower underpricing than the firms that went public during a non-crisis period (Leow and Lau, 2018; Li *et al.*, 2018). Investors are not inclined to subscribe to IPO shares during a crisis period as the IPO firms are potentially overpriced. Hence, this could generate a loss among IPOs. This explanation provides support to the research by Tajuddin *et al.* (2018) which found that Malaysian firms that went public during the GFC period suffered undersubscription issues. This study contends that in the case of firms that went public during the GFC period, their earnings forecasts in IPO prospectuses conveyed negative signals of the firms' qualities. Also, auditors predicted poor earnings qualities for the firms in the years after the GFC periods because they were pessimistic about the market conditions. In the Chinese market, Wang *et al.* (2013) discovered that firms' values improved when voluntary information disclosures were reduced during the GFC period. Anolli *et al.* (2014) found that financial risks embedded in financial firms surged the earnings forecast errors and reduced analysts' forecasting capabilities. Persakis and Latridis (2015) found that the adverse impact of the GFC caused deteriorations in the earnings qualities of firms. Collectively, this article contends that the availability of earnings forecasts delivers an attractive proposition to issuers who tend to go public during a financial crisis

period because issuers have the choice not to reveal their low quality rather than report unrealistic forecasts. Thus, the following hypothesis was proposed:

H2. The inclusion of earnings forecasts in IPO prospectuses reduces the oversubscription rates of IPO firms that are listed during the GFC.

3. Data and methods

3.1 Data

This study considered initial samples of 591 IPOs that were reported from January 2000 to February 2020 to Bursa Malaysia (Table 1) [1]. The sample period started from January 2000 to avoid the enduring effects of the Asian Financial Crisis (AFC) that took place in 1997 and 1998. Furthermore, February 2020 was chosen as the last month of the sample period to avoid the possible effects of COVID-19 that started in March 2020. The final samples of 466 Malaysian IPOs were used for analyses after excluding IPOs that were priced using the book-building mechanism, IPOs from the finance sector, rare types of IPOs, IPOs with incomplete data, and outliers. Data for the current research were sourced from Bursa Malaysia's website, firms' prospectuses, StarBiz online and the DataStream database.

3.2 Empirical model of the study

This study applied a cross-sectional multiple regression model to explore the influence of earnings forecast disclosure on the oversubscription of Malaysian IPOs. The regression model is represented by the following equation:

$$\begin{aligned} \mathrm{OS}_i = {} & \beta_0 + \beta_1 \mathrm{EARNDIS}_i + \beta_2 \mathrm{GFC}_i + \beta_3 \mathrm{INSTOWN}_i + \beta_4 \mathrm{UR}_i + \beta_5 \mathrm{GROP}_i \\ & + \beta_6 \mathrm{PUBOWN}_i + \beta_7 \mathrm{OFFSES}_i + \beta_8 \mathrm{LNOFFSZ}_i + \beta_9 \mathrm{DBOARD}_i + \beta_{10} \mathrm{DLY}_i \\ & + \beta_{11} \mathrm{MKTRET}_i + \varepsilon_i \end{aligned} \tag{1}$$

OS is the dependent variable of this research and it represents the oversubscription rate of an IPO. OS is based on the proposition that investor demand for IPO shares exceeds the IPO supply. Specifically, the additional pressure that drives the aftermarket price of an IPO is naturally attributable to the surplus demand from investors, eventually resulting in greater initial return. The independent variable EARNDIS is a dichotomous variable for the disclosure of earnings forecasts. Following the measurement by Clarkson *et al.* (1992), this study assessed earnings forecast disclosure using a binary number of "1" for a firm disclosing earnings forecasts and "0" otherwise.

For the control variables, GFC is a binary variable identifying the IPOs listed during the GFC period between July 2007 and December 2009. Investors behave wisely during unfavourable market conditions to avoid making losses from their IPO investment, for instance, during the circumstance of the GFC period (Fauzi *et al.*, 2012). INSTOWN represents the new shares assigned to informed investors as a percentage of the total shares offered for an IPO (Che-Yahya *et al.*, 2014; Ong *et al.*, 2020a). Underwriter reputation (UR) is formulated as a ratio of the total underwriting amount for the underwriter in the listing year to the total underwriting amount for all underwriters in the listing year (Megginson and Weiss, 1991). An underwriter is assumed to be prestigious if the entire underwriting amount raised by the underwriter is greater than the mean value of the entire underwriting amount in the particular year. Accordingly, UR is signified by a dichotomous variable of "1" where an issue was certified by a reputable underwriter and "0" otherwise. GROP is the growth opportunity of firms, calculated as the total proceeds assigned for investment activities (sum of capital

expenditure, working capital, and research and development expenditure) expressed as a percentage of the entire proceeds raised in an IPO (Ong *et al.*, 2020b). PUBOWN represents retail investors' ownership, calculated as the percentage of the entire shares assigned to retail investors over the entire shares issued in an IPO (Tajuddin *et al.*, 2018).

OFFSES is offer-for-sales, which is the sale of secondary IPO shares by existing shareholders (Che-Yahya *et al.*, 2018). LNOFFSZ indicates a firm's size, computed as the natural logarithm of the offer size. The next control variable is the listing board of firms (DBOARD), which is a dummy variable utilising a binary number of "1" for a firm listed in the Main Market and "0" for a firm listed in the ACE Market. Information leakage (DLY) is included in this model and is measured as the number of days between the opening date and the closing date of the share application (Chowdhry and Sherman, 1996b; Tajuddin *et al.*, 2015). MKTRET represents the recent stock return, measured as the percentage change between the FTSE EMAS index on the IPO listing date and the FTSE EMAS index on the IPO offer date (Mohd-Rashid *et al.*, 2014).

4. Empirical findings and discussion

4.1 Descriptive results

Table 2 [2] summarises the descriptive results of the variables from the model. All the continuous variables were winsorised at their 5th and 95th percentiles to reduce any potential biases attributed to outliers. The result showed that Malaysian IPOs had a mean oversubscription rate of 26.64 times with a median of 16.66 times. This average of 26.64 times is lower than the average reported in prior studies. For example, the average oversubscription rate of 33.59 times was reported by Low and Yong (2011) and 33.62 times was reported by Albada *et al.* (2019). About 54.10% of the issuers included information on forecasted earnings in their IPO prospectuses. Specifically, out of the 466 Malaysian IPOs, earnings forecasts were available for 282 IPOs. Among these 466 IPOs, 35 were listed during the GFC period from July 2007 to December 2009.

For INSTOWN, this study identified an average of 44.85% of shares that were assigned to institutional investors. About 31.8% of the sample firms selected reputable underwriters to certify their issues. An average of 42.19% of the issue proceeds were for financing growth activities. Furthermore, the firms assigned an average of 21.43% of shares to retail investors and an average of 21.08% of the shares sold were from existing shareholders to the public. The average offer size was RM34.41 million. The average number of days from the opening date to the closing date of the share application was 29.40 days. For market return, the average, highest, and lowest returns were 0.39%, 6.89% and −7.99%, respectively. Besides, this study found that the data of all the variables in the model were not normally distributed, as proven by the Jarque–Bera statistics at the significance level of 1%.

4.2 Correlation analysis

The results of Pearson's correlation analysis among the variables are shown in Table 3 [3]. The correlations among explanatory variables were reliably lower than the 0.75 cut-off point, indicating that no multicollinearity threats were detected in the models.

4.3 Regression analyses

The results of the OLS regression analysis reported in Table 4 quantified the impact of the disclosure of earnings forecasts on oversubscription rates. The adjusted R^2 of the regression model was 0.224, indicating that the determinants elucidated at least 22.40% of the variations in oversubscription rates. The *F*-statistic of the oversubscription model (13.209, Model 1) confirmed that the goodness-of-fit of the model was satisfactory at the significance level of

Variables	Model 1: OLS: OS	Model 2: Quantile models $Q_{0.25}$	$Q_{0.50}$	$Q_{0.75}$	Model 3: Probit: EARNDIS	Model 4: 2SLS: OS
EARNDIS	7.319**	1.198	6.854**	13.591***	–	7.448**
	(3.834)	(1.997)	(3.463)	(7.807)		(4.130)
GFC	−16.693***	−5.113**	−12.300***	−9.743*	0.632	−16.679***
	(4.553)	(2.544)	(3.615)	(4.989)	(0.836)	(3.527)
INSTOWN	10.619*	3.091	7.267	15.020*	0.040	−10.660**
	(10.823)	(3.067)	(5.451)	(7.807)	(1.235)	(3.526)
UR	−4.556	−1.618	−3.240	0.109	−0.363	−4.619*
	(2.806)	(1.455)	(3.471)	(4.192)	(1.269)	(2.400)
GROP	1.592	0.018	2.694	−0.177	−0.398	1.555
	(4.024)	(2.926)	(4.378)	(6.184)	(1.269)	(4.762)
PUBOWN	−50.235***	−4.794	−25.077***	−65.864***	5.143**	−50.362***
	(10.827)	(5.224)	(8.933)	(15.546)	(2.330)	(8.429)
OFFSES	−15.894***	−5.632**	−12.272**	−24.315***	−0.389	−15.963***
	(5.093)	(2.650)	(5.860)	(9.165)	(0.960)	(5.158)
LNOFFSZ	−9.089***	−1.180	−5.991***	−10.657***	0.959***	−9.072***
	(2.135)	(1.020)	(2.271)	(3.062)	(0.370)	(1.847)
DBOARD	−5.752	−2.587	−6.713*	−15.890**	3.438***	−5.728
	(4.014)	(2.226)	(3.963)	(7.541)	(1.079)	(3.712)
DLY	−0.465**	−0.279***	−0.483***	−0.479**	−0.016	−0.466***
	(0.203)	(0.075)	(0.157)	(0.226)	(0.024)	(0.149)
MKTRET	−0.628	−0.046	−0.300	−0.717	−0.059	−0.623**
	(0.423)	(0.222)	(0.335)	(0.579)	(0.048)	(0.314)
LNAGE	–	–	–	–	0.119**	–
					(0.258)	
LOCKUP	–	–	–	–	−8.140***	–
					(1.267)	
C	215.220***	41.181	148.876***	266.284***	−16.318***	214.549***
	(36.743)	(17.475)	(38.845)	(52.342)	(6.010)	(31.290)
Observation	466	466	466	466	466	466
Adjusted R^2/ Pseudo R^2	0.224	0.055	0.096	0.209	0.679	0.222
F-statistics	13.209***					12.897***
Durbin–Watson	1.275					1.278
VIF Range	1.093–2.283					

Note(s): LNAGE denotes the natural logarithm of a firm's age. LOCKUP denotes the dummy variable of the lock-up period whereby the IPOs issued under the 180-day lock-up regime (effective from the year 2009) are represented by "1", whereas "0" is for the IPOs issued under the 360-day lock-up regime. The asterisks ***, ** and * signify significance at 1%, 5% and 10%, respectively. The quantile regression estimation uses the alternative Epanechnikov kernel function and Hall–Sheather's bandwidth

Source(s): Authors' own work

Table 4.
Regression analyses

1%. The Durbin–Watson statistic was far lower than 2.00, indicating the existence of autocorrelation issues in the IPO oversubscription model. Thus, the autocorrelation issues surrounding the oversubscription model were corrected using the Newey–West covariance test. The variance inflation factor (VIF) values of less than 10 in the oversubscription models demonstrated that no multicollinearity treats were present (Gujarati, 2003).

According to the OLS result, the disclosure of earnings forecasts (EARNDIS) had a positive impact on the oversubscription rates (OS) at the significance level of 5%. The result supported *H1*. The positive relationship proposes that investor demands are higher for IPOs with earnings forecasts than IPOs without earnings forecasts. Earning forecast disclosure

serves as a signal that transmits superior information on IPO motivations and thus reflects a firm's quality. In line with Bédard *et al.* (2016), the signal conveyed by the disclosure of forecasted earnings in IPO prospectuses helps alleviate uncertainties that surround the issues. Investors in the Malaysian IPO market perceive firms with earnings forecasts to be of less risk and superior quality, and this perception could trigger their interest to subscribe to the IPO shares.

The present study further conducted quantile regression analysis as a robustness analysis. The significant results of Jarque–Bera statistics among variables indicated the data were not normally distributed (Table 2). Thus, depending on OLS solely for the interpretation of the result could be deceptive. This study thus focused on the 25th quantile ($Q_{0.25}$), 50th quantile ($Q_{0.50}$) and 75th quantile ($Q_{0.75}$) to compare the impacts of EARNDIS on OS. Table 4 presents the results of the robustness analysis. The pseudo-R^2 values for $Q_{0.25}$, $Q_{0.50}$ and $Q_{0.75}$ were about 5.50, 9.60 and 20.90%, respectively. EARNDIS appeared to be an important predictor at the significance levels of 5% and 1% in $Q_{0.50}$ and $Q_{0.75}$, respectively.

In addition, this study hypothesised that the OLS model in Table 4 might have an endogeneity problem. Issuers who expected their offerings to be oversubscribed might opt to provide information on projected earnings. If this was the case, the positive association between dummy EARNDIS and OS might not be causal due to issuers' concurrent selection behaviour. This study, therefore, employed two approaches: impact threshold for a confounding variable (ITCV) analysis and two-stage least squares (2SLS) regression model. ITCV is a useful analysis for ascertaining how severe the correlated-omitted-variables bias is directed to overturn the OLS result (Baker *et al.*, 2021; Frank, 2000; He, 2021). Theoretically, a smaller (greater) ITCV value specifies that the main results are more (less) robust to the concerns of the omitted variables. The result of the ITCV analysis is reported in Appendices Table A1 [4]. The absolute ITCV value of 0.0655 indicated a minimum impact of the confounding variable was required to cause the coefficient of EARNDIS to be statistically insignificant. This value suggested that the correlations between EARNDIS and OS with the unobserved confounding variable each only needed to be 0.256 (the square root of 0.0655) for the main OLS result to be invalidated. Moreover, the result showed that zero (three) of the control variables based on partial (raw) correlations were greater than the ITCV value for EARNDIS. Thus, confounding variables with much stronger impacts were needed to overturn the regression results.

For the second approach (2SLS model), EARNDIS was regressed on all the independent variables from Model 1 and two extra variables to assure identification: the natural log of firm's age and the dummy variable for the lock-up period. Allaya and Toumi (2020) found that old issuers were driven to include earnings forecasts in prospectuses because these firms had longer business experience and better capabilities to control their financial situations. Chong and Ho (2007) contended that issuers that include earnings forecast information in prospectuses accept a longer lockup period to assure investors of the reliability of their forecasts. For the first stage of probit regression (Table 4), IPOs that incorporated earnings projections in their prospectuses tended to be large, old, and listed on the Main Market, besides allocating larger portions of their shares to the public and having shorter lock-up periods. In the second phase, this study re-estimated the OS model while adjusting for the endogeneity issue of EARNDIS (Model 4), resulting in conclusions consistent with those of Model 1.

4.4 The effect of the GFC period

Table 5 reports the empirical results of OLS regression and quantile models for the impact of earnings forecast disclosures on the oversubscription rates of firms that went public during GFC and non-GFC periods. The empirical results in Model 1 showed that for firms that went public during the GFC period, EARNDIS attained a negative substantial relationship with OS

Table 5.
Regression analyses across IPO sub-samples based on the global financial crisis (GFCs)

Variables	Model 1: OLS: OS (IPOs listed during the GFC period)	Model 2: Quantile models			Model 3 OLS: OS (IPOs listed during the non-GFC period)	Model 4: Quantile models		
		$Q_{0.25}$	$Q_{0.50}$	$Q_{0.75}$		$Q_{0.25}$	$Q_{0.50}$	$Q_{0.75}$
EARNDIS	−8.911*	−2.607	−7.538	−10.024*	8.350*	2.921	9.247**	18.694***
	(5.254)	(4.130)	(6.656)	(6.722)	(4.498)	(2.448)	(4.055)	(5.117)
INSTOWN	0.207	−0.686	8.610	−0.649	−8.017	0.722	−3.104	−15.496
	(11.146)	(11.324)	(12.987)	(13.942)	(5.848)	(4.873)	(5.919)	(9.916)
UR	4.201	1.788	1.742	6.526	−6.007**	−2.118	−3.851	−2.948
	(3.271)	(4.134)	(5.367)	(5.631)	(3.012)	(1.980)	(2.872)	(3.504)
GROP	−11.679	−1.055	−13.579	−14.840	3.672	0.607	6.343	3.499
	(4.028)	(7.538)	(10.195)	(11.205)	(4.326)	(3.143)	(4.477)	(6.216)
PUBOWN	−38.662*	−25.843	−9.973	−18.015*	−48.891***	−4.537	−29.291***	−61.797***
	(20.569)	(28.931)	(31.542)	(15.548)	(11.424)	(4.973)	(8.241)	(16.625)
OFFSES	−11.973*	−5.150	−0.870	−19.128*	−15.861***	−5.074	−13.885*	−25.954***
	(6.569)	(11.224)	(12.185)	(12.301)	(5.761)	(3.242)	(7.107)	(9.349)
LNOFFSZ	−5.057	−1.631	−2.343	−6.176	−9.418***	−0.896	−7.395***	−10.173***
	(3.044)	(3.154)	(3.699)	(4.969)	(2.400)	(1.109)	(2.222)	(3.756)
DBOARD	−4.679	1.467	−5.487	−11.632	−5.600	−0.749	−3.020	−21.645***
			(8.612)				(4.433)	
	(6.177)	(6.303)		(11.953)	(4.535)	(2.833)		(7.675)
DLY	0.021	0.251	0.248	0.026	−0.529**	−0.389***	−0.571***	−0.622***
	(0.276)	(0.349)	(0.365)	(0.442)	(0.212)	(0.087)	(0.141)	(0.282)
MKTRET	0.322	0.568	0.015	0.837	−0.822*	−0.265	−0.774**	−0.920**
	(0.504)	(0.482)	(0.749)	(0.746)	(0.452)	(0.247)	(0.385)	(0.468)
C	118.712**	31.070	52.427	149.150*	220.903***	36.475*	171.690***	263.714***
	(53.670)	(56.041)	(64.594)	(82.703)	(41.415)	(20.691)	(38.212)	(63.612)
Observation	35	35	35	35	431	431	431	431
Adjusted R^2/ Pseudo R^2	0.238	0.128	0.099	0.206	0.221	0.057	0.105	0.210
F-statistics	2.531**				12.783***			
Durbin–Watson	1.715				1.275			
VIF Range	1.836–6.508				1.836–2.387			

Note(s): The asterisks ***, ** and * signify significance at 1%, 5% and 10%, respectively. The quantile regression estimation uses the alternative Epanechnikov kernel function and Hall–Sheather's bandwidth
Source(s): Authors' own work

at the significance level of 10%. *H2* was supported. In addition, a positive coefficient (12.072) was evidenced by the non-GFC period in Model 3. The results of the quantile model (Model 2) reported a significant negative coefficient of EARNDIS in the $Q_{0.75}$ at a significance level of 10%, confirming the findings obtained in Model 1 (Table 5). The results inferred that the disclosure of earnings forecasts induced investors to purchase IPO shares during the non-GFC period more actively that during the GFC period. The reason is that a financial crisis is a period of greater uncertainty, which weakens the signalling role of earnings forecasts. This explanation supports the argument by Persakis and Latridis (2015) that investors acknowledged that the earnings quality of IPOs deteriorated during the GFC period. Investors in Malaysia assumed that the IPOs listed during the GFC period had poor qualities of earnings forecasts. Thus, investors' confidence in these IPOs eroded due to the expectation of obtaining low initial returns, resulting in low demands for the shares of IPOs with earnings forecasts that were listed during the GFC period.

5. Conclusion and implications

The current study provides evidence of the occurrence of IPO share oversubscriptions in the Malaysian market. This study employed the OLS approach on a dataset of 466 fixed-price IPOs between January 2000 and February 2020 to elucidate whether the disclosure of earnings forecasts can influence the oversubscription rates of IPOs. This study's findings imply that the disclosure of forecasted earnings information in IPO prospectuses has a positive impact on the oversubscription rates of IPOs. IPOs with earnings forecasts provide value-relevant signals to investors about firms' future prospects, thus attracting investors to subscribe to the IPO shares. In Malaysia, investors bid for shares and pay in advance for their share applications without knowing how many shares they will receive. In addition, issuers establish the offer prices without requesting for input from investors. Issuers may attempt to compensate for the uncertainties by disclosing their forecasted earnings in IPO prospectuses to signal the quality of their firms, as the disclosure of such information is viewed as a sign of "good news". This information is crucial, as it could affect investors' subscription decisions. Furthermore, this study noticed the existence of omitted variables that could invalidate the OLS result using ITCV analysis. To address the endogeneity issue, this study further extended the endogeneity test by employing a 2SLS model to observe the dummy variable of earnings forecasts. The issue was addressed after considering the two omitted variables, namely lock-up period and firm age. Nonetheless, such a finding is arguable as the endogeneity issue cannot be completely eliminated due to the existence of other unobserved variables that might be used in the 2SLS model.

The current study also examined the oversubscription model across GFC and non-GFC periods. Surprisingly, the data showed that the disclosure of earnings forecasts in prospectuses considerably deterred investors from subscribing to the IPOs listed during the GFC years. IPO firms with earnings forecasts that were launched during the GFC period were perceived as low-quality firms that were unappealing to investors because investors were unsure of the quality of their anticipated earnings and expected low initial returns. The findings suggest that it would be prudent for issuers to remove earnings projections from their prospectuses in order to minimise under-subscription issues and simultaneously increase shareholder value in the short and long term.

The present study's findings provide regulators with valuable insights. It is undeniable that some issuers benefit from the voluntary disclosure regime introduced in 2008 as it provides them with the opportunity to conceal their firms' poor qualities, especially for the IPOs listed in the ACE market. However, some issuers do not include earnings forecasts in prospectuses to save the cost of employing high-quality auditors who help ensure the accuracy of disclosed earnings forecasts. This non-disclosure could lead investors to

misinterpret the firms as poor-quality firms. Thus, the SC is advised to encourage issuers to include forecasted earnings in their prospectuses. Such disclosure could ensure the transparency of firms during IPO listing and attract investors to participate in the IPO market.

Notes

1. Please see Table 1 in the Online Appendix
2. Please see Table 2 in the Online Appendix
3. Please see Table 3 in the Online Appendix
4. Please see Table A1 in the Online Appendix

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Appendix

The supplementary material for this article can be found online.

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