

THE IMPACT OF INITIAL PUBLIC OFFERING (IPO) ATTRIBUTES, FIRM-LEVEL CHARACTERISTICS AND OWNERSHIP ON MALAYSIAN IPO FIRMS' EARNINGS MANAGEMENT

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ABSTRACT

The paper investigates Malaysian Initial Public Offering (IPO) firms' financial reporting behaviour from the specific perspective of their earnings management (EM) practices covering both real (REM) and accrual (AEM) techniques. It further examines the impact of unique IPO attributes, firm level characteristics and ownership structure on both EM practices contemporaneously. Using the established and commonly used EM models to measure both AEM and REM for IPO firms from 2002 to 2013, the results indicate that IPO firms engage in both EM strategies around the corporate event. It also shows that such strategies are not just opportunistically motivated but attributable to several unique IPO attributes, firm level characteristics and ownership variables. The paper adds to the existing body of knowledge on IPO in the specific emerging country context of Malaysia which evidence from prior studies are observably scant.

Keywords: IPO, earnings management, IPO attributes, firm characteristics, ownership structure

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INTRODUCTION

Corporate debacle in the last decade has raised concern on firm's earnings quality at the disposal of investors (Jain et al., 2010) as the very foundation of stock market is primarily based on trust which relies on reliable financial information. One major way in which firms could misrepresent and distort financial information is through discretionary reporting which culminates into earnings management (EM). Healy and Wahlen (1999) asserts that EM manifests when managers use discretion in financial reporting to restructure transactions that ultimately distorts earnings quality which may mislead stake holders about the actual firm performance or affect contractual relationships that are built based on financial position of the firm. The extant literature suggest that rampant EM activities can cause the loss in investors' confidence towards the quality of reported earnings the chains of effects of which would adversely affect the firms by increasing its estimation risk and cost of equity (Hoque et al., 2017).

In the Malaysian corporate setting, EM behaviour during initial public offerings (IPO) corporate events is an important research area due to at least two specific motivations. First, the Malaysian economy has been growing steadily post-independence period but suffered multiple economic crises which resulted into many companies experiencing dwindling earnings (Saleh & Ahmed, 2005). Since earnings is a signal device of firm value to investors and management has considerable discretion in reporting earnings (Ahmad-Zaluki et al., 2011; DuCharme et al., 2004), it is expected to have been pervasively utilised during the period of uncertainty to restore investors' confidence in dealing with their equity and new public offerings. Secondly, the presence of mandatory regulatory requirements related to profit forecast and guarantee as well as share moratorium (or share lockup) represent another motivation for EM practices among IPO firms. The former requires all IPO firms to provide profit forecast in their prospectus and guarantee of meeting 90% of the forecasted profit for at least three years following the IPO. However, the profit guarantee was relaxed in 1999 due to unenforceability and outright non-compliance but the profit forecast requirement remained enforced until 2008. The provision for three-year share moratorium further provides fertile regulatory hook that may compel Malaysian IPO firms to manage earnings.

Prior studies on EM in Malaysian IPO setting (e.g. Ahmad-Zaluki et al., 2011; Ismail & Weetman, 2008) confirm the existence of accrual EM (AEM) around the corporate event. These studies however did not examine real activity discretionary behaviour (REM), thereby systematically creating an apparent

literature gap. Fields et al. (2001) provide evidence that investigating either AEM or REM in isolation rather than contemporaneously will provide unclear cumulative impact of EM. Accumulating prior studies (e.g., Anagnostopoulou & Tsekrekos, 2017; Chan et al., 2015; Ipino & Parbonetti, 2017) found that firms strategically substitute AEM with REM in various settings. These studies effectively suggest that if managers use real activities manipulation and accrual-based EM as substitutes for each other, examining either type of EM activities in isolation will not lead to definitive conclusions with regards to firm's EM practices.

Furthermore, studies on IPO firms' earning forecast in Malaysia continue to report earnings forecast errors (e.g., Jelic et al., 2001; Ismail & Weetman, 2007; Ahmad-Zaluki & Wan-Hussin, 2010) which are indications that Malaysian IPOs firms still engage in EM practices (other than the accrual manipulation strategy) despite regulatory apparatus such as the adoption of International Financial Reporting Standards (IFRSs) with the aim of addressing accrual manipulations. Despite the increasing significance of EM behaviour, there appears to be no studies in the Malaysian setting that examine the direction, magnitude and nature of REM and AEM contemporaneously in the context of IPO corporate event. This is empirically unsettling in view that earnings are given due prominence when setting share price, which therefore constitutes the most important and the only valuable accounting item in prior literature in both REM and AEM studies (Gunny, 2010; Roychowdhury, 2006; Cohen & Zarowin, 2010; Teoh, Wong, & Rao, 1998).

Following the above expositions, this study examines Malaysian IPO firms EM behaviour around the IPO corporate event. It also investigates the impact of several IPO attributes, firm level characteristics and ownership structure on such behaviour. Past studies (e.g., Zang, 2012; Cohen et al., 2008; Graham et al., 2005) assert that managers engage in REM because of the tightening of regulations (e.g., Sarbanes–Oxley Act 2002) as AEM attracts the scrutiny of regulators and easily uncovered by auditors thereby adversely affecting the firm's reputation. To this extent, IPO firms may have more incentives to engage in REM since creditability is crucial in IPO corporate event. Roychowdhury (2006) advocates that firm's position may be precarious by relying on accrual earnings alone because if the earnings threshold is not met through accruals activities, it may be too late to embark on real activity which takes time to materialise and may not be easy to manipulate at the end of the year.

This paper contributes to the existing EM–IPO literature mosaic in at least three specific ways. First, it constitutes the only empirical study examining both REM and AEM contemporaneously around Malaysian IPO events using IPO data post the year 2000 which prior Malaysian studies (e.g. Abdul-Rahman & Wan-Abdullah, 2005; Ahmad-Zaluki et al., 2011) have not covered. Second, previous Malaysian EM–IPO studies have mainly concentrated on post event stock returns announcement or performance which are financial impact external to the firm using AEM as the variable. In contrast, present study provides further insight into the impact of several IPO attributes, firm level characteristics and ownership structure on both AEM and REM which is internal to the firm and its environment that affects its real decisions rather than mispricing or share price effects. Third, in the spirit of arguments by Ahmad–Zaluki et al. (2011) proposing for the examination of country specific EM–IPO relations using sample IPO firms from emerging market context such as Malaysia, present research considers the studying of similar variables using IPO samples in developing economic context with different institutional arrangements and legal environment compared to the those prevalent in the developed economies commonly studied in the EM–IPO literature as warranting and contributing the existing body of knowledge.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

EM Practices of Malaysian IPO Firms

The EM strategies are executed for variety of reasons using different metrics. Healy and Wahlen (1999) assert that managers engage in EM for basically four reasons including regulatory, capital market, external contract or compensation contract incentives. Previous literature focusing on AEM around Malaysian IPOs provides inconclusive or mixed results (Abdul-Rahman & Wan-Abdullah, 2005; Ahmad-Zaluki et al., 2011). Similarly, previous studies in advanced capital market (Teoh, Wong, & Rao, 1998, DuCharme et al., 2004; Ball & Shivakumar, 2008) based exclusively on AEM metric also provide conflicting results. The study of REM metric has now gained prominence in the literature in addition to AEM. Graham et al. (2005) provides evidence that managers preferred real activity manipulation over accrual. Roychowdhury (2006) provides three measures of real activity behaviour that have been applied by subsequent studies in different settings including seasoned equity offerings (SEOs) (Cohen & Zarowin, 2010), around zero earnings threshold (Roychowdhury, 2006), in different legal system regimes (Enomoto et al., 2015; Francis et al., 2016), before management buyouts (Mao & Renneboog, 2015), during mergers and

acquisitions (Karim et al., 2016) and meeting or beating analysts' earnings forecasts (Gunny, 2010).

However, there appears to be a knowledge gap with regards to REM and AEM behaviour by Malaysian IPO firms which was not covered in prior studies. It is therefore hypothesised that:

H1: Malaysian IPO firms engage in both REM and AEM.

IPO Attributes and EM

Prior research provides evidence on some determinants of EM by IPO firms such as higher stock price after IPO corporate event (Teoh, Welch, & Wong, 1998) and managerial or strategic ownership selling (Darrough & Rangan, 2005). These prior studies however focused on AEM only. The following IPO attributes of IPO proceeds and share moratorium or lockup have been frequently examined in the literature using developed economy context. Following the assertion by Ahmad-Zaluki et al. (2011) that local institutional characteristics of legal, governance and ownership would potentially provide different empirical results contrastingly different from those obtained in advanced economic setting, these variables are revisited and tested using recent Malaysian samples post year 2000 which are separately hypothesised below.

IPO proceeds

Teoh, Wong and Rao (1998) assert that IPO firms are motivated to engage in increasing EM to influence the size of the offering. In doing so, firms will temporarily deceive investors by opportunistically manipulating earnings through EM before the listing exercise. Accordingly, prior studies (e.g., Bao et al., 2013; Yoon & Miller, 2002) provide evidence of a positive relationship between offering size and EM. To empirically investigate IPO proceeds' impact on Malaysian IPOs, it is therefore hypothesised that:

H2: The IPO firms' EM are positively related to IPO proceeds.

Share moratorium or lockup

The extant literature provides that share moratorium or lockup contracts effectively constitutes a control regulatory device assuring the equity market that pre-IPO controlling shareholders will not immediately "cash out" by selling off their ownership interests after the IPO, thereby minimising the potential divergence of interests with those of other investors (Mohd-Rashid et al., 2014;

Haman et al., 2017). The lockup literature suggests signaling and commitment hypothesis as potential reasons for the existence of lockup periods (Brav & Gompers, 2003; Nam et al., 2014). Lockups effectively constitute a signaling device for firm's quality whereby high value firms would provide longer lockups and subsequently obtain a higher IPO price (Brav & Gompers, 2003). It also serves as a commitment device in alleviating asymmetric information problem between controlling owners and other shareholders, thereby protecting potential investors' interests (Goergen et al., 2006; Yung & Zender, 2010). Majority of prior studies which focused on share price reactions to IPO lockup expirations provide evidence supporting the commitment hypothesis (e.g., Chen et al., 2011; Espenlaub et al., 2001).

Major issues discussed in the lockup literature notably relate to market liquidity impact of insider trading and EM practices around lockup expirations (Brau & McQueen, 2005; Cao et al., 2004; Krishnamurti & Thong, 2008). In the context of EM, the first expiration period constitutes the first wealth gaining opportunity for IPO firms by selling the maximum percentage of their restricted shares and hence this would motivate firms to inflate earnings accordingly (Wongsunwai, 2013). This is expected to continue post first expiration period with the aim of maximising personal wealth by ensuring maximum share prices during shares sale off (Wang et al., 2018). The provision for three-year share moratorium period in Malaysia serves more towards the commitment objective whilst aiming at stabilising the equity market and protecting minority shareholders' interests.

This however also provides motivations for firms to manage earnings. The extant literature indicates that there are currently no studies that have empirically investigated the impact of share moratorium on both REM and AEM practices among Malaysian IPO firms contemporaneously. It is therefore predicted that:

H3: The IPO firms' EM is higher during period approaching moratorium expiry.

IPO Firm's Characteristics

IPO firm's leverage and EM

The extant literature provides two opposing views on the impact of leverage on EM. Early studies suggest that firms with high leverage aggressively manage their earnings (Watts & Zimmerman, 1990). DeFond and Jiambalvo (1994)

asserts that firms about to experience repayment default engage in income increasing EM to delay their technical default (Gu et al., 2005) and to avoid debt covenant violation (Beatty & Weber, 2003). The second perspective adopts Jensen's (1986) control hypothesis which suggests that debt creation reduces manager's opportunistic behaviour. This implies that high leverage may restrict managers' ability to manipulate income increasing accruals. According to Jelinek (2007), leverage involves debt repayment which reduces cash available to management for non-optimal spending and the firm is subjected to the scrutiny and covenant restrictions of spending by lenders (Jensen, 1986). Accordingly, accumulating findings (e.g., Dechow et al., 1995; Iturriaga & Hoffmann, 2005) indicate that firms with high AEM are characterised by low leverage whilst other studies (e.g. Aharony et al., 1993; Liu et al., 2014) find the reverse.

Paradoxically however, prior EM–IPO relations studies only examined the impact of leverage on AEM without examining the impact on real activities which is relevant to the validity of their results. Given the competing hypotheses and hence empirical results in prior research, it is therefore hypothesised in a non-directional form (whereby the direction and significance become the empirical questions in this research) that:

H4: The IPO firms' EM is systematically related to Leverage.

IPO firm's size and EM

There has been opposing views on the effects of firm size on EM behaviour. The first view argues that larger companies are most likely motivated to manage earnings because their operational complexities for investors and auditors to detect overstatement particularly when real activity discretionary behaviour is involved (Lobo & Zhou, 2006). Size may also reflect the political sensitivity (Shawtari et al., 2015). The opposing view however asserts that big companies are more exposed to political cost in terms of monitoring by regulatory agencies and other stakeholders as compared to small firms, causing managers of large companies to engage in EM in anticipation of reduction of the political costs (Watts & Zimmerman, 1978). In the IPO context, Shu and Chiang (2014) find that large firms use discretionary accruals to increase their IPO proceeds in Taiwan but Gumanti et al. (2015) provide evidence that IPO firm size have negative and significant effect on the level of current accruals in Indonesia. Most prior Malaysian EM–IPO studies use firm size as a control variable. In this research, firm size is hypothesised in examining its role on

IPO firm's EM behaviour. In view of the existence of opposing views and competing empirical results, it is therefore hypothesised that:

H5: The IPO firms' EM is systematically related to IPO firm size.

IPO firm's capital expenditure growth and EM

Capital expenditure is considered as a proxy for growth opportunities, which variation contributes to firm's EM practices (AlNajjar & Belkaoui, 2001; Madhogarhia et al., 2009). The extant literature suggests multiple theoretical explanations on the impact of firm's growth opportunities on EM. First, growth opportunities influence reported earnings and subsequently increase the firm's political costs and risk (AlNajjar & Belkaoui, 2001). This effectively creates firm's inherent incentives to reduce political costs (Watts & Zimmerman, 1978) by using the necessary EM techniques. Second, high growth firms would have more incentive to manage reported earnings and they would do so more aggressively as compared to others due to their higher information asymmetries (Madhogarhia et al., 2009), the creation of which is sourced from the uncertain growth opportunities itself. This systematically makes it difficult for investors to value such firm but would also makes it easier for managers to manage earnings to deceive investors (Adam & Goyal, 2008). Third, firms with good growth opportunities would also need to source for finance for expansion and might find it optimal to improve their earnings capacity (McNichols & Stubben, 2008).

Based on the foregoing list of theoretical expositions, prior studies find that high growth firms either manage earnings to reduce reported profits (AlNajjar & Belkaoui, 2001) or tend to manage their earnings upward and downward more aggressively than others (Madhogarhia et al., 2009). In this research, the firm's growth variable is investigated in its generality with regards to IPO setting in Malaysia and the hypothesis is set in a non-directional form whereby the direction and significance of the variable become the empirical questions in this research:

H6: The IPO firms' EM is systematically related to capital expenditure growth.

IPO Firm's Ownership Structure

Retained ownership

The extant literature suggests that ownership retention level or strategic insider ownership has both an entrenchment and alignment effect. Concentrated control may be detrimental to minority shareholders as it induces and aggravates insider expropriation and distortion of decision making by management (Ali et al., 2007). Accordingly, Miloud (2014) provides evidence that the percentage of shares retained by the original owners has a positive relationship with EM in the case of French IPO. The counter argument on the other hand argues that high retained ownership as controlling shareholders may assist in reducing the traditional owner–manager agency problems (Ismail & Sinnadurai, 2012) thereby implying an inverse EM–retained ownership relationship. Accordingly, Fan (2007) finds that IPO issuers with more uncertain future earnings are characterised by higher EM and lower ownership retention, which result is consistent with Copley and Douthett (2002) indicating an inverse relation between the level of retained ownership and a forecast of earnings based on pre-IPO reported earnings. These results are also consistent with empirical finding in the non-IPO context as provided by Sánchez-Ballesta and García-Meca (2007). The latter study supports the hypothesis that reasonable insider ownership levels helps constraining manager's EM practices. The above competing and thus, inconclusive results are further reinforced by the finding by Wang and Iqbal (2006) which unable to find a significant association between positive earnings disclosure before IPO and retained ownership.

To test this variable in the Malaysian IPO context within the framework of opposing views and competing empirical results, the hypothesis is set in a non-directional form whereby the direction and significance of the variable become the empirical questions in this research:

H7: The IPO firms' EM is systematically related to ownership retention

Institutional ownership

There exist three strands of literature on the impact of institutional ownership (IO) on EM. The first are empirical studies that uphold IO's role in mitigating EM (DeFond & Jiambalvo, 1994; Cheng & Reitenga, 2009), thereby reporting a negative association between EM and IO. The second strands are those that support the contingency hypothesis which views IO from three perspectives

(Bushee, 2001). First, the short-term investors with diversified shareholding and turnover which primary interests are short term profit as opposed to firm's long-term value. The study also identifies the "quasi-indexers" whom are long term investors characterised by buy and hold, low turnover with long term investment behaviour. In addition, the study also identifies dedicated IO with low turnover and large portfolio investments in their investee firms akin to relationship investing involving long term patient capital. Quasi-indexers and dedicated institutions desire stable investment and income; capital appreciation coupled with enhanced firm value rather than short term gains. IO with short term investment strategy is not bothered with increasing EM behaviour while long-term investors discourage it.

There is also an extension to the contingency hypothesis termed as the behavioural or relationship hypothesis. These studies (Cornett et al., 2007; Hartzell & Starks, 2003; Almazan et al., 2005) assert that institutions operate under different circumstances in terms of legal environment, investment strategies and conflict of interest between fiduciary responsibility for investment protection and business relationships. Therefore, institutional stockholders who have interest *de clientele* with the investee firm may not constrain EM in order not to affect the business relationship especially where it is costly to do so. Classified as pressure sensitive investors, they include banks and insurance companies (Almazan et al., 2005). The other groups are those investors with no specific business interest and their main preoccupation is the fiduciary protection of their clients' funds in the investee firms. Classified as pressure insensitive, they include public pension funds, mutual funds, unit trusts and other financial institutions (Brickley et al., 1988; Almazan et al., 2005). These are likely to control and constrain EM. Finding from prior Malaysian IO-EM study of Abdul-Rahman and Mohamed-Ali (2006) supports the assertion that pressure insensitive investor are better monitors and therefore able to constrain EM better than the pressure sensitive investors.

The third strand of literature relates to the institutional activism hypothesis (David et al., 2001; Park et al., 2008). These studies assert that institutional activist shareholders are more effective in monitoring their investee firms than financially oriented block holders. In a related study by Abdul-Jalil and Abdul-Rahman (2010) using 94 firms listed on Bursa Malaysia which classifies IO into three groups, it considers pressure sensitive IO as banks and insurance companies, pressure insensitive composed of unit trusts, pension funds and state institutions and the third group composed of Malaysian shareholders watchdog group. They provide evidence that both pressure sensitive and insensitive IO does not constrain EM unlike the third category.

The study however used AEM to proxy of EM without examining REM behavior which might paint incomplete IO–EM relationship given the possibility of AEM–REM complementarity and substitution effect (Chan et al., 2015; Ipino & Parbonetti, 2017). On the other hand, Roychowdhury (2006) confirms negative relation between IO and REM. Unlike AEM, REM has real economic impact on the firm’s long-term value. Given their sophistication and information at their disposal, IO possess better understanding of the implication of firms’ operating decisions, giving rise to the need to effectively mitigate REM.

The existing theories provide competing predictions on IO–EM relationship. Empirical evidence seems to suggest concentrated ownership structures have adverse impact on reporting incentives and the firm’s information environment, which leads to increased information asymmetry giving rise to more EM and low disclosure level (Fan & Wong, 2002; Hope, 2003). The review of empirical literature above suggests that the impact of IO on EM is contingent on the investment strategy. Short-term IO do not seem to mitigate EM while long term investors do potentially constrain it.

In Malaysia, major IO includes Employee Provident Fund (EPF), Armed Forces Superannuation Fund (LTAT), Pilgrims Fund (LTH), Permodalan Nasional Berhad (PNB) and Social Security Organisation (SOCSSO). These institutions in pursuance of the recommendation of the Finance Committee on Corporate Governance (FCCG) in 2000 became known as the Minority Shareholders Watchdog Group (MSWG). This is a pressure group that is expected to monitor and protect minority shareholders interest among other responsibilities. Other IO includes banks, insurance companies, unit trusts, pension funds and government corporations. For the purpose of this study only two groups are used, which are the cumulative ownership percentage of MSWG members (LTH, EPF, PNB, SOCSSO and LTAT) and the cumulative ownership percentage of banks, insurance companies, unit-trusts and pension funds as the second group.

The first group being activists are classified as the “Conservative Group” because they are likely to limit income increasing EM due to their long-term investment horizon. The second group refers to “Neutral Pressure Group” because due to interest *de clientele* and myriad of business relationships, they are unlikely to control or be hostile to their investee firms in order not to mar their business relationships especially when it is costly to do so. This group is expected not to constrain income increasing EM. Consistent with earlier hypotheses on variables having opposing views and competing empirical results, the hypothesis for IO is set in a non-directional form whereby the

direction and significance of the variable become the empirical questions in this research:

H8: The IPO firms' EM is systematically related to IO.

METHODOLOGY

The sample consists of 476 Malaysian IPO firms during the period 2002 to 2013. This period is newer than periods covered in prior Malaysian EM–IPO studies such as Abdul-Rahman and Wan-Abdullah (2005) (1989–1998), Ismail and Weetman (2008) (1996, 1998 and 2000) and Ahmad-Zaluki et al. (2011) (1990–2000). More importantly, the period covered in this study is devoid of any confounding effects of the 1997/98 Asian financial crisis which might contaminate the empirical estimations. In addition, the deregulation and liberalisation of the Malaysian stock exchange took place during this period. Consistent with prior EM–IPO studies, IPO firms were selected based on the following conditions:

1. The offer should involve ordinary shares only, excluding preference shares, debentures and loan stocks.
2. The company must be listed on the Main Board, the Second Board or MESDAQ (ACE) markets of Bursa Malaysia.
3. Financial data are available on Standard and Poor (S&P), Capital IQ database from 2002–2013. This is the period when all listed companies on Bursa Malaysia started the mandatory adoption of the Malaysian corporate governance code (MCGC) provisions in their annual reports.
4. Non-financial firms only: Companies from the Finance, Trust, or Closed-End Funds sector which are regulated through the Banking and Financial Institutions Act (1989) were excluded because they have different statutory requirements in preparing companies annual reports and disclosure rules.

Since the analyses cover the three years share moratorium period and at least two years post share moratorium period, at least five years financial data are therefore needed. Accordingly, the analysis will cover the period 2002–2009. After the screening exercise, the final sample that met the criteria stood at 253 IPO firms. Due to lack of ownership data however, the sample was further reduced to 220 IPO firms only.

Measuring Accrual and Real Earnings Management

Consistent with the trend in previous EM studies (DuCharme et al., 2004; Roosenboom et al., 2003; Teoh, Welch, & Wong, 1998; Ahmad-Zaluki et al., 2011), the Dechow et al. (1995) cross-sectional modified model is used to calculate AEM. To measure REM, the Dechow et al. (1998) models employed in previous studies are adopted. It covers abnormal cash flow from operations, abnormal discretionary expenses and its individual accounting items namely abnormal selling, general and administrative expenses, research and development and advertising. It also covers the abnormal production cost and its components namely abnormal cost of goods sold and abnormal change in inventory. Previous studies (e.g. Zang, 2012; Gunny, 2010) provide evidence of the models' construct validity and their proxies. These models and proxies are also applied by subsequent research (e.g. Roychowdhury, 2006; Cohen & Zarowin, 2010). In this study, instead of computing one aggregate measure (i.e., the sum of the three standardised variables: abnormal production costs (DPROD), cash flow from operations (DCFO) and discretionary expenses (DISEXP) of REM commonly applied in prior studies, two measures of REM (REM-1 and REM-2) as in Cohen and Zarowin (2010) are used to capture the impact of REM behaviour. REM-1 represents the combination of DISEXP and DPROD and REM-2 is the grouping of DCFO and DISEXP.

Model Estimation

The aim of this paper is to investigate the Malaysian IPO firms' EM behaviour covering both the AEM and REM techniques. It further examines the impact of unique IPO attributes (IPO proceeds and share moratorium), firm level characteristics (leverage, firm size and growth) and ownership structure (ownership retention and IO) on both EM practices contemporaneously. These variables are accordingly hypothesised, and additional two variables of firm's age and auditor reputation are added as control variables. Table 1 presents variable operationalisation and definitions.

Table 1
Variable measurement

Independent variables	Variable	Measurement/Operationalisation	Expected sign
IPO attributes	IPO proceeds (PROC)	The number of shares offered multiplied by the offer price. Calculated as the natural logarithm of the proceeds from the offering	+
	Share Moratorium (SMTM)	Dummy variable “1” if IPO Firm under share moratorium and “0” otherwise	-
Firm characteristics	Leverage (LEV)	Total borrowings as a percentage of total assets, at the time of the IPO;	-/+
	Size (SIZE)	Measured as the natural log of assets to control for size effect	-/+
	Capital Expenditure Growth (CAPG)	Capital expenditure during the IPO year minus capital expenditure in the previous year scaled by total assets	-/+
Ownership structure	Ownership Retention (OWNRT)	As in Fan (2007), it is the percentage of shares retained by insiders (original owners) after the IPO. Measured by $\alpha = \frac{N_{before} - N_{secondary}}{N_{after}}$, where N_{before} = total number of shares outstanding before the offering N_{offer} = total number of share outstanding after the offering $N_{secondary}$ = total number of shares offered during the offering average	-/+

(continue on next page)

Table 1 (continued)

Independent variables	Variable	Measurement/Operationalisation	Expected sign
Dependent Variables	Institutional Ownership (IONPG)	The percentage of common shares owned by the following organisations such as insurance companies (life and non-life), banks, pension funds, investment trusts (including unit trusts), and financial institutions. (Including banks and banks nominee companies, finance companies, building societies and credit cooperatives), and investment companies	+
	Ownership by MSWG (IOCG)	Percentage of shares owned by organisations such as EPF, SOCSO, PNB, LTA, LTH and other nominee companies which are associated with the above categories of institutions are included	-
Control Variables	AEM	Abnormal Discretionary Accrual (DA) (modified Jones (1991) model as in Dechow et al., 1995)	
	REM	Real Earnings (REM): (as applied in Roychowdhury, 2006; Cohen & Zarowin, 2010; Zang, 2012) Abnormal cash flow from operations (DCFO) Abnormal discretionary expenses DISCEXP (R&D, SG&A, Adverts) Production cost (DPROD) (a+b+c = Aggregate REM)	
Control Variables	Auditor Type (AUD)	Dummy variable = 1 if auditor is Big 4 (PWC, E&Y, Deloitte & Touche and KPMG) and zero otherwise;	-ve
	Firm Age (AGE)	The firm age is calculated from the date of incorporation to the issuing year. That is Age is measured as the difference between the date of firm's establishment and the date of its IPO	-ve

The following model is thus estimated.

$$EM_{i,t} = \alpha_0 + \alpha_1 PROC + \alpha_2 SMTM + \alpha_3 LEV + \alpha_4 SIZE + \alpha_5 CAPG + \alpha_6 OWNRT + \alpha_7 IONPG + \alpha_8 IOCG + \alpha_9 AUD + \alpha_{10} AGE + \epsilon_i$$

RESULTS AND DISCUSSIONS

Descriptive Statistics

Following Abdul-Rahman and Mohammed-Ali (2006), one sample *t*-tests for the AEM and REM proxies were carried out to test the evidence of EM practices in the sample period. From the results tabulated in Table 2, the mean for AEM (DA) is positive. This is an indication of increasing AEM to inflate earnings in the IPO year (Darrough & Rangan, 2005). Similarly, REM behaviour in DCFO is negative which is synonymous with income increasing REM behaviour. However, other REM proxies are all positive and statistically significant ($p < 0.05$) which is an indication that Malaysian IPO firms engaged in both AEM and REM behaviour. The test variables reflect a lot of variability among the IPO firms such as PROC (Mean = 126, S.D. = 806) and SIZE (Mean = 306, S.D. = 1,438). The insider strategic ownership proxied by OWNRT stood at 71% while average IPO firm age is 11 years and the mean for IO (combined IOCG and IOPG) is less than 25% which is in tandem with previous Malaysian ownership literature indicating high concentrated ownership structure, cross shareholding and pyramidal structures (Ahmad-Zaluki et al., 2011; Claessens et al., 2000).

Table 3 presents the time series profile of median and mean values of AEM and REM proxies around IPO event for the period +1 to +5 in the IPO year. The results indicate significant positive mean discretionary accruals in the IPO year +1 and +2 which is consistent with income increasing AEM taking advantage of the IPO year. It is believed that the intention is to influence IPO pricing in the IPO year (+1) and the discretion may as well extend to post IPO pricing. The negative coefficient immediately after the IPO in year +3 through to year +5 indicates income decreasing AEM which may be as a result of reversal of accruals and intensity of regulatory surveillance. On the other hand, there is an increasing significant REM activity from the IPO year +1 up to year +5 which is an indication that IPO firms utilise both AEM and REM around the IPO period and there is also some evidence of trade off to REM.

Table 2
Descriptive statistics

Variable	Mean	Median	S.D.
DA	0.13**	0.01	3.12
DCFO	-0.03**	0.02	0.55
DISCEXP	0.38***	0.15	0.73
DPROD	0.47***	0.64	3.76
REM-1	0.58***	0.43	3.46
REM-2	-0.35**	-0.17	0.94
PROC	126	20	806
SMTM	0.64	N/A	N/A
LEV	0.59	0.31	2.24
SIZE	306	89	1,438
CAPG	3.94	0	20.38
OWNRT	0.71	0.69	0.99
IOCG	0.07	0	0.20
IONPG	0.23	0.01	2.16
AUD	0.42	N/A	N/A
AGE	11.00	8	8.43

Notes: All the discretionary earnings management proxies are winsorised at 1% and 99% to avoid the influence of outliers. DA=Abnormal discretionary accruals, REM-1 = DISCEXP * (-1) + DPROD, REM-2= DCFO * (-1) + DISCEXP * (-1). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. All other variables are as previously defined.

Immediately after the IPO year, there is evidence of decreasing AEM from year +3 through to year +5. This is perhaps because of the accrual reversals as mentioned earlier. One of the possible reasons for reversion to REM in year +3 to +5 may be that managers are eager to meet the earnings forecasts requirement in the prospectus of at least 90% of forecasted amount up to two years following the IPO. This is a unique mandatory requirement in the Malaysian environment until 2008 when it was abolished. These findings are in tandem with Ahmad-Zaluki et al. (2011) that accruals reversed three years beyond the IPO year.

Table 3
Time series profile of AEM and REM

Year	1	2	3	4	5
DA					
Median	0.04	0.01	-0.02	-0.03	-0.02**
Mean	1.69***	0.03	-0.20**	-0.11**	-0.04**
DCFO					
Median	-0.01	0.01	0.01	0.01	0.01
Mean	-0.01	-0.12	0.03	0.03	-0.08
DISEXP					
Median	0.09	0.01	0.12**	0.15	0.11
Mean	0.33	0.37	0.29**	0.55***	0.36
DPROD					
Median	0.29	0.32	0.49**	0.49	0.39
Mean	1.72	2.21	1.93***	2.70***	1.99
Aggregate REM					
Median	0.14	0.15	0.28	0.22	0.19
Mean	1.31	1.65	1.47	2.08**	1.69

Notes: Differences in means are tested using Mann-Whitney U, test and differences in medians are tested using Kruskal-Wallis median Test. To avoid undue influence of outliers all continues financial data and the discretionary earnings management proxies are winsorised at 1% and 99%.

Earlier studies (Abdul-Rahman & Wan-Abdullah, 2005; Morsfield & Tan, 2006; Fan, 2007; Roosenboom et al., 2003) and the pioneer studies of Friedlan (1994) and Teoh, Welch, & Wong (1998) find evidence that IPO firms manage earnings upwards using AEM before and after the IPO. This however, is in sharp contrast with the findings of Ball and Shivakumar (2008) that IPO firms report conservatively around the IPO event to escape scrutiny by regulators. On the other hand, the significant positive coefficient in DPROD and aggregate REM suggest REM activities by IPO firms. There is also evidence of significant and positive coefficients of REM in year +1 through to year +4. This shows that Malaysian IPO firms pervasively engage in REM during and after the IPO period. This is *prima facie* evidence that IPO firms have reverted to REM in line with findings in previous studies (Graham et al., 2005; Roychowdhury, 2006; Cohen & Zarowin, 2010; Zang, 2012).

There is however a decline in REM four years after the IPO year even though the median values remain positive and significant. This again is in contrast with the findings of Ahmad-Zaluki et al. (2011) that provide no evidence of pervasive EM in the post IPO period which may be due to the fact that REM was not contemporaneously investigated. In the year +4, there was a decline in both AEM and REM which may be due to reduced incentives of major shareholders and insiders to engage in EM as it approaches the expiration of the share moratorium period.

Multivariate Analysis

Table 4 reports the estimates of the relationship between tested variables and both AEM and REM. The result for H2 is in contrary to expectation as it indicates a negative relationship between IPO proceeds and EM except in DISEXP and DCFO. These suggest that the higher the PROC, the lower the level of EM but the higher the abnormal behaviour in cash flow from operations and discretionary expenses.

In accordance with prediction in H3, SMTM is positively associated with AEM which is consistent with income increasing AEM to ensure high stock price. However, it is negatively related to REM which is not surprising since REM will affect long term value of the firm (Kothari et al., 2016). On the other hand, there is a negative association between LEV and EM (H4) which implies leverage limits EM and enhances the quality of accounting earnings. These findings are also consistent with Control Hypothesis (Jensen, 1986) where creditors play crucial role in monitoring the firm, increasing the credibility of corporate reporting and restricting the use of management's discretion to manipulate earnings prior to special business events such as IPO. The firm size (H5) is significantly positively associated with EM. This suggests larger firms have higher EM motivation due to their ability to conceal performance and manage their earnings (Leuz et al., 2003). The coefficient CAPG (H6) is negative, suggesting that firms adopt EM practices to their particular external financing needs. Firms with more growth opportunities and greater need for external finance have lower EM behaviour. These findings are in line with the argument that as firms that improve their earnings opacity are likely to reduce their cost of capital when sourcing outside funds.

Table 4

Robust regression of the impact of IPO attributes, firm level characteristics and ownership on IPO firms' EM behaviour

Variables	DA	DCFO	DPROD	DISEXP	REM-1	REM-2
PROC	-0.0003 (-0.0003)	0.0003 (-0.0002)	-0.0021* (-0.0011)	0.0002 (-0.0003)	-0.0023** (-0.0010)	-0.0005 (-0.0005)
SMTM	0.0002 (-0.109)	-0.0749 (-0.0746)	0.0371 (-0.541)	0.126 (-0.0869)	-0.0886 (-0.507)	-0.0507 (-0.116)
LEV	-0.00633 (-0.0071)	0.00917 (-0.0072)	-0.00647 (-0.0358)	-0.000804 (-0.0095)	-0.00567 (-0.0302)	-0.00837 (-0.0153)
SIZE	0.0001 (-0.0002)	-0.0002 (-0.0002)	0.0012** (-0.0006)	-1.05E (-0.0002)	0.0012** (-0.0006)	0.0002 (-0.0003)
CAPG	-0.0006 (-0.0010)	0.0003 (-0.0006)	-0.0091* (-0.0052)	-0.0007 (-0.0008)	-0.008 (-0.0051)	0.000364 (-0.0009)
OWNRT	0.0231 (-0.0253)	0.0184 (-0.0148)	0.0391 (-6.46E-0)	0.0385 (-4.51E-0)	-0.000323 (-0.0631)	-0.0936 (-1.01E-0)
IONPG	-0.0111*** (-0.0035)	-0.00621 (-0.00442)	-0.0109 (-0.0191)	0.0122 (-0.0089)	-0.0230* (-0.0136)	-0.00595 (-0.0128)
IOCG	-0.0718 (-0.127)	0.0668 (-0.155)	-1.580** (-0.712)	-0.242* (-0.126)	-1.339** (-0.644)	0.175 (-0.189)
AUD	0.0395 (-0.105)	0.177** (-0.0771)	0.495 (-0.563)	0.0872 (-0.108)	0.408 (-0.512)	-0.264* (-0.139)
AGE	0.0048 -0.0071	0.0025 -0.0046	0.0299 -0.028	-0.0024 -0.0054	0.0323 -0.0249	-0.0001 -0.0071
CONSTANT	0.0408 (-0.107)	-0.0851 (-0.0798)	1.416*** (-0.414)	0.297*** (-0.0676)	1.119*** (-0.397)	-0.212* (-0.108)
Observations	220	220	220	220	220	220
R ²	0.016	0.062	0.052	0.045	0.054	0.065

Note: Robust standard errors are in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Insider ownership proxied by ownership retention (H7) indicates a positive and negative association with AEM and REM-2 respectively though not significant which appears to give a weak support for the wealth protection and signalling hypothesis. However, after controlling for *heteroskedasticity* and outliers, it is negatively associated with REM. The multivariate results further indicate mixed findings on IO-EM relationship (H8) with

overwhelming supports for a negative relationship with significant results for DA and REM-1 (IONPG) and for REM-1 (IOCG) suggesting that both short-term and long-term investors do mitigate EM in the Malaysian IPO context. These results are consistent with international evidences which confirm a negative relation between IO and EM (e.g. Gao et al., 2017; Lo et al., 2017; Roychowdhury, 2006). While the results on IONPG did not follow the expected sign as discussed earlier, the significant negative association between IOCG and REM-1 is however consistent with international evidence suggesting mitigating role of long-term investors towards EM behaviour of Malaysian IPO firms. These results however contradict earlier Malaysian results provided by Abdul-Jalil and Abdul-Rahman (2010) using AEM. These results are arguably represent a more complete picture of EM practices of Malaysian IPO firms which transcend beyond the accruals estimation in isolation.

CONCLUSION

This paper investigated the Malaysian IPO firms' EM behaviour using both the AEM and REM techniques. It also examined the effect of unique IPO attributes (IPO proceeds and share moratorium), firm level characteristics (leverage, firm size and growth) and ownership structure (ownership retention and IO) on both IPO firms' EM practices contemporaneously. The results confirm the prediction in H1 that Malaysian IPO firms engage in both AEM and REM around IPO corporate event. It also shows that the EM activities are not just opportunistically motivated but attributable to several IPO attributes, firm level characteristics and ownership structures.

While firm size (H5) was found to be significantly positively associated with EM, leverage (H4), IPO proceeds (H2), IO by shareholder activists (H8) seem to constrain it. Insider ownership proxied by retained ownership (H7), growth opportunities proxied by capital expenditure growth (H6) and share moratorium (H3) seem to have weak mixed results. This not unexpected because prior study (e.g., Gunny, 2010) has shown that the contradictory use of REM might be intentional to create ambiguity and that managers do use REM in different directions to avoid detection. It is therefore recommended that investors should take into consideration firm level environmental characteristics in making their investment decisions and consistent with recommendation by Ozili and Outa (2017), regulatory authorities and standard setters should also device appropriate measures aimed at controlling real activity discretionary behaviour.

Overall, this research adds to the growing body of EM–IPO literature by providing fresh evidence of EM behaviours among IPO firms by contemporaneously examining multiple EM instruments of AEM and REM in the emerging country context of Malaysia which prior studies are observably scarce. Future research could build on the paper’s findings and extend the investigation to cover strategic variables not covered in this paper due to sample coverage such as the impact of the adoption of worldwide IFRSs which was made mandatory in 2012 by the relevant authorities in Malaysia. This could further justify the relevance of importing and subsequently adopting the foreign accounting standards and measuring its impact on the firm’s EM behaviour in the specific context of IPO corporate event. This helps us to understand the full picture of financial reporting ecosystem in Malaysia by identifying sets of variables sensitive to the production of quality reported earnings which are important to variety of economic decisions by stakeholders in an emerging country setting like Malaysia.

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