The Moderating Effect of Information Asymmetry on the Signalling Role of Institutional Investors in the Malaysian IPOs

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ABSTRACT

Manuscript type: Research Paper
Research aims: This study examines the moderating effect of information asymmetry on the association between the institutional investors' participation and the initial public offerings (IPO) reactions in the early aftermarket: initial return and flipping activity.
Design/ Methodology/ Approach: Using 383 IPOs listed on the Malaysian stock exchange from 2000 to 2013, a hierarchical or the two steps regression analysis is conducted to compare the t-statistics value in the main and the moderated regression models.

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Research findings: The findings indicate a positive (negative) and significant relationship between the institutional investors' participation and initial return (flipping activity). However, the signalling role of the institutional investors' participation in conveying information on the quality of the IPO issuers weakens when the IPO issuers are surrounded by high information asymmetry.
Theoretical contributions/ Originality: This study contributes to the IPO literature by providing empirical evidence demonstrating the moderating effect of information asymmetry on the relationship between the institutional investors and the IPO reactions in the early aftermarket.
Practitioner/ Policy implications: The findings provide IPO issuers with an understanding on the significance of information transparency (i.e., low information asymmetry) on investors' reactions. Regulators may also employ the results to set a more stringent monitoring policy on the IPO issuers so as to decrease the likelihood of flipping activities that could erode the initial value of the IPO issuers and wealth of the long-term investors.
Research limitations/ Implications: Future studies should be conducted on other IPO markets and also include other signalling devices such as the proportion of shares held by the insiders of the IPO issuer.

Keywords: Information Asymmetry, Institutional Investors' Participation, IPO Immediate Aftermarket Reaction, Malaysian IPO Market
JEL Classification: G12, G31

1. Introduction

Over the years, the issuance of initial public offerings (IPO) has been the preferred choice of firms in acquiring external capital. This preference may be due to the attraction of the stock market which offers high initial return and liquidity as opposed to the bond market. However, despite the attraction, the willingness of investors to subscribe to an IPO depends on the rational evaluation of the quality of the IPO. This is because some relevant information about the IPO issuers may not be easily and readily available prior to their listing (Arthurs, Busenitz, Hoskisson, & Johnson, 2009; Yung & Zender, 2010). When prospective investors are unable to make a fair evaluation of the IPO issuers, they are less likely to subscribe to the IPOs. Alternatively, they may subscribe only for speculative reasons (i.e., flip the allocated shares for instant profits).

Recognising the negative consequences of information asymmetry, issuers often look for effective ways to signal information about the quality of their firms to investors. One way of doing so is by proactively encouraging a greater participation of institutional investors (Aggarwal & Dahiya, 2000; Stoughton & Zechner, 1998) who are regarded commonly as informationally opaque (Benveniste & Spindt, 1989; Cornelli & Goldreich, 2001). Often, investors decision to subscribe to an IPO is driven by their interest and confidence in the firm. In other words, institutional investors will only invest in assets that will produce greater wealth for them. Aggarwal (2003) and Gounopoulos (2006) proposed that institutional investors act as the "strong hands" that tend to stay with and invest in the firm for a longer term. Their commitment to the firm signifies their confidence on the quality of the firm hence, a greater institutional investors' participation in an IPO sends the signal that the quality of the IPO issuer is good.

Besides the ability of institutional investors in signalling the quality of an IPO issuer, their capability to capture and understand the signal may vary across issuing firms (Brau, Lambson, & McQueen, 2005; Yung & Zender, 2010). This is because the affordability of a signal to be read and correctly analysed depends on the level of information asymmetry a firm faces. This means that information asymmetry affects the effective delivery of the information from the IPO issuers to the investors. As recommended by Beatty and Ritter (1986), signalling becomes more important for the IPO issuers that are characterised by a high level of information asymmetry. Based on this situation, the current study proposes that information asymmetry reduces the ability of institutional investors in signalling the quality of the IPO issuers. This theoretical concept paves the way for the current study to examine the influence of information asymmetry as a moderator to the signalling role of institutional investors.

More specifically, this study aims to examine the investors' reaction in the IPO's immediate aftermarket: IPO's initial return and IPO's flipping activity, as a means to understand the role of information asymmetry and the institutional investors' participation. Initial return is normally viewed as the IPO's immediate aftermarket reaction from the return perspective; it looks at the changes of the trading prices of shares (i.e., either offer to open price or offer to close price) (Abdul Rahim & Yong, 2008; Mohd. Rashid, Abdul Rahim, & Che Yahya, 2016) whereas flipping activity is referred to as the instant disposal of the

allocated IPO by the original investors (Aggarwal, 2003; Yong, 2010). Flipping activity can also refer to the IPO's immediate aftermarket reaction gained from volume perspective (Che-Yahya, Abdul-Rahim, & Yong, 2014b). Unlike other trading activities (e.g., short selling, normal trading), flipping activity has its own merit; it occurs at the earliest IPO trading days and it is executed by the original shareholders. Recognising the capability of flipping activity to reveal the earliest reaction of the investors on an IPO, the two immediate aftermarket reactions (initial return and flipping activity) are employed so as to understand the role of information asymmetry and the institutional investors' participation.

Following the signalling hypothesis, this study posits that initial return is positively influenced by the institutional investors' participation in the IPO because a high participation will encourage other investors to purchase the IPO, ultimately increasing the market price of the shares (or increase the shares' initial return). In addition, successful subscribers are likely to retain their shareholding for a longer period of time instead of flipping them for quick profits. In that regard, this study hypothesises that flipping activity is negatively influenced by the institutional investors' participation. In addition, this study posits that information asymmetry moderates the aforementioned relationships. In other words, a high level of information asymmetry will weaken the signalling effect of the institutional investors' participation on the initial return and the flipping activity.

This study contributes to the IPO literature by providing empirical evidence to substantiate the claim and hypotheses formulated. Despite the potential moderating influence of information asymmetry on the relationship between institutional investors' participation and the IPO's immediate aftermarket reactions, only a few past studies (e.g., Krigman, Shaw, & Womack, 1999) have produced empirical evidence illustrating the relationship thus, the gap may be filled by the current study. In focusing mainly on the Malaysian IPO market, this study aims to understand the signalling role of the institutional investors on the two IPO's immediate aftermarket reactions: initial return and flipping activity.

The Malaysian stock market is a unique setting for a study of this nature for various reasons. Firstly, the Malaysian IPO market has a particular scheme of IPO that is specifically offered to the institutional investors. The published information of this so-called "private placement" of IPO allows for an in-depth examination of the role of the

institutional investors in the market. Secondly, in the Malaysian IPO market, the institutional investors are usually allocated a greater fraction of the new shares because they are more committed towards retaining such shares for a longer period of time due to their role as "strong hands" (Aggarwal, 2003; Gounopoulos, 2006). The major institutional investors of Malaysia tend to be pension funds, fund management firms and other financial institutions such as the Employees Provident Fund, the *Permodalan Nasional Berhad*, the *Lembaga Tabung Haji* and PERKESO, all of which invest in shares listed on the stock exchange so as to fulfill some asset allocation requirements and to protect the minority shareholders' interests (Abdul Wahab, How, & Verhoeven, 2008; Abdul Wahab, 2012). An opportunity to acquire shares at a favourable price during the IPO is an advantage which most investors (including institutional) are likely to seize especially when the stock market is still characterised by thin trading and when there are limited substitute markets available to investors. Such a character could cause institutional investors in the market to maintain or to flip their allocated shares immediately.

The Malaysian IPO market appears to be remaining as a thin market and the main issue for this is the lack of transparency on the information of issuers (Sapian, Abdul Rahim, & Yong, 2012). This lack suggests that the Malaysian IPO market is a perfect setting to examine the moderating effect of information asymmetry on the signalling content of the institutional investors' participation. In their study, Tajuddin, Mohd-Rashid, Abdullah, and Abdul-Rahim (2015) find that the level of information asymmetry in developing market is higher than in developed markets, thereby supporting the need to examine the issue of information asymmetry in developing IPO markets such as Malaysia.

The rest of this paper is organised as follows: Section 2 discusses the relevant literature; Section 3 describes the methdology employed and the description of the data; Section 4 presents and discusses the empirical results and the final section presents the conclusions drawn from the study.

2. Literature Review

2.1 Institutional Investors' Participation and IPO Anomalies

IPO issuers try to use various strategies to become successful in increasing their firm's value and some perceive that allocating a greater

proportion of the new shares to the institutional investors is effective (Aggarwal & Dahiya, 2000; Stoughton & Zechner, 1998). In the U.S. market, investment banks evidently favour institutional investors as this group of investors is more capable of signalling information about the IPO (Benveniste & Spindt, 1989). Undoubtedly, a favourable signal about the IPO helps the issuers to generate enough demand for the issues and eventually, this produces a positive initial return of the IPO. From their empirical studies, Abdul Rahim, Sapian, Yong, and Auzairy (2013) and Sapian et al. (2012) note that there is a significant positive relationship between institutional investors' participation and the initial returns. In contrast, Chemmanur, Hu, and Huang (2010) find a significant negative relationship between institutional investors' participation and underpricing. Nonetheless, similar arguments about the signalling role of the institutional investors continue because studies posit that underpricing is compensation to the role of institutional investors and the role of institutional investors reveals the information of the IPO issuers.

Aggarwal (2003) and Gounopoulos (2006) consider the institutional investors as the "strong hand" because this group of investors tends to be more loyal to the firm. Due to their long term commitment, there is stability in the price of new shares in the initial aftermarket, thus, the institutional investors are not likely to flip their shares. In contrast to Aggarwal (2003) and Gounopoulos (2006)'s recommendation, Cornelli and Goldreich (2001) argue that the institutional investors' participation only represents their interest on the IPO and not necessarily their commitment to the issuing firm over a long period. This possibility of the investors' interest could have a significant influence on the IPO's initial return and the flipping activity because relative to the retail investors, this group of investors usually holds larger blocks of shares. Specifically, their decision to flip can be very damaging to the IPO's initial return and such an outcome has been noted by Islam and Munira (2004).

2.2 Information Asymmetry and IPO Anomalies

The theory of the information asymmetry originated from Akerlof (1970). It is based on the inequality of the distribution of information between insiders and outsiders. The theory has been widely applied in explaining issues in all areas of finance including financing decisions

(e.g., capital structure, dividends, stock repurchase) as well as the IPO (Brau et al., 2005). Rock (1986), for instance, proposed the winner's curse hypothesis as a means to explain the adverse selection problem seen in the IPO markets. Acknowledging the superiority of the informed investors in determining the IPO's true value, it was reported that these investors avoid subscribing to overpriced IPO. Conversely, due to limited information, uninformed investors who do not realise that the IPO is overpriced will subscribe to the IPO and ultimately, they will "win" big. Winning a large portion of the new shares becomes a "curse" to these uninformed investors because the shares may not produce any positive return.

Based on their study, Yung and Zender (2010) suggest that the IPO issuers usually suffer a difficulty in disclosing the true quality of their IPO (i.e., good track records prior to public listing) as a result of information asymmetry. Thus, the presence of high asymmetric information elevates the importance of signalling. In current IPO literature, information asymmetry is often measured by market capitalisation of the issuers or/and by the reputation of the underwriters (Beatty & Ritter, 1986; Yung & Zender, 2010), further suggesting that firms which are small in size tend to be advised by less prestigious underwriter and so, are more likely to have high information asymmetry. Empirical results taken from Carter and Manaster (1990) and Holland and Horton (1993) indicate a significant inverse relationship between the underwriter's reputation and underpricing where a high quality underwriter is related to less underpricing. In another study, Hiau Abdullah and Taufil Mohd (2004) observe a negative correlation between underwriter's reputation and underpricing albeit not significantly. In their studies, Bash (2001) and Krigman et al. (1999) note that market capitalisation is significantly and negatively associated with the flipping activity, indicating that a lower information asymmetry could encourage shareholders to stay in the firm concerned for a longer period of time to benefit from share price appreciation.

2.3 Development of Hypotheses

In the context of the Malaysian IPO market, a higher participation of the institutional investors is expected to reduce (increase) the flipping activity (initial return). This proposition is consistent with the argument

that the institutional investors are being allocated a greater fraction of the new shares due to their commitment to retain those shares for a longer period of time (Aggarwal, 2003; Gounopoulos, 2006). This is in addition to their capability of revealing and signalling private information about the IPO (Cornelli & Goldreich, 2001). The notion that the institutional investors are long term investors who are less likely to sell and flip their allocated shares immediately can result in a lower flipping activity. Ultimately, the lower flipping activity will secure value of an IPO at least in the immediate aftermarket

Comparatively speaking, a favourable signal about an IPO transmitted by the institutional investors' participation in the IPO can help the issuer to generate enough demand for the new shares. This demand can eventually produce a positive initial return of the IPO (Abdul Rahim et al., 2013; Sapian, Abdul Rahim, & Yong, 2013) for the firm concerned. A large institutional investors' participation is expected to stabilise the prices of the new shares in the aftermarket. In this regard, the expectation of a negative relationship existing between the institutional investors' participation and the flipping activity is consistent with the argument that institutional investors in the Malaysian IPO market prefer income streams in the form of dividends, over the long term (Sapian et al., 2012) instead of instant capital gains. Thus, institutional investors in the IPO market are less likely to sell their shares in the immediate aftermarket.

Given the empirical evidence that the effectiveness of signalling is different across IPO issuers due to the level of information asymmetry (Krigman et al., 1999; Bash, 2001), this study proposes that information asymmetry helps to moderate the influence of the institutional investors' participation on the flipping activity and the initial return of the shares.

The hypotheses formulated for this study are thus specified as follows:

H_{1a}: Institutional investors' participation has a negative influence on the flipping activity.

H_{1b}: Institutional investors' participation has a positive influence on the initial return.

H_{2a}: Information asymmetry moderates (weakens) the negative influence of the institutional investors' participation in the flipping activity.

H_{2b}: Information asymmetry moderates (weakens) the positive influence of the institutional investors' participation on the initial return.

3. Data And Methodology

3.1 Sample Size and Procedures

The population of this study includes all the IPOs listed on the Malaysian stock exchange, Bursa Malaysia. From January 2000 to December 2013, there were a total of 512 IPOs. The sample for this study consists of 383 IPOs which is 74.80 per cent of the total population. All the rare type IPOs (i.e., restricted offer for sale, restricted public issue, restricted for sale to eligible employees, special and restricted issue to *Bumiputra* investors, tender offer and special issue) and IPOs with missing values were excluded from this study. The IPOs issued by the financial and insurance firms were also excluded from the sample due to the differences in their format of presentation for their financial statement (Abdul Rahim et al., 2013; Zheng & Li, 2008) and also due to the regulatory nature of the industry (Schaub, Casey, & Washer, 2004). In that regard, data for this study were sourced from the prospectuses of IPO issuers, the website of Bursa Malaysia and the database of DataStream. The sample distribution, according to the sectors involved, is tabulated in Table 1.

3.2 Definition and Measurements

3.2.1 Dependent Variables

The two variables included in this study are initial return and flipping activity, both of which are treated consistently as dependent variables and regressed separately in two different regression models. The decision for not including any of the two as parts of the explanatory variables is to reduce the possibility of endogeneity issues. For example, when predicting the flipping activity in a simple regression model, the initial return is endogenous because the return will drop or increase in response to the level of the flipping activity. Likewise, the investors will adjust (reduce or increase) their flipping behaviour in response to the initial return. In this case, the initial return is said to have total endogeneity once the flipping activity and the initial return curves are known.

Table 1: Sample Distribution, January 2000 to December 2013

Panel A. Distribution of IPO population and sample by year

Listing Year	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	Total IPOs
Population	38	20	51	58	72	79	40	26	23	14	29	28	17	17	512
Sample	24	13	34	44	60	60	28	13	16	12	27	25	14	13	383

Panel B. Sample distribution according to listing board and sector

Industry	Main Market	ACE Market	Total	Percentage (%)
Technology	7	86	93	24
Consumer product	61	0	61	16
Industrial product	82	24	106	28
Properties	15	0	15	4
Finance and Insurance	0	0	0	0
Trading and services	51	36	87	23
Construction	11	0	11	3
Plantation	3	2	5	1
IPC and SPAC	5	0	5	1
Total	235	148	383	100

Notes: The yearly population is based on the list reported on Bursa Malaysia's website, January 2000- December 2013. Percentage in each sample year and each sector is calculated based on 383 IPOs issued during the sample period

Sources: Company prospectus, 2000-2013 and website of Bursa Malaysia.

Initial Return

This study estimates initial return ($RETURN_i$) as the percentage change in price; it is the price between the opening price on the first day of trading and the offer price (Mohd-Rashid, Abdul-Rahim, & Yong, 2014; Mohd-Rashid, Abdul Rahim, & Yahya, 2016; Yong, 2010). The measure is shown as follows:

$$RETURN_i = \left(\frac{P_{OPENi} - P_{OFFERi}}{P_{OFFERi}} \right) x100 \quad (1)$$

where,

P_{OPENi} = opening price on the first trading day for the ith issuer, and

P_{OFFERi} = offer price for the ith issuer.

Flipping Activity

This study measures the flipping activity $(FLIP_i)$ as the proportion of the listing day's trading volume against the total number of shares issued (Abdul Rahim et al., 2013; Che-Yahya, Abdul-Rahim, & Yong, 2014a; Wei, 2015; Yong, 2010). The measure used is as follows:

$$FLIP_i = VOL_i \ / NOSHI_i \quad (2)$$

where,

VOL_i = trading volume of the ith issuer on the first trading day, and

$NOSHI_i$ = number of shares offered for the ith issuer at the IPO.

3.2.2 Independent Variable

The main independent variable of this study, the institutional investors' participation $(INSTRAT_i)$, is measured by the ratio of the private placement issue to the total shares offered (Abdul Rahim et al., 2013; Yong, 2010). In his study, Yong (2010) reports that private placement issues gained momentum in Malaysia only in 2001 when there were three cases of private placements (compared to zero in 2000). The pattern continues to increase over the years implying that IPO firms have started

to rely more on the involvement of institutional investors probably to signal their quality. It is important to note that, in the Malaysian IPO market, a private placement issue may include a negligible percentage of the IPO allocated to a few high-net-worth individuals identified by the Ministry of International Trade and Industry of Malaysia. They are considered to be as informed as the institutional investors such that their behaviour will be similar to those institutional investors. Therefore, this study includes them as part of the institutional investors. The measure used is as follows:

$$INSTRAT_i = PRIPLA_i \ / NOSHI_i \quad (3)$$

where,

$PRIPLA_i$ = private placement IPOs of the ith issuer, and

$NOSHI_i$ = total number of shares offered for the ith issuer.

3.2.3 Moderating Variable

The asymmetric information *(ASIF)* is measured by multiplying firm size with the underwriter's reputation (Beatty & Ritter, 1986; Yung & Zender, 2010). The high value of this product indicates a low asymmetric information. According to Arthurs et al. (2009) and Hiau Abdullah and Taufil Mohd (2004), large IPO issuers tend to engage prestigious underwriters who are known to be more transparent in their evaluation; they also have the necessary resources to provide timely information disclosures. The measure used is as follows:

Underwriter Reputation

The underwriter reputation ($UNDRANK_i$) is measured as follows:

$$UNDRANK_i = UNDT_i \ / TOTUNDT_i \quad (4i)$$

where,

$UNDT_i$ = the underwriting amount for ith investment bank in the listing year, and

$TOTUNDT_i$ = total underwriting amount in ith listing year.

Firm Size

In this study, firm size is proxied by market capitalisation (Bash 2001; Goergen, Renneboog, & Khurshed, 2006; Yung & Zender 2010) and market capitalisation ($MKTCAP_i$) is calculated as the natural log of the total number of shares outstanding multiplied by the IPO offer price (Bash, 2001; Che-Yahya & Abdul-Rahim, 2015; Goergen et al., 2006). The measure used is as follows:

$$MKTCAP_i = \left[Ln_i \left(NOSH_i \times P_{OFFERi} \right) \right] \quad (4ii)$$

where,

Ln_i = natural log,

$NOSH_i$ = total number of shares outstanding after the IPO for the ith issuer, and

P_{OFFERi} = offer price for the ith issuer.

Therefore, the asymmetric information is calculated as:

$$ASIF_i = MKTCAP_i \times UNDRANK_i \quad (4iii)$$

Operationalisation of the Hierarchical Regression Model or the Two Steps Regression

The high level of asymmetric information is postulated to moderate the signalling influence of the institutional investors' participation on the IPO's initial return and flipping activity, as forwarded in H_{2a} and H_{2b} respectively. Following Baron and Kenny (1986), the examination of the moderating effect can be established by using the hierarchical or the two steps regression analysis. The two statistical steps analysis is used to examine the moderation effect of the information asymmetry as is illustrated and explained as follows:

Step 1: The independent variables including the moderator (asymmetric information) are entered into the regression model simultaneously. Both classes of variables are treated as predictors or independent variables of the outcome variable

(initial return or flipping activity) as illustrated in the upper section of Figure 1. Although the moderator is included in the model, the center of interest is always on the main independent variable, the institutional investors' participation. At this stage or in Step 1, the independent variable should not necessarily be influencing the dependent variable (Baron & Kenny 1986). This helps the process to examine the interaction of the independent variable and the moderator in the next step.

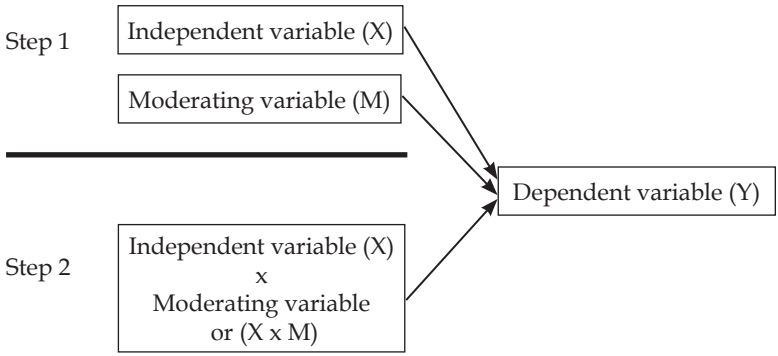

Figure 1. Two Steps Regression or Hierarchical Regression Analyses

Step 2: In the second step, the moderating effect, the product of the institutional investors and the asymmetric information, is incorporated into the model. This step empirically aims to answer the question of whether there is a moderating effect of the asymmetric information between the institutional investors' participation and the flipping activity as well as between the institutional investors' participation and the initial return and whether there is a need to reject or accept the moderating hypothesis. The interaction or the moderation effect is illustrated in the lower part (or Step 2) of Figure 1.

To summarise, this study suggests that the presence of a moderator is supported (H_{2a} and H_{2b}) if the *p*-value of the interaction between M and X (M x X) is found to be significant (Baron & Kenny, 1986; Bennett, 2000). Meanwhile, the pattern of the moderating effect is interpreted based on the change seen in the t-statistics and the coefficient sign of the independent variables (Warner, 2009).

3.2.4 Control Variables

The control variables of this study comprise two lock-up provision's parameters (lock-up ratio and lock-up period). The lock-up ratio (*LURAT*) is defined as the percentage of shares locked by the promoters while the lock-up period (*LUPER*) is defined as the number of days the shares are held by the affected shareholders. The lock-up provision has been implemented on major shareholders (i.e., promoters) on a mandatory basis for IPO issuers in Malaysia since May 3, 1999. Specifically, the Malaysian capital market regulator, the Securities Commission (SC), has set a minimum percentage (i.e., 45 per cent of the total shares outstanding) that needs to be retained by the promoters for a certain length of time upon the listing of shares. While some may argue that the mandatory ruling can cause the lock-up provision to be irrelevant to investors because it becomes a norm to all IPOs, it is argued that the case in Malaysia is different because promoters of most IPO issuers voluntarily lock more shares than is mandated by the SC. The current study observes that there were promoters of IPO issues who voluntarily locked-up 74 per cent of their shares despite the 45 per cent requirement. The voluntary act noted here carries an important signal (Arthurs et al., 2009; Hakim, Lypny, & Bhabra, 2012). It reflects the behaviour of the firms. Based on the signalling theory, it can be said that the lock-up ratio can reflect the quality of the IPOs (Mohan & Chen, 2001; Wan Hussin, 2005). A higher lock-up ratio is interpreted as the affected shareholders have agreed to retain their shareholdings in the firm despite the high initial return in the immediate aftermarket. Hence, investors would be more confident in the IPO issuers (Arthurs et al., 2009; Goergen et al., 2006; Islam & Munira, 2004). Subsequently, the higher the lock-up ratio is, the lower the flipping activity becomes and the higher the initial return becomes. Similarly, a longer lock-up period signals a higher-quality issuing firm that creates greater incentives for investors to hold on to the allocated shares (Brau et al., 2005). Thus, this study hypothesised that there is (1) a negative relationship between both the lock-up parameters (i.e., ratio and period) and the flipping activity; and (2) a positive relationship between the lock-up parameters and the initial return.

Next, the offer size (*OFSIZ*) which is measured as the natural log of the total number of shares offered for an IPO is multiplied by its offer price (*Ln (NOSHI x* P_{OFFERi}*)*) (Bayley, Lee, & Walter, 2006; Chong, Ali, & Ahmad, 2009). A larger offer size indicates a larger supply of the IPO that *ceteris paribus*, more subscription applications will be fulfilled

during the allotment stage and there will be less demand for the shares during the first few trading days (Abdul Rahim et al., 2013; Islam & Munira 2004; Tran, Kalev, & Westerholm, 2007; Sapian et al., 2012). The demand and supply theory proposes that a less demand for shares received in the immediate aftermarket (i.e., first few trading days) can create a downward pressure on the price (or initial return) of shares. Similarly, investors who have been allocated a portion of the shares during the IPO, would not be selling their shares in the first few trading days because the investors realised that a lower return can be expected if the price of the shares is low. This argument leads to the expectation that a larger issue will result in a lower initial return thus, less likely to be flipped. This study therefore, hypothesises that a larger issue will reduce the initial return and the flipping activity.

Market return is interpreted as reflecting the investor's sentiment in the IPO market and the overall performance of the stock market. The IPO market condition *(DVOL*) is assessed by using a dummy variable that carries a value of 1 if the IPO is pooled under a group of hot market. A hot market is the case where the total issuing size of the *i*th year ($NOSI_j$) exceeds the mean IPO issuing size of all the firms throughout the period of study (2000 to 2013) (*ANOSI*). This measure is illustrated as follows:

$$DVOL = IF \left| \begin{array}{lll} NOSI_j \geq ANOSI \Rightarrow \text{Hot issue market } 1 \\ NOSI_j \leq ANOSI \Rightarrow \text{Cold issue market } 0 \end{array} \right|$$

Based on the signalling argument, a hot issue market is the result of optimism existing among market players. This allows for a more active trading (including flipping) and higher prices (or initial return) (Bayley et al., 2006; Helwege & Liang, 2004; Islam & Munira. 2004). Thus, high flipping activity and initial return are expected in a hot issue market.

In addition to the above, *STOMKT* extended its focus to the overall stock market of Malaysia, working on the average of one week's return of the FTSE Bursa Malaysia Emas index. From what is seen in the positive pre-IPO average market return, investors appear to be optimistic and confident about the present market's outlook. This will, in turn, positively affect their attitude towards the initial return of the new issues such that they would be motivated to sell their shares immediately (Chong et al., 2009; Ritter & Welch, 2002). Being profit oriented, flippers would utilise the current market condition as an opportunity to gain high returns on their investments. With that concept in mind, a positive

association between the pre-IPO market return and the aftermarket return and flipping activity is expected.

Heurestic representative *(HEUREP)* is measured by the average return on the opening trading day of the three most recent new issues listed, prior to an IPO. Unlike the IPO market condition (*DVOL*) and the overall stock market condition (*STOMKT*), heuristic representative *(HEUREP)* signifies the investors' sentiment on a smaller scale. It shows how investors evaluate an IPO (winner or loser) and/or a market (bull or bear) based on happenings in the most recent period. A positive (negative) mean initial return of the three most recently issued IPOs tends to elicit an optimistic (pessimistic) sentiment among investors (Bayley et al., 2006; Chong, Ahmad, & Ali, 2011). This suggests that it is the optimism among the market players who create the active trading (including flipping) and the higher prices (or initial return).

Firm age *(AGE)* is the duration of time that an issuer has been incorporated prior to listing. This is measured in years. Under normal circumstances, the age of the firm would reflect the operating history and the risk of the issuing firm. An older firm is perceived to have established a track record with low risk. According to the signalling theory, a high uncertainty or risk experienced by the issuing firm signifies a good incentive for investors to flip the IPOs which have been allocated to them. This helps to minimise the risks of being trapped by bad prospect firms (Chong et al., 2009; Ritter, 1984). Likewise, a younger firm would generate lesser subscriptions of their shares, in turn, reducing the prices of the shares (or initial return). Based on this, the current study suggests that there is a negative association between the firm's age and the flipping activity and a positive association between the firm's age and the initial return.

In the context of this study, the industry refers to the group comprising the IPO issuer's main business activities. These activities are measured by dummy technology firms (*DTECH*). A dummy variable (*DTECH*) takes the value of 1 if the IPO is issued by a firm classified under the technology sector and 0 if otherwise. This is because technology firms are perceived to have higher growth opportunities (Kwon & Yin, 2006) such that they motivate investors to subscribe to their shares as well as to remain in the firms for a longer term, thereby, benefitting more from future growth (Tran et al., 2007; Yong, 1991). From the perspective of the long-growth opportunity, it is hypothesised that there is a positive (negative) relationship between technology firms and the initial return (flipping activity).

The list of control variables, predicted signs and relevant literature supporting the employment and prediction of these control variables are summarised in Table 2.

Table 2: Summary of Control Variables and Expected Sign

No.	Control Variable	Exp. Sign. (*RETURN*)	Exp. Sign (*FLIP*)	Past Studies
1.	Lock-Up Period *(LUPER)*	+ve	-ve	Islam and Munira (2004)
2.	Lock-Up Ratio *(LURAT)*	+ve	-ve	Islam and Munira (2004), Mohan and Chen (2001), Wan Hussin (2005)
3.	Offer Size *(OFSIZ)*	-ve	-ve	Abdul Rahim et al. (2013), Bayley et al. (2006), Chong et al. (2009), Islam and Munira (2004), Tran et al. (2007), Sapian et al. (2012)
4.	Stock Market Condition (*STOMKT)*	+ve	+ve	Chong et al. (2009), Ritter and Welch (2002)
5.	IPO Market Condition *(DVOL*)	+ve	+ve	Aggarwal (2003), Bayley et al. (2006), Helwege and Liang (2004), Islam and Munira (2004)
6.	Heurestic Representative *(HEUREP)*	+ve	+ve	Bayley et al. (2006), Chong et al. (2011)
7.	Firm Age *(AGE)*	+ve	-ve	Chong et al. (2009), Ritter (1984)
8.	Industry *(DTECH)*	+ve	-ve	Tran et al. (2007), Kwon and Yin (2006), Yong (2008)

Note: +ve indicates an expectation on the positive relationship while -ve indicates an expectation on the negative relationship.

4. Empirical Results and Discussion

4.1 Preliminary Results

Table 3 is the descriptive statistics which demonstrates the mean initial return (offer to open) to be 29.23 per cent, a figure ranging from a minimum of -68.13 per cent to a maximum of 360 per cent. The average value noted here appears to be quite comparable to the mean of 27.77

per cent reported by Abdul Rahim et al. (2013), the mean of 39.23 per cent reported by Sapian et al. (2012) and the mean of 30.10 per cent by Yong (2010). The three mentioned studies (Abdul Rahim et al., 2013; Sapian et al., 2012; Yong, 2010) examined the Malaysian IPOs issued from the period of 2003 to 2008. However, this mean seems to be very much lower than those reported in the 1990s (e.g., 94.91 per cent reported by Yong and Isa (2003)).

The mean of the flipping activity observed in this study appears to be 58.53 per cent, a figure ranging from nil to 99.76 per cent. This implies that the mean value is higher than those reported of U.S. IPOs which were 45.40 per cent (Krigman et al., 1999) and 48.1 per cent (Bash, 2001) respectively. Moreover, the mean also appears to be higher than those observed of the Malaysian IPOs in previous studies, for instance, 24.60 per cent (Sapian et al., 2012) and 33.86 per cent (Abdul Rahim et al., 2013) during the period of 2003 to 2008 and 38.33 per cent (Che-Yahya et al., 2014a) during the period of 2000 to 2012. A possible reason for the difference in the mean value of the flipping activity as reported in this study when compared to other studies (Sapian et al., 2012; Abdul Rahim et al., 2013) may be caused by the different sample size and control variables.

Table 3: Descriptive Statistics

Basic Variables	Mean	Std. Dev.	Min.	Max.
Initial Return (offer to open) (%)	29.23	0.48	-68.13	360.00
Flipping Activity (%)	58.53	0.36	0	99.76
Institutional Investors' Participation (%)	44.31	0.33	0.00	100.00
Market Capitalisation (million)	53.01	27.59	0	404.00
Shares Outstanding (units)	30.39	32.55	2.49	80.00
Offer Price (RM)	1.24	1.02	0.12	5.05
Underwriter Market Share (%)	7.74	11.74	90.80	0.10
Underwriters Issues (no. of firms)	7.64	5.76	1	10

Note: Sample size, n = 383 for the period from January 2000 to December 2013.

The correlations noted among the variables are illustrated in Table 4. Here, it seems that the correlations among the variables are far below the 0.90 cut-off point (Asteriou & Hall, 2007), indicating

the severe threat of multicollinearity. Nonetheless, an exception was seen in the correlation (0.720) between *LUPER* and *LURAT* where the occurrence may indicate that the two variables are highly correlated. A closer look at the two variables using variance inflation factors (VIF) had resulted in a value of less than 2.50, a figure which is below the 10.00 VIF cut-off point (Gujarati, 2003). This implies that no issue of multicollinearity was detected. In addition, other relevant diagnostic analyses (autocorrelation, heteroskedasticity, model specification) were also performed so as to satisfy all the OLS assumptions. The outcome of these diagnostic analyses are explained in Section 4.2 (Main Empirical Results).

Table 4: Pearson's Correlation Coefficient

Variables	2	3	4	5	6	7	8	9	10	11
1. *RETURN*	0.146**	0.099	0.122*	-0.091	0.128*	-0.048	0.108*	0.403**	-0.021	0.063
2. *FLIP*	1	0.108*	0.223**	-0.029	-0.032	0.053	0.031	0.026	-0.006	0.121*
3. *INSTRAT*		1	0.153**	-0.020	-0.013	0.165**	-0.064	-0.176*	-0.172	0.447**
4. *ASIF*			1	0.125*	-0.172*	0.215**	0.020	-0.081	-0.004	0.198**
5. *LURAT*				1	**-0.720***	0.266**	0.032	-0.211*	0.089	-0.130*
6. *LUPER*					1	-0.389*	-0.071	0.157**	-0.113*	0.199**
7. *DVOL*						1	0.148**	-0.041	0.033	0.088
8. *STOMKT*							1	0.100*	0.003	-0.048
9. *HEUREP*								1	0.040	-0.045
10. *AGE*									1	-0.123*
11. *DTECH*										1

Notes: *RETURN* = initial return (offer to open) on first trading day; *FLIP* = flipping activity on first trading day; *INSTRAT* = institutional investors' participation; *ASIF* = information asymmetry; *LURAT* = lockup ratio; *LUPER* = lock-up period; *DVOL* = IPO market condition; *STOMKT* = overall stock market condition; *HEUREP* = heuristics representation; *AGE* = firm age; *DTECH* = firm sector; and the numbers in column headings correspond with the number of variables in row.
***, ** and * indicate significant at 1%, 5%, and 10%, respectively.

4.2 Main Empirical Results

Before the paper proceeds to discuss the main regression results, the outcome of the diagnostic tests (autocorrelation, heterokedasticity and model specification) will be interpreted so as to show how the reliability of the regression models was verified. The most common test i.e. the Durbin-Watson d statistics was employed to detect the serial correlation or autocorrelation. The Durbin-Watson d statistics of less than 2 implies that the autocorrelation is more likely to occur. As shown in all the columns of Table 5, the Durbin-Watson d statistics value noted here is lower than 2. This implies that the OLS estimators are likely to be threatened by the problem of autocorrelation. Thus, the Newey-West test was employed to correct the autocorrelation. To check the potential of heterokedasticity, this study used the White's General Heteroskedasticity test where the null hypothesis states that the variance of the error term is constant. The test's result indicates that the null hypothesis is not rejected (*p*-value (0.99)) (Appendix). Hence, it may be concluded that the heterokedasticity problem does not exist in the model. Further, this study also performed the Ramsey's Regression Specification Error Test (RESET) to check all the regression models in this study. As reported in all the columns of Table 5, the Ramsey RESET result shows that all the models are correctly specified since the null hypothesis that assumes the mis-specification is rejected (*p*-value > 0.1).

As discussed above, this study posits that information asymmetry moderates the signalling role of the institutional investors' participation (*INSTRAT*). Specifically, the higher the information asymmetry a firm faces, the more likely it is to weaken the influence of the institutional investors' participation (*INSTRAT*) on the initial return (*RETURN*) and the flipping activity (*FLIP*). Therefore, following the suppositions, the values noted on the t-statistics (Warner, 2009) of *INSTRAT* is expected to reduce its interaction on the information asymmetry of the hierarchical model estimations. Table 5 presents the results of the four regression models. Column (a) and Column (b) of Model A show the results of the moderation on *RETURN* while Column (c) and Column (d) of Model B show the results of the moderation on *FLIP*.

From the results noted in Column (a) and Column (c) of Table 5, it is clear that *INSTRAT* relates significantly and positively (negatively) to *RETURN (FLIP),* both standing at 0.10 significant level. The results, in line with the prediction of this study, imply that *INSTRAT* serves as a signal of quality or good prospect of the IPO issuers. In particular, the

Table 5: Results of Hierarchical Regressions Analyses

Independent Variables	Model A: *RETURN*		Model B: *FLIP*	
	(a) Main Effects	(b) Moderated Effects	(c) Main Effects	(d) Moderated Effects
Main Independent Variable				
INSTRAT	0.081 (1.649)*	-0.003 (-0.065)	-0.130 (-1.869)*	-0.058 (-0.937)
Control Variables				
LUPER	0.065 (0.994)	0.031 (0.465)	-0.279 (-4.770)***	-0.308 (-5.187)***
LURAT	0.280 (0.888)	0.151 (0.484)	-0.628 (-2.633)***	-0.736 (-3.086)***
OFSIZ	-0.033 (-2.638)***	-0.041 (-3.379)***	-0.123 (-9.787)***	-0.130 (-10.220)***
STOMKT	0.0596 (1.382)	0.055 (1.282)	0.003 (0.075)	-0.001 (-0.002)
DVOL	(-0.041) -1.343	-0.041 (-1.354)	0.015 (0.391)	0.015 (0.400)
HEUREP	0.415 (7.164)***	0.404 (7.180)***	0.037 (0.744)	0.028 (0.570)
AGE	0.001 (0.689)	0.002 (1.332)	0.000 (0.318)	0.001 (0.594)
DTECH	-0.020 (-0.442)	-0.026 (-0.569)	0.052 (1.064)	0.047 (0.966)
ASIF	0.244 (1.627)*	0.357 (2.068)***	0.224 (1.953)**	0.279 (2.977)**
Moderating Variable				
*INSTRAT*ASIF*		1.128 (2.698)***		0.946 (3.288)***
R^2	0.242	0.264	0.183	0.196
Adjusted R^2	0.222	0.242	0.161	0.172
Δ Adjusted R^2		0.021		0.011
F-statistics	11.901***	12.130***	8.347***	8.222***
p-value (F-stats)	0.000	0.000	0.000	0.000
Durbin-Watson	1.654	1.646	1.758	1.762
Ramsey RESET TEST:				
F-Test Statistics	0.337	0.430	0.584	0.612
p-value	0.562	0.512	0.4452	0.434

Notes: Sample size, n= 383.
RETURN = initial return (offer to open) on first trading day; *FLIP* = flipping activity on first trading day; *INSTRAT* = institutional investors' participation; *LUPER* = lock-up period; *LURAT* = lockup ratio; *OFSIZ* = IPO offer size; *STOMKT* = overall stock market condition; *DVOL* = IPO market condition; *HEUREP* = heuristics representation; *AGE* = firm age; *DTECH* = firm sector; *ASIF* = information asymmetry. The t-statistics are reported in 'parentheses'. *RETURN* and *FLIP* are assessed on the first trading day.
***, ** and * indicate significance at 1%, 5%, and 10% levels, respectively.

good signal and information acquired of the IPO issuers as conveyed by *INSTRAT*, reflect the positive behaviour of both the IPO anomalies *(RETURN* and *FLIP).* This is because from the perspective of the IPO initial return, the high *RETURN* caused by the high *INSTRAT* seems to be caused by the favourable perception of investors on the IPO. Since the quality of the IPO issuer has been observed and recognised, investors would request to subscribe to the IPO. The high demand for the IPO would propel the share prices. This will eventually increase the initial return of the IPO. Accordingly, the higher *INSTRAT* is, the higher the initial return of the IPO will be. This result supports the outcome noted by Abdul Rahim et al. (2013) and Sapian et al. (2013), both of which disclose a significant positive relationship between institutional investors' participation and the initial return of Malaysian IPOs.

Similar arguments can also be applied to *FLIP* where results shown in Column (c) of Table 5 indicate that successful subscribers of IPO with high *INSTRAT* are less likely to flip their shares on the first trading day. Specifically, the higher *INSTRAT* is, the lower the flipping activity will be. This occurrence could be caused by the subscribers' perception on the good quality and prospects of the IPO issuer. Consequently, they decide to retain their allocated shares for a longer term so as to gain greater wealth from the future appreciation of the share price. The action of the subscribers in retaining their shares is influenced by the positive indication the IPO issuer signalled through the high participation of the institutional investors. As posited earlier in the Introduction section, institutional investors are usually viewed as being informationally opaque (Benveniste & Spindt, 1989; Cornelli & Goldreich, 2001). Their decisions to participate in an IPO tend to be driven by the interest and confidence in the issuer. The findings noting the negative significant influence of *INSTRAT* on *FLIP* supports the findings of Krigman et al. (1999) and Bash (2001). With reference to the results illustrated in Column (a) and Column (c) of Table 5, this study is able to preliminarily point out that *INSTRAT* has a significant influence on *RETURN* and *FLIP*. This is probably influenced by its signalling role, particularly when the interaction of the information asymmetry (*ASIF*) was not introduced in the models. In other words, it is possible that the institutional investors were seen as an effective tool for signalling information about the quality of the IPO issuer firm.

Nevertheless, as reported in Column (b) and Column (d) of Table 5, the significant effect of *INSTRAT* on *RETURN* as well as on *FLIP* weakens when *INSTRAT* interacts with *ASIF* (i.e., *INSTRAT*ASIF)*

Specifically, the t-statistics of *INSTRAT* decreases from 1.649 to -0.065 in *RETURN* model, ranging from -1.869 to -0.937 in the *FLIP* model. Further, the sign of coefficient for *INSTRAT* in the *RETURN* model becomes negative. This indicates the weakening effect of *INSTRAT* as a signalling tool. Moreover, the reduction noted in the t-statistics supports the theoretical arguments of this study, that is, the ability of *INSTRAT* to transmit information particularly, information denoting the quality and prospect of the IPO issuer deteriorates when the IPO issuer suffers from high information asymmetry or when the prospective investors are deprived of the necessary information about the IPO issuer. This supposition is further supported when the interaction between the institutional investors' participation and information asymmetry (*INSTRAT*ASIF*) as shown in Column (b) and Column (d) of Table 5 demonstrates a significant influence on *RETURN* and *FLIP*.

Specifically, the interaction (i.e., *INSTRAT*ASIF*) relates positively and significantly to *RETURN* and *FLIP* at the 0.01 level. The positive relationship between the interaction and *FLIP* seems to be justified. Although there is a high participation of the institutional investors in the IPO issuer, the subscribers realised that the decision to retain the shares of firms with high information asymmetry could trap them, for instance, through a moral hazard problem (Yung & Zender, 2010). Therefore, it can be predicted that the successful subscribers will exit from the firm by flipping the allocated shares. This supposition is supported empirically when the main effect of *ASIF* also produces a significant positive influence on *FLIP,* as shown in column (d) of Table 5.

Meanwhile, the positive relationship between *INSTRAT*ASIF* and *RETURN* seems to suggest that underpricing (or positive initial return) serves as a compensation to the institutional investors (Chemmanur, Hu, & Huang, 2010). Specifically, investors will be compensated with high returns as a means to ensure that they subscribe to the shares. This suggests that the positive relationship is not caused mainly by the increase in demand of shares in the immediate aftermarket. It could be caused by the act of the IPO issuer in deliberately underpricing the IPO or setting a lower price of its shares as a means to induce the interest of the investors in investing in the firm. The act of underpricing shares is a much needed strategy in times when investors are less likely to be interested in investing due to the information asymmetry. In other words, the IPO issuer agrees to receive lesser proceeds from the IPO by promising investors better positive return such that investors could generate gains in the immediate aftermarket or when the IPO is traded. Overall, this study finds that while *INSTRAT* plays a signalling

role in enhancing returns as well as in reducing the flipping activity, its significance is limited only when its effect is not interacted with information asymmetry. *INSTRAT's* signalling role is less significant where an IPO issuer has a high level of information asymmetry or is of less transparent for evaluation.

In looking at the control variables, the two lock-up paramaters (ratio and period) are found to be significant in explaining *FLIP*. Although the positive signs indicated by the relationship between the lock-up ratio and *RETURN*, and the lock-up period and *RETURN* are consistent with the prediction, the relationships are found to be not significant. Nevertheless, the results indicated by the significant and negative effect of the lock-up ratio and lock-up period on *FLIP* support the signalling theory, that is the lock-up ratio reflects the quality of the IPOs. A higher lock-up ratio implies that the affected shareholders had agreed to retain their shareholdings in the IPO issuer despite the high price appreciation (initial return) in the immediate aftermarket. Therefore, the higher the lock-up ratio is, the less urgency is felt by the new shareholders in liquidating their investment in the IPO issuer due to their confidence in the firm. Similarly, the longer lock-up period signals a higher-quality issuing firm. This creates greater incentives for the investors to retain the allocated shares. The results from this study are consistent with those reported by prior studies (Islam & Munira, 2004; Mohan & Chen, 2001; Wan Hussin, 2005).

The significant negative effect of the lock-up ratio shown on *FLIP* also indicates that it is an effective device for reducing or controlling the flipping activity in the IPO market. As supported by some studies (Garfinkle, Malkiel, & Bontas, 2002; Ofek & Richardson, 2000), the lock-up ratio does act as an additional restriction on the supply of the firm's shares. The higher the lock-up ratio is, the lower the flipping activity is. However, the relationship between both the lock-up provision parameters (lock-up ratio and lock-up period) and *RETURN* is not significant. This suggests that the lock-up provision (ratio and period) works more effectively as a device for controlling the flipping activity rather than as a signalling tool.

The size of the IPO (*OFSIZ*) appears to influence *RETURN* and *FLIP* significantly and negatively. The results drawn from this study suggest that more subscriptions for shares will be fulfilled when the supply of shares is large. Thus, there will be less demand on the shares in the immediate aftermarket or during the first few trading days. The demand-supply theory suggests that the lower demand will reduce the pressure on the IPO's opening price (or initial return) which then reduces

the investors' motivation to flip their shares. The results of the negative relationship between the size of the IPO *(OFSIZ)* and *RETURN;* and *OFSIZ* and *FLIP* further support the findings on the negative relationship of previous studies (Abdul Rahim et al., 2013; Bayley et al., 2006; Chong et al., 2009; Islam & Munira, 2004; Tran et al., 2007; Sapian et al., 2012).

The current results observed also show that stock market condition (*STOMKT)* is positively associated with *RETURN* and *FLIP*. Although the coefficient exhibits a poor explanatory power, the sign of coefficient of *STOMKT* is consistent with the prediction and the results of the IPO market condition *(DVOL*), specifically for the *FLIP* model. This finding implies that investors tend to flip their shares when the market is in better conditions. The result drawn from this study can also be related to the investors' optimism during the bullish market which propels investors to be more likely to sell their shareholdings immediately (Ritter & Welch, 2002) as a result of the high initial return or profit taking activities. This means that investors flip their shares when the market is able to give them high return, similar to the results provided by Chong et al. (2011). This study reveals that heuristic representative *(HEUREP)* is another significant predictor for *RETURN* where results indicate that investors are optimistic about the IPO market, based on what had happened in the most recent period as is reflected by Chong et al. (2011).

Besides the above, the firm's age is also noted to be positively related to *RETURN* and *FLIP*. However, the coefficient is not significant. In theory, the longer the operation of a firm, the older is its operating history and this affects its capability to survive or lower the risks (Ritter, 1984; Beatty, 1989). The findings of this study suggest that the longer the firm is in operation, the higher is the demand for its shares in the immediate aftermarket. This is probably due to the confidence of the investors in the IPO issuer, thereby resulting in higher initial return. The positive relationship between firm's age (*AGE*) and *FLIP* seems to support the argument that flippers are profit oriented investors. This means that the higher the initial return produced, the higher the demand for the shares in the early aftermarket; both of which are found to encourage the flipping activity.

Other than the above results, this study also uncovered a negative association between *DTECH* and *RETURN* and a positive relationship between *DTECH* and *RETURN*. Apparently, the investors flipped more IPOs issued by technology firms than other firms. This is probably due

to the perception of the investors who think that technology firms are more risky than firms in other sectors (Yong, 2008). Since technology firms manifest risks, there is a greater chance that investors will flip these IPOs at the soonest opportunity opened to them. Table 6 summarises the results found in this study and their hypotheses.

Table 6: Hypotheses and Summary of Results

Variables	Model A: *RETURN*			Model B: *FLIP*		
	Expected Sign.	Hypotheses Supported	Sig. Level	Expected Sign	Hypotheses Supported	Sig. Level
Main Independent Variable						
INSTRAT	+ve	Yes	10%	-ve	Yes	10%
Moderation Effect						
ASIF		Yes	10%		Yes	5%
Control Variables						
LUPER	+ve	Yes	-	-ve	Yes	1%
LURAT	+ve	Yes	-	-ve	Yes	1%
OFSIZ	-ve	Yes	1%	-ve	Yes	1%
STOMKT	+ve	Yes	-	+ve	Yes	-
DVOL	+ve	No	-	+ve	Yes	-
HEUREP	+ve	Yes	1%	+ve	Yes	-
AGE	+ve	Yes	-	-ve	No	-
DTECH	+ve	No	-	-ve	No	-

Note: RETURN = initial return (offer to open) on first trading day; *FLIP* = flipping activity on first trading day; *INSTRAT* = institutional investors' participation; *ASIF* = information asymmetry; *LUPER* = lock-up period; *LURAT* = lockup ratio; *OFSIZ* = IPO offer size; *STOMKT* = overall stock market condition; *DVOL* = IPO market condition; *HEUREP* = heuristics representation; *AGE* = firm age; *DTECH* = firm sector; and the numbers in column headings correspond with the number of variables in row.
+ve indicate an expectation on the positive relationship while -ve indicate an expectation on the negative relationship. Significant level of each variables are based on the value reported in Main Effects Model of Table 5.

4.3 Sub-Period Analysis (Pre-Global Crisis and Post-Global Crisis)

This study had re-estimated both the main regression models (flipping activity and initial return) which include the dummy crisis as another independent variable as a means to offer a robust analysis of the

predictors to the initial return and flipping activity. The dummy crisis *(DCRISIS)* takes the value of 1 if the IPO was issued prior to 2008 and 0 if otherwise. The results can be referred to in Table 7. Both main regression models (Model A and Model B) show an insignificant relationship between *DCRISIS* and the flipping activity as well as between *DCRISIS* and the initial return. This means that the global financial crisis does not have a significant influence on the IPO reactions in the immediate aftermarket (*RETURN* and *FLIP*), in any of the models. Therefore, following the inability of *DCRISIS* to cause a significant influence on the flipping activity and the initial return, this study opts not to provide further analysis of the effect of the global financial crisis on the flipping activity and the initial return by using sub-samples (i.e., pre-crisis and post crisis). In other words, the initial main regression results reported in Column (a) and Column (b) of Table 5 remain similar.

4.4 Reliability on Different Indicators of Information Asymmetry

Beatty and Ritter (1986) and Yung and Zender (2010) postulate that the reputation of the underwriters and firm's size (or market capitalisation) are the two main indicators that reflect the different levels of information asymmetry across the IPO issuers. The underwriters' reputation usually reflects the superiority of the investment banks that are accountable for the pricing, promoting, selling and organising of a given IPO. Titman and Trueman (1986) posit that an IPO issuer with favourable information will usually hire a high quality underwriter. This indicates that the reputable underwriter may provide better and clearer information about the IPO issuer. From the underwriters' point of view, most would want to avoid the risk of being associated with low quality IPOs. To protect their reputation, the underwriters avoid selling IPOs that will disappoint their clients/investors (Hiau Abdullah & Taufil Mohd, 2004). This means that a firm with lower quality IPO may not be able to hire a prestigious underwriter. Empirically, Holland and Horton (1993) find a significant inverse relationship between the underwriter's reputation and underpricing where a high quality underwriter is typically associated with less underpricing. This suggests that the reputation of the underwriters is an effective tool for transmitting clear information on high quality IPOs.

Meanwhile, firm's size is proxied by market capitalisation. Market capitalisation is also a direct assessment of the size of a firm. A firm that grows in total assets is more likely to be signified as larger firms which

Table 7: Results of Sub-Period Analysis on Flipping Activity and Initial Return

Independent Variables	Model A: *RETURN*	Model B: *FLIP*
LUPER	- 0.002 (-2.622)***	-0.002 (-5.271)***
LURAT	0.038 (0.147)	-0.373 (-1.797)*
OFSIZ	-0.089 (-3.100)***	-0.135 (-9.389)***
STOMKT	0.038 (0.597)	0.016 (0.353)
DVOL	(-0.040) -0.669	0.001 (0.026)
HEUREP	0.495 (4.695)***	0.032 (0.557)
AGE	-0.003 (-1.006)	0.001 (0.206
DTECH	-0.002 (-0.029)	0.042 (0.868)
ASIF	0.001 (1.028)*	0.001 (2.064)**
DCRISIS	-0.0017 (0.642)	-0.002 (0.745)
R^2	0.162	0.201
Adjusted R^2	0.140	0.179
F-statistics	7.215***	9.285***
p-value (F-stats)	0.000	0.000
Durbin-Watson	1.842	1.746
Ramsey RESET TEST:		
F-Test Statistics	0.523	0.665
p-value	0.345	0.342

Notes: Sample size, n= 383.
RETURN = initial return (offer to open) on first trading day; *FLIP* = flipping activity on first trading day; *LUPER* = lock-up period; *LURAT* = lockup ratio; *OFSIZ* = IPO offer size; *STOMKT* = overall stock market condition; *DVOL* = IPO market condition; *HEUREP* = heuristics representation; *AGE* = firm age; *DTECH* = firm sector; *ASIF* = Information asymmetry; *DCRISIS* = financial crisis (pre and post). The t-statistics are reported in 'parentheses'. *RETURN* and *FLIP* is assessed on the first trading day.
***, ** and * indicate significance at 1%, 5%, and 10% levels, respectively.

are less subjected to higher risk and/or speculative forces (Corhay, Teo, & Rad, 2002). In contrast, smaller firms are more subjected to speculative factors (Ritter, 1984; Yong, 2010). Past studies (e.g., Corhay et al., 2002; Grinblatt & Hwang, 1989) find a negative association between firm's size and underpricing where larger firms tend to issue IPOs with less discount rates. This is because larger firms are less subjected to higher risk, have more information transparency and lower speculative forces thereby leading to lower underpricing instances.

Overall, IPO issuers that are small in size and/or are advised by less prestigious underwriters are more likely to suffer from high information asymmetry. In the context of this study, if the indicators are reflective of information asymmetry, the signalling role of *INSTRAT* on *RETURN* and *FLIP* should vary according to the differing levels of the indicators. To test the reliability of the indicators, the regression models used and the results reported in Table 5 were re-estimated by using sub-samples which were sorted according to: (i) firm size; (ii) underwriter reputation; and (iii) product of the two indicators (i.e., firm size x underwriter reputation).

The results in Table 8 offer one important indication, that is, the indicators of information asymmetry (size of firm and/or reputation of underwriter) consistently produce different levels of importance on the signalling role of *INSTRAT*. In other words, regardless of the models used, the signalling role of *INSTRAT* (observed using the t-statistics) is consistently strong (weak) in firms of high (low) information asymmetry. An exception is seen only on the t-statistics of low information asymmetry as shown in Model A of Panel A. Nevertheless, the consistency noted in the results showing the role of *INSTRAT*, as seen in Model B of Table 8, implies that firm's size and reputation of underwriter are reasonable indicators that can reflect information asymmetry. The difference in the strength of *INSTRAT* (the t-statistics of high *ASIF* minus the t-statistics of low *ASIF*) is highest when information asymmetry is measured by using both indicators (firm's size × underwriter's reputation) as shown in Panel C of Table 8. The results show that the combination of the two indicators is more reflective in capturing information asymmetry. In other words, the two indicators (firm's size and underwriter's reputation) should be jointly used as a proxy to estimate the different level of information asymmetry (i.e. high or low) a firm faces.

Table 8. Results on Regression Analyses Based on Different Indicator of Information Asymmetry

Independent Variable	Model A: *RETURN*		Model B: *FLIP*	
Panel A: Size of Firms				
	Low *ASIF* (Large Firms)	**High *ASIF*** (Small Firms)	**Low *ASIF*** (Large Firms)	**High *ASIF*** (Small Firms)
INSTRAT	0.171	-0.065	-0.098	-0.033
	(2.369)***	(-0.812)	(-1.205)	(-1.419)
Panel B: Reputation of Underwriters				
	Low *ASIF* (Reputable Underwriter)	**High *ASIF*** (Less reputable Underwriter)	**Low *ASIF*** (Reputable Underwriter)	**High *ASIF*** (Less reputable Underwriter)
INSTRAT	0.224	0.062	0.062	-0.105
	(3.026)***	(3.808)***	(0.809)	(-1.278)
Panel C: Size of Firms and Reputation of Underwriters				
	Low *ASIF* (Large Firms & Reputable Underwriter)	**High *ASIF*** (Small Firms & Less reputable Underwriter)	**Low *ASIF*** (Large Firms & Reputable Underwriter)	**High *ASIF*** (Small Firms & Less reputable Underwriter)
INSTRAT	-0.074	0.234	-0.115	-0.067
	(-0.969)	(3.167)***	(-1.242)	(-1.857)*

Notes: *RETURN* = initial return (offer to open) on first trading day; *FLIP* = flipping activity on first trading day; *INSTRAT* = institutional investors' participation; *ASIF* = information asymmetry

Sample size of each sample, n =192, n = 191 (383/2). To ease presentation, only coefficient and t-statistics of *INSTRAT* are reported. The t-statistics of the variable and are shown in parentheses.

***, ** and *indicate significant at 1%, 5%, and 10%, respectively.

5. Conclusion and Suggestions

This study investigated the moderating effect of information asymmetry on the relationship between the institutional investors' participation and the initial return of the IPO as well as between the institutional investors' participation and the flipping activity of the IPO. In general, this study finds that information asymmetry has a significant moderating effect in weakening the signalling role of the institutional investors' participation in the initial return and the flipping activity. The results indicate that, albeit the institutional investors' role in transmitting information on the quality and good prospects of an IPO issuer, its significance is limited to only where the IPO issuer is not suffering from high information asymmetry. Thus, it can be argued that high information asymmetry lowers the firm's transparency for evaluation which can result in higher initial return and higher flipping activity. This study concludes that the IPO's initial return and the IPO's flipping activity can be significantly explained by the signalling role of the institutional investors' participation. Nevertheless, the explanation is subjected to the level of information asymmetry that an IPO issuer faces.

The finding of this study implies that information asymmetry is crucial when evaluating the IPO issuer. This is because high information asymmetry will increase both the initial return and the flipping activity of the IPO. The potential of the excessive flipping activity can easily create a 'flash flood' phenomenon that can lead to a 'landslide' in the IPO markets. Thus, new demands for the shares would be difficult to create since the behaviour of the shareholders is interpreted as a mechanism that signals the firm's future prospect (Fishe, 2002). Without an adequate demand to absorb the overflowing supply of the IPO, the price of the IPO will quickly sink to a low level thereby eroding investors' wealth.

Based on the findings discussed above, it can be deduced that the findings can be used to further explain the situation of the IPO's initial return as well as the IPO's flipping activity. However, before a conclusion can be concretised and further implications of the findings can be drawn, more investigations need to be conducted. From that perspective, future studies can be conducted firstly, to broaden the scope of examining other developing as well as developed IPO markets so as to ensure generalisability of the findings. Secondly, future studies could consider other signalling devices such as the proportion of shares that the insiders of an IPO issuer voluntarily hold as a measure to examine the moderating effect of information asymmetry. As revealed in Mohd

Rashid and Abdul Rahim (2012), shareholders' retention is just one significant predictor to explain the IPO's initial return via its signalling ability. This study had opted not to include shareholders' retention as part of its explanatory variables as a means to reduce similarity on some information contained in the lock-up ratio. By definition, the lock-up ratio is the percentage of the insiders' shares that are locked. Although in the Malaysian IPO market, the lock-up provision is made mandatory, there is a portion of shares of affected shareholders that is locked-up voluntarily. Since shareholders' retention also possesses information on the proportion of shares of original shareholders that are held voluntarily, they may end up transmitting similar signalling content. Thus, future studies are expected to control the effect of shareholders' retention on the IPO's immediate aftermarket reactions with the necessary caution.

Despite the aforementioned limitations, this study enriches the current literature on the IPO's initial return and the IPO's flipping activity, both of which can be determined in several ways. Firstly, this study provides additional evidence showing the determinants of the initial return and the flipping activity of the Malaysian IPO market. The consistency noted in the results of the offer size of the IPO in this study and those conducted earlier, verifies that offer size is among the main significant factors of the IPO's initial return and the flipping activity involved. Secondly, this study initiated a breakthrough in the current literature because it shows that the initial return and the flipping activity are influenced by the explanatory ability of the institutional investors' participation. Thirdly, this study also offers evidence for the current body literature when it is found that the causal direct effect of the institutional investors' participation on the IPO's initial return and flipping activity is moderated significantly by the firm's level of information asymmetry. The findings drawn from this study imply that the initial return and the flipping activities of the IPO are not only explained directly by a set of factors; they could also be jointly influenced by the interaction of the information asymmetry of the firm.

Since the findings in this study indicate that the high information disclosure of the issuers is important and that firm's size and its capability to engage reputable underwriters can help to distinguish the quality between firms of high and low information asymmetry, an IPO issuer can convince investors to participate in the IPO exercise via the firm's engagement with an underwriter of high reputation.

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Appendix

White's Heterokedasticity Test Result

Heteroskedasticity Test: White			
F-statistics	0.583105	**Prob. F(62,307)**	**0.9943**
Obs* R-squared	38.98098	Prob. Chi-Square(62)	0.9903
Scaled explained SS	107.9769	Prob. Chi-Square(62)	0.0003

Note: This result is based on the main regression in Column (a) of Table 5.