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ROLE OF LOCKUP PROVISION AND INSTITUTIONAL INVESTORS IN RESTRICTING IPO FLIPPING ACTIVITY: IS THERE A MODERATING EFFECT OF INVESTOR DEMAND?

Norliza Che-Yahya[1]* and Ruzita Abdul-Rahim[2]

[1]Faculty of Business and Management, Universiti Teknologi MARA, 42300 Bandar Puncak Alam, Selangor, Malaysia
[2]Faculty of Economics and Management , Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

*Corresponding author: norliza9911@puncakalam.uitm.edu.my

ABSTRACT

This paper examines the moderating effect of pre-listing investor demand on the direct influence of lockup provision and institutional investors' participation on flipping activity. By definition, flipping activity is a liquidation of IPOs by new shareholders during the first few trading days. If flipping activity is done substantially, it has potential to erode wealth of the issuing companies and shareholders. To reduce such adverse effects, issuers and underwriters could restrict availability of tradable shares in the immediate aftermarket by relying on the direct restrictive role of lockup provision and institutional investors' participation. However, the role of restricting supply of IPOs in the immediate aftermarket could be hindered if the IPOs are highly demanded. The shift of the demand curve to the right when supply of the IPOs is restricted should induce a new equilibrium at a higher price level. The resulting price appreciation will motivate investors to flip to optimize their returns, pushing flipping activity to a higher level. Using data of 370 Malaysian IPOs covering the period from January 2000 to December 2012, this study finds that pre-listing investor demand does moderate the role of lockup provision (period) and institutional investors' participation in restricting flipping activity but in the opposite manner.

Keywords: flipping activity, lockup provision, institutional investors' participation, pre-listing investor demand, Malaysian IPO market

INTRODUCTION

Compared to the voluminous studies on IPO abnormal initial return that focus on the pricing aspect of IPOs, studies that examine the quantity or volume aspect of IPOs have only recently begun to emerge. This attention is lagged despite the fact that IPO markets have been reporting an extraordinarily high trading volume

during the first few days of listing relative to the rest of the days (Abdul-Rahim, Sapian, Yong, & Auzairy, 2013; Aggarwal, 2003; Ellis, 2006; Islam & Munira, 2004). Aggarwal (2003) and Ellis (2006) document that in the US IPO market, mean trading volumes are as high as 81.97% and 76% in the first and second trading days, respectively. Figure 1 demonstrates that for the period from 2000 to 2012, the Malaysian IPO market has not been spared by this tsunami-like trading wave. Kayani and Amjad (2011) and Reese (1998) found abnormally high initial returns and trading volume in IPO immediate aftermarket but mostly in cases of highly demanded IPOs. Based on these findings, it seems reasonable to propose that the anomalous behaviour of IPOs should also be examined from the volume perspective. The proposition is particularly supported by the fact that scant evidence has been established for trading activity in IPOs' early aftermarkets (e.g., Ellul & Pagano, 2006; Zheng & Li, 2008).

In examining the anomalous behaviour of IPOs during the first few trading days from the volume perspective, this study takes the stand that the heavy trading activity is caused by flippers (Aggarwal, 2003; Ellis, 2006). Flippers are defined as new investors who receive allocations of IPO shares during the offering and immediately dispose their allocations in the first few trading days (Aggarwal, 2003; Ellis, 2006). Accordingly, flipping is referred to as the activity of selling shares that are subscribed in an IPO within a short period after listing (Bayley, Lee, & Walter, 2006). To some extent, flipping activity is favoured because it offers a riskless way for investors to make quick profits (Chong, Ali, & Ahmad, 2009; Gounopoulos, 2006) and improves the early IPO aftermarket liquidity (Boehmer & Fishe, 2000; Sapian, Abdul Rahim, & Yong, 2013).

Although its positive effects are favoured, flipping activity also has adverse effects that can be damaging if it is left uncontrolled. If it is excessive, flipping activity can destroy firms' value and shareholders' wealth because it creates a sudden and substantial flow of new shares that could drag price of the IPOs down below its fair value (Fishe, 2002; Gounopoulos, 2006). The adverse effect of excessive flipping activity is illustrated in Figure 2, which depicts the trend of the opening price versus the offer price of an IPO. As illustrated in the figure, the average opening prices of 310 IPOs (issued between 2000 and 2012) during the first 20 days after listing are at their highest points on the first and second trading days. From the third day onward, the opening price continues to decline at a relatively fast rate, reaching the break-even point in only 11 days. Note that when the trading volume increases slightly on the seventh trading day (Figure 1), the opening price drops by a greater percentage on the eighth day. The downward trend in the price of the IPOs is consistently in tandem with the increases in the supply of the new shares in the immediate aftermarket, which is argued in this study to be largely contributed by flippers. Based on this evidence,

IPO issuers and underwriters have strong incentives to prevent excessive flipping activity. Issuers are subject to close scrutiny from their debt holders and shareholders, and a substantial decline in firms' value reduces their ability to raise capital in favourable terms in the future. Underwriters' reputation, in the meantime, depends not only on the success of the IPOs but also in proving that the new shares have been offered at a fair price. Excessive flipping that reduces the IPO price to below its fair value (assumed to be the offer price) will make the investors unhappy. Unsatisfied investors are more likely to file lawsuits and less likely to subscribe to future offerings.

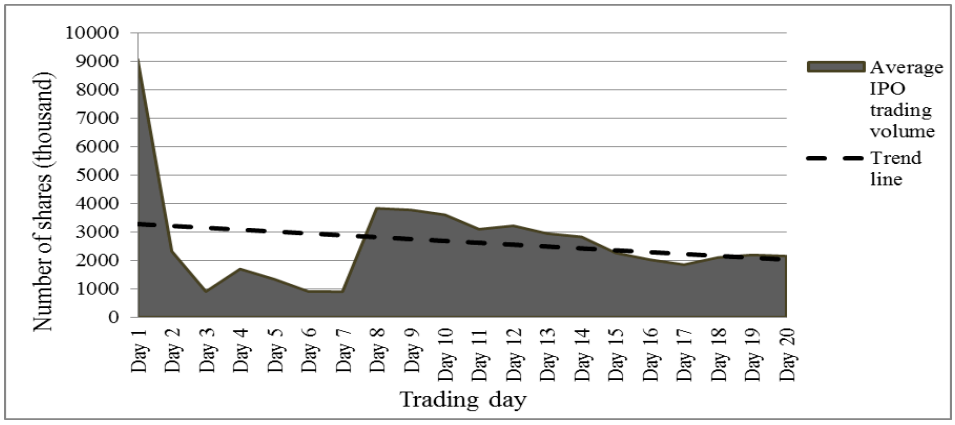

Figure 1. Trend of IPO trading volume for the first 20 days after listing. Mean trading volume is estimated based on the total number of shares traded (in thousand) on the respective trading day divided by 310 companies
(*Source*: Bursa Malaysia, 2012; DataStream Database, 2012)

Although stopping investors from flipping their IPOs is not legally an option, the decision of the Security Commission of Malaysia (SC) to impose a mandatory lockup provision on 3 May 1999 is viewed as an effort that could control flipping activities to a certain extent. Lockup provision, also known as share moratorium in Malaysia, prohibits promoters of IPOs from selling all or a portion of their shareholdings during a lockup period (Wan Hussin, 2005). Although the priority for lockup provision is to ensure the promoters (normally the original owners or founders of the issuing companies) continue to be responsible for the wellbeing of the company at least during the lockup period, this provision can also be regarded as a tool to control the supply of new shares that can be sold in the immediate aftermarket when the shares are eligible for trading (Garfinkle, Malkiel, & Bontas, 2002; Ofek & Richardson, 2000). This is supported by the fact that although lockup provision in the Malaysian IPO market is mandatory, the preliminary observation of this study shows that most of the companies commit to locking a higher portion of shares than they are required to,

implying that this action will help limit an even higher portion of tradable shares from being flipped.

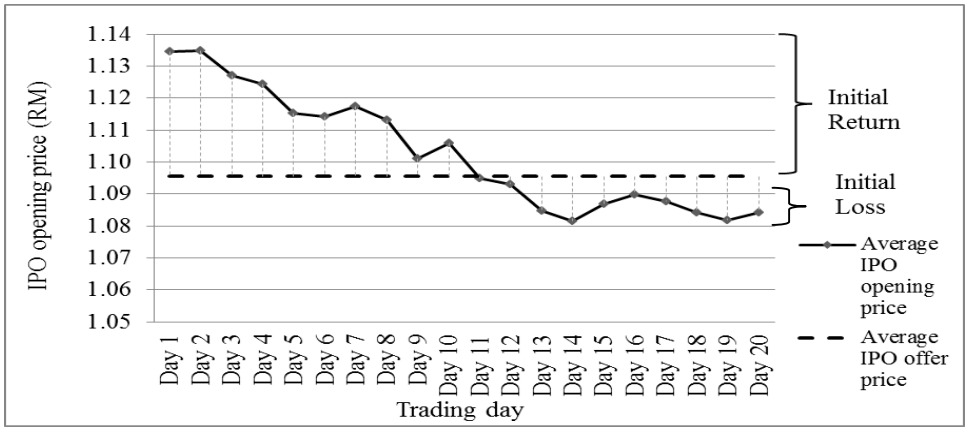

Figure 2. Trend of IPO opening prices in the first 20 days after listing. Average opening price is calculated based on the total opening price against 310 companies issued from January 2000 until September 2012. Average offer price is calculated based on the total offer price against 310 companies.
(*Sources*: Bursa Malaysia and DataStream Database)

A similar restrictive role is also expected for institutional investors because they are a group of long-term shareholders who are considered loyal to their companies and have less motivation to sell their shares instantly (Aggarwal, 2003; Gounopoulos, 2006). In fact, major institutional investors in the Malaysian IPO market, such as Employees Provident Fund, Permodalan Nasional Berhad and Social Security Organization, are funds management companies that invest in the stock market to protect shareholders' interests (Abdul Wahab, How, & Verhoeven, 2008) through their long-term commitment. Institutional investors are also argued to prefer gradual long-term dividends instead of quick returns from price appreciation in the early aftermarket (Sapian, Abdul Rahim, & Yong, 2012). Therefore, following the basic demand-supply rule, lockup provision and institutional investors' participation should have a direct role in reducing the level of flipping activity *via* their effects in restricting the supply of the new shares in the immediate aftermarket.

Nonetheless, in proposing the effectiveness of lockup provision and institutional investors' participation in restricting the supply of IPOs in the immediate aftermarket for flipping activity, the argument seems incomplete without properly considering the effect of demand on IPOs. When the restricted supply coupled with the shift of the demand curve to the right brings the price of

the newly listed IPOs to a new higher equilibrium level, investors will be more motivated to flip. In other words, the resulting price appreciation will generate flipping activity that is higher than normal. This proposition is in line with previous studies (e.g., Kayani & Amjad, 2011; Reese, 1998) that reveal that both initial returns and initial trading volume are substantial, particularly in cases in which the investors' demand on IPOs is high. Overall, this study proposes that flipping activity can be directly influenced by lockup provision and institutional investors' participation, but the influence can be moderated by investor demand.

Specifically, this study attempts to examine the restrictive role of lockup provision (ratio and period) and institutional investors on flipping activity and whether investor demand moderates such roles. This study contributes to the literature on IPO because to the best knowledge of this study, this issue has never before been addressed. In testing these relationships, some variables that have been found to be significant in influencing flipping activity will be controlled for. In the context of Malaysian IPOs, three of the earliest studies on flipping activity (Chong et al., 2009, 2011; Chong, 2009) focused on behavioural theories, such as noise signals and disposition effects, as explanations for flipping activities, whereas Yong (2010) focuses on only the correlation between institutional investors' participation and aftermarket investor behaviour. A recent study by Abdul-Rahim et al. (2013) focuses on flipping activity during the first five trading days to measure flipping activity, whereas this study focuses on flipping activity on the first trading day, which is when such trading activities seem most prevalent (Figure 1).

LITERATURE REVIEW

IPO Flipping Activity

Studies on flipping activity are conducted primarily in developed markets, particularly in the US. Krigman, Shaw and Womack (1999) and Bash (2001) examine both underwriters' pricing error and flipping in finding explanations for the short- and medium-term performance of IPOs. Both studies find that flipping activity is not the main factor for the poor aftermarket performance; instead, it is the result of the unfavourable pricing. The studies also find that flipping is significantly negatively explained by initial returns and market capitalisation, and institutions choose to flip more poor IPOs. Instead of finding explanations about the role of flipping activity on IPO returns, Aggarwal (2003) and Gounopoulos (2006) focus on the predictors of flipping activity. In a sample of 617 IPOs from May to June 1998, Aggarwal (2003) finds that more hot IPOs are flipped by institutional investors. Gounopoulos (2006), who examines 51 IPOs from 2003 to 2004, reports results similar to those of Krigman et al. (1999) and Bash (2001).

Overall, in the US, the majority of studies suggest that institutions are more aggressive in their flipping activity when their participation is "needed" in less attractive IPOs, indicating that flipping is a response to overpriced IPOs in this market.

The evidence reported by Bayley et al. (2006) in Australia shows that hot IPOs are flipped more frequently than cold IPOs. This contradicts the results of the majority in the US IPO market. Furthermore, Bayley et al. (2006), who examine 457 IPOs from 1995 to 2000, find a negative relationship between issue size and flipping activity during the first three trading days. In the Dhaka IPO Market, Islam and Munira (2004), who examine 96 IPOs issued from 1994 to 2001, find a significant negative relationship between issue size and flipping activity.

In the case of Malaysian IPOs, studies on flipping activity begin with Chong et al. (2009) and Chong (2009). Using 132 IPOs listed on the Main Board of Bursa Malaysia from 1991 to 2003, the studies examine the role of noise effects and disposition effects on flipping activity. Both effects, which are proxied by the level of initial returns, show a significant positive influence on flipping activity. The studies also find a significant negative association between issue size and flipping activity. Yong (2010), who examines 219 IPOs listed between 2004 and 2007, finds that initial return is correlated with flipping activity. Another study by Chong et al. (2011) finds that representative heuristics are negatively associated with flipping activity. Sapian et al. (2012) find that the flipping activity of 187 IPOs issued from June 2003 to December 2008 is positively associated with initial return but negatively associated with offer size. Abdul-Rahim et al. (2013), who examine 243 IPOs during a similar time frame, find similar results. Overall, earlier studies on flipping activity in Malaysia and in other markets show that several factors have been found to be significant in explaining flipping activity. However, none has exclusively examined the role of lockup provision and institutional investors' participation in flipping activity and the indirect role of investor demand on these relationships.

IPO Lockup Provision

In studies on the lockup period, the evidence is partially skewed to the net effect of the lockup period at the lockup expiry that is on the IPO trading volume and the long-term return (Ofek & Richardson, 2000; Field & Hanka, 2001; Garfinkle et al., 2002; Nowack, 2004; Georgen, Mazouz, & Yin, 2010; Hakim, Lypny, & Bharbra, 2012). Ofek and Richardson (2000) use 1662 US IPOs from 1996 to 1998 to investigate the effect of lockup provision on trading volume and price reaction at the expiry date. Learning that the lockup provision prevents the immediate sales of a portion of shares for a pre-specified time, the supply of

shares will be controlled initially but will have a large positive shift on the expiry day. This will create a positive effect on trading volume and downward pressure on price due to excessive sales of the unlocked shares by shareholders. In the finding, the study provides evidence that the expiration of lockup provision increases up to 40% of trading volume and drops to 3% of the IPO price. Field and Hanka (2001) find similar results for 1948 US IPO from 1988 to 1997.

Another similar finding is found in Garfinkle et al. (2002) and Nowack (2004). Using a sample of 775 US IPOs from 1977 to 1999, Garfinkle et al. (2002) report that trading volume increases to 81% on the lockup expiry. The study also documents a drop of 4.47% in IPO price on the unlock date. This finding further implies that the sudden supply of tradable shares does have some influence on the trading volume and the price of the IPOs. The adverse effect of lockup provision on price on the expiration date is also supported by Nowack (2004). Focusing on 142 German IPOs, Nowack (2004) finds that the expiration of lockup provision increases 25% of the trading volume. Although the focus of the four studies is on the effect lockup provision on the expiration date, all studies suggest that lockup provision is effective in limiting the supply of shares and in producing a higher-than-normal price of IPOs in the early aftermarket.

Georgen et al. (2010) examine the volume, price and bid-ask spread around the expiry of lockup provision. Using 272 IPOs listed on the Hong Kong Stock Exchange for the period from 1999 to 2005, the study finds no significant change in the price of the shares and therefore concludes that the market does not react to the expiration of the lockup period. Georgen et al. (2010) suggest that this is likely because most Hong Kong IPO firms are controlled by one or two non-institutional investors. These controlling shareholders are not likely to sell their shares after the lockup period expires because doing so will deplete their control over the firm. However, this conjecture is not empirically supported by the results, which show that trading volume reports a significant increase of 76.2% on the first day of lockup expiration. In contrast to Georgen et al. (2010), a recent finding by Hakim et al. (2012) shows that the IPO cumulative abnormal return increases by 1.6%, but trading volume reduces, particularly for family-oriented firms at lockup expiry. Overall, previous studies on lockup provision suggest that it has a potentially significant role in restricting the sudden supply of new shares in the early aftermarket. This can be deducted based on the general trends of the trading volume, which increases, and the price of shares, which decreases on the lockup expiration day.

Institutional Investors' Participation

Some studies (e.g., Aggarwal & Dahiya, 2000; Stoughton & Zechner, 1998) posit that favouring institutional investors in the allocation of IPOs will increase the

likelihood of the success of the issues and the increase the firm's value during an IPO because this group of investors is more capable of revealing private information about the issues and the issuers. Aggarwal (2003) and Gounopoulos (2006) offer a slightly different argument on the favouritism of institutional investors. They suggest that institutional investors are the "strong hand" because they are more loyal to the companies (not entirely driven by quick profit-making opportunities) and can therefore be relied upon as long-term investors. Krigman et al. (1999) and Bash (2001) empirically find that institutional investors consistently flip a lesser proportion of their allocated shares than individual investors, particularly on hot IPOs. Although some other studies (e.g., Aggarwal, 2003; Islam & Munira, 2004) find that institutional investors consistently flip a larger portion of their allocated shares than individual investors, it is unlikely that institutional investors can persistently exploit the favourable treatment in IPO allocation once the issuers and underwriters learn that the strategy, which favours institutional investors, backfires on the firm. In other words, institutional investors that repeatedly flip their shares are at risk of being blacklisted by underwriters in future IPOs and by the issuers in their seasoned equity offerings (SEOs). However, institutional investors are not likely to face such penalties if their actions are backed by valid reasons. For instance, institutional investors in the US tend to flip IPOs that will perform poorly in the future (Krigman et al., 1999; Bash, 2001) or IPOs that are overpriced (Gounopoulos, 2006; Tran, Kalev, & Westerholm, 2007).

In the case of the Malaysian IPO market, the higher participation of institutional investors is expected to reduce flipping activity. The main institutional investors in Malaysia are pension funds, fund management firms and other financial institutions that invest in common stocks to fulfil certain asset allocations in their portfolios. An opportunity to acquire stocks at favourable prices during IPOs is an advantage that investors (including institutional ones) are not likely to forego, particularly when the market is still characterised as thin and when the substitute, particularly the bond market, is practically limited. In short, this study advances a proposition that is in line with Aggarwal (2003) and Gounopoulos (2006), who argue that institutional investors are commonly allocated a greater fraction of new shares because of their commitment to hold the shares longer. This proposition is also consistent with the argument that institutional investors prefer income stream (dividend) over the long term (Sapian et al., 2012) rather than instant capital gain. Overall, this study expects the role of institutional investors, together with lockup provision, to restrict the number of shares to be flipped immediately after the IPO listing.

Investor Demand

From the beginning, this study argues that lockup provision (period and ratio) and institutional investors' participation directly influence flipping activity because they limit the supply of IPOs in the immediate aftermarket. However, discussing the effect of supply seems incomplete without simultaneously examining the effect of demand on the respective IPOs. The supply-demand rule suggests that highly demanded IPOs will push flipping activity to a higher level. As discussed earlier, the new higher price resulting from the emergence of a new equilibrium level will entice investors to flip to grab the opportunity to make a profit from the price appreciation. A similar argument on the effect of supply and demand and the price of IPOs (and flipping activity) is also forwarded by Alanazi and Liu (2013). The results of previous studies (e.g., Chahine, 2007; Ismail, Abidin, & Nasruddin, 1993; Yong & Isa, 2003) that find a positive association between investor demand and initial return (price appreciates) and other studies (Kayani & Amjad, 2011; Reese, 1998) that find a higher trading volume when the level of the investor demand is higher are good evidence in support of this supposition. As further supported by Fishe (2002), flipping activity greatly relies on the level of demand for the issues. Specifically, the price of IPOs will rise (fall) if there is a sufficient (insufficient) demand on the issues. In short, this study proposes that the effect of lockup provision and institutional investors' participation on flipping activity is weaker in IPOs that are greatly demanded.

This study argues that demand on IPOs further increases when there is a stringent practice of lockup provision i.e., a longer lockup period and a higher lockup ratio. Brau, Lambson and McQueen (2005) posit that insiders are normally in the best position to understand the current condition and foresee the growth prospects of the companies. On that basis, insiders' action in locking their shares voluntarily must be interpreted as a good signal about the companies because the signal is costly and difficult to replicate for low-quality companies. Similarly, Aggarwal, Liu and Rhee (2008) posit that demand on IPOs will also increase when the IPOs are largely offered to institutional investors. Because institutional investors are considered information-opaque, they should invest in only assets that are expected to produce greater wealth in the future. Therefore, their high participation in the IPOs also sends a good signal about the issuing companies. The signals in lockup provision and institutional investors' participation would therefore create a bandwagon effect or fads effect, particularly from the free riders who would quickly jump onto the bandwagon to get their share of the returns. In turn, the additional demand from the investors would create an upward pressure on the price of the IPOs that may be high enough for any investors to miss. In brief, although lockup provision and institutional investors' participation in IPOs are initially predicted to have a negative effect on flipping activity, these relationships may be moderated if the

investors' demand is high. In forwarding the moderating effect of investor demand, this study proposes that demand on IPOs prior to listing is likely to persist in the IPOs' immediate aftermarket.

METHODOLOGY

Sample Size and Procedures

The sample of IPOs listed on Bursa Malaysia will be selected from a study period that spans a period of 13 years, from January 2000 to December 2012. The study period starts in January 2000 because the mandatory lockup provision on IPO companies was made effective on 3 May 1999. The advantage of starting in the year 2000 is also that private placement issue only started to gain momentum in 2001. The final sample of 370 IPOs is generated after excluding a total of 77 unaffected companies (i.e., companies that are not subjected to and/or are exempted from the mandatory lockup requirement) because these companies do not have information on lockup provision. This study also excludes all rare-type IPOs, IPOs with missing value and IPOs issued by financial institutions and insurance companies due to the different format of financial statements. The data for this study are sourced from the prospectuses of the IPO companies, the website of Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange), and the Bloomberg and DataStream databases.

Definition and Measures

Dependent variable

The dependent variable in this study is the flipping activity. Due to the inaccessibility of data on flippers in the Malaysian IPO market, this study measures flipping activity with two proxies; (i) the percentage of opening day trading volume divided by the number of IPO shares issued and, (ii) the percentage of the opening day trading volume divided by the total number of shares outstanding:

$$standFLIP_i = VOL_i / NOSHI_i \quad (1i)$$

$$modFLIP_i = VOL_i / NOSH_i \quad (1ii)$$

where

$VOL_{i,t}$	=	trading volume of the *i*th issuer on the first trading day,
$NOSHI_i$	=	number of IPO shares issued for the *i*th issuer, and
$NOSH_i$	=	number of total shares outstanding for the *i*th issuer after the IPO.

Equation (1i) represents the measure of flipping activity that has commonly been used in past studies (Abdul-Rahim et al., 2013; Chong et al., 2009; Krigman et al., 1999; Yong, 2010), whereas Equation (1ii) is the modification that is initiated by this study. Because the actual flipping activity is not observable, the trading volume-based proxy must recognise that (i) the activity of flipping is not restricted to only the shares issued at IPO but can also involve pre-IPO shares, and (ii) the act of selling the IPOs during the first few days of listing is not restricted to only investors who are allocated the new shares at the IPO (actual flippers) but also pre-IPO shareholders who are not affected by the mandatory lockup provision. In the context of this study, pre-IPO shares refer specifically to shares that have been issued to the founders and other original shareholders prior to the respective company's decision to go public. Accordingly, any shares of the original shareholders (that are not offered for sale during the IPO and are not affected by the lock-up provision) that are traded during the first (few) trading days could also contribute to the reported high trading activities in the immediate aftermarket. Failure to consider trading by these pre-IPO shareholders in measuring flipping activity based on trading volume somehow leads to an overestimation of activity by the actual flippers. Furthermore, regardless of which shares (new or existing) are traded, the resulting flipping activity in general should have a similar effect on the price of the IPO. This argument is relevant in markets such as Malaysia, where data on flippers are not available to differentiate the trading activity of pre-IPO shareholders from that of flippers (subscribers who have acquired the new shares at the IPO). In short, recognising that flipping activity can be equally contributed by new shareholders and pre-IPO shareholders, this study proposes a modification of the standard definition of flippers and flipping activity, as depicted in Equation *(*1ii).

Independent variables

The main independent variables in this study are lockup provision and institutional investors' participation. Lockup provision is examined using two parameters: lockup period (*LUPER*) and lockup ratio (*LURAT*). The lockup

period is the length of time that the shares need to be retained by the major shareholders of the issuing companies starting from the date of the listing. The data on the lockup period are collected from the company's prospectus and are standardised in number of days. That is,

$LUPER_i$ = number of days the shares are held by major shareholders of the *i*th issuer.

The second parameter of lockup provision is lockup ratio (*LURAT*). This ratio is the percentage of promoters' shares that cannot be disposed upon the listing of IPOs.

$LURAT_i$ = percentage of shares locked by major shareholders of the *i*th issuer.

In Malaysia, IPOs can be offered in two categories: private placement and non-private placement. Private placement is the type of IPOs that are specially offered to institutional investors. To measure institutional investors' participation (*INSTRAT*), this study divides the total number of shares issued in the private placement category against the total number of shares issued (Abdul-Rahim et al. 2013; Sapian et al., 2012; Yong, 2010). That is:

$$INSTRAT_i = PRIPLA_i / NOSHI_i \quad (2)$$

where

$PRIPLA_{i,}$ = number of shares in private placement IPOs of the *i*th issuer, and
$NOSHI_i$ = total number of shares issued for the *i*th issuer.

Moderating variable

Investor demand (*plID*), one of the explanatory variables in this study, specifically refers to the demand on the IPOs prior to listing (Sow-Wah & Yong, 2011). It is commonly estimated based on the over-subscription ratio (*OSR*; Abdul-Rahim et al., 2013; Sow-Wah & Yong, 2011), which is calculated as in Equation (3):

$$plID_i = OSR_i = SUBS_i / NOSHI_i \quad (3)$$

where

$SUBS_{i,}$ = total of shares subscribed, and

$NOSHI_i$ = total number of shares issued for the *i*th issuer.

The moderating effect of pre-listing investor demand on the relationship between lockup provision variables and flipping activity is examined by creating a pair of interaction variables (i.e., *plID* × *LURA*T and *plID* × *LUPER*). Similarly, an interaction variable (*plID* × *INSTRAT*) is used to test the moderating effect of pre-listing investor demand on the relationship between institutional investors' participation and flipping activity.

Control variables

In examining the influence of lockup parameters and institutional investors' participation on flipping activity and the moderating effect of investor demand, this study controls for the effect of other factors that are widely tested in studies of flipping activity. These factors can be classified into IPO-specific or firm-specific factors, including the initial return, the size of the IPO, the age and sector of the company, and the market factors, including the overall stock market condition, the IPO market condition and heuristic representation (Aggarwal, 2003; Bayley et al., 2006; Chong et al., 2009; Gounopoulos, 2006; Tran et al., 2007; Yong, 2010). Price appreciation (*PA*), or initial return, is measured as the percentage change from the IPO offer price to its closing price on the first listing day (Booth & Chua, 1996; Yong, 1991). The size of IPOs (*OFFSIZ*) is measured as the natural log of the total number of shares offered for an IPO multiplied by its offer price (ln ($NOSHI \times P^{OFFER}$). Company age (*AGE*) is the time length that a company has been incorporated prior to listing measured in years (Abdul-Rahim et al., 2012). A dummy industry representing technology companies (D^{TECH}) is also controlled for in this study in consideration of the argument by Tran et al. (2007) that certain types of industries impose a different degree of risk for IPOs. In the context of the Malaysian market, technology companies are commonly recognised to exhibit high-growth and high-risk profiles.

The market condition, which reflects the sentiments of the investors, can be observed from the condition of the stock market (*STOMKT*) in general, the IPO market itself (*IPOMKT*) and the condition of the IPO market around the issuance of the IPO. The overall stock market condition (*STOMKT;* McKenzie, 2007) is measured based on the average one-week return of the FTSE Bursa Malaysia EMAS Index. This study divides the IPO market condition into "hot" and "cold" issue markets. A dummy variable takes a value of 1 (hot market) if the IPO size exceeds the mean of the sample issue size (Jaskiewicz, Gonzalez,

Menendez, & Schiereck, 2005; Kooli & Suret, 2004). Meanwhile, heuristic representation is measured by the mean initial returns of the three most recent new issues listed prior to an IPO. Heuristic representation also indicates investor sentiment in the IPO market but in a smaller scope. That is, the evaluation of an IPO depends to a certain extent on how the market evaluates IPOs that are most recently issued (Bayley et al., 2006; Chong et al., 2011). In general, investors are less likely to flip their shares when at the time of making a decision; they are optimistic about the future, long-term gains of the IPOs.

To examine the role of the lockup period, the lockup ratio and institutional investors' participation in flipping activity and the moderating effect of pre-listing investor demand on the main relationships, this study uses hierarchical cross-sectional regression models, as follows:

$$FLIP_i = \alpha + \beta_1 LURAT_i + \beta_2 LUPER_i + \beta_3 INSTRAT_i + \beta_4 plID_i + \beta_l \sum_{l=1}^{L} CV_{i,l} + \varepsilon \quad (4i)$$

$$\begin{aligned} FLIP_i = {} & \alpha + \beta_1 LURAT_i + \beta_2 LUPER_i + \beta_3 INSTRAT_i + \beta_4 plID_i + \\ & \beta_5 (plIDxLURAT)_i + \beta_6 (plIDxLUPER)_i + \beta_7 (plIDxINSTRAT)_i \\ & \beta_6 (plIDxLUPER)_i + \beta_7 (plIDxINSTRAT)_i \end{aligned} \quad (4ii)$$

where

α	=	constant term,
β	=	estimated coefficient or factor loading,
$FLIP_i$	=	flipping ratio of the *i*th issuing company,
$LURAT_i$	=	the percentage of shares locked in for the *i*th issuing company,
$LUPER_i$	=	the length of lockup provision for the *i*th issuing company,
$INSTRAT_i$	=	institutional investors' participation ratio in the *i*th issue,
$plID_i$	=	pre-listing investor demand in the *i*th issue,
$plID \times LURAT$	=	interaction between pre-listing investor demand and lockup ratio,
$plID \times LUPER$	=	interaction between pre-listing investor demand and lockup period,
$plID \times INSTRAT$	=	interaction between pre-listing investor demand and institutional investors' participation,
CV_l	=	control variables *l* … *L,* which are discussed earlier in "control variables" , and
ε	=	error term.

Equation (4i) represents the initial test of the influence of lockup provision and institutional investors' participation on flipping activity. Equation (4ii) is the test on the moderating effect of pre-listing investor demand (*plID*) on those main relationships.

EMPIRICAL RESULTS AND ANALYSIS

Preliminary Finding

Table 1 provides the summary characteristics of the sample and data used in this study. Panel A of Table 1 presents the distribution of the sample of IPOs listed from January 2000 to December 2012 on Bursa Malaysia. As reported, there were a total of 495 IPOs issued during the study period. As stated in earlier, 77 IPOs are excluded based on the selection criteria. To minimise the influence of outliers in the sample, an additional 48 IPOs are excluded from the initial sample, producing a final sample of 370 IPOs.

Panel B reports the descriptive statistics of the variables in the full sample. As reported in Panel B of Table 1, the mean standard flipping activity (58.84%) is three times higher than the mean modified flipping activity (19.51%). For ease of discussion, standard flipping activity and modified flipping activity are simplified as standFLIP and modFLIP. Comparing standFLIP and modFLIP in this study with those reported in the US market shows that the figures are comparable. For instance, 45.40% is documented by Krigman et al. (1999), 48.10% by Bash (2001), 15% by Aggarwal (2003), 24.3% by Gounopoulos (2006) and 22% by Tran et al. (2007), representing flipping activity in a period that extends from 1988 to 2004. Panel B of Table 1 also reports that the mean standFLIP ranges from zero to 99.67%, whereas the mean modFLIP ranges from zero to 55%. In brief, the modFLIP provides a more reasonable estimation of flipping activity in a sample of stocks that are subject to a lockup provision.

In regard to the independent variables, Panel B of Table 1 reports that the lockup ratio (*LURAT*) and the lockup period (*LUPER*) are on average 56.24% and 322 days, respectively. *LURAT* and *LUPER* range from 24.46% to 83.53% and from 180 days to 360 days, respectively. The mean *LURAT* found in this study appears to be more than twice the average of 20% in an earlier study of Malaysian IPOs (Wan Hussin, 2005) from August 1996 to June 2000. Compared with those reported in developed markets, smaller *LURAT* but longer *LUPER* are found in the Malaysian market. In the US, the average LUPER is only 163 days according to Brau et al. (2005) and 187 days according to Field and Hanka (2001), but the mean *LURAT* is as high as the 83.90% reported by Brav and Gompers (2003) and 93.4% reported by Brau, Carter, Christophe and Key

(2004). Georgen, Renneboog and Khurshed (2006) also report a high *LURAT* (68.14%) in the Australian IPO market.

Table 1
Sample distribution and characteristics

Panel A: Distribution of IPOs			
Year	Population	Sample	Percentage
2000	38	28	7.56
2001	20	13	3.51
2002	51	33	8.91
2003	58	45	12.2
2004	72	60	16.2
2005	79	60	16.2
2006	40	30	8.11
2007	26	12	3.24
2008	23	15	4.1
2009	14	12	3.24
2010	29	26	7.02
2011	28	24	6.49
2012	17	12	3.24
Total	495	370	100

Panel B: Sample Characteristics				
	Mean	S.D.	Min.	Max.
Standard flipping activity (%)	58.84	0.37	0.00	99.67
Modified flipping activity (%)	19.51	0.16	0.00	55.00
Lockup ratio (%)	56.24	0.09	24.46	83.53
Lockup period (days)	322	73.44	180	360
Institutional investors' participation (%)	44.87	0.33	0.00	100
Price appreciation (%)	28.55	0.56	–68.13	404.17
Offer size (units million)	75.44	2.34	2	250
Over-subscription ratio (times)	32.55	44.97	–0.89	263.42
Stock market condition (%)	0.76	0.37	–1.55	107.27
Heuristic representation (%)	27.41	0.36	–37.93	164.23
Company age (years)	4.31	5.08	0	39

Note: Sample size (N) = 370. Both of the flipping activity measures are estimated on the first trading day.

The average participation of institutional investors (*INSTRAT*) is 44.87%, ranging from 0% to 100%, in which cases the IPOs are totally offered through private placement issue. The mean institutional investors' participation found in this study is slightly greater than that reported earlier in Malaysia, demonstrating that the participation of institutional investors in Malaysia is experiencing an uptrend. Two recent studies report means of 32.10% (Abdul-Rahim et al., 2013) and 33.40% (Sapian et al., 2012), both during the period from 2003 to 2008. The average OSR (pre-listing investor demand) of the IPOs is 32.55 times that during the sample period, ranging from a minimum of –0.89 times to a maximum of 263.42 times. The mean is lower than 39.12 times the over-subscription ratio reported during the period of 2004 to 2007 (Yong, 2010), a figure more recently reported to be 40.29 times (Abdul-Rahim et al., 2013) and 43.55 times (Sapian et al., 2012). The higher pre-listing investor demand reported recently, however, is much lower than that reported in the 80s and 90s. For that era, Dawson (1987) and Yong (1991) report an investor demand of 46 times.

The correlations among variables used in this study are presented in Table 2. Specifically, a bivariate Pearson correlation coefficient analysis is used to identify the threat of multicollinearity. Table 2 shows that the strength of the correlations among independent variables is weak; values of the correlation are always less than 0.45, much lower than the 0.90 cut-off point (Asteriou & Hall, 2007). An exception is the correlation between standFLIP and modFLIP (0.87). However, this correlation is not relevant in assessing the threat of the multicollinearity issue because the two are alternative measurements of flipping activity. That is, only one will be used in any regression model, interchangeably. Upon checking for the multicollinearity issue, Equation (4i) and Equation (4ii), which consist of these variables, are tested for further analysis specifically through multiple regression procedures. Diagnostic tests including tests on heteroskedasticity, autocorrelation and model specification are first performed to ensure that the results are generated from regression models that fulfil OLS assumptions.

Main Analysis, Findings and Discussion

As discussed earlier, this study proposes that pre-listing investor demand (*plID*) moderates the restrictive role of lockup provision (period and ratio) and institutional investors' participation in flipping activity. In other words, the high level of IPO demand prior to listing is expected to weaken the role of lockup provision and institutional investors' participation in restricting flipping activity. Statistically, the explanatory power (t-statistics and *p*-value) of *LUPER*, *LURAT* and *INSTRAT* is predicted to reduce when the interaction terms are incorporated in the models. However, the conclusion on the presence of the moderating effect of pre-listing investor demand can be made only when there is a significant

interaction between pre-listing investor demand and the respective main independent variables (*LUPER*, *LURAT* and *INSTRAT*). Table 3 presents the results using four model specifications. Columns (i) and (ii) of Model A report results of the moderation using standFLIP as the measure of flipping activity, whereas columns (i) and (ii) of Model B present results of the moderation using modFLIP. Model A associates with regression Equation (4i), whereas model B is from regression Equation (4ii).

Briefly, all models in Table 3 pass the diagnostic tests regarding model specification and heteroskedasticity. For autocorrelation, the Durbin-Watson in all models report values lower than 2. Therefore, the Newey-West Test is used to correct for the threat of autocorrelation. In terms of multicollinearity, the original VIF produces values greater than 10 (Gujarati, 2003), implying a high potential for a collinearity problem. To reduce the threat, this study therefore uses the mean-centring variables approach (Aiken & West, 1991). As reported in Table 3, the VIF ranges from 1.055 to 2.965, which indicates that the maximum values are far below their cut-off point.

Overall, the regression models produce a slightly lower adjusted R-squared with 11.10% and 11.20% when standFLIP is employed as the measurement for flipping activity compared to 11.80% and 12.30% adjusted R-squared when modFLIP is employed. Despite the difference, the values indicate that collectively, all explanatory variables in this study are able to explain at least 11.00% of the variations in flipping activity on the first trading day. This level of goodness-of-fit is satisfactory for the data because it yields an F-value of more than 4.347 ($p < 0.01$) in all regression models.

In terms of the results of the control variables, the price appreciation and size of the IPOs are the factors that have a significant and consistent role in explaining flipping activity, regardless of flipping activity formulation. Whereas price appreciation (PA) is found to significantly relate to flipping activity positively, the size of IPOs is related significantly and negatively to flipping activity. These results show that investors in the Malaysian IPO market have high motivation to flip their shares on the listing day to optimise their returns. The findings of this study provide further support for the findings of earlier studies on the relationship between price appreciation (or initial return) and flipping activity in Malaysia (Abdul-Rahim et al., 2012; Chong et al., 2009; Sapian et al., 2012; Yong, 2010). Similar results are found in the US (Aggarwal, 2003), Australia (Bayley et al., 2006) and Finland (Tran et al., 2007). Meanwhile, investors tend to be more convinced when the IPO size is larger, likely because they associate the large issue size with high-quality companies. Alternatively, when there is a surplus in the number of shares offered, more demand is already fulfilled prior to listing such that the price in the immediate aftermarket is less likely to drive up to

motivate investors to sell the new shares immediately. This result is consistent with that found earlier in Malaysia (Abdul-Rahim et al., 2012; Chong et al., 2009; Sapian et al., 2012), Australia (Bayley et al., 2006), Finland (Tran et al., 2007), and Bangladesh (Islam & Munira, 2004).

Table 2
Pearson correlation coefficients among variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. standFLIP	1	0.870	–0.060	–0.005	0.066	0.162**	0.160**	–0.112**	0.193	0.060	0.047	–0.013
2. modFLIP		1	–0.099	0.089	0.122*	0.172**	0.179**	–0.105*	0.231	0.037	–0.012	–0.044
3. LURAT			1	–0.121*	–0.003	–0.109*	–0.164**	0.109*	0.062	–0.031	–0.134**	0.065
4. LUPER				1	–0.024	0.089	0.090	–0.238**	0.352**	–0.068	0.167**	–0.108*
5. INSTRAT					1	0.231**	0.056	–0.290**	0.181**	0.064	–0.108*	–0.181**
6. plID						1	0.318*	–0.227**	0.122*	–0.007	–0.171**	0.000
7. PA							1	–0.173*	–0.023	0.083	0.188**	–0.016
8. OFFSIZ								1	0.111	–0.021	0.015	0.119*
9. IPOMKT									1	0.148**	–0.106*	0.029
10. STOMKT										1	0.093	0.004
11. HEUREP											1	0.049
12. AGE												1

Notes: standFLIP = standard flipping activity on first trading day; modFLIP = modified flipping activity on first trading day; LURAT = lockup ratio; LUPER = lockup period; INSTRAT = Institutional investors' participation; PA = price appreciation or initial return (offer to close); SUPPLY = size or Supply of IPOs; IPOMKT = IPO market condition; STOMKT = overall stock market condition; HEUREP = Heuristics representation; AGE = company age and the numbers in column headings correspond with the number of variables in row.

Table 3
Result of hierarchical regressions on flipping activity

Independent Variables	Model A: standFLIP		Model B: modFLIP	
	(i) Initial	(ii) Moderated	(i) Initial	(ii) Moderated
Main Independent Variables				
DLUPER	–0.595	–0.003	–0.161	–0.000
	(–3.651)***	(–3.779)***	(–5.258)***	(–5.715)***
LURAT	–1.937	–2.016	–0.526	–0.535
	(–2.570)***	(–2.644)***	(–4.735)***	(–5.185)***
INSTRAT	–0.218	–0.235	–0.019	–0.020
	(–1.496)	– (1.596)	– (0.682)	– (0.884)
Control Variables				
PA	0.144	0.151	0.044	0.045
	(1.896)**	(1.983)**	(2.399)***	(2.411)***

(continued on next page)

Table 3 (*continued*)

Independent Variables	Model A: standFLIP		Model B: modFLIP	
	(i) Initial	(ii) Moderated	(i) Initial	(ii) Moderated
OFFSIZ	–0.210 (–5.558)***	–0.205 (–5.327)***	–0.031 (–5.351)***	–0.029 (–4.887)***
IPOMKT	–0.006 (–0.069)	–0.007 (–0.088)	0.001 (0.055)	0.001 (0.071)
STOMKT	0.091 (0.838)	0.104 (0.954)	0.005 (0.314)	0.010 (0.533)
HEUREP	–0.056 (–0.090)	–0.062 (–0.479)	–0.039 (–1.586)	–0.043 (–1.781)*
AGE	–0.000 (–0.090)	–0.000 (–0.017)	–0.001 – (0.982)	–0.001 (–0.973)
DTECH	0.068 (0.652)	0.064 (0.615)	0.014 (0.676)	0.016 (0.744)
plID	0.001 (1.606)*	0.001 (1.349)	0.000 (1.836)**	0.003 (3.005)***
Moderation Variables				
CENDLUPER*CENplID		–1.61E (–1.368)		–6.15E (–2.924)***
CENLURAT*CENplID		–0.012 (–1.130)		–0.002 (–1.386)
CENINSTRAT*CENplID		–0.001 (–0.654)		–0.000 (–2.231)**
R^2	0.138	0.146	0.144	0.156
Adjusted R^2	0.111	0.112	0.118	0.123
Δ Adjusted R^2		0.001		0.005
F-statistics	5.229**	4.347**	5.508**	4.718**
p-value (F-stats)	0.000	0.000	0.000	0.000
Durbin-Watson	1.731	1.725	1.796	1.775
VIF Range		1.055–2.965		1.055–2.965
Ramsey RESET TEST:				
F-Test Stats (*p*-value)	1.575 (0.210)	1.681 (0.195)	0.020 (0.886)	0.352 (0.552)

Notes: Sample size (N) = 370. The t-statistics are reported in 'parentheses'. The potential of autocorrelation is reduced using the Newey-West test. ***, ** and * indicate significance at 1%, 5%, and 10%, respectively.

For the main independent variables, the regression results report that *LUPER, LURAT* and *INSTRAT* relate negatively with flipping activity, as predicted. Additionally, the negative relationships are consistent for both flipping activity models (column (i) for both initial models). The negative sign verifies the hypothesized role of lockup provision and institutional investors' participation in controlling flipping activity. This finding lends support to the proposition of this study that the three factors, collectively, restrict the supply of the IPOs for subsequent trading in the immediate aftermarket. The fact that both lockup provision parameters (period and ratio) relate to flipping activity significantly implies that the lockup period and the lockup ratio are effective tools to restrict the early supply of tradable shares, as suggested in Garfinkle et al. (2002) and Ofek and Richardson (2000). In addition to the effective role in directly restricting flipping activity, the lockup period and the lockup ratio could also be regarded as signalling mechanisms that transmit information about the quality and the future prospect of the issuing company. This is because, as suggested by some researchers (e.g., Brau et al., 2005; Mohan & Chen, 2001), insiders are in the best position to understand the true condition of the companies and foresee the growth prospects of the companies. Because retaining the new shares could indicate liquidity costs and a undiversified portfolio, investors will flip their new shares unless the benefits are greater than the costs of retaining them. Realising that insiders of low-quality companies cannot afford to mimic the actions of insiders of high-quality companies (Brau et al., 2005), uninformed investors interpret the action of the insiders in retaining a larger proportion of their shares during the longer lockup period as a good signal. Therefore, new or unaffected shareholders may not sell their shares at the earliest chance possible because the lockup period and lockup ratio serve as an indication of the quality of the issuing companies or a product warranty that the insiders will continue to be committed to the well-being of the companies. This explanation is another possible reason for the significant negative association between lockup provision (period and ratio) and flipping activity.

Unlike the results of the significant influence of the lockup period and the lockup ratio on flipping activity, institutional investors' participation fails to have a significant influence on flipping activity, although the direction of the relationship is as hypothesised. The negative relationship indicates that to some extent, the participation of institutional investors in an IPO helps reduce flipping activity. As argued earlier, institutional investors tend to have "strong hand" and loyalty characteristics such that they have less motivation to sell their shares immediately upon the IPO listing. Given the insignificant relationship, however, the arguments are only weakly supported. To a certain extent, the findings of this study are somewhat consistent with the results documented in the US (e.g., Bash, 2001; Krigman et al., 1999), which show that institutional investors tend to keep

their shares for a long period, although the results in the US are conditional upon the IPOs' being overpriced.

The discussion now continues on the essential issue raised in this study: the moderating effect of pre-listing investor demand on the influence of lockup provision (period and ratio) and institutional investors' participation on flipping activity. As reported in Table 3, the lockup period, the lockup ratio and institutional investors reinforce their effectiveness in reducing flipping activity through the restriction in the supply of the new shares in the immediate aftermarket because they are found to significantly relate with flipping activity negatively even after the moderation effects (*LUPER* × *plID*, *LURAT* × *plID* and *INSTRAT* × *plID*) are included in both of the moderated models (column (ii) in Models A and B). Although the interactions between *LUPER* and *plID* and between *INSTRAT* and *plID* are found to be significant in modFLIP model, the interaction between *LURAT* and *plID* fails to exhibit similar significant result in any model. Following Baron and Kenny (1986), this study recognises that the moderating effect of pre-listing investor demand exists significantly in only the relationships between the lockup period and flipping activity and between institutional investors' participation and flipping activity.

Despite the significant moderating effect of investor demand on the influence of the lockup period and institutional investors' participation, the results of this study show that the intensity of investor demand prior to listing does not influence the role of *LURAT* in controlling flipping activity. That is, the fact that the interactions between *LUPER* and *plID* and *INSTRAT* and *plID* relate to flipping activity negatively challenges the argument forwarded in this study that pre-listing investor demand weakens the restrictive role of the lockup period and institutional investors. On the contrary, this study finds that pre-listing investor demand strengthens the influence of the lockup period and institutional investors' participation on flipping activity models (Column (ii) in Model A and Model B of Table 3). A possible explanation for this finding is that the investor demand prior to the listing works as a verification of the quality of the companies. A bandwagon effect would be expected but only later in the immediate aftermarket, when uninformed investors would also try to join in. Recognising this signal, successful subscribers will hold on to their highly demanded shares because they expect a higher profit from further price appreciation in the future. Rationally, firm value is expected to increase in high-quality companies because they are more able to secure growth opportunities. Overall, the findings of this study suggest that as predicted, pre-listing investor demand significantly moderates the influence of the lockup period and institutional investors but in a way that it strengthens the role of these predictors in restricting flipping activity. Therefore, the earlier proposition about the role of pre-listing investor demand in reducing the effectiveness of the three main predictors to limit flipping activity is

somehow not supported. Instead, the finding suggests that pre-listing investor demand reinforces the effectiveness of lockup provision and institutional investor participation in restricting flipping activity.

CONCLUSION AND RECOMMENDATIONS

This study investigates the role of pre-listing investor demand in moderating the relationship between the lockup provision (period and ratio) and flipping activity and between institutional investors' participation and flipping activity in 370 Malaysian IPOs listed from January 2000 to December 2012. The main contribution of this study is the emphasis on the moderating effect of pre-listing investor demand on the influence of lockup provision and institutional investors' participation on shareholders' decision to flip their shares in the immediate aftermarket. This study deviates somewhat from extant studies on flipping activity that concentrate on other variables, such as initial return, investor demand, underwriters' reputation and offer size, and other studies on lockup provision that focus on only the role of lockup provision on the IPO underpricing or initial return on the immediate aftermarket or on the market reaction on the expiration day of the lockup provision.

The main findings of this study reveal that the lockup provision (period and ratio) and institutional investors' participation are negatively related to the flipping activity of Malaysian IPOs. However, a significant influence is found in only the lockup period and the lockup ratio. The negative associations are consistent with the argument forwarded in this study that the three predictors work in restricting flipping activity through their role in controlling the supply of the new shares in the immediate aftermarket. Similarly important, the negative relationship between the three predictors and flipping activity also reflects the quality of the issuing companies if explanations about their roles are sought from the signalling theory. More importantly, this study finds that pre-listing investor demand strengthens the restrictive role of the three predictors because their explanatory power is found to improve upon incorporating the interaction terms in the models. This finding implies that issuers and underwriters could also rely on the joint influence of pre-listing investor demand in cases where flipping activities are expected to be excessive and adversely affect firm value. Alanazi and Liu's (2013) argument that excess (pre-listing) investor demand creates excess supply in the immediate aftermarket, which drives flipping activity down due to increases in IPO price, does not seem to be supported in this study because as shown in Table 3, price appreciation (*PA*) has a consistently significant positive effect on flipping activity.

In brief, this study provides new findings concerning how flipping activity is influenced by lockup provision and institutional investors' participation, particularly when the indirect effect of pre-listing investor demand is considered. These findings are expected to be the main contribution to the literature on IPO flipping activity. However, more extensive examinations are still needed before any strong conclusion on the influence of lockup provision, institutional investors' participation and pre-listing investor demand can be drawn. For instance, future studies should look deeper into the flipping activity of investors by separating it into retail versus institutional. Institutional investors are expected to behave differently from retail investors because the former are commonly perceived as the more informed investors. Signalling effects (such as through lockup provision) should be less prevalent in IPOs selected by institutional investors relative to IPOs that are heavily allocated to retail investors because the former investors are information-opaque; therefore, information asymmetry issues in these IPOs become less significant.

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APPENDIX
Summary of share moratorium rules (as stipulated in equity guidelines)

Amendment date	Affected companies and terms of share moratorium
January 1996*	Main Board (only on companies in construction, service and specialised activities) and Second Board (all companies). An option of either 3-year profit guarantee or 3-year share moratorium.
3 May 1999	Main Board (only on companies in construction, service and specialised activities), Second Board (all companies) and MESDAQ (all companies). A moratorium of 45% for at least 1 year. Thereafter, 20% disposal for Main Board and MESDAQ and 15% for Second Board, per annum on straight line basis.
2002	MESDAQ (all companies). A moratorium of 45% for 1 year. Thereafter, 1/3 disposal per annum on straight line basis.
1 May 2003	Main Board (only property development and construction companies), Infrastructure Project Companies (IPCs) and Second Board (all companies). For all applicants, a moratorium of 45% for 1 year. Thereafter, 1/3 disposal per annum on straight line basis. For IPCs, a moratorium of 45% for at least 1 year and continue until generate operating revenue (OR). After 1 year + OR, 1/2 disposal per annum on straight line basis.
2004**	MESDAQ (all companies). A moratorium of 45% for 1 year. Thereafter, 1/3 disposal per annum on straight line basis.
1 February 2008	Main Board (all companies), IFCs, and Second Board (all companies). For all applicants, a moratorium on entire shareholding for 6 months. For IFCs, a moratorium of 45% for 1 year and continue until generate operating revenue (OR). After 1 year + OR, 1/2 disposal per annum on straight line basis.
1 February 2008	MESDAQ (all companies). A moratorium of 45% for 1 year. Thereafter, 1/3 disposal per annum on straight line basis.
3 August 2009	Main Market (all companies) and IFCs A moratorium on the entire shareholdings for 6 months. For IFC, this moratorium will only be lifted up provided 1-year OR, or else 45% which will be lifted up once OR is realised.
September 2011	MESDAQ (all companies). A moratorium on the entire shareholdings for 6 months. Upon expiry, a moratorium of 45% for the next 6 months. Thereafter, 1/3 disposal per annum on straight line basis.

Note: Item marked with * is sourced from Ahmad Zaluki (2005) while ** from Lee et al. (2004). The others are from the Securities Commission.

REFERENCES

Abdul-Rahim, R., Che Embi, N. A., & Yong, O. (2012). Winner's curse and IPO initial performance: New evidence from Malaysia. *International Journal of Business and Management Studies, 4*(2), 151–159.

Abdul-Rahim, R., Sapian, R. Z. Z., Yong, O., & Auzairy, N. A. (2013). Flipping activity and subsequent aftermarket trading in Malaysian IPOs. *Asian Academy of Management Journal of Accounting and Finance, 9*(1), 113–128.

Abdul Wahab, E. A., How, J., & Verhoeven, P. (2008). Corporate governance and institutional investor: Evidence from Malaysia. *Asian Academy of Management Journal of Accounting and Finance, 4*(4), 67–90.

Aggarwal, R., & Dahiya, S. (2000). Capital formation and the internet. *Journal of Applied Corporate Finance, 13*(1), 108–113.

Aggarwal, R. (2003). Allocation of initial public offerings and flipping activity. *Journal of Financial Economics, 68*(1), 111–135.

Aggarwal, S., Liu C., & Rhee, S. G. (2008). Investor demand for IPOs and aftermarket performance: Evidence from the Hong Kong stock market. *Journal of International Financial Market, Institutions and Money, 18*(2), 176–190.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage Publication.

Alanazi, A. S., & Liu, B. (2013). IPO underpricing in a simultaneous equations model of supply and demand: Evidence from a market of retailers. *Working paper.* Retrieved 7 March 2013 from, http://ssrn.com/abstract=2229629 doi: http://dx.doi.org/10.2139/ssrn.2229629

Asteriou, D., & Hall, S. G. (2007). *Applied econometrics: A modern approach using E-views and Microfit.* New York: Palgrave Macmillan Publishing Company.

Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182.

Bash, A. B. (2001). *Post-IPO flipping and turnover: Predictive factors for long run returns.* Unpublished manuscript, Dartmouth College, Hanover, New Hampshire.

Bayley, L., Lee, P. J., & Walter, T. S. (2006). IPO flipping in Australia: Cross-sectional explanations. *Pacific-Basin Finance Journal, 14*(4), 327–348.

Brau, C. J., Carter. D. A., Christophe. E. S., & Key, G. S. (2004). Market reaction to the expiration of IPO lockup provisions. *Journal of Managerial Finance, 30*(1), 75–91.

Brav, A., & Gompers, P. A. (2003). The role of lockups in initial public offerings. *Review of Financial Studies, 16*(1), 1–29.

Brau, C. J., Lambson, E. V., & McQueen, G. (2005). Lockups revisited. *Journal of Financial and Quantitative Analysis, 40*(3), 519–530.

Boehmer, E., & Fishe, R. P. H. (2000). *Do underwriters encourage stock flipping? A new explanation for the underpricing of IPOs.* Unpublished manuscript, University of Miami.

Booth, J. R., & Chua, L. (1996). Ownership dispersion, costly information and IPO underpricing. *Journal of Financial Economics, 41*(2), 291–310.

Chahine, S. (2007). Investor interest, trading volume and the choice of IPO mechanism in France. *International Review of Financial Analysis, 16*(2), 116–135.

Chong, F. N., Ali, R., & Ahmad, Z. (2009). Does noise signal affect flipping activities. *International Journal of Banking and Finance, 6*(2), 111–127.

Chong, F. N., Ali, R., & Ahmad, Z. (2011). Representative heuristics and the aftermarket dynamics of the new listings in Malaysia. *Labuan Bulletin of International Business and Finance, 9,* 1–11.

Chong, F. N. (2009). Disposition effect and flippers in the Bursa Malaysia. *Journal of Behavioral Finance, 10*(3), 152–157.

Dawson, S. M. (1987). Secondary market performance of Initial Public Offers in Hong Kong, Singapore and Malaysia, 1974–1984. *Journal of Business, Finance and Accounting, 4*(1), 65–76.

Ellis, K. (2006). Who trades IPOs? A close look at the first days of trading. *Journal of Financial Economics, 79*(2), 339–363.

Ellul, A., & Pagano, M. (2006). IPO underpricing and after-market liquidity. *Review of Financial Studies, 19*(2), 381–421.

Field, C. L., & Hanka, G. (2001). The expiration of share lockups. *Journal of Finance, 57*(2), 471–500.

Fishe, R. P. H. (2002). How stock flippers affect IPO pricing and stabilization. *Journal of Financial and Quantitative Analysis, 37*(2), 319–340.

Garfinkle, N., Malkiel, B. G., & Bontas, C. (2002). Effect of underpricing and lockup provisions in IPOs. *Journal of Portfolio Management, 28*(3), 50–58.

Georgen, M., Mazouz, K., & Yin, S. (2010). Price, volume and spread affects associated with the expiry of lock-in agreements. *Pacific-Basin Finance Journal, 18*(5), 442–459.

Georgen, M., Renneboog, L., & Khurshed, A. (2006). Explaining the diversity in shareholders lockup agreements. *Journal of Financial Intermediation, 15*(2), 254–280.

Gounopoulos, D. (2006). *Activity in fixed offer price mechanism allocated IPOs*. Unpublished manuscript, University of Surrey, United Kingdom.

Gujarati, D. N. (2003). *Basic econometrics.* Boston: McGraw-Hill.

Hakim, T., Lypny, G., & Bharbra, H. S. (2012). IPO lockup expiration in the Middle East and North Africa. *Journal of Multinational Financial Management, 22*(5), 252–262.

Islam, M. S., & Munira, S. (2004). IPO flipping and its determinants in Bangladesh. *Dhaka University Journal of Business Studies, 25*(1), 1–23.

Ismail K., Abidin F., & Nasruddin Z. (1993). Performance of new stock issues on the KLSE. *Capital Market Review, 1*(1), 81–95.

Jaskiewicz, P., Gonzalez, V. M., Menendez, S., & Schiereck, D. (2005). Long-run IPO performance analysis of German and Spanish family-owned businesses. *Family Business Review*, *18*(3), 179–202.

Kayani, S., & Amjad, S. (2011). Investor interest, under-pricing and trading volume in Pakistan secondary market. *Business and Economics Journal, 2*, 1–15.

Kooli, M., & Suret, J. (2004). The aftermarket performance of initial public offerings in Canada. *Journal of Multinational Financial Management, 14*(1), 47–66.

Krigman, L., Shaw, W. H., & Womack, K. L. (1999). The persistence of IPO mispricing and the predictive power of flipping. *Journal of Finance, 55*(3), 1015–1044.

McKenzie, M. D. (2007). International evidence on the determinants of the decision to list. *Australian Journal of Management*, *32*(1), 1–29.

Mohan, J. N., & Chen, R. C. (2001). Information content of lock-up provision in initial public offerings. *International Review of Economics and Finance, 10*(1), 41–59.

Nowack, E. (2004). The expiration of mandatory and voluntary IPO lock-up provisions: Empirical evidence from Germany's Neuer Market. *Advance of Financial Economics, 10,* 181–200.

Ofek, E., & Richardson, M. (2000). *The IPO lock up period: Implication for market efficiency and downward sloping demand curves.* Unpublished manuscript, New York University.

Reese, W. A. (1998). *IPO underpricing, trading volume and investor interest*. Unpublished manuscript, A. B. Freeman School of Business, Tulane University, New Orleans.

Sapian, R. Z. Z., Abdul Rahim, R., & Yong, O. (2012). Underpricing, flipping activity and aftermarket liquidity of IPOs. *Jurnal Pengurusan, 34,* 29–43.

Sapian, R. Z. Z., Abdul Rahim, R., & Yong, O. (2013). IPO underpricing and aftermarket liquidity: Evidence from Malaysia. *International Journal of Business and Society, 14*(2), 299–318.

Sow-Wah, L., & Yong, O. (2011). Explaining over-subscription in fixed price IPOs: Evidence from the Malaysian stock market. *Emerging Markets Review, 12*(3), 205–216.

Stoughton, N. M., & Zechner, J. (1998). IPO mechanism, monitoring and ownership structure. *Journal of Financial Economics, 49*(1), 45–77.

Tran, L. H., Kalev, P. S., & Westerholm, J. (2007). *An analysis of the flipping activities in early aftermarket trading.* Unpublished manuscript, University of Sydney.

Wan Hussin, N. W. (2005). The effects of owners' participation and lockup on IPO underpricing in Malaysian. *Asian Academy of Management Journal, 10*(1), 19–36.

Yong, O., & Isa, Z. (2003). Initial performance of new issues of shares in Malaysia. *Applied Economics, 35*(8), 919–930.

Yong, O. (1991). Performance of new issue in Malaysia. *Malaysian Accountant, June*, 3–6.

Yong, O. (2010). Initial premium, flipping activity and opening-day price spread of Malaysian IPOs. *Capital Markets Review*, *18*(1), 45–61.

Zheng, S. X., & Li, M. (2008). Underpricing, ownership dispersion, and aftermarket liquidity of IPO stocks. *Journal of Empirical Finance, 15*(3), 436–454.