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Initial Premium, Flipping Activity and Opening-Day Price Spread of Malaysian IPOs

Othman Yong*
Universiti Kebangsaan Malaysia

Abstract: This paper examines the significance of some *ex-ante* variables on the initial premium of Malaysian IPOs and the immediate aftermarket behaviour of investors during the period January 2004 to December 2007. Overall, there is a positive relationship between investor demand and initial premium, but *only* the Main Board registers a strong relationship between investor demand and flipping. Firm size is inversely related to initial premium, flipping activity and price spread. Offer size is inversely related to flipping.

Keywords: Bandwagon effect, IPOs, IPO flipping, IPO price spread, Malaysian IPOs
JEL classification: G12, G14, G24, G32

I. Introduction

In recent years, there has been increasing interest in studying investor aftermarket trading behaviour in the initial public offerings (IPOs). This interest has been largely prompted by the resurgence of behavioral finance in the 1990s due to the inability of the efficient market hypothesis (EMH) to explain anomalies and the implications that investor behaviour has in determining the true value of an investment. From the perspective of behavioral finance, every investor is considered unique and thus homogeneity of opinion is *not* possible; every investor has a tendency to make a different estimate of expected return from his investment. Miller (1977) suggests that the difference in opinion, regarding the expected returns for the IPOs is considerable due to the lack of information track records at time of new issue. Researchers such as Ibbotson (1975), Miller (1977), Baron (1982), Rock (1986), Beatty and Ritter (1986), Grinblatt and Hwang (1989), Ritter (1991), and Welch (1992) studied the importance of information and the implications of the existence of both the informed and the uninformed groups of investors. They usually modelled their research on information asymmetries and used *ex-ante* factors as proxies for pre-listing information on IPO quality that subsequently determine the IPO performance. Since behaviour is affected by the opinions or expectations formed after processing the information available, it is argued that *ex-ante* variables can be used to gauge their ability in predicting immediate aftermarket investor behaviour.

We can argue that since behaviour is driven by expectations and expectations are formed based on the information available to the prospective investors, studies based on some *ex-ante* information are therefore useful to the investors in helping them to formulate their IPO investment decisions. Following this line of argument, we intend to study the relationship between four known *ex-ante* variables (namely, over-subscription ratio, listing

* Othman Yong, Graduate School of Business, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, Malaysia.
Email: *othmanyo@ukm.my*

board, type of offer and offer size) and the initial premium of IPOs as well as the immediate aftermarket investor behaviour. Over-subscription ratio is considered to be a proxy for investor demand. Listing board is a proxy for firm size and thus size effect. In the case of the type of offer, private placement is considered to be the proxy for informed investors, whilst other types of offer are considered to be the proxy for uninformed investors, and thus information asymmetry hypothesis. Offer size is a possible indicator for future flipping activities.

In this study, flipping ratio and opening-day spread are used as proxy for the immediate aftermarket investor behaviour. Flipping refers to the immediate sale of IPOs when the issue begins trading. Fishe (2002) and Aggarwal (2003) note that flipping is a detrimental activity because it tends to depress the early stage of the aftermarket performance of IPOs. Investors with a new IPO will usually flip either based on superior information or opening trade performance. In the current study, the opening-day spread will capture the behaviour on how the most optimistic and the most pessimistic investors assign the IPO value on the listing day. A high opening-day spread also indicates more diverse opinions among the investors and more diverse information received by the investors.

The motivation for this study is multi-dimensional. First, prior studies on Malaysian IPOs have *not* focused on the implications of opening-day price spread. Past studies dealt with issues such as underwriters' reputation (Jelic *et al.* 2001), proportion of IPO shares allocated to Bumiputra investors (How *et al.* 2007), privatisation of IPOs versus other IPOs (Paudyal *et al.* 1998), firm size (Yong 1996), over-subscription ratio (Yong and Isa 2003), share lock-up (Wan-Hussin 2005), and the effect of regulations (Mohd 2007). These studies usually attempted to determine the relationship of these variables with the initial returns of Malaysian IPOs. Other issues have also been also examined such as Mohamad *et al.* (1994) who examined the accuracy of profit forecasts reported in prospectuses, and How *et al.* (2007) who examined the change in regulation in 1996 towards a market-based pricing mechanism, and its effect on the under-pricing of Malaysian IPOs.

Secondly, studies on IPO flipping are also almost non existent in Malaysia. A preliminary study by Nee *et al.* (2007), using 132 IPOs listed on the Main Board of the Kuala Lumpur Stock Exchange (KLSE) during the period of 1991 to 2003, found that offer size and initial premium have significant impacts on the flipping behaviour, where higher initial premium encourages flipping activity and a bigger offer size discourages flipping. Nee *et al.*(2007) only covered the Main Board of the KLSE and the data were only up to 2003, whereas our current study deals with all three listing boards of Bursa Malaysia, and the data are more recent, covering a period after 2003.

Thirdly, in the US, studies on flipping activities are usually focused on the aftermarket stabilisation activities of underwriters. While the US underwriters usually stabilise the aftermarket through active trading and the exercise of over-allotment options, such activity is not common or non existent in the Malaysian market. Underwriters in the US market play the role of market maker in providing liquidity to offset downward price pressure due to flipping activities. In Malaysia, there are no such stabilisation activities, but it is common for the major shareholders of IPO companies to commit themselves not to sell some staggered percentages of their shareholding during a lock-up period of usually three years after the IPO (see Mohd 2007). The Securities Commission of Malaysia imposes this three-year moratorium on the disposal of shares held by the major shareholders in order to protect the

interest of the minority shareholders. This means that Malaysian institutional arrangements are very different from those in the US. In addition, Malaysian issuance procedures usually occur under a fixed price offer system (unlike in the US where book-building is the common mechanism) and underwriters are less able to interfere with the order flow in the aftermarket. Hence, in the absence of an underwriter's need to develop aftermarket liquidity, we expect different behavioral tendencies to affect investor decision to flip in the aftermarket of Malaysian IPOs. Based on these differences in market arrangements, it is interesting to determine the difference, if any, in terms of flipping activities of Malaysian investors during an IPO.

Over-subscription ratio refers to the number of times an IPO is *over*-demanded by the overall investors; it is a proxy for investor demand. Studies on Malaysian IPOs, such as those of Ismail *et al.* (1993) and Yong *et al.* (1999), found a positive relationship between over-subscription ratio and IPO initial return. A high over-subscription ratio indicates a high demand for a particular IPO which in turn reflects the confidence and optimism that pre-IPO investors have on the new issue. As such, a positive relationship is expected between over-subscription ratio and proxies for investors' immediate aftermarket behaviour.

In Malaysia, the three listing boards (namely, the Main Board, the Second Board and MESDAQ) represent three different sizes of companies. The Main Board is considered to represent large and stable companies. The Second Board is considered to represent medium-sized companies. MESDAQ is considered to represent small and risky companies, and it mainly lists small technology companies. Listing board is therefore an indication of company size. We are interested in finding whether company size is related to the initial premium and the investors' immediate aftermarket behaviour (as represented by opening-day price spread and flipping activities).

We divided IPO offer type into two main categories, namely private placement IPOs and non private placement IPOs. Private placement IPOs are offered directly to institutional investors who are considered to be informed investors. Non private placement IPOs are IPOs either in the category of public issue (the issuance of totally new shares where the company concerned has never issued any share before) or offer for sale (the issuance of shares previously owned by only a few investors); they are subscribed by mostly retail investors who are considered to be uninformed investors. A high ratio between private placement and the overall new issue indicates the existence of a high proportion of informed investors subscribing a given IPO which should lead to lower initial premium that later gains momentum as retail investors get interested in the said IPO; this phenomenon is called bandwagon effect. We hypothesise that bandwagon effect will result in a high opening-day price spread and more flipping activities due to the increased number of investors with more diverse opinion on the true value of the IPO.

The offer size of an IPO is an indicator of future flipping activities. We hypothesise that a small offer size will contribute to speculative activities resulting in high flipping activities, whereas a large offer size will have a negative relationship with the flipping activities.

The rest of this paper is organised as follows. Following the introduction, a literature review is presented in Section 2. This is followed by Sections 3 and 4 which constitute the data and methodology, and the findings. Section 5 summarises and concludes the paper.

2. Literature Review

Behavioral finance relies on the assumption that an investor's behaviour is not only affected by how well-informed he is but also by other psychological attributes or factors. In general, asset price and its movement is a mirror of the behaviour of the participants in the market. Investor behaviour is the result of his interpretation of information and his opinion after the interpretation. In the case of an IPO, the information about an IPO will affect investor behaviour and the overall investor behaviour will in turn affect IPO market performance. Researchers, such as Ibbotson (1975), Miller (1977), Baron (1982), Rock (1986), Beatty and Ritter (1986), Grinblatt and Hwang (1989), Ritter (1991), and Welch (1992), have presented theories and models based on information asymmetries in explaining IPO performance. Pre-listing information can signal an IPO quality, and these *ex-ante* factors or variables are found to have predictive power on IPO performance. Researchers, such as Miller and Reilly (1987), Shultz and Zaman (1994), Ellis *et al.* (2000) and Aggarwal (2003), have examined the relationship between initial premium of IPOs and flipping (or aftermarket trading volume as a proxy for flipping). They documented a positive relationship between flipping and initial premium of IPOs.

Among the various immediate aftermarket activities, the flipping behaviour in the immediate aftermarket has become the primary focus in studies related to the aftermarket trading of IPOs. Flipping refers to the sale of shares acquired in an IPO within a short period after listing, and in Australia flipping is better known as 'taging' (Bayley *et al.* 2006). Flipping is meant for a quick gain and at the same time it is supposed to provide liquidity to the IPOs' initial aftermarket trading. According to Booth and Chua (1996), flipping provides aftermarket liquidity, which may decrease the cost of trading and lower the issuing firm's cost of capital. However, excessive flipping can be detrimental to the performance of new listings. In fact, as part of the effort to protect minority shareholder interest in Malaysia, the Securities Commission has imposed a moratorium (or lock-up provision) to prohibit substantial shareholders (who are usually the promoters of the IPOs) from disposing their shares immediately after the listing of the stocks. They can only dispose off their shares on a staggered basis over a specified period of time, usually over a period of three years (Wan-Hussin 2005).

Krigman *et al.* (1999), using a sample of 1,232 large-capitalisation IPOs for a period from 1988 to 1995, examined underwriters' pricing errors and the predictive power of flipping. They found that underwriter's pricing errors are intentional. They also found that larger offerings recorded a higher flipping activity, and initial return is negatively associated with institutional flipping activities. On the other hand, Aggarwal (2003), using a sample of 617 IPOs for a period from May to June 1998, found that hot IPOs are flipped more than the cold IPOs which means that there is a positive relationship between flipping and initial return.

A recent study on IPO flipping activities in Australia by Bayley *et al.* (2006) found that under-priced IPOs are flipped more than the over-priced IPOs. We cannot duplicate this part of the study in Malaysia since most IPOs are under-priced; rarely do we see an IPO being over-priced, and the numbers are not adequate to perform a meaningful analysis. In addition, flipping behaviour of informed investors is unrelated to long-run returns, and uninformed investors consistently flipped more of the IPOs that have better long-run returns than the informed investors (i.e., the institutional investors). This finding is in contradiction

with the findings of Krigman *et al.* (1999) which document that institutional investors flip more of the IPOs which performed worse in the long-run. Bayley *et al.* also found that there is a negative relationship between firm size and flipping.

3. Data and Methodology

The sample for this study comprised all IPOs listed on the three listing boards of Bursa Malaysia from January 2004 to December 2007. However, since the most popular mechanism for pricing IPOs in Malaysia is fixed-price offer, only IPOs using this mechanism were included in this study. This means that IPOs that used book building, which is very popular in the US, were excluded; however, their number is less than five, which is not that significant. Altogether, 219 IPOs were used in the current study. January 2004 was chosen as the start of this study in line with the change of name of the Malaysian stock exchange from Kuala Lumpur Stock Exchange to Bursa Malaysia in January 2004. In addition, private placement IPOs have become increasingly popular in recent years, and since 2004 they have been included in a separate section called 'private placement', apart from the regular 'offer for sale' and 'public offer' sections of information on IPO listing provided by the Bursa Malaysia on its website. The information used in this study was compiled from Bursa Malaysia website *(http://www.bursamalaysia.com)* and the Star Online website *(http://biz.thestar.com.my/marketwatch/ipo)*. Information on over-subscription ratio was compiled from various newspaper reports (mainly from reports made available on the BiznewsDatabank website *(http://www.biznewsdb.com)* for information prior to 2006.

Analyses on the initial premium as well as investors' immediate aftermarket behaviour were based on the over-subscription ratio, listing board, type of offer and offer size of IPOs. Initial premium, or initial return, is defined as the percentage change in price from the offer price to the opening price on the first day of trading. It is the first pricing indictor available on the first-trading day. We proxied investors' immediate aftermarket behaviour as: (1) the first-day opening-day-spread; and (2) the first-day flipping ratio.

Opening-day spread is defined as the difference between day high and day low on the first trading day. However, for the purpose of comparison, we introduce the following measure of opening-day day spread:

[(high price – low price)/offer price] x 100 per cent,

which is the ratio of the opening-day spread over its offer price. This ratio reflects the degree of spread (or divergence of opinions among investors regarding the true value of the IPO) as compared to its offer price.

Opening-day flipping ratio is defined as the percentage of opening day trading volume divided by the number of shares offered on the first trading day as proposed by Miller and Reilly (1987) and Aggarwal, (2003). For comparison, Bayley *et al.* (2006) define flipping as the liquidation of IPO allocation in the first three days after the listing. Since initial performance is postulated to have a positive impact on flipping ratio as suggested by Krigman *et al.* (1999), a positive relationship is expected between initial premium and flipping ratio.

Over-subscription ratio is defined as the number of times an IPO is over-demanded by the overall investors. For example, an over-subscription of 10 times indicates that, for every share of an IPO, there are 11 investors who apply for it. Studies on Malaysian IPOs, such

as Ismail *et al.* (1993) and Yong and Isa (2003) found a positive relationship between ove subscription ratio and IPO initial return. A higher subscription ratio reflects the confidenc and the optimism that pre-IPO investors have on the new issues. As such, a positiv relationship is expected between over-subscription ratio and proxies for investors' immedia aftermarket behaviour.

Listing boards refer to the three Bursa Malaysia's listing boards, i.e. Main Boar Second Board and MESDAQ. These three listing boards represent three different sizes c companies, where Main Board is considered to represent large and stable companies, Secon Board is considered to represent medium-sized companies and MESDAQ is considered t represent small and risky companies. MESDAQ mainly lists relatively small technolog stocks.

We divided type of offer into two main categories, namely private placement IPOs an non private placement IPOs, where private placement refers to IPOs subscribed b institutional investors (considered to be informed investors), whereas the non privat placement IPOs are IPOs either in the category of public issue or offer for sale, subscribe by mostly retail investors (considered to be uninformed investors). The offer for sale refe to shares that have already been issued to the original stockholders, who in turn offer the shares for sale to the public. As such, there is no change in the company's paid-up capita the money received from the sale of the stock does not go to the company. Its purpose to restructure the company's ownership distribution in line with the government's rules an regulations. Public issue refers to new shares of stock offered to the public for the first tim as such, it results in an increase in the paid-up capital of the company concerned. Th current study does not specifically focus on these two types of IPOs since most pa studies, such as Yong and Isa (2003), have dealt with this issue. Private placement, a suggested by its name, refers to the sale of IPOs directly to institutional investors. I actuality, the institutional investor is the opposite of the individual investor, or retail invest as is commonly referred to in Malaysia. Private placement has become increasingly popul since 2001. Since 2004, private placement has been included in its own separate sectio called 'private placement,' apart from the regular 'offer for sale' and 'public offer' sections c information on IPO listing provided by the Bursa Malaysia on its website. This is anothe reason why 2004 was chosen as the beginning year for this study.

In cases where the offer price for retail investors is different from the offer price fo institutional investors, a very rare occurrence, a 'weighted' average offer price is used. I a nutshell, the weighted-average offer price is calculated as the total proceeds (from bot the retail investors and the institutional investors) divided by the total units of share issued (to both group of investors).

Information on private placement enables us to differentiate between the number c IPOs allocated to institutional investors and those allocated to individual investors (c retail investors as they are commonly known in Malaysia). Information on the proportion c IPOs subscribed by the individual investors as opposed to the proportion of IPOs subscribe by the institutional investors will enable us to the test the winner's curse hypothesis. A suggested by Rock (1986), with fixed-price IPOs, the uninformed investors (or retail investor always face a winner's curse, that is, they get all of the shares which they ask for becaus the informed investors (or institutional investors) do not want them. Thus, faced with th adverse selection problem, the uninformed investors will only buy if IPOs are under-price

compensate for the bias in the IPO allocation. We hypothesise that the larger the proportion of IPOs subscribed by the retail investors, the bigger is the level of IPO under-pricing.

Information on the proportion of IPOs subscribed by the institutional investors, via private placement, will also enable us to test the bandwagon effect. According to Welch (1992), bandwagon effects may develop if potential investors pay attention not only to their own information about a new issue, but also to whether other investors are purchasing. In this case other investors are the informed investors or the institutional investors. If an investor sees that no one else wants to buy, he may not buy even when he possesses favorable information. In order to prevent this situation from happening, an issuer may have to under-price the IPO to induce the first few potential buyers, and later induce a cascade in which all subsequent investors want to buy irrespective of their own information. A high ratio between private placement and the overall new issue indicates the existence of a high proportion of informed investors subscribing a given IPO which should lead to lower initial premium but later gains momentum as retail investors get interested in the said IPO, i.e., the bandwagon effect. We hypothesise that the bandwagon effect will result in high opening-spread and more flipping activities due to the increased number of investors with more diverse opinions on the true value of the IPO.

Size of offer is defined as total amount of shares floated in a particular offering. It can be measured using the gross proceeds of issues. Size of offer is a proxy for firm size. According to Ritter (1984), smaller issues are more likely to be subjected to speculative forces and as a result, *ex-ante* uncertainty is expected to be greater for smaller firms. Krigman *et al.* (1999), however, report that larger deals of offerings recorded a higher institutional flipping. In Malaysia, consistent with Ritter (1984), Corhay *et al.* (2002) report a negative relationship between size of offer and market return. In line with the argument that a smaller firm is subject to higher uncertainty and higher uncertainty in turn will generate greater differences in opinion, a negative relationship is therefore expected for size of offer.

4. Findings

Table 1 presents a summary of the characteristics of 219 IPOs used in this study, for the period of January 2004 to December 2007 The average initial return is 27.77 per cent, with

Table 1. Descriptive statistics of initial return#, over-subscription ratio, number of shares issued, offer price and size of offer, for the period January 2004 to December 2007

	Mean	Std. Dev.	Min.	Max.
Initial return (%)	27.77	44.75	-66.67	275.00
Over-subscription ratio (times)	39.12	55.07	-0.30@	377.96
Number of shares issued (million)	61.00	101.70	3.71	700.00
Offer price (RM)	0.81	0.54	0.17	3.00
Size of offer (RM million)	58.00	35.36	0.84	980.00

Notes: # Initial return is defined as the percentage change in price from the offer price to the opening price on the first day of trading.
Sample size, n=219
@ An under-subscription of 30 % or subscribed by only 70% of the overall issue.

a minimum initial return of –66.67 per cent and the maximum initial return of 275.00 per cent. This average initial return (offer-to-open) is substantially lower than the figure 72.85 per cent reported by Yong (1997) and the figure 94.91 per cent reported by Yong and Isa (2003). These results have not been compared with other studies since they report initial return based on the percentage change in price from offer price to the closing price on the first day of trading.

The average over-subscription ratio is 39.12 times, with a minimum over-subscription ratio of –0.3 and a maximum value of 377.96 times. This average is lower than the figure of 43.71 times reported by Yong and Isa (2003), but higher than the figure of 32.3 times reported by Yong (1997). This average is almost twice the figure of 22.03 times reported by Yong (2007) for the period between 1999 and 2003, the period following the 1997 Asian financial crisis. This high average over-subscription ratio is indicative of the renewed popularity of IPOs among investors in Malaysia after the 1997 financial crisis that hit Asia. During the study period, the average number of shares issued is 61 million, the average offer price is RM0.81, and the average offer size is RM58 million.

Table 2 presents the characteristics of initial premium, opening-day flipping ratio, and opening-day price spread according to offer type and listing board for the period 2004-2007. As shown in Panel A, there are 125 private placement IPOs, with an average initial premium, as measured by the initial return (offer-to-open), of 27.64 per cent. Non private placement IPOs contributed 94 of the total 219 IPOs for the period, with an average initial premium of 27.94 per cent. The *t*-statistic value of -0.049 (the corresponding *p*-value of 0.961) indicates that there is no significant difference between the average initial premium of 27.64 per cent for the private placement IPOs and the average of 27.94 per cent for the non private placement IPOs.

Table 2. Characteristics of initial premium, flipping ratio, and opening-day price spread according to offer type and listing board, for the period 2004-2007

		Initial premium		Opening-day flipping ratio		Opening-day price spread	
	n	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
Panel A: *Offer Type*							
Private placement	125	27.64%	48.51%	85.51%	82.43%	29.48%	38.05%
Non private placement	94	27.94	39.45	66.71	78.67	18.20	16.33
Result of independent *t*-test[#]		t=-0.049, *p*=0.961		t=1.703, *p*=0.090		t[@]=2.971, *p*=0.003	
Panel B: *Listing Board*							
Main Board	57	18.31	23.84	33.89	32.65	13.58	10.62
Second Board	60	21.93	34.93	86.46	91.28	17.12	24.30
MESDAQ	102	36.48	56.10	96.48	85.35	35.23	38.30
Result of *F*-test[##]		F=3.815, *p* =0.024		F=12.584, *p* =0.000		F=12.443, *p* =0.000	

Notes: [#] Independent *t*-test between average initial returns (offer-to-open) of private placement IPOs and the non private placement IPOs.

[##] Result of *F*-test among the three groups, i.e., the three listing boards.

[@] Equal variances not assumed, based on the Levene's test for equality of variances.

As shown in Panel A of Table 2, the mean opening-day flipping ratio for private placement IPOs is 85.51 per cent as opposed to 66.71 per cent for non- private placement IPOs. Even though the difference is not significant at the 5 per cent level, the result seems to suggest that there is a higher level of flipping activity when private placement is involved in an IPO. The mean opening-day price spread is 29.48 per cent for private placement IPOs, and 18.20 per cent for non private placement IPOs. As indicated by the *t*-statistic of 2.971 (and the corresponding p-value of 0.003), the average opening-day price spread for private placement IPOs is significantly higher then the average for non private placement IPOs. This result is somewhat consistent with the flipping activity; it seems to suggest that higher flipping activity goes hand in hand with investors' greater divergence of opinion about the true value of an IPO as shown by the bigger opening-day price spread. Initially we argued that a high ratio between private placement and the overall new issue indicates the existence of a high proportion of informed investors subscribing to a given IPO which should lead to lower initial premium but later gains momentum as retail investors get interested in the said IPO, and this phenomenon is called bandwagon effect. We thus hypothesise that the bandwagon effect will result in a high opening-spread and more flipping activities due to the increased number of investors with more diverse opinions on the true value of the IPO. With regard to opening-day flipping ratio and price spread, our results on private placement IPOs versus non private placement IPOs, do indeed *confirm* our line of argument.

Panel B presents the average initial premiums, as measured by the initial return (offer-to-open), based on the board of listing. Main Board registers the lowest initial premium of 18.31 per cent, and MESDAQ records the highest average of 36.48 per cent. Second Board registers the middle average of 21.93 per cent. On Bursa Malaysia, the Main Board represents big companies, in relation to those companies listed on the Second Board, whereas small and speculative (usually technology stocks) companies are listed on MESDAQ. The result of the *F*-test on the differences among these averages is significant at the 5 per cent level. This means that the smaller the company, the greater is its required initial premium because of its perceived higher risk. This finding supports the size effect hypothesis on IPOs. However, these average initial returns are very much lower than those reported by Yong and Isa (2003) or Yong (2007). Yong and Isa report an average initial return (offer-to-open), for period 1990-1998, of 80.02 per cent for 183 IPOs listed on the Main Board, and 104.22 per cent for 288 IPOs listed on the Second Board of the then Kuala Lumpur Stock Exchange (KLSE). Yong reports an average initial return (offer-to-open), for period 1999-2003, of 22.22 per cent for 64 IPOs listed on the Main Board, and 42.07 per cent for 95 IPOs listed on the Second Board, and 61.39 per cent for 26 IPOs listed on the MESDAQ.

Results shown in Panel B of Table 2 clearly show that listing board has very significant impact on the way investors react toward an IPO. MESDAQ registers the highest average initial premium of 36.48 per cent, the highest opening-day flipping ratio of 96.48 per cent and the highest opening-day price spread of 35.23 per cent. The lowest figures are registered by the Main Board. MESADQ, being the listing board for small and technology stocks, is considered the most risky and thus investors seems to demand the highest initial premium, and speculative activity, as shown by the high flipping activity during its first trading day. Divergence of opinions among investors regarding the true value of an IPO is the highest for IPOs listed on MESDAQ, as indicated by the highest average opening-day price spread

of 35.23 per cent; in fact this figure is twice as much as the figure for the IPOs listed on the Second Board.

As shown in Panel B of Table 2, the mean flipping ratio is the lowest for IPOs listed on the Main Board with an average of 33.89 per cent, and the highest is for IPOs listed on MESDAQ with an average of 96.48 per cent. This finding is an early indication of the negative relationship between firm size and flipping activity, or put in another way, the smaller the company the higher is the flipping ratio. This is consistent with Bayley *et al.* (2006) who found a negative relationship between firm size and flipping in the case of Australian IPOs.

Table 3 presents the correlations between *ex-ante* variables (i.e., over-subscription ratio and natural log of offer size) and initial premium, according to listing board and offer type.

Table 3. Correlations between *ex-ante* variables[#] and initial premium, and correlations between *ex-ante* variables and the immediate aftermarket investors' behaviour,[##] according to listing board[@] and type of offer[@@]

	n	Initial premium	Flipping ratio	Opening-day price spread
Panel A: *Main Board*				
Over-subscription ratio	57	0.489** (0.000)	0.433**(0.001)	0.209 (0.119)
ln of offer size	57	-0.339**(0.010)	-0.427**(0.000)	-0.184 (0.171)
Panel B: *Second Board*				
Over-subscription ratio	60	0.347** (0.007)	0.221 (0.089)	0.217 (0.096)
ln of offer size	60	-0.342**(0.008)	-0.362**(0.005)	0.026 (0.846)
Panel C: *MESDAQ*				
Over-subscription ratio	102	0.424** (0.000)	-0.019 (0.852)	0.196*(0.048)
ln of offer size	102	0.116 (0.247)	-0.467**(0.000)	0.148 (0.137)
Panel D: *Private-placement IPOs*				
Over-subscription ratio	125	0.354 **(0.000)	0.004 (0.962)	0.205*(0.022)
ln of offer size	125	0.121 (0.180)	-0.487**(0.000)	0.063 (0.482)
Panel E: *Non private placement IPOs*				
Over-subscription ratio	94	0.575** (0.000)	0.322** (0.002)	0.643**(0.000)
ln of offer size	94	-0.370**(0.000)	-0.444**(0.000)	-0.156 (0.133)
Panel F: *All IPOs combined*				
Over-subscription ratio	219	0.438**(0.000)	0.144*(0.033)	0.277**(0.000)
ln of offer size	219	-0.113 (0.096)	-0.459**(0.000)	-0.040 (0.556)

Notes: [#] These *ex-ante* variables are the over-subscription ratio (proxy for investor demand), and offer size (as a possible indicator for future flipping activities).

[##] The immediate aftermarket investor behaviour refers to the flipping ratio and the opening day price spread.

[@] Listing board refers to the three listing boards on Bursa Malaysia, i.e., Main Board, Second Board and MESDAQ.

[@@] Type of offer refers to the two classifications of IPOs used in this study, i.e., private placement IPOs and non private placement IPOs.

* Significant at the 5 % level.

** Significant at the 1 % level.

p-values are shown in parentheses.

It also presents the correlations between the *ex-ante* variables and the immediate aftermarket investor behaviour (i.e., opening-day flipping ratio and opening-day price spread).

Panel A through Panel F of Table 3 clearly show that the over-subscription ratio is a variable that consistently and significantly correlates with the initial premium; this finding confirms the earlier conclusion made by Ismail *et al.* (1993) and Yong *et al.* (1999), who both found a positive relationship between over-subscription ratio and IPO initial return. The positive correlation indicates that the higher the demand for an IPO, the higher is the initial premium of the IPO, regardless of the board of listing and the type of IPO. This finding is also in line with results reported by Yong and Isa (2003) who found that, based on stepwise regression analyses, over-subscription ratio contributes significantly (on a consistent basis) to the initial return (i.e., initial premium) of Malaysian IPOs for the period 1990 to 1998. Yong (2007) reconfirmed the findings of Yong and Isa for the period 1999 to 2003.

Results of correlations between over-subscription ratio and opening-day flipping ratio are mixed. Among the three listing boards, only the Main Board registers a positive and significant correlation at the one per cent level, and for type of offer, only non private placement IPOs register a significant positive correlation, also at the one per cent level. For the Main Board, the correlation is 0.433, which is quite high, indicating a strong relationship between the demand for an IPO and its future opening-day flipping activity. For the non private placement IPOs, the correlation is 0.322, which is also quite high. When all IPOs are combined, the correlation between oversubscription ratio and opening-day flipping ratio is 0.144, which is significant at the 5 per cent level.

Results of correlations between over-subscription ratio and opening-day price spread indicate that the listing board is not a significant factor that can explain the opening-day price spread; this means that investor demand does not have any significant relationship with the divergence of opinion regarding the true value of an IPO listed on any one particular listing board. Only in the case of MESDAQ, the correlation is significant at the 5 per cent level, with a correlation of 0.196.

In the case of offer type, both correlations are significant, with the non-private placement IPOs having a very significant correlation of 0.643 (significant at the one per cent level), and the private-placement IPOs having a significant correlation (at the 5 per cent level) of 0.205. The findings indicate that investor demand, in the absence of informed investors (as in the case of non private placement IPOs), results in a more divergent opinion regarding the true value of an IPO.

Both the Main Board and Second Board registered negative correlations between offer size and initial premium; the same is also true for the non private placement IPOs. For the Main Board, the correlation is -0.339, for the Second Board, the correlation is -0.342, and for the non private placement IPOs, the correlation is -0.370. These correlations are all significant at the one per cent level. The negative correlation indicates that the bigger the offer size for these two listing boards and the non private placement IPOs, the smaller is the initial premium. For comparison, Corhay *et al.* (2002) reported a negative relationship between size of offer and market return for Malaysian IPOs. For both MESDAQ and private placement IPOs, even though the correlation is not significant, the direction of the relationship is positive.

We initially argued that offer size is an indicator of future flipping activities, where a small offer size will contribute to speculative activities and thus will result in high flipping

activities, whereas a large offer size will have a reverse effect. All the correlations between offer size and opening-day flipping ratio, for all listing boards and for all types of offer, are negative and significant at the one per cent level. This means that regardless of the listing board and the type of offer, offer size is a variable that correlates well (in a negative direction) with future flipping activities. This finding confirms our initial hypothesis. The the finding is also consistent with the results shown in Panel B of Table 2 where flipping ratio is inversely related to firm size (as represented by the listing board), and consistent with the finding of Bayley *et al.* (2006) on Australian IPOs who found a negative relationship between firm size and flipping. This finding, however, contradicts the finding of Krigman *et al.* (1999) on US IPOs who found that larger offerings result in a higher flipping activity.

With regard to opening-day price spread, none of the correlations between offer size and the price spread is significant at even the 5 per cent level. The directions of the relationship, even though not significant, are mixed; for example for Main Board and non private placement IPOs, the relationship is negative but positive for other listing boards and private placement IPOs. This finding indicates that offer size is not a significant factor that can explain the divergence in opinion among investors with regard to the true value of an IPO.

Table 4 shows the correlations between initial premium and the immediate aftermarket investor behaviour (namely the opening-day flipping ratio and price spread), according to over-subscription ratio, listing board, type of offer and offer size. With regard to over-subscription ratio, we classified the ratios into two classes, namely ratios with values less than the median of 18.41 times, and the ratios with values greater than the median. None of the correlations indicate a significant relationship between the initial premium and the opening-day flipping activity. However, there is a strong positive relationship (a correlation of 0.755 for the class of less than the median (smaller class), and a correlation of 0.362 for the class of more than the median (bigger class), where both correlations are significant at the one percent level) between the initial premium and the opening-day price spread for both classes. However, as indicated by the two correlation values, the correlation for smaller class is twice as much as the correlation for bigger class. This finding indicates that initial premium correlates positively with investors' divergence in opinion regarding the true value of an IPO, especially in the case of low investor demand IPOs.

With regard to listing board, offer type and offer size, all correlations between initial premium and opening-day price spread are significant at the one per cent level. In the case of offer type, the correlation between initial premium and price spread for private placement IPOs is nearly twice as much as the correlation for non private placement IPOs (the correlation is 0.624 for private placement IPOs and 0.399 for non private placement IPOs), which is somewhat similar to the over-subscription ratio.

From the results shown in Table 4, we can conclude that initial premium has a strong relationship with the opening-day price spread for all four *ex-ante* variables. However, initial premium does have a strong relationship with the opening-day flipping activity *only* in cases of non private placement IPOs, big offer size (offer size bigger than the median) and big companies (IPOs listed on the Main Board). For comparison, in the case of US IPOs, Ellis *et al.* (2000) found a positive relationship between immediate aftermarket trading volume and IPO initial premium.

Table 4. Correlation between initial premium and the immediate aftermarket investor behaviour,[#] by over-subscription ratio, listing board, offer type and offer size

	n	Flipping ratio	Price spread
Panel A: *According to over-subscription ratio*			
Less than median[@]	109	-0.021	0.755**
		(0.831)	(0.000)
More than median	109	0.172	0.362**
		(0.074)	(0.000)
Panel B: *According to listing board*			
Main Board	57	0.327*	0.678**
		(0.013)	(0.000)
Second Board	60	0.117	0.551**
		(0.374)	(0.000)
MESDAQ	102	0.043	0.513**
		(0.665)	(0.000)
Panel C: *According to offer type*			
Private placement	125	-0.074	0.624**
		(0.411)	(0.000)
Non-private placemen	94	0.456**	0.399**
		(0.000)	(0.000)
Panel D: *According to offer size*			
Less than median[@@]	109	-0.028	0.518**
		(0.773)	(0.000)
More than median	109	0.260**	0.559**
		(0.006)	(0.000)
Panel E: *All IPOs combined*			
Overall	219	0.119	0.549**
		(0.078)	(0.000)

Notes: [@] Median for over-subscription ratio is 18.41 times.
[@@] Median for offer size is RM19.560 million.
[#] Immediate aftermarket investor behaviour refers to the opening-day flipping ratio and the opening-day price spread.
* Significant at the 5 % level.
** Significant at the 1 % level.
p-values are shown in parentheses.

5. Summary and Conclusions

This paper examines the significance of investor demand, firm size, type of offer and offer size of Malaysian IPOs on the initial premium and the immediate aftermarket behaviour of investors. We used the first-day trading spread and the first-day flipping activities as proxies for the investors' immediate aftermarket behaviour. The study covered all IPOs listed on the three listing boards of Bursa Malaysia during the period of January 2004 to December 2007. Analyses on the initial premium as well as the investors' immediate aftermarket

behaviour were made based on the over-subscription ratio, listing board, type of offer and offer size of IPOs.

Our result seems to suggest that there is a higher level of flipping activity when private placement is involved in an IPO. Our finding also seems to suggest that higher flipping activity goes hand in hand with investors' greater divergence of opinion about the true value of an IPO as shown by the bigger opening-day price spread. We initially argued that a high ratio between private placement and the overall new issue indicates the existence of a high proportion of informed investors subscribing to a given IPO which should lead to lower initial premium but later gains momentum as retail investors get interested in the said IPO, a phenomenon called bandwagon effect. We thus hypothesised that the bandwagon effect will result in high opening-spread and more flipping activities due to the increased number of investors with more diverse opinion on the true value of the IPO. Our results do indeed *confirm* this line of argument.

Our findings also suggest that the smaller the company, the greater is its required initial premium because of its perceived higher risk, which supports the size effect hypothesis on IPOs. MESDAQ registers the highest average initial premium, the highest opening-day flipping ratio and the highest opening-day price spread. The lowest figures are registered by the Main Board. The mean flipping ratio is the lowest for IPOs listed on the Main Board and the highest is for IPOs listed on MESDAQ, which is an early indication of the negative relationship between firm size and flipping activity, similar to the finding of Bayley *et al.* (2006) on Australian IPOs.

Over-subscription ratio is a variable that consistently and significantly correlates (positively) with the initial premium, which confirms the conclusion made in earlier studies by Ismail *et al.* (1993) and Yong *et al.* (1999), who both found a positive relationship between over-subscription ratio and IPO initial return. In our study, the positive correlation indicates that the higher the demand for an IPO, the higher is the initial premium of the IPO, regardless of the board of listing and the type of IPO. This finding is also consistent with that of Yong and Isa (2003) who found that, based on stepwise regression analyses, over-subscription ratio contributed significantly (on a consistent basis) to the initial return of Malaysian IPOs for the period 1990 to 1998. Yong (2007) reconfirmed the findings of Yong and Isa for the period 1999 to 2003.

Results of correlations between over-subscription ratio and opening-day flipping ratio are mixed. Among the three listing boards, only the Main Board registers a positive and significant correlation. For type of offer, only non private placement IPOs register a significant positive correlation. For the Main Board, the correlation is quite high, indicating a strong relationship between the demand for an IPO and its future opening-day flipping activity. For the non private placement IPOs, the correlation is also quite high.

Results of correlations between over-subscription ratio and opening-day price spread indicate that listing board is not a significant factor that can explain the opening-day price spread; this means that investor demand does not have any significant relationship with the divergence of opinion regarding the true value of an IPO listed on any one particular listing board. In the case of offer type, both correlations are significant, with the non private placement IPOs having a very significant correlation of more than three times that of the private-placement IPOs, indicating that investor demand, in the absence of informed

investors (as in the case of non private placement IPOs), results in a more divergent opinion regarding the true value of an IPO.

Both the Main Board and Second Board registered negative correlations between offer size and initial premium; the same is also true for the non private placement IPOs. The negative correlation indicates that the bigger the offer size for these two listing boards and the non private placement IPOs, the smaller is the initial premium. Corhay *et al.* (2002) also report a negative relationship between size of offer and market return for Malaysian IPOs.

We initially argued that offer size is an indicator of future flipping activities, where a small offer size will contribute to speculative activities and thus will result in high flipping activities, whereas a large offer size will have a reverse effect. All the correlations between offer size and opening-day flipping ratio, for all listing boards and for all types of offer, are negative and significant, which is consistent with the finding of Bayley *et al.* (2006) on Australian IPOs where there is a negative relationship between firm size and flipping, but contradicts the finding of Krigman *et al.* (1999) on US IPOs who found that larger offerings result in higher flipping activity.

With regard to opening-day price spread, none of the correlations between offer size and the price spread are significant. This finding indicates that offer size is not a significant factor that can explain the divergence in opinion among investors regarding the true value of an IPO.

We found no significant relationship between the initial premium and the opening-day flipping activity, but found that the initial premium correlates positively with investors' divergence in opinion regarding the true value of an IPO, especially in the case of IPOs with low investor demand. With regard to listing board, offer type and offer size, all correlations between initial premium and opening-day price spread are significant. In the case of offer type, the correlation between initial premium and price spread for private placement IPOs is nearly twice as much as the correlation for non private placement IPOs, which is somewhat similar to the over-subscription ratio. We also found that the initial premium has a strong relationship with the opening-day price spread for all four *ex-ante* variables. However, initial premium does have a strong relationship with the opening-day flipping activity *only* in cases of non private placement IPOs, big offer size (offer size bigger than tha median) and big companies (IPOs listed on the Main Board). For comparison, in the case of US IPOs, Ellis *et al.* (2000) found a positive relationship between immediate aftermarket trading volume and IPO initial premium.

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