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Speculative Bubble in IPOs: Evidence from Malaysian Fixed-Price IPOs

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Abstract

This paper examines the issue of speculative bubble in the pricing of Malaysian IPOs. In a fixed-price offering, one would expect the post-listing price movement to behave in accordance to a speculative bubble, where the IPO's price is pushed up high above its true value, and later stabilizes as the bubble bursts, especially when there is no stabilization activity taking place. One would also expect that this speculative bubble will be predominant in IPOs that have high pre-listing investor demand, and in IPOs that are categorized as hot issues. In general, the Malaysian fixed-price IPOs do not exhibit the characteristics of a speculative bubble. With high demand IPOs and hot issues IPOs, there is a significant jump in price during the first day of trading, but later the prices starts to drop gradually from their peak to their "true" value; there is no sudden drop in price as in the case of a speculative bubble. Prices seem to stabilize almost immediately in the after-market.

Key words: Malaysian IPOs, fixed-price IPOs, hot IPOs, cold IPOs, speculative bubble
JEL classification: G12, G14, G24 and G32

1. Introduction

Aggarwal and Rivoli (1990) suggest that IPOs are subject to over-valuation or fads in the early after-market trading. They also suggest that investor optimism or pessimism in the aftermarket may result in an over- or under-reaction in first few weeks of trading. This means that the early after-market prices of IPOs are not a "true" reflection of their intrinsic values. Even-though speculative bubbles are characterized by a long run-up in price followed by a crash (see for example, Kalok, McQueen & Thorley, 1998), with IPOs, the situation is slightly different. An IPO has no historical prices that show the long run-up; we can only see a sudden increase in the after-market price of an IPO over its offer price. In the case of IPOs, the sudden increase in price during the early after-market trading can be attributed to at least two components. The first component reflects the "perception" of investors regarding the true value of an IPO, where investors in general believe that the IPO concerned is excessively under-priced. The second component is due to speculative activities in the

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early trading of the said IPO that can result in the sudden jump in its price. The "speculative" component can give rise to a "speculative bubble." This situation can be more prominent for IPOs that are in high demand and also in hot issue IPOs.

In the US, Boome, Dahya and Shi (2010) examined the information aggregation process of an after-market trading of 2,040 US IPOs between 1993 and 2000, and found that it takes approximately one week for all IPO-related information to be reflected in the market price, and thus reflect its true value. They attribute this "fast" information aggregation to book-building pricing mechanism and to the highly liquid US IPO after-market. In the Malaysian context, book-built IPOs are still not common; fixed-price mechanism is the most common IPO pricing mechanism in Malaysia. Furthermore, the Malaysian capital market is still considered an emerging market with a lesser degree of liquidity compared to the developed US market.

Unlike book-built IPOs, the offer price of a fixed-price IPO is not determined via solicitation from potential buyers, and as such the issuing firm has very little information regarding the potential investor demand for the IPO, with the offer price that has been fixed. Since there is no soliciting activity taking place, it is hard for both the issuing firm and the potential investors to determine the "true" value of the IPO. This means that all information about the "true" value of an IPO is not being fully reflected in the offer price at the time when the price is fixed. Over-subscription ratio, which is a proxy for investor demand, can at least tell whether investors are under- or over-optimistic about the future prospect of an IPO. An IPO with a very high over-subscription ratio indicates a high degree of investor optimism about the firm, which can lead to a high level of under-pricing. In this study , it was hypothesized that over-optimism among investors will lead to high trading and speculative activities, which later results in speculative bubbles that can last for a period of time when the bubbles bursts. As such, one would expect that in general, Malaysian IPOs would take longer than one week to reflect their true value due to uncertainty regarding their "true" values, and due to the illiquid nature of the Malaysian capital market. In addition, one would expect IPOs with high pre-listing investor demand to have higher levels of under-pricing compared to IPOs with low demand due to over-optimism among the investors (which will be carried over to the secondary market), especially from those investors who are not successful in their early bid.

Ritter (1984) defines a hot IPO issue as an IPO with a high level of initial return. An IPO with a very high initial return might indicate a high degree of investor optimism about the firm, which can lead to a high level of speculative activities. This situation might later result in speculative bubbles that can last for a substantial period of time before the bubbles burst. As in the case of high demand IPOs, it is hypothesized that a hot issue IPO will behave in accordance with a speculative bubble that can last for a substantial period of time, longer than cold issue IPOs.

As suggested by Hong, Scheinkman,and Xiong (2006), with more investor participation, there will be better risk-sharing which can lead to a larger bubble, and with more investors there will also be greater divergence of opinion which can also lead to a larger bubble. In line with this line of argument, it is hypothesized that IPOs with high pre-listing investor demand will have higher levels of under-pricing and larger bubbles compared to low-demand IPOs. As pointed out by Agarwal, Liu, and Rhee (2008), in the case of Hong Kong IPOs, high investor demand will more likely result in a speculative bubble in an IPO due to investor over-optimism regarding the firm's future. Moreover, Malaysian fixed-price IPOs should experience a longer period (more than a week) of price stabilization compared to book-built IPOs in the developed US market, as reported by Boome, Dahya, and Shi (2010).

The longer stabilization period can be argued to be due to the not-so-liquid Malaysian capital market as compared to US market, and higher uncertainty regarding the "true" value of the IPOs that employ the fixed-price pricing mechanism rather than the book-building mechanism.

The motivation for this study is multi-dimensional. Firstly, Yong and Isa (2003) found that over-subscription ratio (a proxy for investor demand) has a significant relation with the level of under-pricing of Malaysian IPOs. However, there is no attempt made to try to relate investor demand with the speculative bubble hypothesis. From an investor's point of view, it is important to know whether a high demand for an IPO issue will result in a speculative bubble in the after-market trading activities due to a supposedly high trading activity following the high demand for that particular IPO during the pre-market period. The current study fills this void.

Secondly, in line with the first motivation, according to Welch (1992), bandwagon effects may develop if potential investors choose to pay attention to what other investors are doing (i.e. purchasing), regardless of whether or not they themselves posses favorable information regarding the IPO. As such, an IPO issuer is "forced" to under-price its IPO in order to induce the first few potential buyers, and later hopefully will induce other investors to follow suit. In a way, the under-pricing of IPOs is used as a tool for creating a "demand effect" in an IPO exercise. In the current study, over-subscription ratio is used as a proxy for investor demand. A high over-subscription ratio indicates a high demand for an IPO. It is hypothesized that a high investor demand for an IPO will result in a high level of under-pricing and thus, high levels of speculative bubble in the IPO after-market. Unlike Yong (2011) who suggests that bandwagon effect may explain the under-pricing phenomenon in Malaysian IPOs, the current study looks at this issue in greater detail.

Thirdly, as mentioned in the previous paragraph, the bandwagon effect is the result of the IPO issuer being forced to under-price its IPO in order to attract potential buyers. Thus, it is hoped that the higher, the level of under-pricing, the more the demand that will be created from the potential investors. This means that the hot issue IPOs will attract more potential buyers compared to cold issue IPOs, which later can result in higher levels of speculative bubble. Based on this argument, it is hypothesized that hot issue IPOs will result in high levels of speculative bubble that will persist for a considerably longer time than that of cold issue IPOs.

This remainder of this paper is organized as follows. Following the introduction section, Section 2 discusses the data and methodology used. Section 3 presents the results, whilst Section 4 concludes and discusses implication of the findings.

2. Data and Methodology

The sample for this study comprised 283 fixed-price IPOs listed on Bursa Malaysia from January 2004 to December 2011. The data begins in January 2004 in line with the name change of the Kuala Lumpur Stock Exchange to Bursa Malaysia in January 2004.

Fixed pricing is the most common IPO pricing mechanism in Malaysia. Unlike book-built offer, with a fixed-price offer, the offer price is set prior to allocation to subscribers, and in the case of demand exceeding supply, shares are rationed on a pro rata or lottery basis. In the current study, the focus is on the fixed-price IPOs and as such book-built IPOs are excluded from this study. Anyway, the number of book-built IPOs is less than 10 during our sample period, which is not that significant. IPOs that are classified as REITs are also excluded.

The sample comprised of fixed-price IPOs with no price stabilization mechanism (or Greenshoe option), and also IPOs with Greenshoe option but did not exercise the option. This means that even-though a company may have the price stabilization mechanism attached to its IPO, it is still included in this study if it does not exercise that Greenshoe option, since the option can only be exercised within the first 30 calendar days starting from its first trading day, if the market price is below the offer price. For instance, Xingquan International Sports Holdings (listed in 2009) was excluded from the sample because it exercised the Greenshoe option, whereas Petronas Chemical (listed in 2010) is included because it did not exercise the option. MSM Malaysia Holdings (listed in 2011) , a company with the price stabilization mechanism, was excluded from the sample due to its pricing mechanism, which is book-building, even-though it did not exercise its Greenshoe option. A company by the name of Berjaya Retail (listed on 16th August 2010, and later delisted on 3rd May 2011) was also excluded from the sample due to its infrequent trading days (less than 5 days in total, during the first month of its listing). The reason why these IPOs were excluded from this study is to ensure that the price movements in these IPOs are "free" from stabilization activities and the price movements are in their normal course without "artificial" intervention from the stabilization activities. Altogether, the sample comprised of 283 fixed-price IPOs.

The information used in this study was compiled from Bursa Malaysia website (*http:/ /www.bursamalaysia.com and http//:www.klse.info/counters/historical-prices/*) and the Star Online website (*http:// biz.thestar.com.my/marketwatch/ipo*). Information on over-subscription ratio was compiled from various newspapers' reports, especially the information made available on the BiznewsDatabank website (*http://www.biznewsdb.com*), Malaysian Issuing House (MIH) website (*http://www.mih.com.my*), and MIDF website (*http://www.midf.com.my/cms/news/news89*).

Initial return was calculated as the percentage change in price from the offer price to the closing price of the first day of trading. In some cases, the offer price for retail investors was different from the offer price for institutional investors. In this study, offer price refers to the offer price for retail investors. The offer price for retail investors was used because it reflects the public allocation rather than non-public (i.e. institutional) allocation.

In this study, over-subscription ratio was used as a proxy for pre-listing investor sentiment, or rather, investor demand, specifically the demand by the retail investors (individual rather than institutional investors); as such, over-subscription ratio refers to the over-subscription ratio for retail investors. A high over-subscription ratio indicates a high demand for an IPO by the retail investors who are supposed to be not so knowledgeable (or uninformed) about the "true" value of the IPO as opposed to the institutional (informed) investors. The sentiment that exists among these uninformed investors will be carried over into the secondary market (or when the IPO is traded in the open market), where the unsuccessful investors will compete heavily in the secondary market in order to be able to purchase the IPO, and this speculative trading activity will result in speculative bubbles in the IPO which are in high demand for a period longer than IPOs with low demand. In line with this argument, it is conjectured that an IPO with a high over-subscription ratio will result in a longer period of speculative bubble and a high level of price increase during the first 20 days of its trading in the after-market. The analysis was conducted for a period of 20 trading days, which is approximately equivalent to four trading weeks, in line with the stabilization period of 30-calendar days practised in Malaysia.

In order to evaluate the impact of investor sentiment on the speculative bubble, these 283 IPOs were grouped into three equally-weighted portfolios based on the pre-listing investor demand or the over-subscription ratio, consisting of low-demand IPOs, medium-demand IPOs and high-demand IPOs. The lowest over-subscription ratio quartile was assigned to the low-demand IPO portfolio, and the highest over-subscription ratio quartile was assigned to the high-demand IPO portfolio. The rest of the IPOs were assigned to the medium-demand IPOs. A similar methodology for grouping IPOs based on investor demand is used by Agarwal,Liu, and Rhee (2008) in the case of Hong Kong IPOs.

Percentage return on day t for portfolio i is calculated as

$$R_{i,t} = [(P_{i,t} - P_{i,t-1}) / P_{i,t-1}] \times 100,$$

where, $R_{i,t}$ refers to the percentage return received by portfolio i during trading on day t, $P_{i,t}$ is the closing price for portfolio i on day t, and $P_{i,t-1}$ is the closing price on the previous trading day. Daily returns for up to the 20th trading day were calculated for each portfolio. A period of 20 trading days was used to represent approximately 30 calendar-days from the first day of trading in line with the 30-day calendar period for stabilization process practised in Malaysia.

Market heat can also be viewed as a proxy for investor sentiment. Market heat can be in the form of cold or hot issue; it reflects the acceptance level of the investors regarding the true value of an IPO. A similar classification of hot and cold markets is used in studies such as that of Ritter (1984) and Yung, Colak, and Wang (2008). In the case of grouping the IPOs based on either hot or cold issues, these IPOs were ranked from the lowest to the highest level of initial return. The median value of initial return was used as the cut-off point between the cold issues and the hot issues. In this study, IPOs with initial returns below the median were grouped into the cold issues category and the rest in hot issues category.

An independent t-test was carried out to test the null hypothesis that the return on any given day i is not significantly different from zero. A sequence of negative day i's returns will give an indication that the bubbles have subsided to a level that reflects a "fair" or "proper" value for the IPO, and the cumulative values of these negative day i's returns can tell us how much (in percent) the price has dropped from its peak to its "fair" value. A sequence of non-significant day i's returns will give an indication that the IPO's prices have stabilized. Due to a higher level of speculative trading activities in IPOs with high demand, the level of price drop is expected to be higher in high demand IPOs compared to low demand IPOs. The same argument can also be made for the hot issue IPOs.

3. The Results

Table 1 presents a summary of the characteristics of the 283 IPOs used in this study, for the period between January 2004 and December 2011. The average initial return (offer-to-close) was 21.42%, with an average over-subscription ratio of 34.25 times. On average, the number of shares issued was 73.62 million, with an average offer size of RM111.89 million and an average offer price of RM0.83.

Table 2 presents the descriptive statistics of the portfolios formed, based on the over-subscription ratio. As shown in Panel A, the low demand portfolio has an average over-subscription ratio of 1.44 times, with a median of 1.11 times. High demand portfolio has

Table 1
Descriptive Statistics of Initial Return, Over-Subscription Ratio, Number of Shares Issued, Offer Price and Size of Offer, for the Period 2004-2011

	Mean	Median	Std. Dev.	Min.	Max.
Initial return (%)	21.42	9.37	47.78	-66.67	263.64
Over-subscription ratio (times)	34.25	14.10	53.78	-0.94@	377.96
Number of shares issued (million)	73.62	36.51	174.47	3.71	2480.00
Offer price (RM)	0.83	0.70	0.63	0.16	5.05
Size of offer (RM million)	111.89	22.54	761.69	1.80	12524.00

Notes:
1. Sample size, n=283.
2. @ An under-subscription of 94 %, or subscribed by only 6 % of the overall issue.

Table 2
Descriptive Statistics of Over-Subscription Ratio and Initial Return, According to Portfolio Formed Based on Over-Subscription Ratio

	Portfolio based on over-subscription ratio			
	Low (n=70)	Medium (n=142)	High (n=71)	Overall (n=283)
Panel A: Over-subscription ratio (times)				
Mean	1.44	17.45	100.19	34.25
Median	1.11	13.89	69.85	14.10
Std. Dev.	1.45	10.64	73.22	53.79
Minimum	-0.94	4.29	44.98	-0.94
Maximum	4.26	44.92	377.96	377.96
Panel B: Initial return (%)				
Mean	6.13	15.06	49.23	21.42
Median	1.74	6.76	33.33	9.33
Std. Dev.	39.92	43.44	52.12	47.76
Minimum	-65.44	-66.67	-41.67	-66.67
Maximum	241.67	263.64	215.00	263.64

an average over-subscription ratio of 100.19 times, with a median of 69.85 times, whereas the medium portfolio has an average of 17.45 times with a median of 13.89 times.

Panel B of Table 2 shows the descriptive statistics of initial return of each one of the three portfolios formed. The low demand portfolio has an average initial return of 6.13 % with a median of 1.73 %, whereas the high demand portfolio has an average of 49.23 % with a median of 33.33 %. The medium portfolio has an average initial return of 15.06 % with a median of 6.76 % These figures clearly indicate a strong relation between the demand for IPOs and the initial return, that is, the higher the demand for an IPO the higher is the initial return. In comparison, for the case of Hong Kong IPOs, Agarwal et al. (2008) found that IPOs with high investor demand realize large positive initial returns, but IPOs with low investor demand realize negative initial returns. Earlier, Derrien (2005), using French IPOs, also found that large individual investor demand led to high IPO prices and large initial returns.

Table 3
Descriptive Statistics of Hot Issue IPOs versus Cold Issue IPOs and their Respective Initial Returns

	Cold Issues (n= 141)	Hot Issues (n= 142)
Mean	-7.53%	50.17%
Median	-2.67	29.13
Std. Dev.	15.39	51.54
Minimum	-66.67	9.33
Maximum	9.17	263.64

Table 4
After-Market Returns According to Portfolio Formed Based on Over-Subscription Ratio

Average after-market return (%) for each portfolio, based on over-subscription ratio			
	Low (n=79)	Medium (n=142)	High (n=71)
Panel A: Initial return (percent) or return on Day 1			
Day 1	6.13% (0.203)	15.06% **(0.000)	49.23% **(0.000)
Panel B: After-market daily return (percent)			
Day 2	-0.28% (0.694)	-0.83% (0.156)	-2.06% (0.064)
Day 3	-1.47**(0.001)	-0.32 (0.637)	-1.70 (0.104)
Day 4	-0.36 (0.562)	-1.09 (0.051)	-1.16 (0.273)
Day 5	-1.19*(0.020)	-0.57 (0.230)	0.20 (0.881)
Day 6	-0.00 (0.999)	0.43 (0.364)	-0.60 (0.473)
Day 7	-0.17 (0.641)	-0.63 (0.087)	0.04 (0.957)
Day 8	0.50 (0.439)	0.17 (0.742)	-0.92*(0.044)
Day 9	-1.29*(0.048)	-0.52 (0.285)	-0.97 (0.057)
Day 10	-0.17 (0.666)	-0.19 (0.605)	-0.55 (0.299)
Day 11	-0.33 (0.618)	-0.35 (0.263)	-0.26 (0.536)
Day 12	-0.17 (0.814)	0.04 (0.902)	-0.31 (0.554)
Day 13	0.26 (0.635)	-0.69 (0.051)	0.23 (0.643)
Day 14	0.13 (0.777)	0.17 (0.569)	-0.43 (0.341)
Day 15	0.20 (0.633)	0.13 (0.673)	0.04 (0.947)
Day 16	0.75 (0.190)	-0.37 (0.152)	0.54 (0.553)
Day 17	0.96 (0.156)	-0.18 (0.517)	-1.27 (0.067)
Day 18	-0.53 (0.171)	0.14 (0.692)	-0.41 (0.382)
Day 19	1.07*(0.019)	0.00 (0.999)	-0.69 (0.158)
Day 20	-0.27 (0.486)	5.84 (0.340)	0.61 (0.286)
Changes	-ve =12; +ve =7	-ve =11; +ve =8	-ve =13; +ve =6

Notes: (1) An independent t-test was conducted to test the null hypothesis that the after-market return on a given day is zero. (2) * and ** denote significance at 5% and 1% level, respectively. (3) *p*-values are shown in parentheses.

Table 3 presents the descriptive statistics of initial return of the cold versus hot issues IPOs. The cold issues portfolio had an average initial return of -7.53% with a median of -2.67%. The mean for the hot issues portfolio is 50.17 %t, with the median being 29.13 %.

Table 4 details the initial returns and the after-market returns for each of the portfolios formed based on the over-subscription ratios. As shown in Panel A, the average initial return for low demand IPOs is only 6.13 %, a figure that is not significantly (*p*-value=0.203)

different from zero. This insignificant value indicates that the offer price of an IPO in the low demand IPOs is a "true" reflection of its "fair" value, and as such there is no significant increase in its price in the secondary market. This also means that there is no speculative bubble in the low demand IPOs. As shown in Panel B, there is a non-significant decrease of -0.28 % during the second day of trading, which indicates that the prices, more or less, stabilize on the second day of trading. However, the return drops significantly on Day 3, with a return of -1.47 % (p-value= 0.001). The returns continue to drop, even-though not statistically significant in most cases, until Day 7. From Day 2 to Day 7, the cumulative drop in returns equals 3.47 %. If we look at the number of positive returns versus negative returns within the first 20-trading days, it shows that the occurrence of negative returns exceeds that of the positive returns, an indication that there is an overall decrease in value from the closing price of the first day of trading. This phenomenon can point to the existence of over-pricing in low demand IPOs, and this slight over-pricing is corrected during the after-market trading activities.

As shown in Panel A, the average initial return for high demand IPOs is highly significant at 49.23%. This significant jump in prices is an early indication of the existence of a speculative bubble in the high demand IPOs. As shown in Panel B, there is substantial drop in return on Day 2 of -2.06 %, even-though it is not significant at the 5% level. From Day 3 to Day 7, all the daily returns are not significantly different from zero, an indication that the prices stabilize immediately during the after-market trading. As in the case of low demand IPOs, the number of negative returns exceeds that of the positive returns within the first 20-trading days, an indication that there is an overall decrease in value from the closing price of the first day of trading. This overall price decrease, plus the fact that there is a huge price increase from the offer price to the closing price, can somewhat point to the existence of a speculative bubble in high demand IPOs, even-though not exactly a true reflection of a speculative bubble where, as pointed out by Kalok et al. (1998), there should be a long run-up in price followed by a crash. Even-though it was initially hypothesized that high demand IPOs should take longer time to stabilize compared to low demand IPOs, the results indicate otherwise; perhaps due to active trading activities in these IPOs that result in prices being corrected almost immediately.

For medium demand IPOs, the average initial return is 15.06%, and it is significant at the 1% level, which indicates the existence of a speculative bubble. However, none of the daily returns are significantly different from zero, an indication that prices stabilize immediately in the secondary market. Again, as in the case of low and high demand IPOs, the number of negative returns exceeds that of the positive returns, an indication of an overall drop in price from the closing of the first day of trading. The immediate stabilization of prices indicates that the after-market prices revolve around their true values.

Table 5 presents the after-market returns of hot issue versus cold issue IPOs. The average initial return of the cold issue IPOs is -7.53% , which is significant at the 1% level. The average returns decrease significantly on Day 2, Day 3 and Day 5. In most cases, the return further decreases from Day 7 onward even-though not significantly. From Day 2 to Day 20, the number of negative returns is 12, exceeding that of the positive returns of 7. Overall, we can see a decrease in the prices of cold issue IPOs from their offer price, an indication that there is no speculative bubble in this group of IPOs.

In the case of hot issue IPOs, the average initial return is 50.17 % , which is significant at the 1% level. From Day 2 to Day 20, there are 13 decreases as opposed to 6 increases in returns. These after-market returns are all not significant, except for Day 11, where the

Table 5
After-Market Returns of Hot Issue IPOs versus Cold Issue IPOs

	Cold Issues (n=141)	Hot Issues (n=142)
Panel A: Initial return (percent) or return on Day 1		
Day 1	-7.53%**(0.000)	50.17% **(0.000)
Panel B: After-market daily return (percent)		
Day 2	-1.66% **(0.002)	-0.35% (0.615)
Day 3	-1.42**(0.001)	-0.49 (0.530)
Day 4	-0.85 (0.066)	-1.00 (0.143)
Day 5	-1.22**(0.004)	0.15 (0.843)
Day 6	0.64 (0.162)	- 0.51 (0.288)
Day 7	-0.27 (0.445)	-0.42 (0.365)
Day 8	0.13 (0.804)	- 0.17 (0.653)
Day 9	-0.83(0.078)	-0.82 (0.058)
Day 10	-0.19 (0.619)	-0.36 (0.248)
Day 11	0.08 (0.827)	-0.72* (0.045)
Day 12	0.07 (0.872)	-0.27 (0.499)
Day 13	-0.17 (0.639)	-0.28 (0.453)
Day 14	-0.24 (0.449)	0.26 (0.395)
Day 15	-0.02 (0.948)	0.27 (0.453)
Day 16	-0.12 (0.680)	0.39 (0.460)
Day 17	0.02 (0.958)	-0.36 (0.393)
Day 18	-0.19 (0.591)	- 0.14 (0.620)
Day 19	0.13(0.703)	0.05 (0.879)
Day 20	5.84 (0.344)	0.22 (0.550)
Changes	-ve =12; +ve =7	-ve =13; +ve =6

Notes: (1) An independent *t*-test is conducted to test the null hypothesis that the after-market return on a given day is zero. (2) *and ** denote significance at 5% and 1% level, respectively. (3) *p*-values are shown in the parentheses.

return is -0.72 % and significant at the 5% level. Unlike the cold issues IPOs, the highly significant jump in the price of hot issue IPOs during the first day of trading indicates the characteristic of a speculative bubble. However, the sudden jump in price is not followed by the crash, but rather a slow downward adjustment in prices, which is not a characteristic of a speculative bubble.

4. Conclusion and Implications

This paper examines the existence of a speculative bubble in Malaysian IPOs, using a sample of 283 Malaysian fixed-price IPOs from January 2004 to December 2011. It was initially hypothesized that in a fixed-price offering, when there is no stabilization activities taking place, the post-listing price movement behaves in accordance with a speculative bubble, especially with high-demand IPOs and hot issue IPOs. High pre-listing investor demand will create a temporary speculative bubble where the IPO's price is pushed up high above its true value, and later stabilizes as the bubble bursts; the same argument can be put forth for the hot issue IPOs. The findings indicate that, in general, IPO prices of the high-demand IPOs and hot issue IPOs only exhibit one characteristic of a speculative bubble where there is a sudden increase in price during the first day of trading. However the

second characteristic of the speculative bubble where there should be a crash in the price is missing; only a gradual and slow drop in price occurs. The low-demand IPOs and the cold issue IPOs do not exhibit the characteristics of a speculative bubble; in fact the after-market prices further decline gradually on Day 2 onward. Even-though it was initially hypothesized that a high demand IPO will take a longer time to burst its bubble due to a possible high level of speculative activities, the results do not support this; the bubble seems to burst almost immediately in the after-market. Surprisingly, in general, the findings indicate that it takes a shorter period of time for prices of fixed-price IPOs to stabilize compared to book-built IPOs in the US, as reported by Boome et al. (2010) who found that it takes approximately one week for the prices of US IPOs to stabilize, even when book-building pricing mechanism is applied there, compounded by the fact that the US IPO after-market is highly liquid.

The results of this study suggest that, at least in the case of fixed-price Malaysian IPOs, there is no need to have a price stabilization mechanism because the price can stabilize soon the after-market trading begins. The implication of this finding is that there is no need for the regulatory agencies of Bursa Malaysia to worry about implementing the price stabilization mechanism for all fixed-price IPOs listed on Bursa Malaysia. Even without the mechanism, prices will still stabilize almost immediately, once those IPOs begin trading in the market place. The immediate stabilization of prices also indicates that the after-market prices revolve around their "true" values. This phenomenon means that these IPOs, except in the case of cold issue IPOs, are actually under-priced and do not exhibit the characteristics of a speculative bubble.

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