

Under-Pricing And The Aftermarket Performance In The Malaysian Stock Market After The Asian Financial Crisis

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This paper provides a novel extension to previous work by identifying the extent of under-pricing and the aftermarket performance of IPOs after the Asian Financial Crisis. The Event study approach is adopted, providing the basis for the use of Market Model of abnormal returns. Empirical evidence note that the extent of under-pricing for this period of study has dropped significantly to 25.7%. As for aftermarket performance, there is a decrease in under-pricing over a one year event window. It is conjectured that the market is generally more mature and efficient after the Asian Financial crisis, coupled with relatively informed investors, with a change in investor psychology.

Keywords: IPO, Underpricing, Aftermarket performance, Asian financial Crisis

1.0 Introduction

1.1 Background

One of the most seemingly attractive areas of investment is that of initial public offerings (IPOs). The IPOs represents an important milestone in the life-cycle of an entrepreneurial firm as it provides a significant contribution to the development of equity financing. The objective of new issues is to achieve the highest value for the issuer, while ensuring a buoyant start to secondary trading. From an investor's perspective, buying shares which is being issued to the public for the very first time has considerable natural appeal, especially in a bull market, tempting investors with potentially phenomenal short-term returns as well as exposure to exciting new companies.

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Any public company, fulfilling the requirements, can apply for listing in Bursa Malaysia. The most important pre-listing requirements include among others, minimum paid up capital of RM60 million for Main Board listing and RM 40 million for Second Board listing, aggregate profit of RM30 million in the past 3 to 5 years for main board listing and RM12 million for second board listing, good financial liquidity and settlement to all debt owing to board of directors (www.sc.com.my). Until 1995, the offer price used to be controlled by SC with a price-earnings ratio in between 3.5 to 8.0 times of the forecasted earnings per share of the IPO. Though the limit on the offer price levels was withdrawn in 1996, SC still retains the final authority to approve an offer price. Underwriter/issuer can only make a recommendation on the offer price in their IPO proposal, unlike in the US, where the lead underwriter and the issuer decides on the IPO offer price. For the year 2008, the Securities Commission (SC) will be introducing an over-allotment option (greenshoe option) and price stabilisation mechanism for initial public offerings (IPO) to enhance market efficiency. The over-allotment, or greenshoe option, allows the issuer to sell to investors more shares than originally planned to ensure that demand for shares in an IPO can be met in an efficient manner (The Star, Jan 12, 2008).

1.2 Purpose And Significance Of The Research

A growing body of empirical evidence has established that the Initial Public Offerings (IPOs) are systematically under-priced. As stated by Prasad, Vozikis and Ariff (1993), extensive research on under-pricing has been undertaken all over the world, from developing to developed countries and it has been widely documented that under-writing prevails. Under-writing is said to be a compensation for post-IPO uncertainty. In the Malaysian context, a considerable amount of research has been undertaken on IPOs. The main issues considered thus far, predominantly revolves around under-pricing of IPOs, reasons for under-pricing and aftermarket performance (short and long run). Yong (2007), in his review on IPO research in Asia, has drawn some very interesting facts, which includes evidence on short-term under-pricing, higher initial returns in short-run, and long-run under-performance. Reasons for under-pricing includes information asymmetry between underwriters and issuers, level of ex-ante uncertainty, winner's curse, dynamic information acquisition, signalling hypothesis, bandwagon effect, prospect theory, and lawsuit avoidance. As for long-term underperformance, Yong (2007) has summarized (based on his analysis of past research), among others, Agency Cost Hypothesis, Earnings Management Hypothesis, Fad Hypothesis, and Window of Opportunity Hypothesis.

2.0 Research Objective

In this paper, we mainly revisit IPO under-pricing and aftermarket performance as studied by Ariff, Shamser and Annuar (1994), which was based on KLSE IPOs from 1975 to 1990. Similar methodology is adopted, with the intention of expanding the IPO literature in the Malaysian context by identifying the existence of any difference in under-pricing before the crisis and in the period after the crisis, i.e, 2000 to 2006, inclusive.

The objectives of this study are:

- To examine the extent of under-pricing after the Asian Financial crisis.

- To further examine the aftermarket performance of the IPOs for an event window of up to one year.
- To examine the probability of investors gaining from post-IPO purchases.

3.0 Literature Review

Two most important IPO related issues which has drawn the attention of researchers around the globe are under-pricing and the post IPO performance. This is largely supported by the outcome of research in different market all over the world (Ibbotson & Ritter (1995), Jenkinson (1990), Hamao (2000), among others. In the local front, a very detailed study by Ariff, Shamser and Annuar (1994) suggests that the average excess return on the first trading day were 135%. This average declined slightly on the first week but gradually increased over several months until the 15 th month. The long run returns declined gradually from the 16 th month, suggesting inefficient pricing of IPOs in Malaysia. This was supported by Ritter (2003), who suggest that first day return for Malaysian IPOs are 104%. In a similar vein, Othman Yong had undertaken extensive research on the status of ASEAN IPOs, with specific focus on short-term under-pricing and long-term performance of these IPOs. His study revealed that average initial returns of Malaysian IPOs for the period 1990-1994 was 75% (Yong, 1997). Further research by Yong (2001), using Malaysian IPOs on Main and Secondary Boards between 1991- 1995 found that the average initial returns had no relation with average annual return over the long-term period.

Dawson (1987), researched on three Asian Market (Hong Kong, Singapore and Malaysia) and suggested that market adjusted rapidly to new information and by first day of trading, excess returns were no longer available to purchasers in Hong Kong and Singapore secondary market. Nevertheless, the new issues in the Malaysian market produced a very large return on the first day, 167%, and over the following year, the uptrend continued, but at a reduced rate of increase. Other interesting areas of IPO include policy risk, which had been widely associated with IPO under-pricing and aftermarket performance. Some specific listing requirements and regulations in Malaysia had significantly impacted the magnitude of under-pricing as compared to the level of under-pricing in the capital markets of developed countries. Prasad, Vozikis and Ariff (1993) researched on Malaysian IPOs and compared the extent of under-pricing of new issues before and after the adoption of new government regulatory policy. The findings suggest that the average market-adjusted under-pricing returns on the first day of listing were 57% during the pre-policy period, in contrast with 118% during the post policy period. The results further indicate that the relatively high level of under-pricing of Malaysian IPOs is also due to unique “microstructure” such as implementation of new government regulatory.

This was further supported by a study by Swee-Sum Lam, Ruth Seow-Kuan Tan, and Glenn Tsao-Min Wee (2003) who also researched on policy risk. Empirical support was found for the view that it is policy risk, and not information asymmetry, which explained the first-day performance of public IPOs. Further to that, Shamser and Annuar (1995) researched on under-pricing of Government-Linked and Private New Issues in Malaysia. The first day under-pricing is 100% which was maintained up to the 24 th month though the returns at the end of 36th month was significantly lower. They contended that there was a significant under-pricing for both the short-term and long-term for both the GLIPO and Private IPOs. Ellis, Michaely and O'Hara (2000)

examined the aftermarket trading of underwriters and found that the lead underwriter is always the market maker and takes substantial positions in the aftermarket trading. In line with Ellis, Michaely and O'Hara (2000), Agarwal (2000) and Katharina (2006) suggest that underwriters managed price support activities in the aftermarket, with the intention of stabilizing aftermarket price. Larger underwriters, stabilize more, perhaps to protect reputation. Richard, Frederick & Ajai (1998) and Michael & Shaw (1994) found that IPOs handled by more prestigious firms were less under-priced, with positive initial returns. Higher quality underwriters attempt to market IPOs that will experience least negative long-run market adjusted returns.

Jonathan Reuter (1996) documented on the agency conflict theories of IPO under pricing. His results suggested that the stronger the business relationship between the mutual fund family and the lead underwriter, the greater the mutual fund family's access to under priced IPOs. He further suggested that the strength of the business relationships with lead underwriters is an economically significant determinant of how IPOs were allocated across institutional investors. Contrary to the above findings, Yong (06) reported on Jelic's findings based on Malaysian sample, which had suggested that underwriters with better reputation tend to increase initial underpricing. Connelly, Limpaphayom, Siraprapaisiri (2004) examined the relation between ownership concentration and performance of initial public offerings (IPOs) in Thailand during 1989-1993. The empirical evidence revealed a positive relation between ownership concentration and IPO initial returns. Their finding indicated that underpricing was more prevalent with the presence of large, "informed" investors. Similar study by Jonathan Reuter (2003) on the agency conflict theories of IPO under pricing suggested that the stronger the business relationship with the lead underwriter, the greater the under pricing of IPOs.

Chen and Kao investigated the benefit of excluding institutional investors in fixed price offerings and concluded that excluding institutional investors can effectively alleviate the winner's curse in IPOs. IPOs underpricing was reduced by at least 4 percent due to alleviating the winner's curse. In a slightly different context, Binay, A.Gatchev & Pirinsky (2001) worked on Winner's Curse arising from the relationship between institutional investors and lead underwriters. Given that the average IPOs are significantly under priced, this result suggested that institutional investors benefit more than retail investors from participating in IPOs. Study by Chen-Lung Chin, Picheng Lee, Gary Kleinman & Pei-Yu Chen (2000) examined IPO anomalies such a underpricing, duration of honeymoon (a distinct feature of the Taiwanese IPO environment), long-term performance and innovation capital (as measured here by the proxies of R&D expenditures and granted patents). Their results indicated that, the more innovative firms are, they are more likely to be under-priced, and have longer honeymoon periods than less innovative firms. Further, the more innovative firms have positive and growing long-term market-adjusted returns. This stands in contrast to the declining long-term stock performance of initial public offering firms that is evidenced in the literature. Last but not least, an interesting study by Arvind Chaturvedi, Alok Pandey and Syamal K. Ghosh (2000) looked into the causal variables that affect under pricing. Their research concluded that Market-index during the period of IPO, type and nature of business, foreign collaboration and the track record of promoters/company affect underpricing. Based on the above literature, underpricing in Malaysia is common but the extent of it may differ based on the time frame, data source, methodology used etc. In this study, underpricing

and the aftermarket performance is re-visited and the methodology used is similar to those used in the study by Ariff, Shamser and Annuar (1994), which was based on KLSE IPOs from 1975 to 1990. It would be interesting to identify if there are any significant differences between IPO under-pricing and aftermarket performance before the Asian Crisis (based on Arif, Shamser and Annur's study) and after the Asian Financial Crisis (current study).

4.0 Data and Methodology

Data for this study was obtained mainly from Data Provider – Pathfinders, Bursa Malaysia website (www.bursamalaysia.com.my) and TA Online. A total of 278 Initial Public Offerings (IPOs) listed on Main Board, Second Board and the MESDAQ were selected over the period of 2000 – 2005 to form the sample for this study. For each company in the analysis, the offer price and the daily share prices were obtained for a period of One year. Kuala Lumpur Composite Index (KLCI), a value weighted index representing all sectors is used as a proxy for Market returns. Returns to investors holding IPOs were estimated by computing the average return in excess of the market return at each time period. The first-day excess return, the first week, first month, third month, sixth month and first year were computed for each company. The first day return was computed by dividing the difference between the closing price of the first trading day and the offer price with the offer price. This is used as a proxy for the degree of under-pricing. To determine the performance of the IPO over the one year period, the cumulative average return is calculated based on the closing price of the first day to the end of the first accounting year-end. Formula used is : $CAR = \sum_{t=1, \dots, T} AR_T$ and the graph is plotted in Figure 1. For all the analysis, hypothesis testing are done using the conventional t-values on the assumption that the errors are i.d.d. and that serial dependence is zero.

First day under-pricing

$$[\text{Closing Price}_{(\text{day } 1)} - \text{Offer Price}] / \text{Offer Price}$$

The Market Model of the CAPM theory is used to calculate the Abnormal Return :

$$\begin{aligned} R_{it} &= \alpha_i + \beta_i R_{mt} + e_{it} \\ e_{it} &= R_{it} - (\alpha_i + \beta_i R_{mt}) \end{aligned}$$

Average Abnormal Return is calculated as follows :

$$\begin{aligned} E(R_{mt}) &= (\alpha_i + \beta_i R_{mt}) \\ AR &= \sum_{i=1, \dots, N} [R_{it} - E(R_{mt})] / n \\ CAR &= \sum_{t=1, \dots, T} AR_T \end{aligned}$$

AR = market adjusted average excess return

N = number of firms ; i = 1, N = 278

R_{it} = rate of return of firm i at event time

$E(R_{mt})$ = expected return a being equal to return in the market

The average return were cumulated over each event window, ie the first day, end of week 1, end of month 1, month 3, month 6 and end of year 1, where CAR is the cumulative average excess return over time.

5.0 Findings and Discussion

Table 1: Average first-day Under-pricing of IPOs

	Mean	t-stats	Std Deviation
2000 - 2005	25.73%	2.03	46.93%
2000	42.5%	3.03	40.2%
2001	40.7%	2.12	57.4%
2002	5.4%	-2.87	22.4%
2003	44%	2.13	46.73%
2004	31%	2.05	49.12%
2005	11.9%	-2.25	49.3%

First day performance of IPOs for the entire duration of 2000 – 2005 and the individual breakdown is summarized in Table 1. On average, for the entire period of study (2000 – 2005), under-pricing is noted at an average of 25.73%. The minimum is -51.11% whilst the maximum is 263%, with a standard deviation of 46.93%. Analyzing the results further on a yearly basis, it shows an under-pricing of 42.5% in year 2000, with similar results of 40.7% being noted in year 2001. Nevertheless, in year 2002, the under-pricing has taken a dip to 5.4% but increased to 44% in 2003, 31% in 2004 and in 2005, under-pricing is only 11.9%. The empirical evidence of this study clearly indicates that the extent of under-pricing among Malaysian IPOs have significantly dropped to 25.7% after the Asian Financial Crisis. There appears to be a big contrast in under-pricing as compared to pre-crisis years, as noted in the research paper by Ariff, Shamser and Annuar (1994), who had documented an under-pricing of 133% (period of study : 1975 – 1990) on the first day. It is thus conjectured that the Asian Financial crisis may have contributed to a more efficient market and a relatively more informed investors, with a change in investor psychology. The existence of more informed investors via Private Placement may have also contributed towards this end.

Furthermore, during this period of study (2000 – 2005), the US market was experiencing the end of its irrational boom in the equity market, specifically the end of the high-tech speculative bubble and the crash of the US stock market. As widely known, years prior to the Asian Financial crisis, markets in general were rising dramatically and were vulnerable to bouts of irrational exuberance. This, to a certain extent has definitely contributed to high levels of under-pricing between 1990-1997. Furthermore, investors were very much frenzied by the over-subscription of new issues and sure gains. All these, coupled with other factors such uncertainty, underwriters' reputation, Winner's Curse, Bandwagon effect, Fad Hypothesis, among others had forced IPO under-pricing in Malaysia to be one of the highest in the world. Nevertheless, expensive lessons learned during the Asian Financial Crisis reflect a more rational approach by investors towards their demand for these IPOs and its impact on under-pricing.

Table 2 : Aftermarket performance of IPOs between 2000 - 2005

	Mean	t-stats	Std Deviation
First Week	24.00%	3.2713	27.61%
First Month	22.05%	3.2978	7.93%
Third Month	19.45%	-4.9885	10.33%
Sixth Month	15.62%	4.1181	6.01%
First Year	9.70%	-2.8844	17.01%

Table 2 further analyses the aftermarket performance of Malaysian IPOs between 2000-2005. It is interesting to note that the market adjusted returns for the period 2000 – 2005 is on a decreasing trend, indicating downward pressure. The underpricing at the end of week one is noted at 24%, whilst first month shows a further decrease to 22.05%. As for the third month, the extent of underpricing has slide further to 19.45% and at the end of the sixth month, underpricing stands at 15.62%. Lastly, the underpricing at the end of year one shows a mere 9.7%. This contradicts with the study by Ariff, Shamser and Annuar (1994), whereby the first weeks return did decrease but subsequently was at an uptrend until the year-end. Reasons quoted were largely from the perspective of buoyant and optimistic expectation from investors during that period. Looking from a behavioural perspective, the underpricing of 25.7% on the first day could be due to several factors such as uncertainty, over-optimism, fad, winner’s curse, among others. Nevertheless, the uptrend is not sustainable and this could be largely due to improved market efficiency during the post-crisis period and the presence of more informed and cautious investors. The details on Table 2 above are depicted into a graph as shown in Figure 1.

Figure 1: Aftermarket performance of IPO over a period of One Year

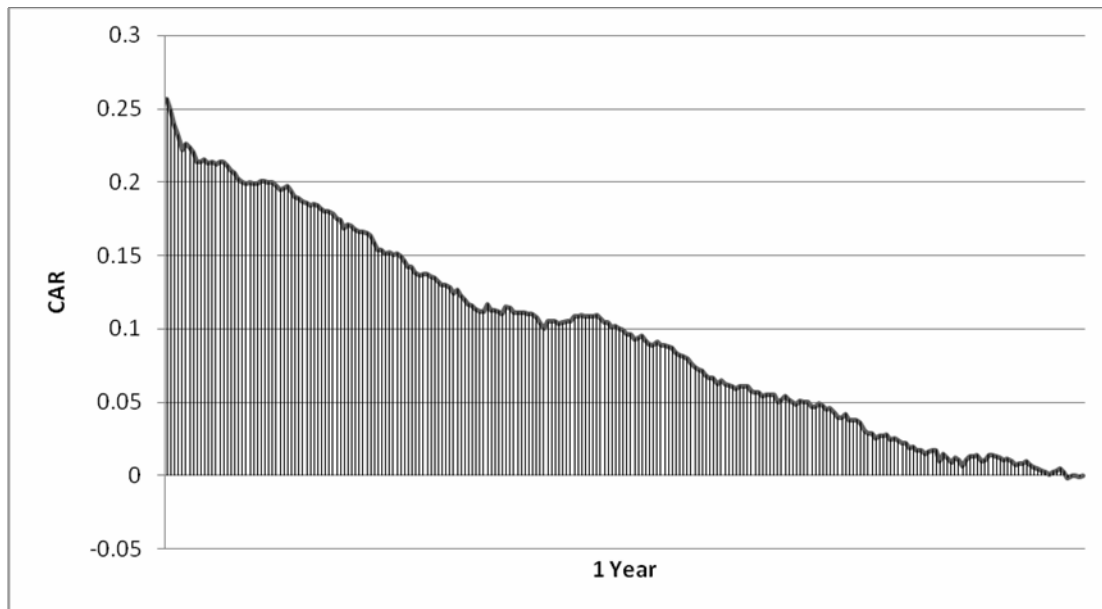


Figure 1 depicts the aftermarket performance of the Malaysian IPOs based on Cumulative Average Returns (CAR). As stated above, despite the increase in returns

on the first day (under-pricing of 25.73%), the subsequent returns appear to decline on average for a duration of one year.

In the Malaysian context, new issues are avidly followed by the public as profitable short-term investment, probably based on the excessive under-pricing in the past. Over-subscription of most new issues also support this believe and keeps feeding the frenzy for new issues among investors. In most instances, the majority of applicants are unable to purchase shares at offer prices and are driven to buy in secondary markets at the post-listed prices. Based on this study, this would generally lead to a loss and even if there happens to be any excess returns, it will be arbitrated away once share prices are established. Investors need to be cautious that market may initially over-price IPOs in the midst of public enthusiasm over under-pricing and over-subscription. The market will subsequently correct the short period over-reaction and prices will than adjust downwards to their intrinsic value in the long-run, thus causing investors to lose.

6.0 Conclusion

This paper provides a novel extension to previous work by identifying the extent of under-pricing after the Asian Financial Crisis and the aftermarket performance of these IPOs over a window of One Year. It is very interesting to note that the extent of under-pricing for this period of study has dropped significantly from 135% (Ariff, Shamser and Annuar, 1994) to 25.7%. This may indicates a more mature and efficient market and a more informed and rational investors. There may be other factors but it is beyond the scope of this study. Another moot point in this study is the aftermarket performance of the IPOs. We report evidence of a decrease in under-pricing over several event windows, ie end of first week, first month, third month, sixth month and one year. Here again, it is conjectured that the market is generally more mature and efficient after the Asian Financial crisis, coupled with relatively informed investors; with a change in investor psychology since minimal evidence of over-reaction, fad or demand pressure hypothesis persist. In conclusion, this paper revisited two widely researched area in IPO and has contributed to the IPO literature on under-pricing and aftermarket performance, post Asian Financial Crisis.

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