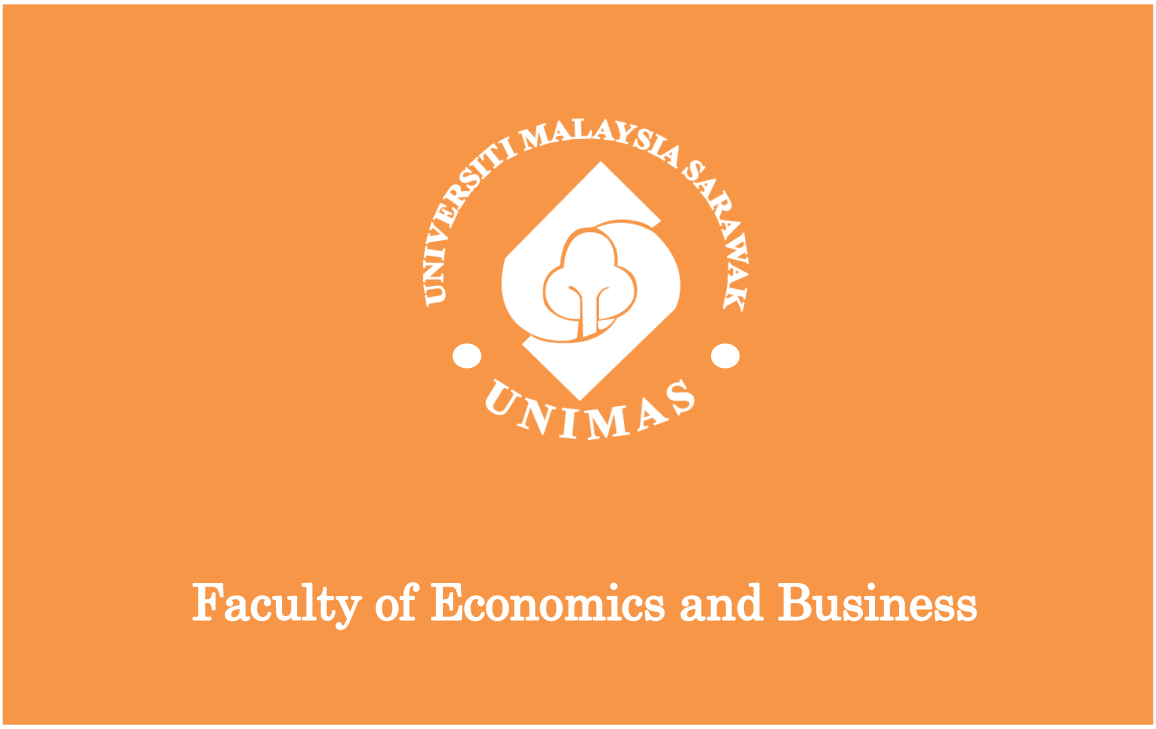

The Malaysian Initial Public Offerings (IPOs): Factors Affecting The Short Run and The Long Run Performance

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THE MALAYSIAN INITIAL PUBLIC OFFERINGS (IPOs): FACTORS AFFECTING THE SHORT RUN AND THE LONG RUN PERFORMANCE

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Statement of Originality

The work described in this Thesis, entitled
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ABSTRACT

This paper presents the levels of underpricing for new issues in Malaysia over a more recent period, 2000- 2009 and the factors affecting the short run and the long run performance. The international evidence unanimously suggests that IPOs generate positive initial returns. However, a number of topics are still controversial, particularly the nature of the long run performance of IPOs companies. This paper aims to study the short run returns and long run stock price performance of Malaysian IPO. We use regression analysis to test the relationship between total underpricing, and the six factors that expected to have an effect on the IPOs return and examining the factors associated with short run return and long run IPO price performance. The final sample in this paper is 343 new listing companies in Malaysia between 2000- 2009. However in long run, we found that using the BHAR method to measure the long run share price performance, the Malaysian IPOs companies underperformed in the market in the first year of going public, with BHAR of -1.77 percent. However, in the second and third year after going public, these companies outperformed in the market with a BHAR of 4.79 percent and 40.83 percent, respectively.

MALAYSIA TAWARAN AWAM (IPO): FAKTOR- FAKTOR YANG MEMBERI KESAN DALAM JANGKA MASA PENDEK DAN PRESTASI JANGKA MASA PANJANG

ABSTRAK

Kertas kerja ini membentangkan tahap tidak setimpal untuk isu-isu baru di Malaysia untuk tempoh yang lebih baru-baru ini , 2000- 2009 dan faktor-faktor yang memberi kesan jangka masa pendek dan prestasi jangka masa panjang. Bukti antarabangsa sebulat suara mencadangkan bahawa IPO menjana pulangan awal yang positif. Walau bagaimanapun, beberapa topik masih kontroversi, terutamanya sifat prestasi jangka panjang syarikat-syarikat IPO. Kertas kerja ini bertujuan untuk mengkaji prestasi harga saham IPO Malaysia dalam pulangan jangka pendek dan jangka panjang. Kami menggunakan analisis regresi untuk menguji hubungan antara jumlah tidak setimpal, dan enam faktor yang dijangka mempunyai kesan ke atas IPO kembali dan memeriksa faktor-faktor yang berkaitan dengan pulangan jangka pendek dan jangka panjang prestasi harga IPO. Sampel akhir dalam kertas ini adalah 343 syarikat-syarikat penyenaraian baru di Malaysia antara 2000- 2009. Namun dalam jangka masa panjang, kami mendapati bahawa menggunakan kaedah BHAR untuk mengukur jangka panjang prestasi harga saham, syarikat-syarikat IPO Malaysia kurang berprestasi di pasaran pada tahun pertama untuk pergi awam, dengan BHAR daripada -1,77 peratus. Walau bagaimanapun, pada tahun kedua dan

ketiga selepas orang ramai pergi, syarikat-syarikat ini mengatasi prestasi dalam pasaran dengan BHAR masing-masing 4.79 peratus dan 40.83 peratus.

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CHAPTER 1

INTRODUCTION

1.3 Background of the Study

Initial Public Offerings (IPOs) are the first sale of stocks by a private company to the public on an open market to raise capital. IPOs of common stock have been commonly studied in finance literature for the past period. The obvious reason that any company needs to raise capital is to upgrading their business, by buying new or upgrading their equipment. Besides that, to avoid from paying the interest on the old debt, company raise their capital, as an "exit strategy" for the owner and investors to make them rich. The alternate term for this process is called "going public". Initial Public Offerings (IPOs) are often issued by younger and smaller firms which looking for capital to enlarge their business. In addition, larger and privately owned companies issue IPOs to become publicly traded (Corhay, 2002).

Generally, a stock market values the stock on expectations on the future proceeds and growth of the companies. Initial Public Offerings (IPOs) are usually an opportunity for primary investors cashing in their stockholding, to make high profits. The first IPOs were recorded in the Bank of the United States in July 1791, when equity in bank was first offered for sale to the public. Government bonds were introduced to raise funds for war effort during 19th century and offer stocks to the public in 20th century becoming a mutual form of financing a new business, and IPOs become the allure business during 21th like now. Hence, Initial Public Offerings (IPOs) is essentially a mode for the firms to make money based on potentials of

upcoming achievement and profit although it can differ importantly from one firm to additional and involve a long, exclusive and difficult process, the IPO is essentially a way for the company to make money and profit.

Initial Public Offering (IPOs) can be a dangerous and risky investment. Most of the IPOs companies are going through a transient growing period and subject to supplementary uncertainty regarding their future values. Also, the individual investors is hard to forecast what will happen to the stock on the trading day or in the future as there is frequently limit of historical data which to explore the company.

Besides that, Initial public offering (IPOs) was considered as one of the greatest apparently attractive areas of investment. It significantly characterizes as important milestone in the life cycle in business firms, as it provides an important input to the growth of equity financing. Therefore, IPOs are an essential part of the capital market which enhancing the liquidity of the capital market and allowing companies to raise capital over their issuance, and also pushing the country's economy to larger statures. IPOs may be started in the method of an offer for sale, public of listing or a combination of both offers for sale and public listing. According to Chong (2008), over the previous few years, a large number of corporations worldwide have contributed in this weighty event to become listed companies.

1.1.1 Bursa Malaysia

Malayan Stock Exchange was first established in year 1960, and the public exchange of shares initiated. At the same time, the board system trading rooms was in Kuala Lumpur and Singapore, which were linked through telephone lines.

Stock Exchange of Malaysia was established in 1964 and known as Stock Exchange of Malaysia and Singapore with the separation of Singapore from Malaysia in 1965. The Stock Exchange of Malaysia and Singapore was divided into two parts in 1973, which are the Kuala Lumpur Stock Exchange Berhad and the Stock Exchange of Singapore. After that, the Kuala Lumpur Stock Exchange Berhad (KLSEB) was taken over by the Kuala Lumpur Stock Exchange, which incorporated it in 1976. In 2004, the Kuala Lumpur Stock Exchange Berhad (KLSEB) are finally reformed their name to Bursa Malaysia Berhad after the demutualization exercise. Bursa Malaysia was then listed on the Main Board of Bursa Malaysia Securities Berhad on March 18, 2005, (Bursa Malaysia, 2009).

Bursa Malaysia is an exchange holding company that offers a fully aggregate exchange and its linked services to the firms and their investors. It consists of a main market for established companies and an ACE market (also known as Mesdaq market) established for emerging companies. Each market has different listing requirements and procedures, different fee charges and different information on the companies (Bursa Malaysia, 2009). In line for to the compassion of the question of an equitable restructuring of national treasure in a multi-ethnic country such as Malaysia, it is not shocking that IPOs are severely controlled and monitored by the government. The approval process is prolonged and even last up to a year, Jelic et al. (2001).

The Securities Commission Malaysia (SC) is a self-funding governmental body with enforcement and investigative power (Securities Commission Malaysia, 2010), and was formed on March 1993 to protect investors. The regulatory functions of the SC include supervising, licensing, encouraging, ensuring and approving

issuances, contracts, and other matters. Securities Commission plays a role in approving corporate bonds and also initial public offerings (IPOs) of the company.

In the listing process, a merchant or investment bank is needed by companies to underwrite them. The merchant or investment bank required by Securities commission will be the underwriter who helps to assist the companies in underwriting the issues, prospectus, and signaling the stocks as well as in the pricing of the offering. From an agency standpoint, the choice of a high quality underwriter will decrease the high agency expenses incurred by IPO companies. The choice of a high excellence underwriter could be viewed as signaling device by which high quality underwriters will be selected by companies with more favorable information (Jelic et al., 2001).

Table 1: *Total Numbers of Listed Companies on Bursa Malaysia between 2000 and 2009*

Year	Main Market	ACE Market	Total
2000	795	-	795
2001	812	-	812
2002	856	12	868
2003	874	32	906
2004	900	63	963
2005	914	107	1021
2006	899	128	1027
2007	863	124	987
2008	855	122	977
2009	843	114	957

Source: Bursa Malaysia, 2009

Table 1 provides the total numbers of listed companies between 2000 and 2009. Based on the listing statistic data obtained from the Bursa Malaysia website, a total of 957 firms had been listed in the market, with 843 companies listed on the main market and 114 companies listed on the ACE market (Bursa Malaysia, 2009).

Accordingly, more than thousands of companies were listed in the Bursa Malaysia; for example, 1021 companies were listed in 2005 and 1027 in 2006. However, some of the companies were de-listed from the stock exchange (Bursa Malaysia, 2009). This phenomenon caused a decrease in the amount of listed companies from 1027 in 2006 to 957 in 2009.

Table 2: Numbers of New Listing Companies on Main Market and Ace Market between 2000 and 2009

Year	Main Market	ACE Market	Total
2000	38	-	38
2001	20	-	20
2002	44	8	52
2003	38	20	58
2004	41	31	72
2005	33	46	79
2006	18	22	40
2007	23	3	26
2008	15	8	23
2009	9	-	9
Total	279	138	417

Source: Bursa Malaysia, 2009

According to the table above, the main market refers to the merging of the Main Board and the Second Board; the ACE market is a revamp of the Malaysian Exchange of Securities Dealing and Quotation Berhad (MESDAQ) market. This table provides numbers of newly listed companies between 2000 and 2009, as listed on Bursa Malaysia. The total number of newly listed companies on the main market was 279, while there were 138 newly listed companies on the ACE market between 2000 and 2009.

1. 2 How Do Firms Go Public?

Going public is the selling stock or an initial public offerings (IPOs) that offered to new stockholders or investors for the first time. In general, firms going public with the purpose to raise capital and equity for their firms. In addition, they generate a public market so that the founders and investors can change some of their capital into cash in the future (Jaksic, 2008). The money that they convert from capital is then used to continue the development and achievement of their firms. Firm's ownership structure will be changed at the time it goes public. As a public firm, the pre issue stockholders can sell their shares in the future to cash out if they wish. Thus, unexpanded portfolios become more liquefied (Ritter, 2003).

When a company wants to go public, they required to open their accounting practices, sales statistics and marketing plans to the publics or everyone who wishes to understand them. This is to accomplish easier for the company to safe or secure certain varieties of loans and raise money from other stockholders. The process of going public often arises when a fresh and young companies needs further capital to raise their business. With the purpose of gain access to that wealth, they will now and then choose to sell their shares of stock to external investors. So as to sell their company shares to the public, at first a company desire to retain the services of a merchant banker or underwriter to underwrite the issue. The characteristic being the underwriters of the firm is to raise capital for the issuing firm by buying shares from the issuing firm at a prearranged price, and then reselling these shares to the public with higher prices and get revenue or profit.

In other words, the companies have to sell their shares with the purpose of go public. An underwriter will handles this and get for a sales commission. Then,

lawyers have to be carried in too. This is to make sure that regulation and law is being followed appropriately. A company can proceed and go public after all of this procedure has been completed. Moreover, it is the greatest period for a company to go public when they are moderately successful on the trial of growing their business. When going public, companies can easily return to the public market to increase more cash. Classically, roughly IPO issuers will return to the public market within five years to subject a seasoned equity offering, meaning that the term secondary is used to denote shares sold by insiders more willingly than by firms.

1.2.1 Malaysian Initial Public Offerings (IPOs) Regulation and Public Policy

Compare to the degree of underpricing of developed countries in the capital markets, some particular requirements and regulations in Malaysia could significantly influence the degree of underpricing. In the United States, before the offering date aftermarket trading has been closed on the night, it is mutual practice to fix the offering price at the time. Under IPO regulation, when Malaysia's companies are looking approval for listing, they are required to determine the offer prices at the time on their application to the Securities Commission. After that, the Securities Commission will consider the application and may go through the proposed offer price from the applicant before it approve on their application. This process usually takes about two months' time from the application date to the date of Securities Commission approval when the proposed or revised price becomes known. Accordingly, after applications for allotment are reserved over a six week period, 5% of the shares are reserved for internal allocation and 95% of the shares are allocated

by public lottery. Therefore, the shares are listed for trading, after three days which all of the successful applicants have been informed of their allocations, at which point it is extremely not likely that the price determined by the regulators will have any correlation to the price which should eventually prevail, based on the changes in market conditions over the long approval lead time (Prasad et al., 2006).

After that, following the closing of applications for each public issue, company board memberships and senates from the Malaysian Industrial Development Finance Consultancy and Corporate Services (MIDFCCS) and the Securities Commission (SC) will have a meeting and set the basis for allotting the shares (Jaksic, 2008). The potential applicants are divided by seeing them whether they are Bumiputera or nonbumiputera and according to the total amount of shares that they are applying for. Following Malaysia regulation, government policy are requires that the initial issues are allocated at least 30% to the Bumiputeras and every firms that going public must go through a severe examination that given by a government body to get approval, including agreement on the offer price (Paudyal et al., 1998).

Bumiputera stockholders may perhaps be companies, individuals, or institutional investors. Jaksic (2008) stated that the policy can also offer an explanation for the high underpricing of Malaysian IPOs, given the political need to delight the Bumiputera mainstream and to transfer prosperity to them. Therefore, according to Paudyal et al. (1998), it is important to note that the foreign stockholders or investors are not allowed to apply for the new issues shares. Besides that, the amount of shares allocated to Malaysian citizens could not be more than 70%. Hence, if the firms are controlled by Bumiputeras, they do not need to comply

with the Securities Commission (SC) allocation requirement when they apply for listing.

1.3 Initial Public Offerings (IPOs) Issues

Underpricing is generally measured as the difference between the offer price and the closing price of the stock or the pricing of initial public offerings (IPOs) below its market value. The stock is considered to be underpriced if the offer price of the stock is lower than the price of first trading. It is assumed that IPOs are often underpriced might because of concerns linking to liquidity and uncertainty about the level of which the stock will be traded. Usually, IPOs is temporarily underpriced because the laws of supply and demand will finally drive it to its intrinsic value. In order to compensate shareholders for the risky they are taking, the less liable or less predictable shares will have more underpriced. Meaning that, the more risky stocks normally have more underpriced at the trading day. A company has to make sure its stock to underprice because an IPO's issuer tends to know more about the value of the stocks rather than the shareholder or investors. This is to encourage investors to participate in the IPO. According to Uddin (2008), underpricing of IPOs is stability or an equilibrium phenomenon in an effective capital market. In the other words, degree of deliberate IPO underpricing as intended by the issuer is necessary for a variety of purpose. Accordingly, if the offer price is set lower than the estimated valuation of new stocks, then IPO shares holders would earn a significant rate of initial return on the first day of trading.

Pritsker (2006) stated that the reason of underpricing happens is because it represents an equilibrium compensation for numerous types of info asymmetries in the IPO process and cause an adverse selection in allocating shares. Besides that, underpricing is required to let informed investors to reveal information to the underwriter. Booth and Chua (1996) argue that underpricing is actually used to increase aftermarket liquidness and raise the base of stockholders which interested with the new issues. Whereas Westerfield (2003) added that underpricing is used to encourage the composition of the stockholder or investor base. The loss in proceeds means "money left on the table", which is typically calculated as the different between the offer price and closing price of IPO on first trading day, Pritsker, (2006).

In general, compare to rest of the emerging markets, the level of underpricing in Malaysia is found to be significantly higher than others. Degree of underpricing is measured by comparing the share price at the end of the first trading day with the offer price of the trading day. According to Corhay (2002), the actual degree of underpricing is actually measured by considering on the stockholders' cost of fund for share applications.

The return comprises of the capital than investors gains from their investment and it is generally cited in a percentage. In general, the more risk you take on the investment, the greater possible for you to have higher returns and loss. An initial return is calculated as the difference between the offer price at which the new shares were open for sale to the public and the closing price on first trading day. In the other words, initial return is the percentage change in offer price from the offering date to the closing price of the first trading day (Yong & Isa, 2003). Besides, it is also known as underpricing. Zaluki et al. (2007) stated that a popular explanation for the

positive initial returns is the “winner curse”. It is an equilibrium model for large underpricing of IPOs that relies on information asymmetry. Chong and Phua (2009) pointed the existence of abnormal positive initial return among new listings in their study. They stated that the level of new listings underpricing was rated among the top five in the list on Bursa Malaysia.

Dewenter and Malatesta (1997) pointed out that in relatively primitive capital markets and privatized companies in regulated industries, initial returns are significantly higher. Additionally, they stated that the privatization of initial returns for those companies in regulated industries be likely to exceed those for companies in unregulated industries. The highly significant initial returns can mean that the company that sells its IPO does not get the full amount of funds that they should get from the subscriber to its IPO. Some other research might argue that by increasing the offer price of an IPO, it might reduce the number of investors willing to subscribe to the IPO (Yong et al., 2002).

The Real Estate Investment Trust (REIT) market was successfully established in Malaysia in late 2005. It was listed in August 2005 after the overview of the reviewed Securities Commission (SC) Guidelines on REITs in early of year 2005 and it represents a new investment opportunity in Malaysia (Zaluki et al., 2007). Through research, Zaluki et al. (2007) stated that the average value of REIT’s initial returns is significantly lower compare to non-REITs initial returns. Accordingly, they suggested that for shareholders who buying REITs’ IPO shares on the offering date and immediately selling them on the first trading day will gain lower returns compare to those who purchase non-REITs IPOs.

IPO performance is defined as the level of share price performance for new issued shares after its IPO. There is no usual ending period and an after-market performance is arises on the first trading day on the exchange. By way of viewing into the after-market performance of all IPOs over a certain time period, investment financiers can define the overall market demand for new issues and perhaps move up or delay an IPO schedule as a result. Classically after-market performance is measured through the lock-up period, from three to nine months after the IPO trading day. According to Dawson (2009), this can let the market to "digest" the shares of insider which might be sold rapidly after the end of lock-up period.

IPO share price performance in the Malaysian context shows that compare to other developing countries, level of underpricing in Malaysia was found to be higher (Chong, 2008). Accordingly, long-run IPO returns are stated to be decreasing after the listing date. Nevertheless, due to extremely high level of total underpricing even though the moderately similar rate of decrease in the after-market, Malaysia's long-run performance for new listing companies was found to be overperform the market portfolio as stated by the majority of the Western markets.

Finally, Gompers and Lerner (2003) pointed that the buy-and-hold method can expand underperformance if it is happens in only a single period as a consequence of compounding single period return. Besides, they concluded that underperformance was found not consistently statistically significant when event time buy-and-hold abnormal returns method are used. But, the underperformance seems to be disappears when cumulative abnormal returns are applied. However, can be arguing that the share price performance of the IPO sample is depends on the method that used to examining performance.

1.4 Problem Statement

Two main issues that are widely discussed in the literature are short-run underpricing and long-run underperformance. The studies focus on the effect of IPO size, especially public issue and offers for sale and private placement, on the level of short run underpricing and long run underperformance (Yong, 2007). As in the case of the IPOs in the U.S., most of the studies on Asian IPOs were usually unique in terms of dealing with the issue of underpricing in Initial Public Offerings (IPOs) and the factors affecting the degree of the IPO underpricing. Pagano et al. (1998) report that the model cannot completely explain at what time or age of the companies it is best to issue their IPOs or to go public. Additionally, Yong (2007) stated that one of the unsolved issues is the right time to issue IPOs, or what is the right age for a company. Therefore, what is the influence of IPO size and firm age on its initial return or underpricing?

Loughran et al. (1994) show that in average, level of underpricing in Malaysia is far higher than those in many other developed and developing countries. It was also found that Malaysian IPOs do not underperform the market benchmark in aftermarket trading over the long run (Dawson, 1987; Jelic et al., 1998). This indicates the effect of institutional factors on the average underpricing of IPOs in Malaysia.

According to Ahmad- Zaluki et al. (2007), the performance of new equity issue is an interesting part of study that has received major consideration from academic scholars. A number of topics are still controversial, mostly the nature of the long-run performance of IPO companies. Malaysian studies found that Malaysian

IPO companies is outperformed the market in a three-year' time period. However, the global evidence consistently suggests that IPOs generate positive initial returns. Numerous papers have surveyed the long- run performance of IPOs in developed countries including Ritter (1991), Loughran and Ritter (1995) and Gompers and Lerner (2003) which examined long run IPO performance in US. The study of Malaysian IPOs is more interesting because IPOs in Malaysia are smaller compare to IPOs in developed countries. Therefore, this research shed light to examining the long run price performance in Malaysia.

In the Malaysian context, a considerable amount of research has been undertaken on IPOs' long-run share price performance. Malaysian studies such as Jelic et al. (2001), Corhay et al. (2002), Ahmad- Zaluki et al. (2007), and How et al. (2007), found that Malaysian IPO companies is outperformed the market in a three-year' time period when measure the long run IPO performance by using buy-and-hold abnormal return (BHAR) method. In contrast, Ahmad- Zaluki and Lim (2012) and Zarafat and Vejzagic (2014) found that, in the long-run, using the same BHAR methods report that Malaysian IPO companies that listed on the MESDAQ Market underperform the market. However, the result of the present study that reported for other countries such as Li and Naughton (2007) and Bessler and Thies (2007) shown that IPO firms underperformed the market in the three-year period. Therefore, there are still inconsistent results found on long run price performance in Malaysian studies.

These studies have provided motivation for doing this research, since there has been limited research done on long-run IPO price performance in the Malaysian market. So, this research sheds additional light on examining the long-run price

performance of Malaysian IPOs. Besides, this research studies the level of IPO underpricing and long-run price performance in Malaysia over a more recent period of time than those previous studies, and examining the factors associated with short-run underpricing and long run price performance in the Malaysian market.

1.5 Objectives of the Study

The main objective of this research is to study the short-run returns and long-run stock price performance of Malaysian IPOs. The levels of returns for new issues in Malaysia over a more recent time period than those previous studies will be examined in the research.

The specific objectives of this research are the following:

a) To identify the level of short-run returns and also long-run stock price performance on Malaysian IPOs.
b) To investigate the factors associated with short-run returns and long-run IPO price performance and determine whether underwriter prestige affects IPO return and long- run performance in the Malaysian market.

1.6 Significance of the Study

Investing in IPOs has both advantages and disadvantages. Generally, a high division of risk is involved in an investment. Once investment if successful, it can be sure even result in a higher and greater rate of returns. This research will enrich public knowledge about IPOs in Malaysia. The public can know more about the

information of IPOs aftermarket return or the market performance so they have more confidence to purchase additional shares at a higher price in the aftermarket.

The findings generated would not only fill the knowledge gap, but would also explain what factors influence IPOs pricing in Malaysia. Investors will learn more about the IPOs' secondary market returns and performance in the Malaysian market, and provide useful guideline to enable better analysis and decision-making. Besides that, investors can consider the factors that influence Malaysian IPOs in the study if they want invest in IPOs in Malaysia. They will also know which IPO method or price mechanism will affect the Malaysian IPOs' secondary market return.

The stockholders frequently see IPOs as a method to make easy money. Other than that, instead of buying the existing common stocks or bonds in the market, they can also consider buying IPOs. The IPO shares that offered are usually in very low prices. However, the company's share price can increase significantly at the trading day. This is one of the most attractive features and a good opportunity for investors looking for more short term profits from IPO shares. Through the research they can gain more information and knowledge to get more opportunities to invest more in IPOs and gain more advantages from it.

Overall, the findings of this research generated would benefit not only investors, the public and firms but also improve the awareness content of the new listing market in Malaysia.

1.7 Organization of the Study

Chapter 1 of the study is the introduction, which includes background, some introduction to IPO theories and methods, a problem statement, and the objectives and significance of the study. Chapter 2 is a review of the literature on IPO underpricing and price performance in developing countries and emerging markets. Chapter 3 describes the data and methodology while Chapter 4 presents the findings. Lastly, Chapter 5 concludes with the overall findings of this study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, the theories of Initial Public Offerings (IPOs) will be briefly discussed including Information Asymmetry theory, the winner's curse theory, signaling models, prospect theory, retail sentiment, price support theory and also laddering. The chapter will be divided into three different parts including studies done in developed countries, emerging markets, and in the Malaysian context. Much research has been done on Initial Public Offerings in different countries using different theories and data.

2.2 Theories of Initial Public Offerings (IPOs)

Many important theories have been developed which have greatly influenced current financial fields. After 1975, several theories emerged that attempted to explain this interesting phenomenon from many different aspects (Li and Robert, 2004). Theories that can describe IPO phenomenon include Information Asymmetry, The Winner's Curse, Signaling Theory, Prospect Theory, Retail Sentiments, Price Support, and Laddering.

2.2.1 Information Asymmetry

Information asymmetry theory by Baron (1982) discussed that the underwriters are well knowledgeable shares than the issuers about the suitable price for IPO share. This is because underwriters hold more information about shareholder demand for the securities. In contrast, Rock (1986) argued that the information

asymmetry is among informed investors and uninformed investors. In certain where controlling occurs, informed investors crowd out and leaving uninformed investors from getting allocations that are biased towards less profitable issues.

Uddin (2008) stated that the main underpricing models are developed based on information asymmetry between the IPO parties including winner's curse and signaling. Information asymmetry between underwriter, issuers, and investors plays a central role in the large body of initial public offerings (IPOs) literature on corporate securities. Underpricing and related arrangements serve to remedy the adverse selection resulting from asymmetric information (Barzel et al., 2006). He shows that underpricing can be used to prevent the information asymmetry that would otherwise lead to adverse selection. Kucukkocaoglu (2008) defines information asymmetry as one of the parties (the issuing firm and the investors) knowing more information than the others. He stated that Information asymmetry plays an important role since securities markets are subject to information asymmetry problems because the attendance of insider trading. Insiders know more information than outsiders about the true quality of the companies. Therefore, they may take benefits of their privileged position of information to earn excess profits.

According to Michaely and Shaw (1994), IPOs be likely to be more underpriced once more informed investors take part in the IPO. The rational investors are worried of a lemon problem; when the issuer is more informed compare with them, an issuer with worse-than-average quality is willing to sell their shares out at the average price. High quality issuers are willing to signal their quality so that they can distinguish themselves from the pool of low-quality issuers. Therefore,

higher quality issuers purposely sell their shares at a lower price than the market believes they are worth (Jaksic, 2008).

2.2.2 The Winner's Curse

The winner's curse theory, proposed by Rock (1986), suggests that informed investors are investors that informed about the value of the firm, while uninformed investors are investors that have less information about the value of the firm compare to informed investors. Informed investors only subscribe to issues which its offer prices are lower than the expected market price. Moreover, the underpricing also compensates informed investors for their information making.

However, uninformed investors include the issuer and underwriters that only have little information about the issue value. They automatically have a higher chance of being allocated overpriced issues because they have less information to the issue value. Supposing that the uninformed investors' demand does not fully subscribe to the issue, to induce the uninformed investors into the market, the underwriter has to underprice the issue. So, the uninformed investors will not join in the IPO market if they determinedly lose money in the investment.

Generally, with fixed-price offers, potential investors face an adverse selection, or also known as "winner's curse" problem (Rock, 1986). Since a comparatively fixed number of shares are sold at a fixed offering price, rationing will result if demand is strong. According to Yong (2009), when the more investors attempt to purchase the shares when an issue is underpriced, the total of excess demand would be higher when the total underpricing is high. A winner's curse occurs when investors buy all of the shares that they asking for which the informed

investors don't want the shares. When they met winner's curse problem, uninformed investors will only submit their buying orders if a IPOs are underpriced sufficiently to recompense them for the bias in the allocation of new issues.

Ritter (2003) pointed out that the main problem of the winner's curse is not the institutions crowd out individuals during the hot offerings period although suggestion from a number of countries indicates that large investors are better informed than individual investors. Hence, informed investors demand makes it difficult for uninformed investors to buy shares.

2.2.3 Signaling models

The signaling models of Allen and Faulhaber (1989) and Grinblatt and Hwang (1989) stated that the issuers are expected to have more information on the future cash flow of their firm compare to outside investors and underwriters. Underpricing is used to signal the quality of a firm in terms of higher cash flow and better operating performance. This helps to establish a sorting out equilibrium in which the high-value firms and the low-value firms are difference. These allow the issuers of high-value firms to get a higher price at the seasoned offering, because only high-value firms are capable to recover the initial loss from underpricing. In contrast, low-value firms do not manage to pay for the signal due to high imitation costs.

On the other words, underpriced IPOs "leave a good taste" with shareholders, letting the companies and insiders to sell their shares in the future with higher price. In the other words, when the firms have underpriced IPOs, their image will be good and they can sell their share at a higher price in the future. Signaling theory can be

used to measure firm quality. Various empirical studies found that the hypothesized relationship between IPO initial returns and succeeding seasoned new issues is not present when one holds other variables constant, casting doubt on the practical significance of signaling as a reason for level of underpricing.

2.2.4 Prospect Theory

The Prospect theory of Kahneman and Tversky (1979) is an evocative theory of behavior that declares that people focusing on the changes in their wealth more willingly than changes on the level of their wealth. Loughran and Ritter (2002) relate this theory to IPOs by observing that most of the money left on the table is by the alternative of companies where the offer price is go through upwards during the book-building process. Money left on the table is the money or profit that received by investors who were allocated shares at the offer price on the first trading day. It is a capital transmission from the investors of the issuing firm to these investors. Prospect theory does not make a difference between public information and private information. Therefore, prospect theory can explain on reason why offer prices do not fully adjust to market movements during the book-building period, a pattern documented by a number of journalists.

Moreover, Loughran and Ritter (2002) use prospect theory to claim that financiers are more accepting of unnecessary underpricing if they learn about a post-market assessment that is greater than what they predict. Hence, the larger the recent increase in their wealth, the less the bargaining effort of issuers in their negotiations over the offer price with the underwriter (Jaksic, 2008).

2.2.5 Retail Sentiment

Retail sentiment theory by Miller (1977) stated that the subsequent stock price performance of IPOs is affected by investor sentiment at the time of the offering. He also suggests that the combination of differences of opinion across investors and short sale constraints generates negative future returns. Investor sentiment is a confidence about upcoming cash flow and investment threats that are not acceptable by the fact at hand (Delong et al, 1990).

Retail sentiment relates directly to the stock price deviations from fundamental value and to the long-term effects of such sentiment on stock return. It is used to examine whether retail sentiment pushes the aftermarket price above fundamental value. If the price correction were quick and predictable, there would be a potentially profitable trading strategy (Brown and Cliff, 2005).

Cook et al. (2006) found that investment bankers have motivation to endorse an IPO to persuade sentiment investors, or noise traders into the market for it. They also found that the promotional efforts of investment bankers bring effect to not only the compensation of investment bankers, but also the valuation of an IPO, its initial returns and trading, the wealth gains of insider investors, and the probability that an issuer shifts investment bankers for a subsequent seasoned equity offering.

Cao and Shi's (2006) signaling model indicated that high-quality companies underpriced their IPO and generated publicity, decreasing uncertainty on the manufacture's product demand. Cook et al. (2006) argued that an investment bank having marketing campaign to bringing investors sentiment into the IPO market and provides extensive benefits to the banker's formal customers and issuing firm. They found that such campaigns effort leads to greater assessment and initial return.

Furthermore, in Cornelli et al.'s (2006) retail sentiment model, formal investors are able to sense the investor's demand via the when-issued IPO market. They found initial aftermarket returns for IPOs are connected to retail demand as measured by IPO prices in this when-issued market which allowed small retail investors to trade their IPOs before the secondary market begins.

2.2.6 Price Support

Price support theory by Ruud (1993) suggests that price equilibrium by the underwriter is actually the outward cause of total underpricing. Price support means government care of specified price levels at a minimum above market equilibrium by purchase of the market surplus at certain stages. Rahman and Yung (1999) found that the spreading of initial returns in the IPO aftermarket offers pure evidence of price support and equilibrium by the underwriter, which is consistent with the findings of Ruud (1993). Price support is an artificial minimum price supported by a government to protect vulnerable but crucial products from wild fluctuations in commodity prices. Price supports by underwriters are an important part of the IPO process (Li and Eisenstadt, 2005).

Lewellen (2006) stated that IPO underwriters quite often shore up share price in the first few weeks by purchasing shares at the offering price although they do not publicly announce the shares repurchase in floundering IPOs, , regardless of the price that sellers willing to sell their shares. When underwriters repurchase the shares, they efficiently remove the shares from the public market, therefore reducing shares in excess of demand. The share price looks stable, thus reducing stockholder incentive to sell the shares. Investment banks can always selectively encourage

investors that if the share price decrease, they going to repurchase the shares, therefore showing their self-confidence in the issue. Investors depend on the knowledge of the underwriter to set values at a reasonable level, and bankers need to maintain investor assurance.

2.2.7 Laddering

Ritter (2003) defined laddering as a practice that is explicitly prohibited when some underwriters allocate shares partially on the basis of a commitment to purchase extra shares once the stock starts trading. A practice of initial public offering (IPO) underwriters requires investors to buy shares at higher prices in the after-market as a condition for receiving lower priced shares of the IPO. In other words, laddering is a quid pro quo arrangement among the underwriter and investor whereby the financier or underwriters allots an IPO shares to an shareholder whose return for the allocation the shareholder decides to purchase more portions of shares in the aftermarket (Bradley et al., 2009). Hence, Bradley et al. (2009) pointed that laddering is the privileged allocation of IPOs to consumers who require purchasing extra shares of the issuing firm's shares in secondary market trading in returns for "hot" IPO allocations. Hao (2007) models the probable influence these "tie-in" agreements might have on first-day trading performance. This model advises that the price effects affected by laddering will be higher when information momentum is present. Thus, the price effects will continue for "hot" IPOs even after the laddering trades finish.

2.3 Event Studies

An event study is a statistical method of assessing the impact of an event on the value of a firm. For example, the announcement of a merger between two business entities can be analyzed to see whether investors believe the merger will create or destroy value. The basic idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole. Event studies can reveal important information about how a security is likely to react to a given event, and can help predict how other securities are likely to react to different events.

Event study methods are econometric techniques used to estimate and draw inferences about the impact of an event in a particular time period or over several time periods (Serra, 2002). Serra (2002) stated that the most common approach involves three steps, including computing the parameters of the estimation period, computing the forecast errors and obtaining variance or covariance information for a period of an event window, aggregating these across firms and making inferences about the average effect and also regress cross- sectional abnormal returns on relevant features of the stock that are supposed to influence the impact of the event.

Kothari and Warner (2007) stated that event studies examine the behavior of firms' stock price around corporate events. A vast literature on event studies written over the past several decades has become an important part of financial economics. Accordingly, event studies also serve an important purpose in capital market research as a way of testing market efficiency. Furthermore, event studies focusing on long horizons following an event can provide key evidence of market efficiency (Brown and Warner, 1980). The Brown-Warner simulation stated that the basic idea

behind the event studies simulation was simple. Different event study methods are simulated by repeated application of each method to samples that have been constructed through a random selection and selection of each event date.

2.4 Initial Public Offerings (IPOs) in Developed Countries

Brown and Warner (1985) survey on the particular characteristics of daily stock return data effect event study methodologies. The securities are chosen randomly and with replacement from the population of all securities for which daily return data are available in the files of the Center for Research in Security Price at University of Chicago (CRSP). Besides, events are selected from July 2, 1962, through December 31, 1979 with replacement which expected to occur with the same probability on each trading day. The outcomes from models with day-to-day data usually support the conclusions of their earlier study by using monthly data: methodologies based on the OLS market model and using standard parametric tests are well stated under a variety of conditions. They find that the features of daily data commonly present few problems in the situation of event study methodologies even though obvious recognition of the characteristics of daily data can sometimes be beneficial, for example in cases involving variance increases or unusually high autocorrelation.

Initial public offerings (IPOs) appear to be overpriced (Ritter, 1991). The sample included 1526 initial public offerings between 1975 and 1984 that meet criteria including an offer price of $ 1.00 per share or more, gross profits of $1,000,000 or more measured in terms of 1984 buying power, the offering only include of common stock (unit offers are excluded), the company is listed on the

CRSP daily Amex-NYSE or NASDAQ tapes within 6 months of the offer date; and lastly an investment banker took the company public. The methods they used to measures IPOs long-run performance was first, cumulative average adjusted returns (CAR) measured by using monthly portfolio rebalancing in which the adjusted returns are calculated by several different benchmarks, and second, 3-year buy-and-hold returns (BHAR) for both of the IPOs and set of matching companies. The findings of the study show that, these companies are significantly underperformed a set of similar companies in size and industry in the 3 years after going public.

Michealy and Shaw (1994) had done a study aiming to examine the practical inferences of some models of IPO underpricing. The sample firms are obtained from the 1984 to 1988 edition of the Directory of Corporate Financing. Sample firms comprise of selection from the list of corporate security offering if first, they make the firm commitment offering of minimum at $1.00 per unit, or second, the unit contains only a single share of stock which has no warranty involved, third, the issue is an initial public offering, and finally the firm is subsequently registered on COMPUSTAT. Finally, there are a total of 947 firms that meet all four of the above requirements. The study shows that in markets, shareholders do not need to compete with informed investors, IPOs do not meet underpricing. Besides, they found that IPOs underwritten by prestigious underwriter experience significantly less underpricing and achieve significantly better in the long run. As a result, they do not find evidence the signaling models describe why firms underprice. In fact, they found that firms that underprice frequently return to the reissue market less often, and firms that underprice less experience higher earnings and higher dividends, differing to the models' expectations.

Dewenter and Malatesta (1997) provided an investigation of initial offer prices in privatization of public-sector companies compared to initial prices in public offerings of private companies. This assessment provides straight evidence on the conjecture noted above that in general, privatization IPOs are more underpriced compare with privately owned company IPOs. It also helps to classify similarities and differences between the transactions. Their practical examinations relate to privatizations in eight different countries, which are selected based on numbers of fixed-price privatization IPOs and availability of statistics. They focused on the major capital markets for the developed country sample, which is comprised of four of the seven countries with the highest total stock market capitalizations in the world as measured in 1985. The results presented that initial returns are significantly higher in comparatively primitive capital markets and for privatized companies in delimited industries. They found that initial returns to privatizations in the United Kingdom, after regulatory for other factors, are significantly lesser than those in other countries. The finding does not consistently offer strong provision for asymmetric information theory. They found that initial privatization returns are not significantly related to the length of time between offer price setting and first trade date, or to offer size.

Su and Fleisher (1999) studied the cross-sectional pattern of underpricing on Chinese initial public offerings (IPOs). The sample of this study is 308 firm-commitment IPOs of A-share common stocks taking place from January 1, 1987 through December 31, 1995. To examine the relationship among stability IPO underpricing and SEO behavior, they also extracted a sub-sample of companies that went public between January 1, 1987 and June 30, 1994. The signaling model was used in the study, which allows investors to differentiate between ‘high value’ and

'low value' firms. For the results of this study, they found that the signaling hypothesis explained the pattern of underpricing behavior between Chinese issuers rather well, even though the market response has some explanatory power and cannot be completely excluded. Finally, they found that differences in initial returns between two shares can be clarified by the changes in domestic and foreign investors' investment occasions and opinions.

Hensler et al. (2000) conducted a study to document differences in the performance of bank and nonbank initial public offerings (IPOs) in Mexico from 1987 to 1993. The sample consists of 68 IPOs, which number by year 32, 11, 3, 6, 15, and 1 for 1987–1992, respectively. The result shows several significant findings. First, they found that the performance of bank, brokerage, industrial, and service IPOs vary markedly. Banks experience much larger initial underpricing than nonbanks. For the aftermarket period, which excludes the first day of trading, they found that banks, industrial, and service IPO stocks match the benchmark returns. Brokerage houses, however, experience huge losses in the aftermarket period. Second, they found that longer-term performance, which includes the first day returns, remains significantly positive for Mexican bank IPOs but turns significantly negative for Mexican brokerage IPOs. Third, they found that the Mexican privatization program yielded high initial returns early in the program, especially for bank IPOs during 1987. The initial returns for firms privatized later in the sample period are far below those of firms privatized early in the sample.

Arosio et al. (2000) conducted a unique survey of 164 IPOs on the Milan Stock Exchange between January 1985 and August 2000, aiming to determine the driving forces of IPOs' initial and short-run market performance. They analyze the

first day abnormal returns, considering fixed-price IPOs and IPOs with book-building done separately; they also try to point out proxies of information asymmetries between the market and the investors. Besides, they also look at the week of trading. They found significantly positive underpricing on the first day abnormal return. Secondly, they found significantly different levels of underpricing and also informative role of revisions in the filed price range. When they try to point out the proxies of information asymmetries influence the initial underpricing for fixed priced IPOs, they found a negative correlation between the underpricing and the age and systematic risk of the firm and a positive correlation between underpricing and the market index momentum and volatility. Finally, they found that the initial returns contain almost all the underpricing at the IPO performance and trading volume in the first week of trading.

Beckman et al. (2001) conducted research examining IPO underpricing in Japan between 1980 and 1998 on three critical associations and their effect on mispricing for a sample of Japanese IPOs issued from 1980-1998. Additionally, they explore the effects of underwriter reputation, keiretsu affiliation, financial health, and traditional control as well as the interaction of financial health and keiretsu affiliation on IPO underpricing. The sample of the study includes all 19 years of IPOs listed on the Tokyo Stock Exchange between January 1, 1980 and December 31, 1998. The variables include offer price, shares offered, lead underwriter and the date of the offering. In order to test the effect of keiretsu affiliation, underwriter reputation and financial health on the underpricing of IPOs, the survey used several measures. They found no evidence that underwriter reputation influences the level of mispricing, which is consistent with prior research. The phenomenon of healthy

firms being underpriced is eliminated under the auction system. Keiretsu-affiliated firms are more fully priced through healthy firms, and healthy keiretsu-affiliated firms are significantly more underpriced than other firms.

Yung et al. (2008) developed a model in which time-varying real investment opportunities lead to time-varying adverse selection in the market for IPOs. Adverse selection is pro-cyclical in the sense that dispersion as an unobservable quality across firms should be more pronounced during booms. Starting from the premise that uncertainty is resolved and thus private information is revealed over time, they then test the hypothesis by looking at the long-run abnormal returns and delisting rates. The sample used in the research was 7409 IPOs from 1973 to 2004. The sample excludes REITs, closed-end funds, American Deposit Receipt (ADRs), unit offers, MLPs, and all issues with an offer price below $5. As a result, they found greater cross-sectional return variance and a higher incidence of delisting for hot- market IPOs.

Dorn (2009) had done a study purposely examining secondary market trading for a sample of 2531 IPOs in US market trading for 10 years of data between 1993 and 2003. The researchers investigate four non-mutually exclusive hypotheses including price support, laddering, retail sentiment, and information asymmetry to explain their findings. For price support, they argue that it is an unlikely explanation. Furthermore, they found that intra-day IPO returns are strongly related to adjustments in the offer price relative to the indicative file range. The researchers found that secondary market returns are positively related to the contemporaneous proportion of buy side and small trade, suggesting that retail sentiment can influence post-IPO prices, assuming small trade is a proxy for retail participation. Finally, the

researchers consider that information asymmetry as an explanation for their finding. They found that for larger and older firms had fewer information asymmetry problems.

Klein and Li (2009) investigate whether the sale of secondary shares in the IPO process is affected by an issuing firm's market-timing and window-dressing activities. The sample was collected from each IPO firm's ticker symbol, offer date, offer price, total number of shares offered, and net book value of assets from Thomson Financials SDC new issue database during the period from 1985 to 2003. There are 5138 IPOs in this initial sample, excluding REITs, closed-end-funds and others. They found that secondary share offering in IPOs exhibited a positive autocorrelation mainly affected by overall stock market return. This finding suggests that favorable market conditions induce existing pre-IPO shareholders to sell their shares in IPOs and cause the clustering of secondary share offerings. Besides, the study showed a significant effect on both the probability of secondary share offering and the proportion of secondary shares offered in an IPO. Lastly, their results also indicate that the number of firms offering secondary shares in IPOs, the probability of secondary share offering, and the proportion of secondary shares offered in IPOs are significantly lower in the Internet bubble period.

Dong et al. (2011) analyze the relationship between the quality of underwriters and the long-run performance of initial public offerings (IPOs) in a list of underwriter marketing, certification and screening, and information production. They examine the impact of the number of managing underwriters, underwriter reputation, and information production on the long-run performance of firms that went public between 1980 and 2006. The final data sample is 7407 IPOs of ordinary

common shares as well as book value of equity after the offer from 1980 to 2006, from Thomson-Reuters New Issues database and the Securities Data Company (SDC) database. Variables used in the study are obtained from CRSP and Kenneth French's website. As a result, they found that IPOs with higher underwriter quality earn positive abnormal returns, while IPOs with low underwriter quality earn negative abnormal returns. Besides, they report that the effect of underwriter quality on long-run IPO performance is strongest among IPOs with high uncertainty, as measured by residual volatility. Finally, absolute price adjustment, a purer measure of information production, is insignificant in the cross-sectional and calendar time long-run returns regressions.

2.5 Initial Public Offerings (IPOs) in Emerging Markets

Dawson (1987) studied the Secondary Stock Market Performance of Initial Public Offers in Hong Kong, Singapore and Malaysia during the period 1978 through 1984. This study extends the analysis of new issue price performance to secondary market trading over the following year. It determines whether initial market prices for unseasoned new shares approximate subsequent market prices, and it is therefore a test of secondary market pricing efficiency for IPOs. This study consisted of 21 Hong Kong, 39 Singapore and 21 Malaysian new issues sold to the public between 1978 and 1983 with representative price changes recorded over the year following the issue. In both Hong Kong and Singapore the market adjusted rapidly to the new information, and by the first day of trading excess returns was no longer available to purchasers in the secondary market. These results provided strong support that the market priced IPOs efficiently in Hong Kong and Singapore, since prices adjusted rapidly to the underpricing of initial public offers.

Eng et al. (1998) conducted a study to examine the relationship between valuation of initial public offerings and the entrepreneur's private information in an emerging stock market. This study examines a sample of 108 initial public offerings in Singapore between 1987 and 1993, and documents the effects of four channels of entrepreneurial communication, including retained ownership, audited report, auditor choice and underwriter choice on the valuation of new issues. This study includes two institutional variables, choice of board listing and whether the firm uses the auction system. Both the value of the firm's share and underpricing were used as the dependent variables. Their results indicate that the value of initial public offerings is positively related to the book value of equity in the prospectus and the percentage of shares retained by the owner. In addition, they found that firms that are listed on the Main Board are valued higher than those on Sesdaq. They also found that firms that chose the auction system are valued higher than those that chose the fixed system.

Kiymaz (2000) had done a study aiming to provide additional international evidence on IPOs by examining the Istanbul Stock Exchange, which is considered one of the fastest growing emerging markets. The population of this study consists of 168 firms listed and subsequently traded on the ISE during the period from January 1, 1990 to December 31, 1996. So, the sample consists of 163 firms listed and traded on the Istanbul Stock Exchange during the period of 1990–1996. By using a sample of 163 firms listed and traded on the ISE, this study investigates both the initial and after-market performances of IPOs. The results show that the Turkish IPOs are underpriced on initial trading day on average of 13.1%. When the factors influencing the initial performance of Turkish IPOs are investigated, the size of the issuer, rising

stock market between the time of price fixing and first trading day, and self-issued offerings appear to be the main determinants of the initial underpricing.

Durukan (2002) conducted a study on the relationship between IPO returns and factors influencing IPO performance in the case of Istanbul Stock Exchange. This study aimed to investigate IPO returns, analyzing the first stage of the relationship between the returns by comparing mean returns and univariate regression analysis, and in the second stage examining determinants of returns by cross sectional analysis and multivariate regression analysis. The samples in the study were all IPOs whose data was available in the ISE IPO Bulletins and Yearbooks between 1990 and 1997. They analyze the relationship between initial and long-term returns, and the components of initial returns are analyzed. Then, Ordinary Least Square (OLS) method and cross-sectional mean return analysis are employed in order to investigate the determinants of returns. The results confirmed that the anomaly that the IPOs provide abnormal returns in Istanbul Stock Exchange; the market corrects the overvaluation or underpricing of IPOs once high initial returns are realized, while the long term returns are negatively associated with short-run returns and opening price return is negatively correlated to initial return. They also found that initial returns are actually realized by the investors who purchase shares at their offering price.

Uddin (2008) examines whether an IPO initial return that appears on the first trading day after listing on exchange is intended by the issuers and underwriters when the offer price is determined before the listing of an IPO. The sample set in this study includes the IPOs listed on the Singapore Exchange Limited (SGX) and Kuala Lumpur Stock Exchange (KLSE) between January 1990 and December 2000. In

total, 861 IPOs are examined. As a result, regression analysis confirms that the listing time lag after setting the offer price requires more of an underpricing discount as ex-ante uncertainty increases, but the difficulties in determining an appropriate amount for the discount generates unintended underpricing upon listing of the IPO. The study concludes that the primary market is inefficient if unintended underpricing occurs after IPO listing; hence, issuers cannot get a fair price for their public offer of shares. The efficiency of the primary market will be improved if the IPO listing time lag can be reduced.

2.6 Initial Public Offerings (IPOs) in Malaysian Markets

Paudyal et al. (1998) addressed four major issues related to privatization initial public offers (PIPOs) and other initial public offers (IPOs) in Malaysia, including analysis of initial excess returns, regression based analysis, analysis of secondary market performance, and further analysis. The sample of the study is comprised of 95 IPOs coming to the KLSE main board out of a total population of 173 new issues. This paper compares the market-adjusted initial premium discount and the long-term performance of PIPOs with that of a sample of private sector IPOs from January 1984 to September 1995. The descriptive statistics method was used in the study. The analysis suggests that the demand multiple, observed market volatility and proportion of shares sold play significant roles in determining the level of excess returns on PIPOs, explaining over 78% of the variation. However, only about 10% of initial excess returns offered by other IPOs can be explained by this model with the demand multiple, underwriters' reputation, and ex-ante risk playing significant roles. Analysis of the IPOs' long-run performance stated that the long-term performance of

IPOs is positively related to the reputation of the underwriters, suggesting that on average reputed underwriters underwrite the quality issues.

Yau and Chun (1999) examine empirically the influence of certain firm-specific, as well as firm-related, factors on the accuracy and prediction bias of earning forecasts for companies that have made initial public offerings in the emerging capital market of the Asia-Pacific region. For the sample and data collection in the study, the earnings forecasts and other relevant corporate data of the 111 companies which sought initial public listing on either the First or Second Board of Kuala Lumpur Stock Exchange (KLSE) from 1985 to 1992 were extracted from their published prospectuses. The findings of this study are contrary to expectation in terms of the apparent negative relationship between the reputation of the reporting audit firm and forecast accuracy, as well as the higher standard deviation of earning forecast accuracy and the higher standard deviation of earnings forecast errors among clients of the more reputable audit firms. The findings of this study are not conclusive. The sample size is relatively small and conclusions are inferred from results of statistical analyses, which are not substantiated with in-depth case analyses.

Yong et al. (2002) examines the initial and the long-run performance of initial public offerings (IPOs) of stocks listed on the Main Board of the Kuala Lumpur Stocks Exchange on four major issues regarding Malaysian IPOs, including underpricing in a developing country. The study covers a more recent time period than those documented in previous studies and looks at the issue of whether the size of offer is related to over-subscription ratio. It focuses on both the initial and long-term performance of the IPOs, which is known as after-market performance, according to the types of issues. They also look at over-subscription to explain the

initial return and the subsequent after-market returns. The sample of the study consists of 93 IPOs listed on the Main board of Kuala Lumpur Stock Exchange (KLSE) from January 1991 to December 1995. Data for IPOs were compiled from various January issues of Investors Digest, a publication of the KLSE. Price at the end of the trading period was obtained from the Meta stocks. The results imply that an investor who succeeds in getting new issues is better off disposing of the shares at the end of the first trading day to realize higher returns compared to holding the shares for an extended period of time and selling them later. When the issues are treated separately by type, the results do not show any significant difference in terms of initial returns among the three groups. This means that regardless of the types of issues one subscribes to, one will earn more or less the same initial returns.

Jais and Rahman (2002) extended the existing study on IPOs in Malaysia by looking into the performance of IPOs of Sarawak-based listed companies in the Kuala Lumpur Stock Exchange (KLSE). This study is regarded as special as it specifically looks at only the Sarawak-based listed companies. The population in this study is comprised of 29 Sarawak companies listed on the Main Board (MB) and Second Board (SB) of the Kuala Lumpur Stock Exchange (KLSE). Out of the 29 companies, the sample of 22 companies has their issue price available for this study. It consists of 9 companies from the KLSE main board, and the remaining 13 companies are from the KLSE second board. For the other 7 companies the offer price could not be obtained. The issue price and the price at the end of the first day of listing were extracted from KLSE website and Company's Annual Report with the market proxy used in the KLSE Composite Index (KLCI). The overall results show that the Sarawak-based listed firms, similar to other IPO studies, experienced a

statistically significant underpricing on the first day of trading. The finding of this study is consistent with other prior studies, although the area and scope of research are different. Almost all research on the performance IPOs are underpriced.

Corhay (2002) conducted a study to examine the Malaysian Initial Public Offerings (IPOs) long-run performance over a four-year period with 258 IPOs between 1992 and 1996 and investigates whether the growth or value effect exists. The long-run performance of IPOs is measured using cumulative average market adjusted returns (CAR), buy and hold return (BAH) and wealth relatives (WR) over a three-year window consisting of 37 monthly prices for each IPO stock. As a result, the regression analysis indicates that all three variables book-to-market equity (B/M), earning-to-price ratio (E/P) and cash flow-to-price ratio (C/P) and the time gap between the close of application and actual IPO listing are positively correlated to the cumulative market adjusted return. The higher the ratios, the greater the cumulative market adjusted return. The price and size of an IPO is found to be negatively related to the cumulative market adjusted returns.

Chong (2002) conducted a study to reduce the existing gap by examining the new listing market from the behavioral finance perspective on 132 new issues listed on the Main Board from 1991 to 2003. The finance theories used to access the new listing market included divergence of opinion, representative heuristics, disposition effect and noise trading theories. Chong found that proxies for divergence of opinion and representative heuristics have significant predictive power over short-run return of new listings and prove that the behavior of flipping and holding new issues of new listing investors is significantly subject to the disposition effect. The analysis of the explanatory power of ex-ante factors and noise trading proxy on immediate

aftermarket behavior showed that the behaviors of the new listing investors are significantly affected by noise. She concluded that the aftermarket behaviors of Malaysian new listing investors are irrational and resemble those of an emerging market in which a majority of the investors are not well informed, and these behavioral drawbacks explain the short-run anomaly in the new listing market significantly.

Yong and Isa (2003) presents the levels of underpricing for new issues in Malaysia with all Kuala Lumpur Stock Exchange (KLSE) new issues listed on the Main Board and Second Board from January 1990 to December 1998. Three types of new issues were examined including public issue, offer of sales, and also the combination of offer for sales and public issue. Additionally, they also make the comparisons of initial return between types of new issues and between different boards of listing. This study aims to document the levels of underpricing for new issues in Malaysia over more recent period and only focus on the initial returns and possible explanations for the levels of underpricing. Besides, they also differentiate between types of new issues and their initial performances. This study found that the conclusion that can be drawn about the initial return is that investors demand that higher returns be offered by new issues listed on the second board. In fact, their broader range of mean initial returns suggests that they are indeed riskier than their counterparts on the Main Board. The result of independent t-test showed the mean initial returns of any type of new issue listed on the Second Board are greater than its counterpart on the Main Board.

Lowry (2003) shed light on the understanding of why the number of IPOs fluctuates so substantially over time. This paper compares the extent to which the

aggregate capital demands of private firms, the adverse-selection costs of issuing equity, and the level of investor optimism can explain these fluctuations. Lowry (2003) collected data from Securities Data Company (SDC) database that includes offer-specific information. This database includes 9163 firm-commitment IPOs between 1970 and 1996. From 9163 IPOs, excluding closed-end funds, ADRs, REITs, units, mutual-to-stock conversion, issues in which the offer price is less than RM 5, and issues in which 75% or more of the shares sold represent secondary shares, a sample of 5349 IPOs was yielded. Empirical tests include both aggregate and industry-level time-series regression, using proxies for the above factors and an analysis of the relation between post-IPO volumes. As a result, firms' demands for capital and investor sentiment are important determinants of IPO volume in both statistical and economic terms.

Prasad et al. (2006) conducted a study examining the results of the implementation of a 1976 Malaysian government policy, which mandated that at least 30% of any new shares on an IPO offer be sold to the indigenous Bumiputera population or to mutual funds owned by them. The new issue information relating to the issue date, offer price, and the closing prices at the end of the first day, at the end of the first week, and the end of each month thereafter from the month in which the issue was offered up to 38 months was obtained. Additionally, they also conducted interviews with the staff of the CIC for an understanding of the regulations and procedures related to their assessment and approval of applications for listing of new issues in the Malaysian share market. The study examined the short-run and long-run underpricing of Malaysian IPOs and found that Malaysian IPOs are highly

underpriced compared to IPOs in developing countries, creating a market microstructure effect.

Ahmad- Zaluki et al. (2007) look into the long-run share price performance of 454 Malaysian IPO companies listed on Main Board and the Second Board during the period from 1990 to 2000. Significant over performance is found for equally weighted event time CARs (Cumulative Abnormal Return) and also BHAR (buy-and hold returns), using two market benchmarks, though not for value-weighted returns or using a matched company benchmark. The significant abnormal performance also disappears under the calendar-time approach using the Fama-French (1993) three-factor model. The methods used in the study are event-time approach and calendar-time approach. For event-time approach, abnormal returns are calculated for up to three years after the first day of listing, excluding the initial return. The results of the study showed a contrast with those found in developed markets and are dependent upon the methods used. The results suggest that investors who measure their investment in IPO companies using the event-time approach will conclude that they will earn positive returns in the long run, but if they employ the calendar-time-approach they will conclude that they do not gain any abnormal return.

Rahim and Yong (2008) indicate that the implication of Shari'ah-compliant status on the Malaysian IPO initial returns first seeks to record the level of underpricing of IPOs in Malaysia over more a recent period of time than in previous studies. This study focuses on the possible factors that might have contributed to the levels of underpricing on IPOs issued only by Shari'ah-compliant companies and examine whether Shari'ah-compliant rules would alter the initial return patterns of the IPOs. The sample population consists of all IPOs listed on the Main Board,

Second Board and MESDAQ of Bursa Malaysia from January 1999 to December 2007. The classification of IPOs into Shari'ah- and non-Shari'ah-compliant issues is based on the list of Shari'ah-compliant companies published by the Securities Commission (2007). The result of the regression analysis indicates that initial returns of IPOs issued by the Shari'ah-compliant companies are explained by the factor that explains initial return of general IPOs; specifically, the oversubscription ratio. Overall, the results of the study suggest that despite the emphasis given to the classification of Shari'ah-compliant companies; this status does not alter the patterns of initial returns of IPOs in Malaysia.

Sundarasen and Rajangam (2008) provide a novel extension to previous work by identifying the extent of underpricing and the aftermarket performance of IPOs after the Asian Financial Crisis. This study examines the extent of underpricing after the Asian Financial crisis and the aftermarket performance of the IPOs for an event window of up to one year and to examine the probability of investors gaining from post-IPO purchases. Data for this study was obtained mainly from Data Provider-Pathfinders, Bursa Malaysia website and TA online, comprised of 278 selected IPOs listed on Main Board, Second Board and MESDAQ from 2000 to 2005. The results of the study showed that in the Malaysian context, the public avidly follows new issues as profitable short-term investments, probably based on excessive underpricing in the past. In most instances, the majority of applicants is unable to purchase the shares at the offer prices and is driven to buy in secondary markets at the post-listed prices. The market will subsequently correct the short period overreaction and prices will then adjust downwards to their intrinsic level in the long run, causing the investors to lose.

Yong (2009) conducted a study to examine the initial performance of Malaysian private placement IPOs. The sample data included 313 IPOs listed on the Main Board, the Second Board, and MESDAQ of Bursa Malaysia from January 2001 to December 2006. January 2001 was chosen as the beginning period since most effects of the 1997 financial crisis had dissipated since then. The data used was collected from Investor's Digest, the KLSE website and the Star Online website. The findings show that the result of average initial return gives support to the winner's curse hypothesis, where uninformed investors demand a higher initial return in the absence of informed investors. The results show that the presence of a large number of informed investors as compared to uninformed investors in an IPO brings with it an increase in demand for that particular stock and thus its increase in initial return, which gives support to the bandwagon effect.

Younesi et al. (2012) examined the IPO performance in Malaysia between 2007 and 2010. The objective of this research was to measure the under-pricing of Malaysian IPOs on the first day of listing and observe the return determinants effect on IPO performance. Results found that under-pricing occurs in the first day of trading during the particular period. In contrast, they found that the degree of under-pricing decreased dramatically when compared with what is shown in previous studies. In empirical findings, none of return determinants including Age, size, total unit offered, offering price and KLCI index movement are able to effect on IPO initial return. It shows that Malaysian IPOs follow anarchy during this period while their performances are not predictable by return determinants.

Ahmad-Zaluki and Lim (2012) studied the Investment Performance of MESDAQ Market Initial Public Offerings (IPOs) using a sample of 93 MESDAQ

Market IPO companies. This study provides evidence on both the short-run and long-run investment performance of Malaysian initial public offering (IPO) companies that are listed on the MESDAQ Market. The factors that influence the performance are also investigated. The results of the raw and market-adjusted initial returns show that IPO companies are significantly underpriced in the short-run. However, in the long run, both the CAR and the BHAR methods that that employed reveal that these companies underperform the market. Their results on long-run performance contrast with the results observed by previous Malaysian studies using a sample of companies listed on the Main Board and the Second Board. However, they are consistent with the results reported in other countries.

Zarafat (2013) investigates the first-day and first-week short-run returns of IPOs listed on the Bursa Malaysia. The sample of the study is 166 firms listed and traded on Bursa Malaysia between 2004 and 2007 and found that the average market-adjusted return of IPOs for the first day and first week are 8.6% and 4.2%, respectively. These results are statistically significant and consistent with the findings of other international papers on IPOs. The regression models for the short-run returns consist of market volatilities, book value to market value ratio, underwriter reputation, operating history of a company prior to going public, gross proceeds, total assets of a company prior to going public or size variable, hot or cold market period, and industries. Book value to market value ratio and operating histories of a company are two factors influencing the initial underpricing of Malaysian IPOs; however, market volatility is an additional predictor to the initial return model in order to build the model for the first-week return.

Yazdani and Aris (2015) analyzed the existence of underpricing issue of Malaysian IPOs listed in Bursa Malaysia from 2000 to 2008 and examine the impact of different use types of proceeds on IPO underpricing. A sample of 102 IPOs was selected and analyzed. In particular, four main influencing factors of underpricing including IPO size, market volatility, underwriter status and reciprocal of IPO price are investigated. Results show that the average market adjusted initial return is 9.4%. A regression analysis was conducted which resulted in positive impact of IPO size, market volatility, underwriter status and reciprocal of IPO price on underpricing. Therefore, this study provides a new perspective to analyze the underpricing problem by focusing on the multiple elements.

In conclusion, Initial Public Offerings (IPOs) are largely underpriced in short term. This underpricing phenomenon has been well recognized in nearly all the stock markets in the world. Most studies in the field of IPO have only focused on developed countries. Little is known about underpricing and it is not clear what factors influencing underpricing in developing country.

2.7 Summary

There are issues that are widely discussed in the literature reviews regarding IPO short-run underpricing, IPO long-run price performance, underwriter reputation, and other factors affecting IPOs returns. The previous research concludes that there was still disagreement regarding the factors that influence IPO underpricing and long-run performance in Malaysia. Besides that, the findings of previous studies are not conclusive. The results of prior Malaysian studies show that Malaysian IPO companies are significantly underpriced in the short run.

However, in the long run, the results of Malaysian studies are still inconclusive. A considerable amount of studies have been done on IPOs' long-run share price performance in Malaysia which some authors obtained similar results in using the BHAR method to measure long-run share price performance, and the Malaysian IPO companies outperformed the market in the three-years' time period. In contrast, some studies found that in the long run, the BHAR methods report that Malaysian IPO companies listed on the MESDAQ Market underperform the market. However, the result of the present study reported for other countries (e.g., China, Germany, India, Japan, and U.K.) reported that in that three-year period, most of the studies found a positive market-adjusted initial return but that IPO companies underperform the market in the long run.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This research on Malaysian IPO secondary market returns is carried out by using methods and theories in order to get consistent and more accurate results. In order for the research to proceed more smoothly and effectively, the data collection has to be done at an early stage. Accordingly, a series of steps is to be carried out including the model of study, planning research design, data collection, data analysis and also formulating the research hypothesis after the research problem is are identified. The secondary data used in the research is obtained from the online Bursa Malaysia Database (2000-2009), Yahoo Finance and DataStream.

This chapter discusses the methodology used in this study. It consists of five parts. The discussion begins with the data collection, followed by conceptual framework. Next, the chapter discusses the factors influencing the level of underpricing, Hypothesis Development, and Specification of Methodology/ Measurement.

3.2 Sample Selection and Methods

3.2.1 Data Collection

This study examines the initial return and long run share price performance of Main market and Ace market IPOs by using data for the period from 2000 to 2009. Before August 3, 2009, there were three listing boards of Bursa Malaysia; namely,

the Main Board, the Second Board and MESDAQ. Starting on August 3, 2009, with the introduction of a new listing classification of listing, stocks are either listed on the Main market or on the ACE market. Main market caters to stocks previously listed on the Main Board and the Second Board, whereas the ACE market caters to stocks previously listed on the MESDAQ market. I reclassify the listing board for IPOs listed before August 3, 2009 into either the Main market for IPOs listed on the Main Board and the Second Board, or into the ACE market for IPOs listed on MESDAQ, and combine them with the existing IPOs listed on either market.

Following Ahmad-Zaluki et al. (2007), the share price data for each IPO and the market index returns were collected from the DataStream database. As the other literature have selected different time periods to show IPO performance, this study has selected first year, second year and third year to show the post-IPO performance of firms during 2000- 2009. The IPO companies' closing price on the first day of listing and the subsequent 36 monthly returns were collected to show the trend of return after IPOs return. The monthly return for each IPO company was then compared with the monthly returns of a matched company or market index on a rolling basis for 36 months following the initial listing. Because of the data contraints on the market index, the Kuala Lumpur Composite Index (KLCI) was used as a market benchmark. Returns on KLCI were collected to provide a benchmark for the overall sample.

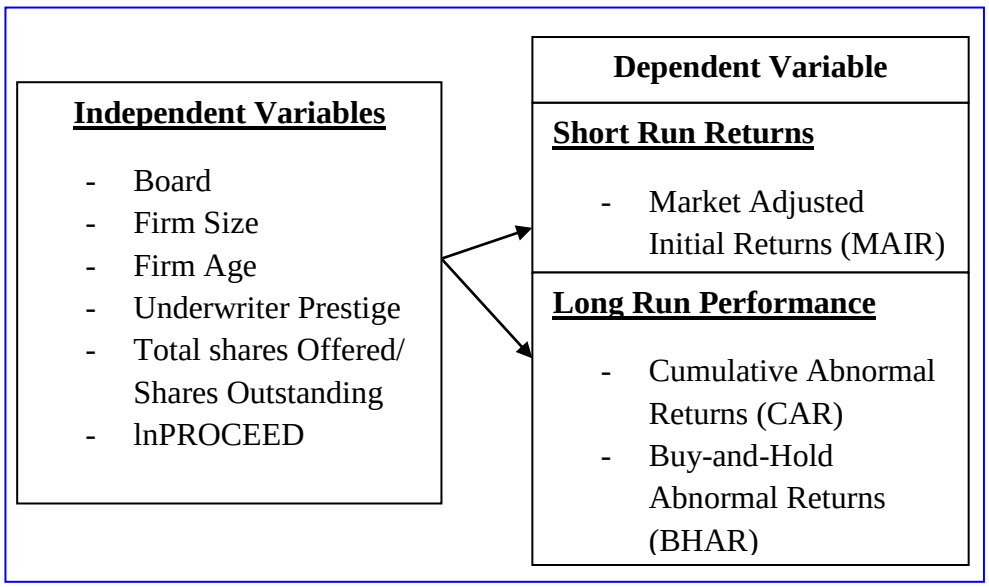
The sample population of the study was IPOs new listing companies in Malaysia for 10 years from 2000 to 2009, excluding Real Estate Investment Trust (REITS), and close-ended fund companies. After data cleaning, companies with unavailable, missing or inconsistent data for variables used will be excluded. The

final sample amounted to 254 new listing companies on the Main market and 89 new listing companies on ACE market between 2000-2009. So, the total number of company in the sample was 343 companies listed on Main market and ACE market.

3.2.2 Conceptual Framework

Figure 1 shows the conceptual framework of the study. There are nine variables, which includes three dependent variables as well as six independent variables. The dependent variables are MAIR (Market Adjusted Initial Returns), CAR (Cumulative Abnormal Return) and BHAR (Buy-and- Hold Abnormal Return), while the independent variables include board, firm size, firm age, underwriter prestige, total shares offered over shares outstanding, and lnProceeds.

Figure 1: Model of the study



Adapted from Beatty & Ritter (1986), Kiymaz (2000), Durukan (2002), Ahmad-Zaluki et al. (2007), Ahmad-Zaluki & Abidin (2011) and Ahmad-Zaluki & Lim (2012).

These variables have been selected based on previous studies. The independent variable of "Board" is following Corhay et al. (2002) who found no different between the long run performance of Main board and Second board IPOs, and Ahmad- Zaluki et al. (2012) who examined the short run and long run performance of Malaysian IPOs listed on MESDAQ market. "Firm Size" is following Kiymaz (2000) and Durukan (2002) who found negative relation between firm size and IPO return. Moreover, the variable of "Firm Age" is chosen based on previous study of Li and Klein (2009) who found positive relationship and Kiymaz (2000), and Ahmad-Zaluki and Lim (2012) who report an inverse relationship among this variable and IPO return. "Underwriter Prestige" Beatty and Ritter (1986), Ahmad-Zaluki and Abidin (2011) and Ahmad-Zaluki and Lim (2012) and "Total Shares Offered over Shares Outstanding" following previous study of Durukan (2002) who suggested a positive relation between this variable and IPO return. Lastly, "lnPROCEED" is following Kiymaz (2000), Durukan (2002) and Ahmad-Zaluki and Lim (2012) who found inverse relation between this variable and IPO return.

For dependent variables, Market adjusted initial return (MAIR) is computed by the offer price from the price at first day of trading divided by the offer price and adjusted by the market return. Market return is calculated from return of Kuala Lumpur Composite Index (KLCI) from the date of prospectus to the first day of trading. Dependent variable CAR (Cumulative Abnormal Return) and BHAR (Buy-and- Hold Abnormal Return) is used to analyze the long run price performance. The CAR is calculated by cumulating the average market-adjusted returns on a portfolio

of stock for the event time and one, two and three-year buy-and-hold abnormal returns (BHAR) are calculated to measure the long-run share price performance.

3.2.3 Factors Influencing the Level of Underpricing.

BOARD:

This study has identified several factors that may influence the level of underpricing, including board of listing (Main market or ACE market). Prior studies had suggested that the level of underpricing is higher in riskier IPOs, while riskier IPOs will be more underpriced than less risky ones. IPO companies in Malaysia can choose to list on either the Main market or the ACE market. I reclassify the listing board for IPOs listed before August 3, 2009, into either the Main market for IPOs listed on the Main Board and the Second Board, or into the ACE market for IPOs listed on MESDAQ, and combines them with the existing IPOs listed on either market. Information asymmetry is likely to be lower for companies listed on the Main market as they require more paid-up capital and a longer trading history than those listed on the ACE market (Ahmad-Zaluki and Abidin, 2011).

The performance of IPOs, both in the short term and long term, can vary according to the market conditions in which they are issued. Ahmad-Zaluki et al. (2007) and Corhay et al. (2002) found that the cumulative average abnormal returns (CAR) and the buy-and-hold returns (BHAR) significantly outperform the market. They also found no difference between the long-run performance of Main Board and Second Board IPOs. Ahmad-Zaluki and Lim (2012) examined the short-run and long-run share price performance of Malaysian IPO companies listed on the MESDAQ market from 2002 to 2005; the result of the market-adjusted initial return

shows that IPO companies are significantly underpriced in the short run. However, in the long run, both the CAR and BHAR methods report that Malaysian IPO companies listed on MESDAQ market underperform the market. Therefore, we hypothesize that the level of underpricing is lower for companies listed on the main market compared to the ACE market.

FIRM SIZE:

Firm size is measured as the natural logarithm of the total assets of the firm prior to the IPO. Kiymaz (2000) and Durukan (2002) suggested the negative coefficient to this variable. Firm size variable is employed to capture the possibility that the smaller-firm IPOs are more speculative than those of larger firms. Hence, the larger firm's IPOs are expected to have lower uncertainty compared to the smaller IPOs. Therefore, we expect a negative relationship between firm size to the level of underpricing.

FIRM AGE:

Firm age is calculated by subtracting the foundation year of the firm from the year of the IPO. The firm age variable is used as the natural logarithm of age plus one (lnAGE+1). Ahmad-Zaluki and Abidin (2011) stated that the length of time of the listing from the closing date of the IPO offer could be associated with more uncertainty on the offer. Hence, the level of underpricing is expected to be higher. Ahmad-Zaluki and Lim (2012) suggested that the younger the company, the higher

the short-run return. Therefore, it is expected to see a negative relationship between firm age and the level of underpricing.

UNDERWRITER PRESTIGE (UNDWR):

Underwriter prestige/ reputation are measured by a dummy variable. The underwriters who underwrite more than 10 companies at the time of the IPO are assumed to be prestigious underwriters. To analyze the effects of underwriter prestige on underpricing, a dummy variable is employed where underwriter reputation takes a value of '1' for prestigious underwriter and zero otherwise. Beatty and Ritter (1986), Ahmad-Zaluki and Abidin (2011) and Ahmad-Zaluki and Lim (2012) suggested a negative relationship between underwriter prestige and level of underpricing. They advocated that a prestigious underwriter would reduce agency costs experienced by companies related to the IPO. In addition, more prestigious underwriters tend to underwrite less risky IPOs to protect their reputations. Paudyal et al. (1998) stated that highly reputed underwriters set the offer price close to the equilibrium price and reducing the preliminary underpricing of new issues. Since the highly reputed underwriter would underwrite more IPOs, we expect a negative relationship between underwriter prestige and initial return.

TOTAL SHARE OFFERED/SHARE OUTSTANDING (TSOSO):

TSOSO is measured as the ratio of the number of shares offered to the public to the total number of shares outstanding. It is a fraction of shares offered in the IPO as a percentage of the total number of shares outstanding after the IPO. Durukan (2002) suggested a positive relationship between shares offered to the public and

initial return. In contrast, Younesi et al. (2012) found total shares offered to the public do not affect initial return of IPO. Hence, we expect a positive relationship between total shares offered and level of underpricing because when the companies offer more shares to the public, the return is expected to be higher.

lnPROCEED:

LnPROCEED was also employed to measure the total underpricing, measured as the natural logarithm of the proceeds raised from the IPO computed as the number of shares offered to the public multiplied by the offer price on the first trading day. Ahmad-Zaluki and Lim (2012), Durukan (2002) and Kiymaz (2000) found an inverse relationship between LnPROCEED and underpricing. Hence, Kiymaz (2000) suggested that the smaller amount of proceeds might indicate greater uncertainty about a firm's future compared to a larger amount of proceeds. Therefore, a negative relationship between proceeds and underpricing is expected.

3.3 Hypothesis Development

To examine factors that might possibly show variations on the level of underpricing and long run aftermarket performance of IPOs, several hypotheses were developed according to the theories presented. A group of variables are hypothesized to the level of underpricing. The hypotheses are arranged as follows:

Hypothesis 1: Board of listing is positively related to level of underpricing.

Hypothesis 2: Size of the firm is negatively related to level of underpricing.

Hypothesis 3: Firm age is negatively related to level of underpricing.

Hypothesis 4: Underwriter prestige is negatively related to level of underpricing.

Hypothesis 5: Total shares offered are positively related to level of underpricing.

Hypothesis 6: Proceeds are negatively related to level of underpricing.

3.4 Specification of Methodology/ Measurement

a.) Measure of short-run performance

There are two stages of analysis involved in this study: short-run and long-run performance of IPOs. Raw initial return is the initial return before adjustment for overall market movement. We examined the raw and market-adjusted returns to measure the short-run performance of IPOs.

The raw initial return (RAW) on the first day of trading is calculated as follows:

$$r_{i,1} = (P_{i,1}-P_{i,0})/ P_{i,0}$$

where $r_{i,1}$ is the raw initial return for company i on the first day of trading, $P_{i,1}$ is the closing price of company i on the first trading day and $P_{i,0}$ is the issue price of company i on the first trading day. Additionally, to calculate initial adjusted returns of IPOs, the return is adjusted with the return of market index.

The Market Adjusted Initial Return (MAIR) is calculated by adjusting the raw return with the return of market as follow:

$$MAIR_{i,1} = r_{i,1} - r_{m,i}$$

where $MAIR_{i,1}$ is market-adjusted initial return on first day of IPO listing of company i, $r_{i,1}$ is the raw initial return of company i, and $r_{m,i}$ is the return on the market (market return) of the first trading days of company i, calculated for the period between the listing date of company i and its prospectus closing date. To calculate degree of underpricing, market adjusted initial return (MAIR) is employed. Market adjusted initial return is computed by the offer price from the price at first day of trading divided by the offer price and adjusted by the market return. Market

return is calculated from return of Kuala Lumpur Composite Index (KLCI) from the date of prospectus to the first day of trading.

b.) Factors influencing the level of underpricing

This study performs a multivariate analysis to identify factors that may influence the short-run performance of IPO. A regression analysis is performed to examine the level of IPO raw initial return in comparison to variables relating to listing market (Main market and ACE market), along with several additional control variables identified in the literature: firm age, underwriter reputation, firm size, total shares offered, offer size, proceeds and market value. Our choice of potential control variables is based on Malaysia's evidence (Ahmad-Zaluki et al., 2011; Ahmad-Zaluki and Lim, 2012) and other studies on short-run performance. The ordinary least square (OLS) multiple regression model is estimated as follows:

$$RAWIR_i = \alpha_0 + \beta_1\, BOARD + + \beta_2\, FIRMSIZE + \beta_3\, FIRMAGE + \beta_4\, UNDWR + \beta_5\, TSOSO + \beta_6\, lnPROCEEDS + \varepsilon_i \quad \text{---------- (1)}$$

Where:

RAWIR = initial return (%) measured by comparing the share price (p_t) at the end of the first day of trading with the offer price ($P_{0)}$ = $(P_t - P_0)/ P_0$;

BOARD = dummy variable= 1 for companies listed on the main market and zero for companies listed on the ace market;

FIRMSIZE = natural log of the total assets of the firm;

FIRMAGE = firm age in years; natural log of the age plus one (lnAGE+1).

UNDWR = dummy variable= 1 for prestigious underwriter and zero otherwise;

TSOSO = ratio number of shares offered to the public to total number of share outstanding;

lnPROCEEDS = natural log of the proceeds raised from IPO computed as number of total shares offered times the offer price on the first trading day;

ε_i = error term

For board of listing, Ahmad- Zaluki et al. (2007) used a sample of 454 Malaysian IPO companies listed on the Main Board and the Second Board between 1990 and 2000, How et al. (2007) examined Malaysian share allocation and IPO performance by using sample of 322 second board IPO from 1989 to 1992 while Ahmad- Zaluki and Lim (2012) examined the initial return and long-run share price performance of MESDAQ market IPO by using data for the period 2002 to 2005. The total number of new listing companies on the main market amounted to 279 companies while there were 138 new listing companies on ACE markets between 2000 and 2009. As a result, the board of listing dummy variable takes a value of '1' if the companies were listed on main market and a value of '0' if the companies were listed on the ACE market.

c.) Measure of long-run price performance

The long-run model is to investigate the long-run performance of IPOs. The long-run performance in this study is measured over one-, two- and three-year time periods by using an event-time approach. Abnormal returns are calculated up to three years after the first day of listing. The initial return is based on the offer price and the closing price on the first day of listing, as mentioned earlier. As discussed previously, long run price performance is measured using cumulative abnormal returns (CAR) and the buy-and-hold abnormal returns (BHAR). Then, CAR and BHAR for a period of one to three year are calculated.

To measure the long-run price performance, we use the event time approach: cumulative abnormal returns (CAR) and the buy-and-hold abnormal returns (BHAR) with the Kuala Lumpur Composite Index. The CAR from event month q to event month s is calculated by cumulating the average market-adjusted returns on a portfolio of n stock for the event time q to event time s and is calculated as follows:

$$CAR_{q,s} = \sum_{t=q}^{s} AR_{t.}$$

where $CAR_{q,s}$ is the cumulative average abnormal return from event time q to event time s and $AR_{t.}$ is the average market-adjusted return on a portfolio of n stock for the event time t. The CAR is obtained from the individual firm abnormal returns. The CAR over 36 months (3 years) from listing is the sum of the average monthly market- adjusted returns.

Under the buy-and-hold strategy, stock is purchased at the first closing market price on the listing date and held for a specified time period. Following prior

studies (e.g., Ahmad-Zaluki et al., 2007; Ahmad-Zaluki and Lim, 2012), one-, two- and three-year buy-and-hold abnormal returns are calculated to measure the long-run share price performance. The buy-and-hold abnormal returns (BHAR) for each company are calculated as follows:

$$BHAR_{it} = \prod_{t=1}^{T}(1 + r_{it}) - \prod_{t=1}^{T}(1 + r_{mt})$$

where $BHAR_{it}$ is the buy-and-hold abnormal return of company *i* in event month *t*, r_{it} is the monthly raw return on company *i* in event month *t*, starting from its first event listing month and continuing through the end of the three-year window, and r_{mt} is the monthly market return. A positive value for BHAR indicates that the IPO outperformed the market and a negative value for BHAR indicates that the IPO underperformed the market.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the empirical results by using the models and methods shown in Chapter 3. This study examine the initial return and long run share price performance of Main market and ACE market by using data between 2000 and 2009. There are two stages of analysis involved in this study: short run and long run performance of IPOs. We use regression analysis to test the relationship between total underpricing, and the six factors that expected to have an effect on the IPOs return and examining the long run IPO price performance after three years of listing. Section 4.2 shows the descriptive statistic for Malaysian Initial Public Offerings (IPOs). In section 4.3, correlation coefficient 4.4, the regression analysis results are presented. This section is divided into section 4.4.1, in which we will describe the Initial Public Offerings (IPOs) total underpricing in the short run, while the long-run Initial Public Offerings (IPOs) performance are presented in section 4.4.2. Lastly, the summary of our findings will be provided.

4.2 Descriptive Statistics

Descriptive statistics is used to summarize and organize data for the purposes of describing a sample of measured individuals. It is also an analysis of data to describe the characteristics of a sample or for measuring relationships between variables; examples include measures of central tendency such as mean, median and mode, and measures of variability which includes variance and standard deviation.

Table 3: Descriptive statistics for a sample of 343 Malaysian Initial Public Offerings between 2000 and 2009.

	N	Mean	Median	Std.Dev.	Minimum	Maximum
RAWIR	343	0.31	0.15	0.66	-0.91	5.23
BOARD	343	0.26	0	0.44	0	1
FIRM SIZE (RM Million)	343	638.78	96.58	5473.02	0.25	97574.05
FIRM AGE	343	11.37	9	7.89	2	60
UNDWR	343	0.37	0	0.48	0	1
TSOSO	343	0.22	0.33	0.09	0.03	0.58
lnPROCEED	343	118.39	15.82	945.05	1.9	12803.93

Note: This table shows descriptive statistics analysis on raw returns and the variables used throughout this study. RAWIR is the level of raw initial returns, BOARD is a dummy variable equal to 1 for companies listed on the Main Market and zero for companies listed on Ace Market, FIRMSIZE is the total assets of the firm (RM million), FIRMAGE is numbers of years between the IPO date and the company's founding date, UNDWR is a dummy variable equal to 1 for prestigious underwriter and zero otherwise, TSOSO is ratio number of shares offered to the public to total number of shares outstanding, and PROCEEDS is proceeds raised from IPO computed as number of total shares offered times the offer price on the first day of trading (RM million).

Table 3 presents the summary of the characteristics of the 343 IPOs used in this study. The IPO data collected from 2000- 2009 show that on average, IPOs in Malaysia are underpriced at 31 percent. This average initial return is substantially higher than the underpricing at 21.42 percent reported by Yong (2013) for the period 2004 to 2011. Additionally, our results show that the average degree of IPO underpricing in Malaysia is lower than the percentage reported in previous studies. Jelic et al. (2001) found that the degree of IPO underpricing is 99 percent during the period 1980-1995. The study from Yong and Isa (2003) found that the average initial return is 94.91 percent in the January 1990-December 1998 period. Besides, the raw initial returns range from a low of – 91 percent to a high of 523 percent for our overall sample.

The board is the type of listing which is a dummy variable to determine whether the IPO is listed on the Main market (value of 0) or ACE Market (value of 1). Since the listing criteria of Main market are higher than ACE market, IPO stocks listed on the Main market tend to have a stronger financial background. The average of the listing board is 0.26, near to 0, which means that a larger number of IPO are listed on the Main market compared to the ACE market. In addition, the number of IPOs listed on the Main market is 74 percent (255 firms) compared to 26 percent (89 firms) listed on the ACE market.

Firm size is measured by total assets of the firm. The average firm size is a mean assets value of RM 638.78 million, a median of RM 96.58 million, minimum of RM 0.25 million and maximum of RM 97574.05 million of total assets.

The average age of a Malaysian IPO company is 11 years (mean: 11.37), similar to Ahmad- Zaluki et al. (2010) which report an average firm age of 11 years and maximum of 60 years in the Malaysian market from 1990 to 2000. The maximum of 60 means the new listing companies in Malaysia between 2000- 2009 have 60 years of firm establishment, while the minimum age of the firm is only 2 years and the median is 9 years.

Underwriter prestige is the prestige ranking of the lead underwriter of the IPO for the year of IPO. The variable is a dummy variable determined by a value of 1 if the underwriter prestige is more than 10, and zero otherwise. The average underwriter prestige is 0.37, near 0, meaning that most of the IPOs have unprestigious underwriters from 2000 to 2009. Only 37 percent (126 firms) of our

sample have prestigious underwriters, while 63 percent (218 firms) have unprestigious underwriters.

The total average shares offered to the public are 22 percent, meaning that the amount of shares offered to the public is 22 percent of the total number of shares outstanding after the IPO. The maximum reaches 58 percent, which is the maximum number of shares offered to the public more than half of the total shares outstanding. The minimum share offered is 3 percent and the median is 22 percent.

Mean proceeds for the full sample is RM 118.39 million, with a median of RM 15.2 million, a minimum of RM 1.9 million and a maximum of RM 12803.93 million. Proceeds are measured by the number of shares offered to the public multiplied by the offer price on the first day of trading.

4.3 Pearson Correlation Coefficient

Correlation analysis is used to examine the relationship among variables. The correlation is a measure of linear association between two variables.

Table 4: *Correlation matrix for variables in the determinants of short-run performance*

	RAW	BD	FS	FA	UND	TSOSO	lnPRO
RAW	1.00000						
BD	0.04518	1.00000					
FS	-0.01306	-0.50902	1.00000				
FA	0.10786	-0.15221	0.21712	1.00000			
UND	0.04056	0.21117	-0.14812	-0.011781	1.00000		
TSOSO	0.08746	0.11442	-0.03854	-0.03322	0.03306	1.00000	
lnPRO	-0.09191	-0.22626	0.69744	0.08693	-0.07011	0.31650	1.00000

Note: This table shows the Pearson Correlation between dependent and independent variables. RAW is the level of raw initial returns, BD is a Board of listing, FS is Firm Size, FA is Firm Age in years, UND is a prestige underwriter, TSOSO is the ratio of the number of shares offered to the public to total number of shares outstanding, and lnPRO is lnPROCEED.

Table 4 shows our correlation analysis among variables. It reports the highest correlation between proceeds (lnPROCEEDS) and firm size (FIRMSIZE), with a correlation of 0.69744. This indicates that there is a relationship between these variable, and means that changes in one variable might cause changes in the second variable. This result indicates that the proceeds will be higher when the firm size is bigger. However, the lowest positive correlation is the ratio of total shares offered to the public to total shares outstanding (TSOSO) and underwriter prestige (UNDWR), correlated at 0.033.

For the negative correlation, the variables with the highest correlation are the total assets (FIRMSIZE) and listing board (BOARD), correlated at -0.50902. The lowest correlation for the negative correlation is the total assets (FIRMSIZE) and raw initial return (RAWIR), which correlated at – 0.01306. This low correlation indicates that firm size and raw initial return have nearly no relationship.

4.4 Regression Analysis

Regression analysis is a statistical instrument and technique to examine the relationship between variables. We are using Ordinary Least Square Analysis (OLS), which is the technique for estimating the unknown parameters in the linear regression methods. In this research, Ordinary Least Square Analysis (OLS) is used to see the factors that explain IPO returns and long-run performance in the Malaysian stock market.

4.4.1 Initial Public Offerings (IPOs) Underpricing

Table 5 reports the short-run performance regression results using 343 IPOs in the level of raw initial returns. Total Underpricing is the percentage change from the offering price to the closing price on the first day of trading. We use the equation of *"*$RAWIR_i = \alpha_0 + \beta_1\ BOARD\ + + \beta_2 FIRMSIZE + \beta_3 FIRMAGE + \beta_4\ UNDWR + \beta_5\ TSOSO\ + \beta_6\ lnPROCEEDS\ \varepsilon_i$ " to determine the factors that might influence an IPO's underpricing or raw initial return. Specifically, we performed a regression analysis to examine the relationship among the level of IPOs initial returns/ underpricing to the variables identified in the methods section. As a result, from the total six variables listed in the equation, five variables including board, firm size,

firm age, underwriter prestige and TSOSO have positive impacts on initial returns by Malaysian IPO while only one variable, proceeds, has a negative relationship with Malaysian IPO initial returns. Furthermore, OLS regression was initially performed with underpricing as a dependent variable. Statistically significant relationships were found for FIRM SIZE, FIRM AGE, TSOSO and lnPROCEEDS variables.

Table 5: Regression results for determinants of short-run performance

	Coefficients	t- Stat
BOARD	0.11647	1.21828
FIRM SIZE	0.24972**	2.38144
FIRM AGE	0.27540**	1.98164
UNDWR	0.05870	0.79000
TSOSO	1.32093***	3.00021
lnPROCEEDS	-0.39698***	-3.38724
N	343	
Adj R-square	3.99%	

Note: This table shows Regression analysis. BOARD is a dummy variable equal to 1 for companies listed on the Ace Market and zero for companies listed on the Main Market, FIRMSIZE is natural log of the total assets of firm prior to offering, FIRMAGE is firm age in years, natural log of the age plus one (lnAGE+1), UNDWR is a dummy variable equal to 1 for prestigious underwriter and zero otherwise, TSOSO is the ratio of the number of shares offered to the public to total number of shares outstanding, and lnPROCEEDS is natural log of the proceeds raised from IPO computed as number of shares offered times the offer price on the first day of trading.

****** Indicates statistical significance at 1% level***

***** Indicates statistical significance at 5% level***

**** Indicates statistical significance at 10% level***

The first explanatory variable included in the model is the Board of listing. As expected, the results show that Board of listing has a positive sign and is insignificant to IPO underpricing. Firm size is expected to influence the degree of underpricing in a negative way. The size of the firm is taken as the natural logarithm of total firm assets prior to offering. Interestingly, the result shows that firm size has a positive sign and is statistically significant at 5 percent level on IPO underpricing. The coefficient of this variable is 0.24972, indicating a positive relationship between firm size and underpricing. This finding is in line with the findings of Jelic et al. (2001) and reports that the coefficient for company size is positive but is statistically not significant. Our finding is in contrast with the results of Kiymaz (2000) and Durukan (2002) as it reports an inverse relation between firm size and underpricing, indicating the smaller firms would have greater underpricing.

The firm age variable is predicted to have a negative impact on the degree of underpricing. This finding documents an opposite result where the coefficient of firm age is 0.27540, which is a positive sign for short-run price performance. This variable is statistically significant at five percent level. This finding is similar to the findings of Li and Klein (2009), who report a positive relationship between firm age and underpricing. They argued that more information is available in older firms and that the information asymmetry between existing shareholders and new investors is low. Hence, the existing shareholders are more likely to sell their shares at a smaller discount related to the low level of information asymmetry. However, this finding is not in line with the findings reported in Kiymaz (2000) and Ahmad- Zaluki and Lim's (2012) study, which report an inverse relationship between firm age and short-run price performance. It is possible that the longer the firm has operated, the more

information has been acquired by investors. So, when the older firm offers stock to the public, investors have enough information about the firm. Additionally, this finding is consistent with the information asymmetric argument that more information is available for older firms.

Underwriter prestige (UNDWR) is expected to influence degree of underpricing in a negative way. The results of the regression do not support hypothesis 4 since they reflect a positive relationship with underpricing. We find that underwriter prestige is positively associated with the level of underpricing. The coefficient determination of UNDWR is 0.0587. This finding is inconsistent with Paudyal et.al (1998), who suggested that the more prestigious underwriter helps to reduce the initial underpricing by setting the price closer to the equilibrium price. It is also in contrast with the finding of Beatty and Ritter (1986), Ahmad-Zaluki and Abidin (2011) and Ahmad-Zaluki and Lim (2012), who found a negative relationship between underwriter prestige and level of underpricing. However, our result is consistent with the study by Chang et al. (2008) who found a positive relationship between underwriter prestige and level of underpricing. They found greater underpricing when a reputable underwriter is used with coefficient of 0.174. This finding is also in line with Loughran and Ritter (2004) and Bradley et al. (2009), who reported that underwriter reputation was positively related to the level of underpricing. Similarly, Wang and Wilkins (2007) found that underpricing increases when the highest-profile investment bankers are engaged by the IPO companies. The prestigious underwriters underprice more because they intend to gain larger market shares.

Another variable playing a significant role in explaining the raw initial return of Malaysian IPO is total shares offered to the public. We find a positive relationship between this variable to the short-run price performance, indicating that the initial return should be higher when companies offer more shares to the public. This result is consistent with the previous study by Paudyal et al. (1998) and Uddin (2008), who report a positive relationship between total shares offered to total underpricing. However, as discussed earlier, this could be due to the belief of issuers that they should offer a larger discount in order to sell larger issues. However, this variable has positive significance at the one percent level on the raw initial returns. Thus, this supports hypothesis five that total shares offered have a positive and significant impact on the initial performance of Malaysian IPOs.

As expected, the value of proceeds is negatively related and significant at one percent level to the short-run price performance of Malaysian IPOs. This indicates that the total underpricing of an IPO decreases when the offer price is raised on the first day of trading. The value of proceeds significantly influences the short-run price performance; the smaller amount of proceeds may indicate a greater uncertainty about a firm's future as suggested by Kiymaz (2000). This finding is in line with studies by Ahmad-Zaluki and Lim (2012), Durukan (2002) and Kiymaz (2000) who found an inverse relationship between lnPROCEEDS and total underpricing.

In brief, four of the six variables listed (firm size, firm age, total share offered and proceeds) have a significant impact on the raw initial returns offered by Malaysian IPOs.

4.4.2 Initial Public Offerings (IPOs) Long-run Share Price Performance

Table 6 reports the average and cumulative abnormal returns for thirty-six months together with their t-statistic after the listing date for 277 IPOs between 2000 and 2007. Our performance analysis only covers the new listing IPOs in Malaysia between the period from 2000 to 2007 because we are doing the three years' return on IPOs. The Kuala Lumpur Composite Index is used as a market benchmark. It is evident that in the long run, Malaysian IPO companies tend to underperform the market; the AAR for thirty-six months post-IPO is -0.23 percent. However, during those 36 months, there were 12 months where IPOs outperformed the market, i.e. the first month, 5th month, 8th month, 9th month, 11th month, 12th month, 16th month, 20th month, 25th month, 26th month, 32nd month and 34th month. However our finding shows there are 21 months of IPOs are significant at 1 percent level and three months of IPOs significant at five percent level.

It is evident that in the long run, Malaysian IPO companies tend to underperform the market; the CAR for 36 months post-IPO is -4.36 percent. As seen in Table 6, the CAR becomes negative after the sixteenth month, and the CAR starts to decrease steadily from -0.10 percent in the seventeenth month to -4.36 percent in the thirty-sixth month. The negative CAR starts to be significant at the one percent level at month 18, continuing to month 36. This result is consistent with previous Malaysian studies such as Ritter (1991) and Ahmad-Zaluki and Lim (2012) that found underperformance in the market in the 36-month (3-year) period of Malaysian IPO companies. In contrast, this result is not in line with prior studies in Malaysia such as Jelic et al. (2001), Corhay et al. (2002), Ahmad-Zaluki et al. (2007) and How

et al. (2007), all of which found that Malaysian IPO companies outperformed the market in the three-year period by 24.83 percent, 41.71 percent, 32.63 percent and 41 percent respectively.

Table 6: Abnormal Return for Initial Public Offering in 2000-2009

Month	N	AAR (%) KLCI-adjusted	*t*- stat	CAR (%) KLCI-adjusted	*t*- stat
1	277	0.45***	73.80	0.45	1.61
2	277	-0.14***	-54.95	0.31	1.10
3	277	-0.10***	-38.01	0.21	0.74
4	277	-0.12***	-43.08	0.09	0.31
5	277	0.13***	46.67	0.22	0.77
6	277	-0.05***	-19.41	0.17	0.61
7	277	-0.48***	-226.62	-0.31	-1.12
8	277	0.10***	37.70	-0.22	-0.77
9	277	0.47***	168.03	0.25	0.89
10	277	-0.05***	-18.76	0.20	0.70
11	277	0.18***	64.63	0.38	1.36
12	277	0.17***	56.73	0.55*	1.96
13	277	-0.06	-0.48	0.49*	1.75
14	277	-0.38***	-3.07	0.11	0.39
15	277	-0.41***	-3.34	-0.30	-1.07
16	277	0.31	1.64	0.01	0.02
17	277	-0.11	-0.73	-0.10	-0.37
18	277	-0.58***	-4.49	-0.68**	-2.44
19	277	-0.55***	-4.42	-1.23***	-4.38
20	277	0.42**	2.74	-0.81***	-2.89
21	277	-0.42**	-2.73	-1.23***	-4.38

Table 6 (*continued*)

Month	N	AAR (%) KLCI-adjusted	*t*- stat	CAR (%) KLCI-adjusted	*t*- stat
22	277	-0.37**	-2.25	-1.60***	-5.69
23	277	-0.17	-1.26	-1.76***	-6.29
24	277	-0.37***	-2.78	-2.13***	-7.60
25	277	0.25	1.57	-1.88***	-6.70
26	277	0.49***	3.09	-1.39***	-4.95
27	277	-0.11	-0.63	-1.50***	-5.34
28	277	-0.18	-1.15	-1.67***	-5.97
29	277	-0.96***	-6.45	-2.64***	-9.40
30	277	-0.72***	-4.16	-3.35***	-11.96
31	277	-1.11***	-5.97	-4.46***	-15.91
32	277	0.26	1.28	-4.20***	-14.99
33	277	-0.36	-1.57	-4.57***	-16.29
34	277	0.45	1.61	-4.11***	-14.67
35	277	-0.01	-0.05	-4.12***	-14.69
36	277	-0.23	-1.48	-4.36***	-15.53

Average market adjusted return (ARt) and cumulative abnormal return (CARt), in percent, with associated t-statistics for the 36 months after going public, excluding the initial return. The t-statistic for the average adjusted return is computed as ARt/ sdt √ nt, ARt is the average market adjusted return for month t, nt is the number of observation in month t and sdt is the standard deviation of the adjusted return in month t.

***** Indicates statistical significance at 1% level**

**** Indicates statistical significance at 5% level**

*** Indicates statistical significance at 10% level**

Table 7 reports the long-run share price performance using the buy-and-hold return method. Column 2 of the table reports the results of buy-and–hold abnormal return (BHAR), calculated as the difference between the raw initial returns and the market returns. The result shows that Malaysian IPO companies underperform the market in the first year of going public, with BHAR of -1.77 percent and statistically significant at one percent level. However, in the second and third year after going public, these companies outperform the market with a BHAR of 4.79 percent and -40.83 percent, respectively, and both are significant at one percent level. Our result for first year BHAR return is consistent with the result of CAR, in which IPO companies in the Malaysian market tend to underperform in the long run.

Table 7: Buy-and Hold Abnormal Returns

Year	BHAR (%)	t-Statistic
1	-1.77***	-13.24
2	4.79***	12.88
3	40.83***	19.96

***** Indicates statistical significance at 1% level**

**** Indicates statistical significance at 5% level**

*** Indicates statistical significance at 10% level**

Again, our findings are consistent with the results of prior Malaysian studies such as Jelic et al. (2001), Corhay et al. (2002), Ahmad-Zaluki et al. (2007) and How et al. (2007), all of which in using the same BHAR method to measure long-run

price performance found that the Malaysian IPO companies outperformed the market in the three-year period with a BHAR of 21.98 percent, 39.58 percent, 17.86 percent and 28.23 percent, respectively. However, our result is not in line with the study done by Ahmad-Zaluki and Lim (2012), which found that Malaysian IPO companies outperformed in the first year of going public while underperforming the market in the second and third years after going public. This study is also inconsistent with studies reported for other countries including China, Germany and India by Li and Naughton (2007), Bessler and Thies (2007) and Marisetty and Subrahmanyam (2010), who all reported that in a three-year period, IPO companies underperformed the market with a BHAR of -6.5 percent, -12.7 percent and -34.49 percent respectively.

4.5 Summary

This study examines the short-run and long-run share price performance of Malaysian Initial Public Offerings (IPOs) between 2000 and 2009. The result reports the total underpricing of 31% in average on the first trading day, which is consistent with previous studies such as Paudyal et al. (1998), Prasad et al. (2006), Ahmad-Zaluki and Lim (2012) and Yong (2013), which reported Malaysian IPOs underpricing on the first day of trading with a total underpricing of 61.8 percent, 57 percent, 37.18 percent and 21.42 percent, respectively.

When the factors influencing the short-run price performance were investigated, as a result, out of six independent variables in the model, five (BOARD, FIRM SIZE, FIRM AGE, UNDWR, TSOSO) variables listed in the table have a

positive impact on the initial returns offered by Malaysian IPOs, while there is only one (lnPROCEEDS) variable that has a negative relationship with Malaysian IPOs' initial returns. However, we find that firm size, proceeds and market value appear to be main factors that significantly affect the market raw initial return of Malaysian IPOs. Furthermore, using cumulative abnormal return (CAR) to measure IPO performance shows that the negative CAR starts to be significant at the one percent level at month 18, continuing to month 36.

Finally, the long-run Malaysian IPO share price performance from the first year to the third year when measured by buy-and-hold abnormal return (BHAR) outperforms the market except for the first year. However, these are all statistically significant at one percent (0.01) level. The result shows that Malaysian IPO companies underperform the market in the first year of going public, with BHAR of -1.77 percent; for the second and third years after going public, these companies outperform the market with a BHAR of 4.79 percent and 40.83 percent, respectively.

CHAPTER 5

CONCLUSION

5.1 Summary of Findings

This study examines the short-run and long-run share price performance of Malaysian IPO companies listed on the Main market and ACE market from 2000 to 2009. Consistent with past Malaysian studies, the results of market-adjusted initial returns shows that Malaysian IPO companies are significantly underpriced in the short run. We found total underpricing of 31 percent on average. Moreover, we determined the factors that might influence the short-run price performance by using regression analysis. In brief, out of six independent variables in the model, only firm size, firm age, TSOSO and proceeds variables significantly affected the market-adjusted initial returns.

Our findings on short-run performance are in line with the findings of Jelic et al. (2001), who found a positive coefficient for company size but that it did not significantly affect the underpricing. However, we find that firm size variable is positive and significantly affects the short-run IPO price performance at the five percent level. In contrast, Kiymaz (2000) and Durukan (2002) report an inverse relationship between firm size and underpricing, indicating that the smaller firms would have greater underpricing.

The firm age variable in this study found a positive sign to underpricing which is positively significant to the underpricing at the five percent level. This result is consistent with Li and Klein (2009), who report a positive relationship

between firm age and underpricing. More information available for older firms will result in low information asymmetry in the firm. Hence, the level of underpricing increases when the firm is older because the existing shareholders are more likely to sell their share at a smaller discount, in turn because of the low level of information asymmetry. It is possible that the longer the firm has been in operation, the more information the investors will have. So the investors have enough information about the firm when that older firm offers its stock to the public. However, this finding is not in line with studies by Kiymaz (2000) and Ahmad-Zaluki and Lim (2012) reports an inverse relationship between firm age variable and short-run price performance.

Furthermore, the variable total shares offered to the public to shares outstanding (TSOSO) are positive and significantly affect the short-run price performance. Thus, this result supports the fifth hypothesis that TSOSO have a positive impact on the initial performance of Malaysian IPOs. However, this finding is in line with studies by Paudyal et al. (1998) and Uddin (2008) that found a positive relationship of this variable to the level of underpricing.

From the results, the variable of proceeds significantly influences the short-run price performance; the smaller the proceeds, the greater underpricing will appear. Consistent and similar to Ahmad-Zaluki and Lim (2012), Durukan (2002) and Kiymaz (2000), we also found an inverse relationship between lnPROCEEDS and total underpricing.

While using cumulative abnormal return (CAR) method, IPO performance shows a negative CAR that starts to be significant at the one percent (0.01) level from the 18th month to the 36th month. Consistent with previous Malaysian studies

such as Ritter (1991) and Ahmad-Zaluki and Lim (2012), CAR underperformed the market in 36 months (3 years) for Malaysian IPO companies. However, our result is not in line with prior studies such as Jelic et al. (2001), Corhay et al. (2002), Ahmad-Zaluki et al. (2007) and How et al. (2007), all of which found that Malaysian IPO companies outperformed the market in the three-year period by 24.83 percent, 41.71 percent, 32.63 percent and 41 percent, respectively.

Furthermore, the long-run share price performance from the first year up to the third year when measured by buy-and-hold abnormal return (BHAR) shows that Malaysia IPO companies underperform the market in the first year of going public, with a BHAR of -1.77 percent. However, in the second and third year after going public, these companies outperform the market with a BHAR of 4.79 percent and 40.83 percent, respectively. However, all of them are statistically significant at the one percent level.

Thus, our result is inconsistent with the study of Ahmad-Zaluki and Lim (2012), which found that Malaysian IPO companies outperformed in the first year of going public while underperformed in the second and third years after going public. However, our findings are in line with the results of prior Malaysian studies such as Jelic et al. (2001), Corhay et al. (2002), Ahmad-Zaluki et al. (2007) and How et al. (2007), which use the same BHAR method to measure long-run price performance, and they found that the Malaysian IPO companies outperformed the market in the three-year period with BHARs of 21.98 percent, 39.58 percent, 17.86 percent and 28.23 percent, respectively.

5.2 Policies and Implication

This study of Malaysian Initial Public Offerings (IPOs) shows that IPOs companies are significantly underpriced in the short run; in the long run, we found that when using the CAR and BHAR methods to measure long-run performance, Malaysia IPO companies underperformed the market in the first year of going public. However, in the second and third year after going public, these companies outperformed the market. In contrast, Ahmad-Zaluki and Lim (2012), which found that Malaysian IPO companies outperformed in the first year of going public while underperformed in the second and third years after going public. The results obtained from this study provide important information for the prospective long term investors should show caution while deciding on long term investment in IPO firms.

This study is expected to contribute to the body of knowledge in regard to market returns and the factors that influence IPO underpricing in Malaysia. This will enrich public knowledge about IPOs in Malaysia. The public can gain more information and knowledge about IPOs in Malaysia such as IPO returns or the market performance, so they will have more confidence to buy additional shares at a higher price in the aftermarket. Besides that, our results showed the factors that influence the underpricing and long-run price performance of IPOs in Malaysia. Investors can consider our results when they want to invest in IPOs in Malaysia. They also will know the IPO's method or price mechanisms of the Malaysian IPO's market returns.

Additionally, this study helps investors to learn more about the IPOs' market returns and performance in the Malaysian market. Our results found that Malaysian IPOs are significantly underpriced in the short run and outperform the market in the

long run. Instead, investors buying the existing common stocks or bond in the market can also consider buying IPOs, since IPO shares offered are usually priced very low and the company's stock prices can increase significantly during the day the shares are offered, as we showed in our results. This provides a useful guideline to investors that enable them to make a decision. This is also a good opportunity for them to look for some short-term profits and gain more information to get more opportunities to invest in IPOs.

This study also contributes to the companies that intended listing. As shown in our results, the positive relationship between firm age and short-run share performance indicates that the older firms have more information available to the public than the younger firms do, and the older firms are thus expected to have higher underpricing compared to younger firms. This result can help companies to consider when might be the most suitable time for them to issue their shares or list their company.

5.3 Limitations of the study

This study has a few limitations that potentially represent opportunities for future studies. One of the limitations of this study is the sample of the study. The current study used only 10 years' worth of data from 2000 to 2009. Moreover, some of the data collected was incomplete and was excluded from the final sample. This can cause inconsistency in the regression analysis. Future studies may use more complete data from a more recent time period to examine the returns and performance of IPOs.

Secondly, there are only eight variables used in the study. There are some variables that might influence IPOs underpricing and long-run performance that were not used in this study, possibly causing an unfavorable outcome. Therefore, future studies can add more independent variables that might influence IPOs' total underpricing and long-run share price performance, which could also be extended to many other areas, including signaling variables, the issues of shares of privatized government companies or the regulation and procedures to the assessment and approval of applications for the listing of new issues in the Malaysian share market.

Furthermore, future studies could also use the different measurement of independent variables because these may also influence the results of the study. Future studies can measure the short-run performance by sector like Ahmad- Zaluki and Lim (2012) or examine the long-run underpricing behavior of Malaysian IPOs during the pre- and post-Bumiputera policy periods. According to Yong (2007), there is still a lack of studies of the effect of changes in regulation on a market-based pricing mechanism. Therefore, this research area is worth looking into in future studies.

However, the current study focuses only on Malaysian IPOs returns. We suggest that future studies can conduct a research on a greater variety of countries. One of the possible research directions could be to examine the underpricing behavior of Malaysian IPOs listed on the Singapore stock exchange instead of only on the Kuala Lumpur Stock Exchange in order to identify any potential differences Future studies could also be extended by examining the IPOs' total underpricing and long-run performance over even longer periods, because this can help to reduce the

possible errors in the collected information and ensure more accurate results for the studies.

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