THE INITIAL PERFORMANCE OF MALAYSIAN IPOs DURING THE FINANCIAL CRISIS: EVIDENCE FROM GLOBAL FINANCIAL CRISIS OF 2008

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DECLARATION

I hereby declare that:

(1) This MKMA25106 Research Project is the end result of my own work and that due

acknowledgement has been given in the references to all sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

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ABSTRACT

THE INITIAL PERFORMANCE OF MALAYSIA IPOs DURING THE FINANCIAL CRISIS: EVIDENCE FROM GLOBAL FINANCIAL CRISIS OF 2008

FOO WAI WAI

This paper presents the initial performance of 145 Malaysian Initial Public Offerings (IPOs) during the global financial crisis in 2008 from January 2006 to December 2011. The study shows that the average initial return of the 145 IPOs are significantly lower compared to other average initial returns before the financial crisis. Similar results obtained from over-subscription ratio where the lower over-subscription ratio reported for IPOs listed on the Bursa Malaysia implies that the demand of investors relatively decrease due to the global financial crisis. The overall results indicate that the average initial return (offer-to-close) is lower than the average initial return (offer-to-open). This implies that investors are intended and have a better opportunity to sell off the IPO share at the beginning of the first day of trading rather than the last day of trading during the financial crisis. Moreover, the results indicate that the over-subscription ratio and listing boards are important variables that affect the initial performance. However, private placement, initial trading volume and offer price have no relationship with the initial performance of IPOs.

CHAPTER 1

INTRODUCTION

1.0 Background of Study

The research on IPOs initial performance is common and well-known in the field of stock market around the world. According to many research such as McDonald and Fisher (1972), Ibbotson (1975), Ritter (1984), Koh and Walter (1989), Kim, Krinsky, and Lee (1995), Mohan and Chen (2001), Loughran and Ritter (2004), Kerins, Kutsuna, and Smith (2007), Krishnamurti and Thong (2008), Chambers and Dimson (2009), the closing prices of the first day of trading are substantially higher than the offer prices on the first day of trading. For example, Ljungqvist (2007) finds that the average for IPO initial performance has been approximately 19% higher during 1960s in the US markets. On the other hand, the levels of IPO initial performance for a stock market can be explained by the factors that influence the IPO performances. There is also an abundance of research that looked into the factors that affect the initial performance of IPO in the developed markets as well as developing market. However, studies on the effect of financial crisis to the IPOs initial performance are still arguable.[1] The financial crisis brings major effects to the Malaysian capital market, financial system and economy. Therefore, the economic conditions play an important role in determining the initial performance of IPOs, for instance in the recent global financial crisis in 2008.

[1] A study on Investor Demand, Size Effect and Performance of Malaysia IPOs: Evidence from Post-1997 Financial Crisis reported by Yong (2007) and study on the Winner's Curse and bandwagon Effect in Malaysia IPOs: Evidence from 2001-2009 reported by Yong (2011).

1.1 Problem Statement

The recent global financial crisis began with the US credit crunch in July 2007 and this spreads very fast to affect the US economic and even other countries, especially those with high frequency business relationship with the US. As a result of that, the crisis had hit the stock markets around the world and it became ups and downs in September 2008. Even though some countries do not have a tight trade relation with US but the implication of the crisis caused a domino effect across global economics including Malaysia economy. Therefore, the negative implications from the US financial crisis affected Malaysia by causing a huge drop in Malaysian stock market.[2] This shows that, there is a strong correlation between changes in stock prices in Malaysian stock market and the global financial crisis 2008.

The US financial crisis caused a decrease in the investors' confidence level due to the uncertainty of the future growth of the economic and performance of the stock markets. This implication leads to the unhealthy movements of global stock market by allowing foreign investments or stock speculator, to quickly shift their funds in and out of the targeted developing countries such as Malaysia, Thailand, China, India and so on.[3] They are able to invest in huge capital into secondary markets or IPOs and later withdraw in a short period of time in order to gain the abnormal return from the stock market. This will affect the price stability of the existing stocks and IPOs. Statistically speaking, the trading volume will also be affected by the actions of the foreign investments and stock speculation buyers. During the global financial crisis, Malaysia was one of the countries affected by this investment inflows and outflows in 2008. There is a high level of involvement in stock trading which caused higher trading volume. It can be proven in the reversal of the portfolio's capital flows due to

[2] Bursa Malaysia website (*http://www.bursamalaysia.com*), with the KLCI index fall down from 1393 points in January 2008 to 876 points in December 2008.

[3] Bank Negara Malaysia. 2008*. Annual Report 2008*. Bank Negara Malaysia: Kuala Lumpur

the repatriation by foreign participants.[4] This affects the stock prices and it dropped deeply where the Kuala Lumpur Composite Index (KLCI) fell from 1393 points in January 2008 to 876 points in December 2008. Therefore, this paper examines the relationship between the initial performances of IPO with changes of its trading volume during global financial crisis in 2008.

In common circumstances, during the financial crisis, investors will tighten up their fund or hold the existing share rather than acquire new share because of the uncertainty of the future economic growth, therefore the new IPOs will be affected by the investor's demand as proxy by over-subscription ratio. Some research on investor sentiment focuses on individual investors demand, for example, Derrien (2005) uses the French IPOs from 1999 to 2001, finds that IPOs subject to high individual investor demand have higher initial returns. Similar conclusion also reported by Cornelli et al. (2006) uses Europe's IPO data showing the positive relationship between IPOs initial performance and investors demand. These studies are focused on the relation between IPOs initial performance and investor demand based on the normal period which means to say there is no financial crisis context. In reality, financial crisis will influence the investor sentiment and later affect the subscription of new IPOs issued; it will cause the poor initial performance of IPOs. Therefore, this paper examines the relationship between the initial performances of IPO with its investors demand caused by the global financial crisis in 2008.

Besides the factor of the investor demand and trading volume mentioned above, there are still many characteristics that can affect the IPOs performance. For instance, another interesting factor is private placement on IPOs, which has only become popular since 2001. Currently, most of the Malaysian IPOs issued are the private placement in where determined prior to the institutional investors or informed

[4] Khor, M. 2009. "How developing are hit by global crisis", The Star, 9 March 2009

investors. Therefore, these groups of investor have better position to get an extra return of IPOs because the available information from the private placement are useful in IPOs initial performance. In the past studies on type of offer, many just focus on the public offer and offer for sale, and there are only few of the earlier studies on Malaysian IPOs deal with private placement. Even though the research using the data of private placement IPOs to conduct research but most of them is based on the normal period, there is seldom research focusing on the IPOs initial performance on private placement during the period of financial crisis. Therefore, this paper is looking at whether the private placement is driven by financial crisis or not to affect the IPOs performance.

During the global financial crisis in 2008, there is a higher volatility in the share price movements on the stock market caused by the selling and buying transactions. Therefore, Bursa Malaysia function as a center to stabilize and supervise the transactions in the Malaysian stock exchange, and one of the new strategies implemented is to impose the new structure on the Bursa Malaysia. This new frameworks includes Main Market and ACE Market [5] which are introduced for the new IPOs listings and capital fund-raisings. The purpose is to allowing smoother access of capital flow and investments, as well as making Bursa Malaysia a more attractive channel for local and foreign firms. Yong, Puan and Ros (1999) studies find the different IPOs initial performance level with the older boards of listing and there is still none of the previous studies on Malaysian IPOs initial performance deal with Main Market and ACE Market listing boards. Therefore, this paper studies whether the initial performance of IPOs will be influenced by the restructured boards of listing during global financial crisis in 2008.

[5] The listing boards of Bursa Malaysia from Main Board and Second Board restructure to Main Market and from MESDAQ restructure to ACE Market.

Another factor need to be considered as a great influence for the IPOs initial performance is offer price. Gao (2010) looks at the rational theories of IPOs initial performance, showing that mostly with information asymmetry, meaning that some investors are well-informed and some are not informed for these new IPOs issued, and this explains why firms set the offer price low. On the other hand, there is a general agreement that firms and underwriters encourage participation and price setting by offering IPO shares at a discount rather than fair value. Therefore, if without the discount price for new IPOs, an investor may wait to buy the shares in the secondary market, it may lead to the unsuccessful of new issued IPOs.

For example, according to Rock (1986), initial performance is necessary to include to all uninformed investors such as public in order to participate in IPO offerings rather than only informed investors. Benveniste and Spindt (1989) and Benveniste and Wilhelm (1990) focus on the critical role that informed investors play in setting the offer price, which caused the initial performance enables the issuer sets the offer price to the certain investors who share their information through a larger allocation. In Malaysia, it is interesting that still none of the earlier studies on Malaysian IPOs initial performance deal with offer price. Therefore, this paper examines the initial performance of IPOs and its offer price during global financial crisis in 2008.

1.2 Research Objectives

The purpose of this study is to examine the relationship between the initial performance of IPOs with the different level of initial trading volume, over-subscription ratio, private placement, board of listings and offer price during the global financial crisis in 2008. Beside, this study also seeks to identify if there any difference between initial performances of IPOs for normal period with the period

covering the financial crisis. Thus, this study provides greater understanding and holistic view in IPOs research area as well as greater evidence to support or not to support the previous research findings.

1.3 Significant of Study

This study aims to examine the relationship between the initial performance of IPOs with the different level of initial trading volume, over-subscription ratio, private placement, board of listings and offer price during the global financial crisis in 2008. However, the data have been used in most studies for normal period rather than the period covering the financial crisis and fewer studies look at the financial crisis context. Therefore, it is important to consider how financial crisis and IPOs characteristics relate in the initial performance of IPOs. In addition, this study is meaningful for the contribution of knowledge to focus on the financial crisis and initial performance of IPOs.

Commonly, investors are conservative and fear to invest during financial crisis in whatever investment including stock market even they are holding excess fund in hand. Most of the investors are interested to know is it worth to invest during the financial crisis and also the factors that will influence the IPO. This study contributes to the issuers, academics and investors to show financial crisis is one of the factors that will affect the stock performance. Therefore, it should be considered for the impact of financial crisis to the stock market, because it will lower down the overall returns of the stock. Moreover, the findings of this study will have many important implications on the every industry in the market. First, it can be the benchmark for the respective industry to show the performance of stock market that the reaction from the purchaser toward the financial crisis. Second, the industry able to estimate the

perception of the investors during the financial crisis when issuer tend to launching new IPO to the public.

Most of the firms will not choose financial crisis period to go for public listed IPO. This is because firms believe investors will tighten up their fund or hold the existing share rather than acquire new share because of the uncertainty of the future economic growth. Most of the firms will rather choose pre-financial crisis or post-financial crisis period to go for public listed IPO in order to raise high capital. IPO issuing on financial crisis period may affect the total amount needed to be raise for capital and the initial performance on the first day of listing may not be as good as normal day due to low demand.

There is no one can precisely predict coming of financial crisis, and IPO consume a long time to prepare for listing. Normally issuer will try to avoid the financial crisis because issues may not able to raise expected capital. However, there are some unavoidable situations whereby all the preparation are ready for the IPO to be listed. Therefore, these companies need to list IPO even during the financial crisis.

This study is very important in the sense to create the awareness to investors that during the financial crisis the initial performance of the IPO is generally worse than the normal period but investors are still able to obtain a positive return from the IPO. Besides that, due to the higher uncertainty of the financial crisis, the companies also need to consider that the investor demand of the IPOs will decrease and other factors, otherwise the IPOs will fail compare with the normal period.

The remainder of the paper is organized as follows. Next section is a literature review of past studies, followed by the section on data and methodology. Later, it is then followed by the section of results and last section of conclusion and recommendation of the study.

1.4 The History of Malaysia Stock Market

Initially, the Malaysian stock market named as Kuala Lumpur Stock Exchange. The first formal securities business organization was called Singapore Stockbrokers' Association developed in 1930 and thereafter it was re-registered as the Malayan Stockbrokers' Association in 1937.

In March 1960, the Malaysian Stock Exchange was initially set up, and public trading of stocks commenced in May 1960 by the clearing house of Central Bank. The board system had trading rooms in Singapore and Kuala Lumpur, linked by direct telephone lines. In 1964, the Stock Exchange of Malaysia was set up and with the separation of Singapore from Malaysia in 1965, the Stock Exchange of Malaysia became and known as the Stock Exchange of Malaysia and Stock Exchange of Singapore. In 1968, the Capital Issues Committee (CIC) was established to approve, regulate and supervise the issuance of stocks or other securities by companies who applying for listing or for those had listed on the stock exchange of Malaysia.

In 1973, the most significance was the termination of currency interchangeability between Malaysia (Ringgit) and Singapore (Dollar), and later the Stock Exchange of Malaysia and Singapore was divided into the Kuala Lumpur Stock Exchange Berhad and the Stock Exchange of Singapore. The Kuala Lumpur Stock Exchange which was

incorporated on December 14, 1976 as a company limited by guarantee took over the operations of the Kuala Lumpur Stock Exchange Berhad in the same year. On April 14, 2004, Kuala Lumpur Stock Exchange was renamed Bursa Malaysia Berhad, following the demutualization exercise, the purpose of which was to enhance competitive position and to respond to global trends in the exchange sector by making themselves more customer-driven and market-oriented. It consisted of a Main Board, a Second Board and MESDAQ with total market capitalization of MYR700 billion (US$189 billion). Bursa Malaysia has since then focused on various initiatives aimed at improving its product and service offerings, increasing the liquidity and velocity of its markets, improving the efficiency of its businesses and achieving economies of scale in its operations. On 18 March 2005, Bursa Malaysia was listed on the Main Board of Bursa Malaysia Securities Berhad with a 17% or RM0.50 premium over its retail price of RM3.00.

During the global financial crisis in 2008, there is a higher volatility in the share price movements on the stock market caused by the selling and buying transactions. Therefore, a new framework includes Main Market and ACE Market [5] which are introduced for the new IPOs listings and capital fund-raisings.

In the subsequent year July 2009, Bursa Malaysia introduced an enhancement of the Kuala Lumpur Composite Index. The KLCI adopted the FTSE's global index standards and became known as the FTSE Bursa Malaysia KLCI. The FTSE Bursa Malaysia KLCI adopted the internationally accepted index calculation methodology to provide a more investable, tradable and transparent managed index. The constituents free float adjusted only by the investable portion included in the index calculation. With this new method the constituents of the FTSE Bursa Malaysia KLCI

[5] The listing boards of Bursa Malaysia from Main Board and Second Board restructure to Main Market and from MESDAQ restructure to ACE Market.

shrunk from 100 to 30 companies to enhance the tradability of the index, while remaining representative of the market.

1.5 Malaysia Initial Public Offering (IPO)

The definition of IPO is very simple and understandable, where the shares in a company are sold to the general public, through securities exchange, for the first time. The IPO occurs when private control firm switch to the public listed firm. Most the public listed firms started their businesses by raising capital from a small group of investors; for sure there is no existing liquid market. Therefore, in future, if the firm needs additional capital to expand their businesses, they will go to public through capital market to ask for sources of fund, the best choice for the firms is to sell stock to a large number of diversified investors in the market. From there, it will increase the liquidity and allows the firms to raise liquidity capital through the existing shareholder sell and buy their stock in the secondary market.

Furthermore, the IPO transactions of buying and selling stocks incur some cost. This cost consists of direct cost and indirect cost. The direct cost includes legal, auditing and under pricing fees meanwhile the indirect cost includes management cost and etc. The indirect cost and direct cost are affected the cost of capital for firms going public. It is hard for underwriter to determine an appropriate price for new IPO for firm because IPO has no trading history for the firm in the stock market.

In the normal circumstances, the offer price in IPO is lower than the closing market price during the first trading day of the particular stock; it is called initial performance IPO. It means the investors will enjoy high return from an IPO; also it is the strategy

to attract investors to acquire the stock. In the short term, there is profitable to purchase the stock at the offer price. The result of long-term performance is highly unpredictable due to the company performances and economy forces.

1.6 Types of Malaysia Initial Public Offering (IPO)

In common, there are three methods to determine the IPOs offer price around the world which is auctions, fixed priced offers and book building. The most general practice of the IPOs are sold around the world is the book building method meanwhile the fixed priced offers is most general in Malaysia IPOs are sold. For the method of auctions, the IPO offer price is determined after the bids are submitted by the investors. For the method of fixed priced offers, the IPO offer price has been set early before the allocation to the investors, shares will distribute to the investors based on the pro rata or lottery basis if there is any excess demand from investors. For the method of book building, the investment banker or underwriter will determine the potential buyers and set the offer price.

In Malaysia, there are three general types of IPOs such as offer for sale, public issue and combination of offer for sale and public issue. Offer for sale of IPO refers to the shares that have been issued to the existing shareholders already, and then now offer the shares for sale to the public only. Therefore, the paid up capital is no different compared to the previous one, the money received from the sale of stock will not go to the company. The objective of the offer for sale is to restructure the company's ownership distribution such as increase the number of stockholders based on the government's rules and regulations. The public issue of IPO refers to the new shares offer to the public for the first time, the investors from the public will acquire the new

shares, so it will result in an increase of the paid up capital and number of shareholders of the particular company.

There are still have many types of IPOs using in the stock market such as tender offer, special issue, private placement, restricted offer for sale, restricted public offer for sale to eligible employees, restricted offer for sale to the natives investors, special issue to the natives investors and restricted issue to the natives investors. These are based on the prospectus and decision of the company which not common for all of the IPOs and basically will attach together with the offer for sale or public offer or both.

The purpose of this research is to study the implication of the global financial crisis and the normal period which without financial crisis to the IPO initial performance by looking at the IPO's characteristics such as initial trading volume, over-subscription ratio, private placement, boards of listing and offer price from 2006 to 2011.

CHAPTER 2

LITERATURE REVIEW

2.0 IPOs Initial Performance

Studies on IPOs' initial performance have been conducted in different IPOs markets around the world. Most of the research are focusing only on normal period and seldom compared with the financial crisis period. For example, in most studies, based on the normal period, the results show of an average initial return in the 10-20% range in the US IPO markets, which are reported by Ritter (1991); Ibbotson *et al.* (1994); Ritter and Welch (2002); Bommel, Dahya, and Shi (2005); Lowry *et al.* (2010); and Chahine and Saade (2011). Additional, looking at the Asian stock markets, the initial performance of IPOs which are reported by Kim *et al.* (1993); Hameed and Lim (1998); Isa and Yong (2003); Hibara and Mathew (2004); Chen, Choi, and Jiang, (2007); Chorruk and Worthington, (2010); Samarakoon, (2010); and Moshiran, Ng and Wu, (2010) are more than 30%. .

The IPOs initial performance is a measurement of positive gain of a new listing share and this is a recurring phenomenon in many capital markets around the world. Loughran *et al.* (1994) mentions that the initial performance of IPOs is a challenge to market efficiency, and it may hurt those emerging firms trying to raise capital for expansion. Therefore, a number of theories of IPOs initial performance have been examined and tested against the data of various stock markets. Ibbotson *et al.* (1988)

find that the average first-day IPOs return was 16.3% in the years 1960 to 1987 in the US market. Levis (1990) studies a sample of 123 IPOs on the London Stock Exchange for the period 1985 to 1988 was 8.60% returns on the first day of trading. Loughran *et al.* (1994) also find the IPOs initial performance exists in 25 countries studied, with higher IPOs initial performance in developing markets than in developed markets.

The level of IPOs initial performance is different from one country to another country. For examples, some research on emerging markets such as China, Bangladesh and Indian show the initial performance of IPOs more than 90 percent which are conducted by Chen, Choi, and Jiang (2007), Islam *et al.* (2010), and Ghosh S. (2002) respectively. Moreover, Jenkinson and Ljunqvist (2001) also report the level of IPOs initial performance is relatively high in the emerging markets. For instance, the existing evidence of IPOs initial performance in some Asian emerging markets such as Hong Kong, Malaysian and Korean show initial returns of 21.43%, 61.81% and 70.30% respectively. Moshiran, Ng and Wu (2010) also reports the emerging Asian markets are experiencing a much larger degree of IPOs initial performance than markets in any other region.

Most empirical studies show significant initial positive returns for IPOs. For example, Loughran, Ritter and Rydqvist (1994) study on 39 countries, they find that the average initial returns are as low as 5.4 percent for Canada and as high as 256.9 percent for China. Moreover, several other researchers document such positive initial returns for IPOs such as Kearney and Sadeghi (1997) for Australia; Jenkinson and Mayer (1988) for the UK and France; Perotti and Guney (1993) for Malaysia, Spain, and Turkey; Dewenter and Malatesta (1997) for 8 countries; Choi and Nam (1998) for 30 countries; Paudyal et al. (1998) for Malaysia; Jelic and Briston (1999) for Hungary; Jones et al. (1999) for 59 countries; and Aussenegg (2000) for Poland.

There are many explanations for the initial performance of IPOs. One is that investors worry about IPOs' future performance, and this is reflected in terms of "ex-ante uncertainty." Ritter (1984) and Beatty and Ritter (1986) indicate a positive relationship between the level of initial performance and non-observable ex-ante uncertainty. Another explanation is related to the percentage of shares allocation, also known as "oversubscription", and posits a negative relationship between the percentage of allocation and initial performance or a positive relationship between oversubscription and the level of initial performance.

2.1 Relationship of IPOs Initial Performance with Initial Trading Volume, Over-subscription Ratio, Private Placement, Board of Listing, and Offer Price

There is an abundance of research that looked into the factors affect initial performance of IPO in the world's capital market. However, studies on the effect of initial performance IPOs are arguable for the crisis period. Basically, the financial crisis brings major effects on the Malaysia capital market, financial system and economy. Therefore, the economic conditions play an important role in determining the initial performance of IPOs. This study look into the relationship of IPOs initial performance with initial trading volume, over-subscription ratio, private placement, boards of listing and offer price during the global financial crisis in 2008.

One of the factors influences the IPOs initial performance is initial trading volume. Normally the trading volume is caused by the individual investor sentiment and it will affect the IPOs initial performance. Cornelli et al. (2006), find the first day of IPO's trading volume in European markets is significantly positive correlated with the individual investor sentiment, which will affect the IPOs initial performance for the

first day of trading. Ofek and Richardson (2003) use the trade volume data show that when the institutions sell IPO shares to the retail investors on the first day of trading, there is a higher initial return they receive, which affect to the IPOs initial performance. According to the Richardson (2003), further explanation on the first day trading volume is an appropriate indicator for individual investor sentiment which will influence the initial performance of IPOs even though they do not have detailed transaction data on the particular of retail investors. For example, the China's performance of stock market is still driven by the individual investor's sentiment from the past decades till today. Therefore, the trading volume is proxy for the investor's sentiment.

Many empirical research studies the relation between investor demand and IPO initial performance based on normal period which mean that there is not in the financial crisis period. Financial crisis will influences the investor demand and later affect the subscription of new IPOs issued; it will lower the initial performance of IPOs. In the past studies, some research on investor sentiment focuses on individual investors demand such as using the French IPOs from 1999 to 2001, Derrien (2005) finds that IPOs with high individual investor demand have higher initial returns. Similar conclusion also reported by Cornelli et al. (2006) using Europe's pre-IPO "grey market" data shows the positive relationship between IPOs initial performance and over-subscription ratio. Moreover, Rock (1986) finds that a positive relation between investor demand and IPOs initial performance, the higher investor demand with the better initial performance of IPOs and vice versa. Dawson (1987) uses 21 IPOs reports a positive average initial return of 166.7% based on first day closing price compared to offer price from Malaysian stock market for the period 1978 to 1983. Later, Yong (1991) uses 33 IPOs reported an average initial return of 167.4% from 1983 to 1988. Both Dawson (1987) and Yong (1991) report an average over-subscription ratio of about 46 times. Beside of these, Yong (1997) also reports an average initial return (offer-to-open) of 72.85% and average initial return (offer-to-

close) of 75.03% together with the over-subscription ratio of 32.32 times by using 224 IPOs from 1990 to 1994. All the findings above show that a significant positive relationship between the over-subscription ratio and the initial performance of IPOs. Therefore, the over subscription is proxy for the investor's demand.

The other factor influence the initial performance of IPOs is called new share issued based on private placement or privatization method. It is referring to the sale of new IPOs directly to the institutional investors which determined by the issuer in prior. Some researchers suggest that the private placement IPOs offers a higher initial return compared to non-private placement IPOs. For example, Menyah and Paudyal *et al.* (1996) find that UK privatization IPOs offered an average initial return of 38.7% higher than non-privatization IPOs. Paudyal *et al.* (1998) also find that Malaysian privatization IPOs offered significantly higher initial returns (103.5% than non-privatization 52.5%) by compare 18 privatization IPOs with 77 non-privatization IPOs uses data from KLSE Main board for the period January 1984 to September 1995. Moreover, Yong (2001) also finds that Malaysian private placement IPOs offered significantly higher initial returns of 18.51% than the public offer by using data from KLSE for the period of January 2001 to December 2009.

There are fewer studies looking at the relationship between the boards of listing and the initial performance of IPOs. Every stock market around the world has different characteristics of the boards of listing such as in Malaysia we have Main Market and ACE market. The Main Market previously known as Main Board and Second Board meanwhile the ACE market known as MESDAQ. The minimum paid up capital for Main Board listing is RM50 million and above and the minimum paid up capital for Second Board listing is RM10 million to RM50 million. Moreover, the minimum paid up capital for Mesdaq listing is RM10 million or less. In the previous studies, Yong (2003) using 185 Malaysian IPOs finds that IPOs listed on the Second Board and

Mesdaq generate higher initial returns compared to Main Board for the first day of trading. In addition, Yong and Isa (2003) finds that there are a significant differences in mean initial returns between the boards of listing using 183 Main Board IPOs and 288 Second Board IPOs.

Offer price plays an important role to affect the initial performance of IPOs. Many previous studies examine the effect of offer price towards the IPOs initial performance. For example, Hanley (1993) and Benveniste and Spindt (1989) report IPOs with higher adjusted offer price have higher levels of initial performance. On the other hand, Booth and Chua (1996) and Benveniste and Spindt (1989) suggest that offer price is a proxy for uncertainty about value and the total information costs incurred to achieve secondary-market liquidity. Thus, as the offer price increases, it signals less uncertainty and the expected level of IPOs initial performance should reduce. In terms of cost, these tend to be high for issues with a low offer price, hence, increase the expected level of IPOs initial performance. Jain and Kini (1999) also argue that a low offer price may indicate little demand, little value, or both and associated with lower performance. It has also been observed that there is a negative relationship between initial performance and the offer price reported by Fernando et al. (2004) and Wang and Ligou (2009).

There are many researches done on the IPO performance with regard to the normal period or even ignores the financial crisis period that will give impact to the initial performance. This research is to achieve our research objective and fill up the gap to study the IPO initial performance in the existence of the financial crisis to contribute to the society.

CHAPTER 3

DATA METHODOLOGY

3.0 Description of Data

There are three common scenarios where IPOs are offered and sold in Malaysian stock market and around the world such as auctions, book building and fixed-price offers. Book building is common in the US stock market and most of the countries around the world, but uncommon for the case of Malaysia IPOs. Book buildings IPOs only become popular in the recent year; therefore this study excluded the book building IPOs because the sample data is insufficient to study. In the case of book building IPOs, the underwriter will go through the potential buyers first and then only set an offer price for the stock. In Malaysia, fixed priced offer mechanism is popular and it refers to practice in which the offer price is set prior to the allocation. The demand will result in the subscription ratio, and the successful applicants are selected through lottery basis. For the case of auctions, the market-clearing price is determined after the bids are submitted by the investors.

In Malaysia, the distribution of IPOs can be divided into three common types such as offer for sale, public issue and combination of offer for sale and public issue where businesses raise capital through capital market. The offer for sale of IPO refers to the shares that have been issued to the existing shareholders already, now shareholders can offer the shares for sale to the public. Therefore, there is no change between the

paid up capital before and after the offer for sale, the money received from the sale of stock will not go to the company. The purpose of the offer for sale is to restructure the company's ownership distribution such as increase the number of stockholders according to the government's rules and regulations. The public issue of IPO refers to the new shares offer to the public for the first time, the investors from the public will acquire the new shares, so it will result in an increase of the paid up capital and number of shareholders of the particular company.

There are some IPOs mechanisms in the Malaysian stock market such as tender offer, special issue, private placement, restricted offer for sale, restricted public offer for sale to eligible employees, restricted offer for sale to the natives investors, special issue to the natives investors and restricted issue to the natives investors. All of these are uncommon for the IPOs offer but based on the prospectus and decision of the company, and basically the IPOs will combine together with the offer for sale or public offer or both. In this study is focusing on the offer for sale, public issue, private placement and combination of offer for sale and public issue on the IPOs to raise fund in the capital market. This study do not look into specialized issues such as tender offer, special issue, restricted offer for sale, restricted public offer for sale to eligible employees, restricted offer for sale to the natives investors, special issue to the natives investors and restricted issue to the natives investors because these are more specific and not the common practice and the impact not really reflect to the entire public, which is the major players in the IPOs. For private placement IPO is refers to the distribution of share directly to the institutional investors, which opposite from the individual investors and it has become increasingly popular since 2001. Private placement IPO will reflect the initial performance of IPOs because the information on private placement is based on the presence of knowledgeable or informed institutional in an IPO exercise such as in Malaysia, we have Employee Provident Fund (EPF) and Mutual Fund Company.

3.1 Sample Selection

The sample employed in this study comprised of fixed priced offer of 106 IPOs listed on the Main Board, Second Board, MESDAQ (before the restructuring of board listing), Main Market and ACE Market (after the restructuring of board listing) of Malaysia Stock Exchange named Bursa Malaysia from the period of January 1, 2006 to December 31, 2011 in order to reflect the period of global financial crisis. The data used is compiled from *Investor Digest* (a monthly publication of the Bursa Malaysia), Bursa Malaysia website (*http://www.bursamalaysia.com*), The Star Online (*http://biz. thestar.com.my/marketwatch/ipo*), and Yahoo Finance (*http://sg.finance.yahoo.com*). As for the information of the over-subscription ratio is compiled from various newspaper's reports as made available on the Biznews Data Bank website (*http://www.biznewsdb.com*). According to the Lucia and Bernadette (2012) and Jussi, Vanja and Janne (2012), we can summarize that the global financial crisis happened in the early of 2008 till the end of 2009 and the results are not sensitive to the different time frames as long as we slot in the financial crisis periods.

This study uses the IPOs data from January 2006 to December 2007 (named as pre-global financial crisis) as the starting point to study in order to allow sufficient time for changes or called it normal period before global financial crisis and economic crisis hit the market on 2008. The global financial crisis are hit the Malaysia's market from January 2008 to December 2009 (named as during global financial crisis) when stock market resulted in a huge decrease in 2008. The ending period of January 2010 to December 2011 (named as post-global financial crisis) was chosen because there is recovery stage from the effects of global financial crisis and economic crisis of 2008. Furthermore, as in year 2006 Malaysia did not experienced the domino effect yet from the US subprime crisis. Only when in 2008 the housing property's bubbles burst and turmoil the East-Asian regions in 2008. Therefore, year 2008 seems more

appropriate to be used for this study to examine the initial performance of IPOs for the pre-global financial crisis, during global financial crisis and post global financial crisis.

The study on IPOs initial performance is divided into two types of initial returns. First, we have initial performance called initial return (offer-to-close) in where the initial return is calculated as the percentage change in price from the offer price to the closing price on the first day of trading. In most past studies employed this as a performance of IPOs. Second, initial performance called (offer-to-open) is calculated as the percentage change in price from the offer price to the opening price on the first day of trading. Both are representing the actual measurement to evaluate the performance of IPOs because of the initial return (offer-to-close) contains some "after market" elements. The percentage of change of the initial returns (offer-to-open) is computed in order to find out whether IPOs of the initial returns received has any different from the offer price.

There is a practice in the research; this paper conducts an analysis using regression for IPO initial returns to study the relationship between dependent variable and independent variables. The dependent variable consists of initial performance of IPOs which measured by initial return (offer-to-close) and initial return (offer-to-open) meanwhile independent variable consists of IPOs over-subscription ratio, IPOs private placement IPOs, initial trading volume, IPOs boards of listing and IPOs offer price. This research can be used as a benchmark for investors, analyst and researcher for their study and comparison.

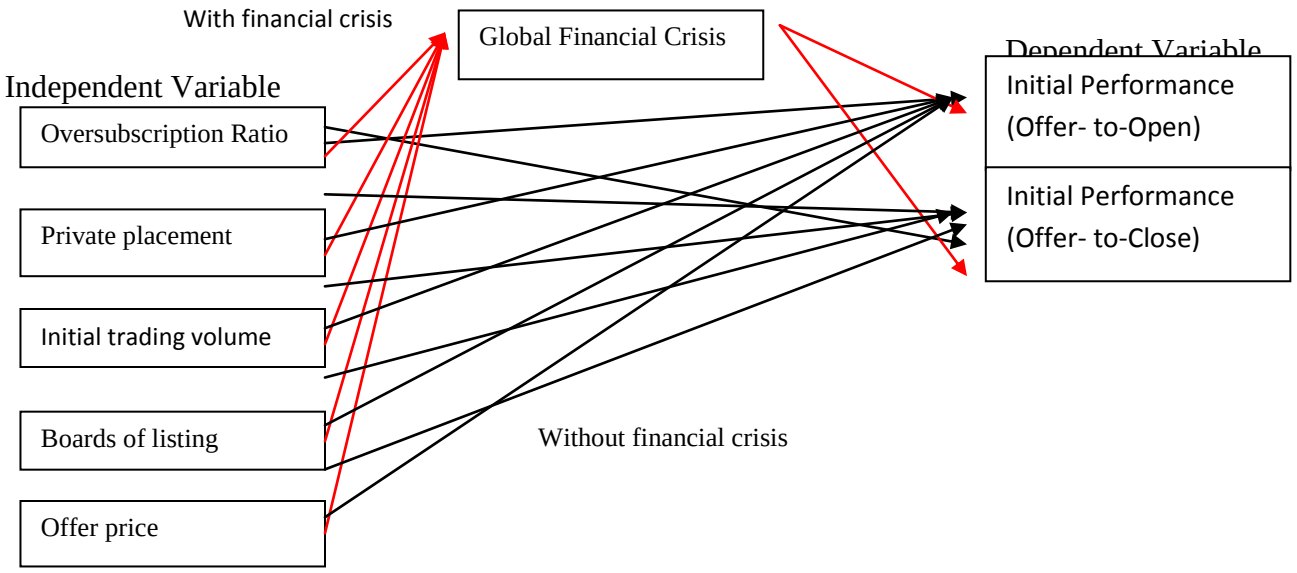
The IPOs Initial performance can be derived by calculating the initial return on stock i as R_i which the equation below:

$$R_i = [(P_t - P_{t-1})/ P_{t-1}] \times 100\%$$

where R_i is representing the total return at the opening on the first trading day (offer-to-open) and the total return at the closing on the first trading day (offer-to-close); P_t is referring the price of the IPO stock at the opening on the first trading day and the price of the stock at the closing on the first trading day; P_{t-1} is representing the offer price of the IPOs. A positive return, R_i indicates the particular of stock price is traded lower than the offer price, which mean the stock price at the closing on the first trading day (offer-to-close) is higher than the offer price and the stock price at the opening on the first trading day (offer-to-open) is higher than the offer price.

The simplify model examines the relationship and hypothesis between initial performance of IPOs with over-subscription ratio, private placement, initial trading volume, boards of listing and offer price. The regression model is specified as follows:

Figure 1: Model Specification and Methods



3.3 Hypothesis

According to the chapter 2, I have identified variables to be tested in my study such as initial performance (offer-to-open), initial performance (offer-to-close), over-subscription ratio, private placement, initial trading volume, board of listing, offer price for the period of pre financial crisis, during financial crisis and post financial crisis. Therefore, we build the following hypotheses for this study. The first hypothesis study the effect of the financial crisis to the initial performance (offer-to-open) and the second hypothesis study the effect of the financial crisis to the initial performance (offer-to-close).

i) Ho : $a_i = 0$: There is no relationship between the variables to the initial performance (offer-to-open).
H1 : $a_i \neq 0$: At least one of the variables have impact to the initial performance (offer-to-open).

ii) Ho : $\beta_i = 0$: There is no relationship between the variables to the initial performance (offer-to-close).
H1 : $\beta_i \neq 0$: At least one of the variables have impact to the initial performance (offer-to-close).

3.4 Description of Variables

Initial performance is the initial return (offer-to-close) in where the initial return is calculated as the value of the closing price is higher than the offer price on the first day of trading, while initial return (offer-to-open) is calculated as the value of the opening price is higher than the offer price on the first day of trading. The initial performance of an IPO does not exist if the offer price is higher than closing price and opening price or both.

The variable over-subscription ratio of an IPO defines the number of times an IPO is over-demanded or under-demanded by the group of investors; it measures investors' pre-offering demand for the IPOs. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the few categories of over-subscription ratio from 2006 to 2011 such as over-subscription ratio less than 10 times with a total data of 63, over-subscription ratio of 10 times to less than 40 times with a total data of 57, over-subscription ratio of 40 times less than 80 times with a total data of 16 and over-subscription ratio 80 times and more with a total data of 9.

The variable private placement of an IPO refers to the distribution of share on the presence of knowledgeable or informed institutional in an IPO exercise. This research

further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the two categories of private placement from 2006 to 2011 such as IPOs offer with private placement with a total data of 111 and IPOs offer without private placement with a total data of 34.

The variable initial trading volume of an IPO is the total activities from the opening to the closing on the first day of trading. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the few categories of initial trading volume from 2006 to 2011 such as trading volume less than 25 million with a total data of 75, trading volume of 25 million to less than 50 million with a total data of 35, trading volume of 50 million less than 100 million with a total data of 27 and trading volume 100 million and more with a total data of 8.

The variable boards of listing of an IPO refer to the shares that are listed on either Main Market or ACE market, it is depending on the size of market capitalization for an IPO, and also different boards of listing represents different characteristics of the IPOs. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the few categories of boards of listing from 2006 to 2011 such as before the restructuring we have main board of listing with a total data of 32, second board of listing with a total data of 25, MESDAQ of listing with a total data of 29 and after the restructuring we have Main Market of listing with a total data of 40, ACE Market of listing with a total data of 19.

The variable offer price of an IPO refers to the IPO's offering price to the investors to acquire the shares prior to the listing. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-

close) with the few categories of offer price from 2006 to 2011 such as offer price less than 1 with a total data of 102, offer price of 1 to less than 2 with a total data of 31, offer price of 2 to less than 3 with a total data of 8 and offer price 3 and more with a total data of 4.

3.5 Methods

In my study, I am using many methods to generate my results such as mod, mean, median, coefficient of variation, standard deviation (or variance), T-tests, F-tests, paired sample t-test, and multiple regression by using SPSS and Eviews.

3.5.1 Descriptive Statistics

Descriptive statistics are the method of summarizing large sets of quantitative especially numerical information. Descriptive statistics measuring the central tendency include the mod, mean and median, while measures of variability include the coefficient of variation, standard deviation (or variance), the minimum and maximum variables. Descriptive statistics provide a useful summary of security returns when performing analytical and empirical analysis.

The mean is to determine the average. It is the sum of all the measurements, divided by the number of measurements. The median is the number at which half your measurements are more than that number and half are less than that number. The standard deviation is the "average" degree to which scores deviate from the mean. The coefficient of variation is a relative measure of variability to the mean and is

expressed as a percent. Minimum variable is the minimum initial return of the IPO from year 2006 to 2011. Maximum variable is the maximum initial return of the IPO from year 2006 to 2011.

3.5.2 T-Test

T-tests are often used to compare the means from two different groups of data. T-Test can help to find out if means are significantly different from one another or if they are relatively the same. In my study, I employ t-test to study the relationship of the initial performance of (offer-to-open) and initial performance of (offer-to-close) with all the variables including financial crisis and the co-relationship between financial crisis and the variables. From there, I will know the mean of the variables are significantly different from one another or relatively the same of the particular variable.

3.5.3 F-Test

It is used to compare the variances of two samples or more to test the hypothesis that the samples are drawn from populations with different variances. In my study, I employ f-test to study the variances of increase or decrease of initial performance in different categories. From there, I will know the degree of the changes of the variables is significantly different from one another or relatively the same of the particular variable.

3.5.4 Paired Sample T-Test

A paired sample t-test is used to determine whether there is a significant difference between the average values of the same measurement made under two different conditions. Both measurements are made on each unit in a sample, and the test is based on the paired differences between these two values. In my study, I employ paired sample test to study the changes of the initial performance of (offer-to-open) and the effect of initial performance of (offer-to-close) with all the variables with different categories during financial crisis period. From there, I will know the changes of the initial performance (offer-to-open) to initial performance (offer-to-close) are significantly different from one another or relatively the same of the particular variable.

3.5.5 Multiple Regressions

Regression analysis is a statistical technique for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variables such as over-subscription ratio, private placement, initial trading volume, boards of listing, offer price, financial crisis and independent variables such as initial performance (offer-to-open) and initial performance (offer-to-close). More specifically, regression analysis helps one understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed. In my study, I employ multiple regressions to study the relationship between dependent variable and independent variables as shown in the t-statistic. From there, I will know the relationship of the initial performance (offer-to-open) and

initial performance (offer-to-close) with regard to the financial crisis. The formula of multiple liner regression is as follow:

i) Ho : $a_i = 0$: There is no relationship between the variables to the initial performance (offer-to-open).
H1 : $a_i \neq 0$: At least one of the variables have impact to the initial performance (offer-to-open).

Initial performance of IPO, $Ro = a_0 + a_1 OSRi + a_2 PPi + a_3 ITVi + a_4 BoLi + a_5 OPi + a_6 DFCi + a_7 DFC.\ OSRi + a_8\ DFC.PP\ i + a_9\ DFC.ITVi + a_{10}\ DFC.BoLi + a_{11}\ DFC.OP\ i + e$

Ro = Total return from the offer price to the opening price on the first trading day (offer-to-open) of the *i*th company
OSR = Over-subscription ratio of the *i*th company
PP = Private placement of the *i*th company
ITV = Initial trading volume of the *i*th company
BoL = Boards of listing of the *i*th company
OP = Offer price of the *i*th company
DFC = Dummy financial crisis of the *i*th company
DFC. OSR = Co-relationship financial crisis with over-subscription ratio of the *i*th company
DFC.PP = Co-relationship financial crisis with private placement of the *i*th company
DFC.ITV = Co-relationship financial crisis with initial trading volume of the *i*th company
DFC.BoL = Co-relationship financial crisis with boards of listing of the *i*th company
DFC.OP = Co-relationship financial crisis with offer price of the *i*th company

ii) Ho : $\beta_i = 0$: There is no relationship between the variables to the initial performance (offer-to-close).
H1 : $\beta_i \neq 0$: At least one of the variables have impact to the initial performance (offer-to-close).

$$\textit{Initial performance of IPO, } Rc = \beta_0 + \beta_1 OSRi + \beta_2 PPi + \beta_3 ITVi + \beta_4 BoLi + \beta_5 OPi + \beta_6 DFCi + \beta_7 DFC.\ OSRi + \beta_8\ DFC.PPi + \beta_9\ DFC.ITV\ i + \beta_{10}\ DFC.BoLi + \beta_{11}\ DFC.OPi + e$$

Rc = Total return from the offer price to the closing price on the first trading day (offer-to-close) of the *i*th company
OSR = Over-subscription ratio of the *i*th company
PP = Private placement of the *i*th company
ITV = Initial trading of the *i*th company
BoL = Boards of listing of the *i*th company
OP = Offer price of the *i*th company
DFC = Dummy financial crisis of the *i*th company
DFC. OSR = Co-relationship financial crisis with over-subscription ratio of the *i*th company
DFC.PP = Co-relationship financial crisis with private placement of the *i*th company
DFC.ITV = Co-relationship financial crisis with initial trading volume of the *i*th company
DFC.BoL = Co-relationship financial crisis with boards of listing of the *i*th company
DFC.OP = Co-relationship financial crisis with offer price of the *i*th company

CHAPTER 4

RESEARCH RESULTS

4.0 The Effect of the Financial Crisis towards the Initial Performance of IPOs

Table 4.1 reports the descriptive statistics results of initial return (offer-to-open), initial return (offer-to-close), and over-subscription ratio of 145 fixed-price IPOs (excluding auctions and book building) listed on Malaysia's stock market. The results are divided into 3 different scenarios which are pre-global financial crisis, during global financial crisis and post global financial crisis from January 2006 to December 2011.

This study uses the data of 66 fixed price IPOs from January 2006 to December 2007 (named as pre-global financial crisis) as the starting point to study in order to allow sufficient time for the changes or we can call it as normal period before the global financial crisis and economic crisis strike the market in 2008. This study uses the data of 30 fixed price IPOs from January 2008 to December 2009 (named as during global financial crisis) as the crisis period when the global financial crisis and economic crisis are hit the Malaysia stock market resulted in a huge decrease in 2008 onward. This study uses the data of 49 fixed price IPOs from January 2010 to December 2011 (named as post-global financial crisis) as the ending period because representing the recovery stage from the effects of global financial crisis and economic crisis of 2008.

Furthermore, as in year 2006 Malaysia did not experienced the domino effect yet from the US subprime crisis. Only when in 2008 the housing property's bubbles burst and turmoil the East-Asian markets in 2008. Therefore, the data for the year of 2006 to 2011 seem more appropriate to be used for this study to examine the initial performance of IPOs for the pre-global financial crisis, during global financial crisis and post global financial crisis. The study measure the effect of the financial crisis towards the initial performance of IPO and relationship between the initial return (offer-to-open) with the pre-global financial crisis, during global financial crisis and post global financial crisis; initial return (offer-to-close) with the pre-global financial crisis, during global financial crisis and post global financial crisis; over-subscription ratio with pre-global financial crisis, during global financial crisis and post global financial crisis. The results are important for various parties such as portfolio manager, analyst, investors, and company to have an accurate estimation and decision making on investments.

Panel A reports the descriptive statistics results of initial return (offer to open) measured as the percentage change in price from the offer price to the opening price of the first day of trading or the total return at the opening on the first trading day (offer-to-open) for pre-global financial crisis from 2006 to 2007, during global financial crisis from 2008 to 2009, post global financial crisis from 2010 to 2011 and the overall performance initial return (offer to open) of IPOs for the Malaysia's stock market from 2006 to 2011. A positive return indicates the particular of stock price is issued at the below the offer price condition, which means the stock price at the opening on the first trading day (offer-to-open) is higher than the offer price. A negative return indicates the particular of stock price is issued at the above the offer price condition, which means the stock price at the opening on the first trading day (offer-to-open) is lower than the offer price.

Panel B reports the descriptive statistics results of initial return (offer to close) measured as the percentage change in price from the offer price to the closing price of the first day of trading or the total return at the closing on the first trading day (offer-to-close) for pre-global financial crisis from 2006 to 2007, during global financial crisis from 2008 to 2009, post global financial crisis from 2010 to 2011 and the overall performance initial return (offer to close) of IPOs for the Malaysia stock market from 2006 to 2011. A positive return indicates the particular of stock price is issued at the below the offer price condition, which means the stock price at the closing on the first trading day (offer-to-close) is higher than the offer price. A negative return indicates the particular of stock price is issued at the above the offer price condition, which means the stock price at the closing on the first trading day (offer-to-close) is lower than the offer price.

Panel C reports the descriptive statistics results of over subscription ratio measured as the number of times an IPO is over-demanded or under-demanded by the group of investors; it measures investors' pre-offering demand for the IPOs for pre-global financial crisis from 2006 to 2007, during global financial crisis from 2008 to 2009, post global financial crisis from 2010 to 2011 and the overall performance over subscription ratio of IPOs for the Malaysia's stock market from 2006 to 2011. A positive over subscription ratio indicates the particular of stock is issued at the high demand condition, which means the number of times the stock are acquired by the investors is more than the offered unit at the offering period. A negative over subscription ratio indicates the particular of stock is issued at the lower demand condition, which means the number of times the stock are acquired by the investors is less than the offered unit at the offering period.

4.0.1 Initial Return (offer-to-open)

From the panel A of table 4.1, the median of initial return (offer-to-open) for the 145 fixed-price IPOs for the entire 2006 to 2011 periods is 8.33%. The average initial return (offer-to-open) is 16.52%, significantly different from zero at the 1% level. The higher the initial return represent the greater the initial performance of IPOs which means the stock price at the opening on the first trading day (offer-to-open) is higher than the offer price. This result which is substantially lower than the figure of 72.85% initial return (offer-to-open) reported by Yong (1997) and 42.65% initial return (offer-to-open) reported by Yong (2008). Therefore, the initial performance of IPOs is generally decreased due to the global financial crisis but investors still able to get a good return from the disposal of IPOs at opening price on the first day of trading; the only matter is the return become lesser during global financial crisis.

The risk measured by the coefficient of variation where standard deviation associated with the initial return (offer-to-open) for the whole period of 2006 to 2011 is 2.2821. The higher the coefficient of variation represent the greater risk involved in order to get the 1% return in IPOs when the stock price at the opening on the first trading day (offer-to-open) is higher than the offer price. The maximum initial return (offer-to-open) for the whole period of 2006 to 2011 is 288.89% reported from post global financial crisis which reflect the recovery of economic after the global financial crisis. The minimum initial return (offer-to-close) for the whole period of 2006 to 2011 is -66.84%, reported from post global financial crisis also, where the stock market absorbs the domino effect from the global financial crisis. Similar with the average initial returns (offer-to-close), investors have an opportunity to get higher returns if sell off the share at the opening price or closing price in the first day of trading.

The results of IPOs initial performance show a big decrease in the average initial return (offer-to-open) during the global financial crisis compared to the pre global financial crisis and post global financial crisis. The average initial return (offer-to-open) for pre-global financial crisis is 23.9465%, significantly different from zero at the 1% level. The average initial return (offer-to-open) during global financial crisis is 0.6477%, significantly different from zero at the 10% level. The average initial returns (offer-to-open) for post global financial crisis is 16.2193%, significantly different from zero at the 5% level. Moreover, the results of median for the initial returns (offer-to-open) relatively lower during the global financial crisis compared to the pre global financial crisis and post global financial crisis. The median of initial return (offer-to-open) for the pre-global financial crisis is 16.6846%, during global financial crisis is 0%, and for post global financial crisis is 5.1724%.

The results also show an increase in the IPOs risk exposure, during the global financial crisis compared to the pre global financial crisis and post global financial crisis, coefficient of variation where greater risk involved in order getting the 1% return in IPOs. The coefficient of variation for pre-global financial crisis is 1.38, which means 1.38% risk involved in order getting the 1% return in IPOs, for during global financial crisis is 19.3568, which means 19.3586% risk involved in order getting the 1% return in IPOs, and for post global financial crisis is 3.0428, which means 3.0428% risk involved in order getting the 1% return in IPOs. The results of maximum initial return (offer-to-open) for the IPOs is reducing during the global financial crisis compared to the pre global financial crisis and post global financial crisis.

The maximum initial return (offer-to-open) for pre-global financial crisis is 135.71%, during global financial crisis is 29.31%, and for post global financial crisis is 288.89%. The result of minimum initial return (offer-to-open) for the IPOs is the

worst for the post global financial crisis compared to the pre global financial crisis and during global financial crisis. The minimum initial return (offer-to-open) for pre-global financial crisis is -35.77%, during global financial crisis is -34.88%, and for post global financial crisis is -66.84%. The results of maximum initial return (offer-to-open) and minimum initial return (offer-to-open) where the year that corresponds to this initial return (offer-to-open) is in line with the initial return (offer-to-close) shown in Panel B. The highest average initial return (offer-to-open) of 36.23% is documented in 2011 from post global financial crisis where the year that corresponds to this highest average initial return (offer-to-open) is in line with the highest subscription ratio shown in Panel C. The lowest average initial return (offer-to-open) of -3.15% is documented in 2008 during global financial crisis where the year that correspond to these lowest average is in line with the lowest average initial return (offer-to-close) shown in Panel B and lowest subscription ratio shown in Panel C. Therefore, during global financial crisis, the initial returns (offer-to-open) are considerably lower compared to the pre global financial crisis and post global financial crisis. From the analysis, the average initial return (offer-to-open) is higher than the average initial returns (offer-to-close) from 2006 to 2011 during the global financial crisis, pre global financial crisis and post global financial crisis.

4.0.2 Initial Return (offer-to-close)

From the panel B of table 4.1, the median of initial return (offer-to-close) for the 145 fixed-price IPOs for the entire 2006 to 2011 periods is 6.84%. The average initial return (offer-to-close) is 13.48%, significantly different from zero at the 1% level. The higher the initial return represent the greater the initial performance of IPOs which means the stock price at the closing on the first trading day (offer-to-close) is higher than the offer price. It means there is a higher return if investors sell off the share at the beginning compare with closing in the first day of trading. In additional,

these results which is also substantially lower than the figure of 166.7% (offer-to-close) reported by Dawson (1987), 167.4% (offer-to-close) reported by Yong (1991), 114.6% (offer-to-close) reported by Ismail et al. (1993), 80.3% (offer-to-close) reported by Loughran et al. (1994), 75.0259% (offer-to-close) reported by Yong (1997) and average initial return (offer-to-close) of 43.29% reported by Yong (2008). Therefore, the initial performance of IPOs is generally decreased due to the global financial crisis, but investors still able to get a good return from the disposal of IPOs at closing price on the first day of trading; the only matter is the return become lesser during global financial crisis.

The risk measured by the coefficient of variation where standard deviation associated with the initial return (offer-to-close) for the whole period of 2006 to 2011 is 2.4451. The higher the coefficient of variation represent the greater risk involved in order to get the IPOs return when the stock price at the closing on the first trading day (offer-to-close) is higher than the offer price. The maximum initial return (offer-to-close) for the whole period of 2006 to 2011 is 148.48% reported from post global financial crisis which reflect the recovery of economic after the global financial crisis. The minimum initial return (offer-to-close) for the whole period of 2006 to 2011 is -65.44%, reported from post global financial crisis also, where the stock market absorbs the domino effect from the global financial crisis. Similar with the average initial returns (offer-to-open), investors have an opportunity to get higher returns if sell off the share at the opening price or closing price in the first day of trading.

The results of IPOs initial performance show a big decrease in the IPOs initial return (offer-to-close) during the global financial crisis compared to the pre and post global financial crisis. The average initial return (offer-to-close) for pre-global financial crisis is 23.3181%, significantly different from zero at the 1% level. The average initial return (offer-to-close) for during global financial crisis is -0.3828%,

significantly different from zero at the 10% level. The average initial returns (offer-to-close) for post global financial crisis is 8.7068%, significantly different from zero at the 10% level. Moreover, the results of median for the initial returns (offer-to-close) relatively lower during the global financial crisis compared to the pre global financial crisis and post global financial crisis. The median of initial return (offer-to-close) for the pre-global financial crisis is 14.7727%, during global financial crisis is -3.1373%, and for post global financial crisis is 3.7037%.

The results also show an increase in the IPOs risk exposure, during the global financial crisis compared to the pre global financial crisis and post global financial crisis, coefficient of variation where greater risk involved in order getting the 1% return in IPOs. The coefficient of variation for pre-global financial crisis is 1.4770, which means 1.4770% risk involved in order getting the 1% return in IPOs, for during global financial crisis is 20.3364, which means 20.3364% risk involved in order getting the 1% return in IPOs, and for post global financial crisis is 3.8540, which means 3.8540% risk involved in order getting the 1% return in IPOs. The results of maximum initial return (offer-to-close) for the IPOs is reducing during the global financial crisis compared to the pre global financial crisis and post global financial crisis.

The maximum initial return (offer-to-close) for pre-global financial crisis is 139.02%, during global financial crisis is 49.00%, and for post global financial crisis is 148.48%. The result of minimum initial return (offer-to-close) for the IPOs is the worst for the post global financial crisis compared to the pre global financial crisis and during global financial crisis. The minimum initial return (offer-to-close) for pre-global financial crisis is -40.64%, during global financial crisis is -34.88%, and for post global financial crisis is -65.44%. The results of maximum initial return (offer-to-close) and minimum initial return (offer-to-close) where the year that corresponds

to this initial return (offer-to-close) is in line with the initial return (offer-to-open) shown in Panel A. For the average initial return (offer-to-close) reported at the highest of 28.07% is documented in 2007 from pre global financial crisis. The lowest average initial return (offer-to-close) of -7.91% is documented in 2008 during global financial crisis where the year that correspond to these lowest average is in line with the lowest average initial return (offer-to-open) shown in Panel A and lowest subscription ratio shown in Panel C. Therefore, during global financial crisis, the initial returns (offer-to-close) are relatively lower compared to the pre global financial crisis and post global financial crisis. From the analysis, the average initial return (offer-to-open) is higher than the average initial returns (offer-to-close) from 2006 to 2011 during the global financial crisis, pre global financial crisis and post global financial crisis.

Table 4.1: Descriptive Statistics of Initial Return, Oversubscription Ratio for IPOs Listed on Malaysia's Stock Market, by Pre-global Financial Crisis, During Global Financial Crisis and Post Global Financial Crisis.

Year	n	Mean	Median	Std. Dev	Coefficient of Variation	Min.	Max.
Panel A: Initial return (offer-to-open), in per cent							
Pre-Global Financial Crisis							
2006	39	21.7203*	18.5700	28.4400	1.3100	-35.7700	95.1200
2007	27	27.16*	12.1951	39.5773	1.4600	-15.0000	135.7100
2006-2007	66	23.9465*	16.6846	33.2679	1.3800	-35.7700	135.7100
During Global Financial Crisis							
2008	17	-3.1500	0.0000	12.5693	12.5693	-34.8800	15.8600
2009	13	5.6100***	2.2727	11.0483	1.9700	-12.8600	29.3100
2008-2009	30	0.6477***	0.0000	12.5374	19.3568	-34.8800	29.3100
Post-Global Financial Crisis							
2010	28	1.2105	3.6039	17.5682	14.5132	-66.8400	20.0000
2011	21	36.2300**	14.2857	68.5060	1.8909	-24.2100	288.8900
2010-2011	49	16.2193**	5.1724	49.3525	3.0428	-66.8400	288.8900

Overall							
2006-2011	145	16.5200*	8.3300	37.7000	2.2821	-66.8400	288.8900
Panel B: Initial return (offer-to-close), in per cent							
Pre-Global Financial Crisis							
2006	39	20.0300*	13.9400	35.3200	1.7600	-40.6400	139.0200
2007	27	28.0700*	15.4717	33.2050	1.1829	-13.6400	100.0000
2006-2007	66	23.3181*	14.7727	34.4409	1.4770	-40.6400	139.0200
During Global Financial Crisis							
2008	17	-7.9100***	-12.5000	18.5794	18.5794	-34.8800	42.8600
2009	13	9.4600***	8.6207	18.8193	1.9881	-15.2400	49.0000
2008-2009	30	-0.3828***	-3.1373	20.3364	20.3364	-34.8800	49.0000
Post-Global Financial Crisis							
2010	28	1.0313	0.5000	23.1432	22.4409	-65.4400	76.0000
2011	21	18.9400***	8.7719	42.2719	2.2319	-39.2100	148.4800
2010-2011	49	8.7068***	3.7037	33.5561	3.8540	-65.4400	148.4800
Overall							
2006-2011	145	13.4800*	6.8400	32.9600	2.4451	-65.4400	148.4800
Panel C: Over-subscription ratio (times)							
Pre-Global Financial Crisis							
2006	39	30.3700*	14.2900	48.8200	1.6075	0.0000	262.0700
2007	27	42.1452*	28.8100	52.7346	1.2513	0.7100	212.5900
2006-2007	66	35.1864*	19.7700	50.3957	1.4322	0.0000	262.0700
During Global Financial Crisis							
2008	17	1.9323**	0.7500	3.1221	1.6157	-0.9400 @	8.6300
2009	13	16.5908**	12.5900	20.0252	1.2070	0.2200	69.8500
2008-2009	30	8.2843*	2.4350	15.0299	1.8143	-0.9400	69.8500
Post-Global Financial Crisis							
2010	28	9.5846*	6.0700	10.5212	1.0977	0.3500	46.7500
2011	21	49.0386**	14.4800	84.8148	1.7296	-0.1000	315.1700
2010-2011	49	26.4935*	10.4200	58.7259	2.2166	-0.1000	315.1700
Overall							
2006-2011	145	26.6800*	12.0900	49.4500	1.8534	-0.9400	315.1700

Notes: 1. @ These IPOs (of the company named SCGM, Vastalux Energy and Teo Seng Capital) are under subscribed, i.e., over subscription ratio equal to negative.

2. Paired samples t-test is also performed between mean initial return (offer-to-open) and mean initial return (offer-to-close) for the whole study period 2006-2011, and the t-statistic is 1.322 (the corresponding p-value is 0.189). This indicates that the average initial return (offer-to-open) is statistically not different from the average initial return (offer-to-close).

3. * Significant at the 1% level
4. ** Significant at the 5% level
5. *** Significant at the 10% level

4.0.3 Over-subscription Ratio

From the panel C of table 4.1, the median of over-subscription ratio for the 145 fixed-price IPOs for the entire 2006 to 2011 periods is 12.09 times. The average over-subscription ratio for the entire 2006 to 2011 period is 26.68 times, significantly different from zero at the 1% level. The higher the over-subscription ratio represents the greater the demand of IPOs from investors which means investors expected the stock price at the opening on the first trading day (offer-to-open) is higher than the offer price or the stock price at the closing on the first trading day (offer-to-close) is higher than the offer price. It means there is a higher demand if investors receive higher return at the beginning or closing in the first day of trading. The average over-subscription ratio is less than the figure of 46 times reported independently by Dawson (1987), and by Yong (1991) for IPOs listed on the Main Board of the Kuala Lumpur Stock Exchange (KLSE). Yong (1997) reports an average over-subscription ratio of 32.32 times for 224 IPOs listed on the Main Board and the Second Board of the KLSE for the 1990 to 1994 periods. Yong and Isa (2003) reported, for the 1990-1998 period, an average over-subscription ratio of 29.87 times for 179 IPOs listed on the Main Board, and an average over-subscription ratio of 52.46 times for 283 IPOs listed on the Second Board of the KLSE. Moreover, the latest average over-subscription ratio result reported by Yong (2008), average over-subscription ratio is 53.14 times for 93 IPOs listed on the MESDAQ of the KLSE. Therefore, the demand of IPOs is generally decreased due to the global financial crisis, but investors still acquired new IPOs very actively and expected to get a good return from the disposal of IPOs at the opening price or closing price on the first day of trading; the only matter is the demand become lesser during global financial crisis.

The risk measured by the standard deviation associated with the over-subscription ratio for the whole period of 2006 to 2011 is 49.45 times. The higher the standard deviation represent the greater risk involved for the demand of IPOs when the investors expected the stock price at the opening on the first trading day (offer-to-open) is higher than the offer price or the stock price at the closing on the first trading day (offer-to-close) is higher than the offer price. The overall results with the minimum over-subscription ratio for the whole period of 2006 to 2011 is -0.94 times (under-subscribed), reported during the global financial crisis, demand decreased due to investors perceive pessimistic to the future performance of the economic and the uncertainty of the market conditions. The maximum over-subscription ratio for the whole period of 2006 to 2011 is 315.17 times reported from post global financial crisis, recovery stage for economic from the crisis, investors perceive optimistic to the future performance of the economic will become better and better. This result in line with the average initial returns (offer-to-open) and average initial returns (offer-to-close), investors will acquire more new IPOs in expect to get higher returns if sell off the share at the opening price or closing price in the first day of trading.

Similarly with the results of initial return (offer-to-open) and initial return (offer-to-close), the demand also show a big decrease in the IPOs over-subscription ratio during the global financial crisis compared to the pre global financial crisis and post global financial crisis. The over-subscription ratio for pre-global financial crisis is 35.1864 times, significantly different from zero at the 1% level. The over-subscription ratio during global financial crisis is 8.2843 times, significantly different from zero at the 1% level. The over-subscription ratio for post global financial crisis is 26.4935 times, significantly different from zero at the 1% level. Moreover, the results of median for the over-subscription ratio relatively lower during the global financial crisis compared to the pre global financial crisis and post global financial crisis. The median for pre-global financial crisis is 19.77 times, during global financial crisis is 2.4350 times, and for post global financial crisis is 10.4200 times.

The result of maximum over-subscription ratio for the IPOs is reducing during the global financial crisis compared to the pre global financial crisis and post global financial crisis. The maximum over-subscription ratio for pre-global financial crisis is 262.07 times, during global financial crisis is 69.85 times, and for post global financial crisis is 315.17 times. The result of minimum over-subscription ratio for the IPOs is the worst during the global financial crisis compared to the pre global financial crisis and post global financial crisis. The minimum over-subscription ratio for pre-global financial crisis is 0 times, during global financial crisis is -0.94 times, and for post global financial crisis is -0.10 times. For the over-subscription ratio reported at the highest of 315.17 times is documented in 2011 from post global financial crisis where the year that correspond to these highest average is in line with the highest average initial return (offer-to-open) shown in Panel A and highest average initial return (offer-to-close) shown in Panel B. The lowest over-subscription ratio of -0.94 times is documented in 2008 during global financial crisis. Therefore, during global financial crisis, the over-subscription ratios are relatively lower compared to the pre global financial crisis and post global financial crisis.

Moreover, year 2006 and year 2007 pre global financial crisis for the new IPOs registered with a total of 39 and 27 respectively, and year 2006 is reported as the highest number of new IPOs registered. Year 2008 and year 2009 during global financial crisis for the new IPOs registered with a total of 17 and 13 respectively, and year 2009 is reported as the lowest number of new IPOs registered. Year 2010 and year 2011 post global financial crisis for the new IPOs registered with a total of 28 and 21 respectively. This result also in lines with the decrease in the demand and initial returns during the global financial crisis faced by Malaysia since the starting of the property bubbles burst in 2008. Overall, for the entire period of January 2006 to December 2011, the average initial return (offer-to-open) is 16.52% and the average initial return (offer-to-close) is 13.48%, with the over-subscription ratio of 26.68 times and all are significantly different from zero at the 1% level. On the other hand,

these average initial returns are not significantly different at the 5% level (as discussed in Note 2, Table 4.1, the t-statistic of 1.322 with its p-value of 0.189), it shows that during the global financial crisis, there is no extra returns benefited by the other parties after the IPOs in the secondary market transaction.

4.1 Analysis of the Relationship Variables that Affect the Initial Performance of IPOs

Table 4.2 presents the detailed analysis of the relationship between the average initial return (offer-to-open) with the over subscription ratio, private placement, initial trading volume, boards of listing and offer price and the relationship between the average initial return (offer-to-close) with the over subscription ratio, private placement, initial trading volume, boards of listing and offer price for the period of 2006 to 2011 (in order to capture the period of pre-global financial crisis, during global financial crisis and post global financial crisis). It is important to study the independent variables of over subscription ratio, private placement, initial trading volume, boards of listing and offer price that will affect the dependent variables of initial performance IPOs initial return (offer-to-open) and initial return (offer-to-close); this research also can be used as a benchmark for analyst and researcher for their study and comparison.

The independent variable over-subscription ratio of an IPO defines the number of times an IPO is over-demanded or under-demanded by the group of investors; it measures investors' pre-offering demand for the IPOs. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the few categories of over-subscription ratio from 2006 to 2011 such as over-subscription ratio of less than 10 times with a total data of 63,

over-subscription ratio of 10 times to less than 40 times with a total data of 57, over-subscription ratio of 40 times less than 80 times with a total data of 16 and over-subscription ratio of 80 times and more with a total data of 9.

The independent variable private placement of an IPO refers to the distribution of share on the presence of knowledgeable or informed institutional in an IPO exercise. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the two categories of private placement from 2006 to 2011 such as IPOs offer with private placement with a total data of 111 and IPOs offer without private placement with a total data of 34.

The independent variable initial trading volume of an IPO is the total activities from the opening to the closing on the first day of trading. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the few categories of initial trading volume from 2006 to 2011 such as trading volume of less than 25 million with a total data of 75, trading volume of 25 million to less than 50 million with a total data of 35, trading volume of 50 million less than 100 million with a total data of 27 and trading volume of 100 million and more with a total data of 8.

The independent variable boards of listing of an IPO refer to the shares that are listed on Main Board, Second Board and MESDAQ (before restructuring), Main Market and ACE market (after restructuring). It is depending on the size of market capitalization for an IPO, and also different boards of listing represents different characteristics of the IPOs. The Main Market is a merge of the Main Board and Second Board meanwhile ACE Market is a revamp of MESDAQ Market on 3 August 2009. This research further study the relationship between the average initial return

(offer-to-open) and average initial return (offer-to-close) with the few categories of boards of listing from 2006 to 2011 such as before the restructuring consist of main board of listing with a total data of 32, second board of listing with a total data of 25, MESDAQ of listing with a total data of 29 and after the restructuring consist of Main Market of listing with a total data of 40, ACE Market of listing with a total data of 19.

The variable offer price of an IPO refers to the IPO's offering price to the investors to acquire the shares prior to the listing. This research further study the relationship between the average initial return (offer-to-open) and average initial return (offer-to-close) with the few categories of offer price from 2006 to 2011 such as offer price of less than 1 with a total data of 102, offer price of 1 to less than 2 with a total data of 31, offer price of 2 to less than 3 with a total data of 8 and offer price of 3 and more with a total data of 4.

4.1.1 Over-subscription Ratio

From the panel A of table 4.2 shows the relationship between over-subscription ratios with average initial return (offer-to-open) and average initial return (offer-to-close). When a comparison is made between the average initial return (offer-to-open) and the average initial return (offer-to-close), for the group of over-subscription ratios less than 10 times, the results show there is a decrease from the average initial return (offer-to-open) of 1.4085% to the average initial return (offer-to-close) of -1.6699%. The relationship between over-subscription ratios less than 10 times with average initial return (offer-to-open) and average initial return (offer-to-close) are significantly different from zero at the 5% level as indicated by the t-statistic of 2.3870 and its corresponding p-value of 0.02. For the group of over-subscription ratios of 10 to less than 40 times, there is a slightly increase from the average initial

return (offer-to-open) of 15.0920% to the average initial return (offer-to-close) of 15.9482%. The relationship between over-subscription ratios of 10 to less than 40 times with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -0.3130 and its corresponding p-value of 0.7550.

Moreover, for the group of over-subscription ratios of 40 to less than 80 times, there is an increase from the average initial return (offer-to-open) of 32.0683% to the average initial return (offer-to-close) of 38.4674%. The relationship between over-subscription ratios of 40 to less than 80 times with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -1.1720 and its corresponding p-value of 0.26. For the group of over-subscription ratios of 80 times and more, there are seem to be a big decrease from the average initial return (offer-to-open) of 90.7309% to the average initial return (offer-to-close) of 46.5357%. The relationship between over-subscription ratios of 80 times and more with average initial return (offer-to-open) and average initial return (offer-to-close) are significantly different from zero at the 10% level as indicated by the t-statistic of 1.8620 and its corresponding p-value of 0.10.

Additional from the Panel A, with the higher over-subscription ratios, a higher average initial return (offer-to-open) is reported. The group with over-subscription ratio of less than 10 times was registered for average initial returns (offer-to-open) of 1.4085%, over-subscription ratio of 10 to less than 40 times was registered for average initial returns (offer-to-open) of 15.0920%, over-subscription ratio of 40 to less than 80 times was registered for average initial returns (offer-to-open) of 32.0683%, over-subscription ratio of 80 times and more was registered for average initial returns (offer-to-open) of 90.7309%. The relationship between average initial

return (offer-to-open) with the group of over-subscription ratios are significantly different from zero at the 1% level indicated by the F-value of 26.0570 and its corresponding p-value of 0.000. It means that the higher the over subscription ratio, the higher the average initial return (offer-to-open).

Moreover, with the higher over-subscription ratios, a higher average initial return (offer-to-close) is reported. The group with over-subscription ratio of less than 10 times was registered for average initial returns (offer-to-close) of -1.6699%, over-subscription ratio of 10 to less than 40 times was registered for average initial returns (offer-to-close) of 15.9482%, over-subscription ratio of 40 to less than 80 times was registered for average initial returns (offer-to-close) of 38.4674%, over-subscription ratio of 80 times and more was registered for average initial returns (offer-to-close) of 46.5375%. The relationship between average initial return (offer-to-close) with the group of over-subscription ratios are significantly different from zero at the 1% level indicated by the F-value of 15.3450 and its corresponding p-value of 0.000. It means that the higher the over subscription ratio, the higher the average initial return (offer-to-close). In a nutshell, the higher the over-subscription ratios, the higher the average initial return. These results which are similarly with Yong (1997) and (2008) reported same pattern, the higher the over-subscription ratio, the higher the initial return with IPOs listed on the Main Board, Secondary Board and MESDAQ respectively.

4.1.2 Private Placement

From the panel B of table 4.2 shows the relationship between private placement with average initial return (offer-to-open) and average initial return (offer-to-close). When a comparison is made between the average initial return (offer-to-open) and the average initial return (offer-to-close), for the group of offer with private placement,

the results show there is a decrease from the average initial return (offer-to-open) of 20.3195% to the average initial return (offer-to-close) of 15.6454%. The relationship between group of offer with private placement with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -0.9620 and its corresponding p-value of 0.361.

For the group of offer without private placement, there is an increase from the average initial return (offer-to-open) of 4.0937% to the average initial return (offer-to-close) of 6.3973%. The relationship between group of offer without private placement with average initial return (offer-to-open) and average initial return (offer-to-close) are significantly different from zero at the 10% level as indicated by the t-statistic of 1.7470 and its corresponding p-value of 0.0830.

Additional from the Panel B, average initial returns (offer-to-open) reported an increase with the group of offer with private placement. For the group of offer with private placement was registered for average initial returns (offer-to-open) of 20.3195%. For the group of offer without private placement was registered for average initial returns (offer-to-open) of 4.0937%. The relationship between average initial return (offer-to-open) with the group of private placement are significantly different from zero at the 5% level indicated by the F-value of -2.2260 and its corresponding p-value of 0.028. It means that the group of offer with private placement, the higher the average initial return (offer-to-open) and the group of offer without private placement, the lower the average initial return (offer-to-open).

Moreover, average initial returns (offer-to-close) also reported an increase with the group of offer with private placement. For the group of offer with private placement

was registered for average initial returns (offer-to-close) of 15.6454%. For the group of offer without private placement was registered for average initial returns (offer-to-close) of 6.3973%. The relationship between average initial return (offer-to-close) with the private placements are not significantly different from zero even at the 10% level indicated by the F-value of -1.4370 and its corresponding p-value of 0.1530. It means that there is no relationship between the private placement and the average initial return (offer-to-close).

Table 4.2: Average Initial Return for the Period of 2006-2011 Based on the Over Subscription Ratio, Private Placement, Initial Trading Volume, Boards of Listing and Offer Price.

	n	Average Initial Return (offer to open) %	Average Initial Return (offer to close) %	Result of paired-samples t-test @	
				t-statistic	p-value
Panel A: Over-subscription ratio (times)					
Less than 10	63	1.4085	-1.6699	2.3870**	0.0200
10 to less than 40	57	15.0920	15.9482	-0.3130	0.7550
40 to less than 80	16	32.0683	38.4674	-1.1720	0.2600
80 and more	9	90.7309	46.5357	1.8620***	0.1000
Results of F-test @@@		F-value = 26.0570*	F-value = 15.3450*		
		(P-value = 0.0000)	(P-value = 0.0000)		
Panel B: Private placement					
with private placement	111	20.3195	15.6454	-0.9260	0.3610
without private placement	34	4.0937	6.3973	1.7470***	0.0830
Results of independent t-test @@		t statistic = -2.2260**	t statistic = -1.4370		
		(P-value = 0.0280)	(P-value = 0.1530)		
Panel C: Initial Trading Volume (million)					
Less than 25	75	14.8959	11.0879	2.5910**	0.0120
25 to less than 50	35	16.4020	18.9391	-0.6080	0.5470
50 to less than 100	27	19.8878	12.6813	0.7790	0.4430
100 and more	8	20.8017	14.6617	1.4060	0.2030
Results of F-test @@@		F-value = 0.9300	F-value = 0.4550		
		(P-value = 0.1500)	(P-value = 0.7140)		

Panel D: Listing Board					
Before Restructuring					
Main board	32	15.7125	18.6389	-1.1990	0.2400
Second board	25	6.1122	6.6954	-0.2260	0.8230
MESDAQ	29	29.4951	23.4794	1.4050	0.1710
After Restructuring					
Main market	40	4.1226	3.3958	0.3690	0.7140
ACE market	19	37.8305	19.6624	1.3900	0.1820
Results of F-test @@@		F-value = 4.3000*	F-value = 2.3130***		
		(P-value = 0.0030)	(P-value = 0.0610)		
Panel E: Offer Price					
Less than 1	102	20.0301	15.5331	1.5250	0.1300
1 to less than 2	31	8.1700	7.7826	0.1790	0.8590
2 to less than 3	8	6.8647	9.8271	-0.9330	0.3820
3 and more	4	10.8468	12.4722	-0.3150	0.7730
Results of F-test @@@		F-value = 1.0070	F-value = 0.4700		
		(P-value = 0.3920)	(P-value = 0.7040)		

Notes: 1. @ Paired samples t-test between average initial return (offer to open) and average initial return (offer to close)
2. @@ Independent t-test between two groups
3. @@@ F-test among the groups
4. * significant at the 1% level
5. **significant at the 5% level
6. ***significant at the 10% level

4.1.3 Initial Trading Volume

From the panel C of table 4.2 shows the relationship between initial trading volume with average initial return (offer-to-open) and average initial return (offer-to-close). When a comparison is made between the average initial return (offer-to-open) and the average initial return (offer-to-close), for the group of initial trading volume less than 25 millions, the results show there is a decrease from the average initial return (offer-to-open) of 14.8959% to the average initial return (offer-to-close) of 11.0879%. The

relationship between the group of initial trading volume of less than 25 million with average initial return (offer-to-open) and average initial return (offer-to-close) are significantly different from zero at the 5% level as indicated by the t-statistic of 0.2591 and its corresponding p-value of 0.012. For the group of initial trading volume of 25 to less than 50 millions, there is an increase from the average initial return (offer-to-open) of 16.4020% to the average initial return (offer-to-close) of 18.9391%, The relationship between the group of initial trading volume of 25 to less than 50 million with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -0.6080 and its corresponding p-value of 0.5470.

Moreover, for the group of initial trading volume of 50 to less than 100 millions, there is a decrease from the average initial return (offer-to-open) of 19.8878% to the average initial return (offer-to-close) of 12.6813%, The relationship between the group of initial trading volume of 50 to less than 100 million with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of 0.7790 and its corresponding p-value of 0.4430. For the group of initial trading volume of 100 million and more, there are seem to be a decrease from the average initial return (offer-to-open) of 20.8017% to the average initial return (offer-to-close) of 14.6617%. The relationship between the group of initial trading volume of 100 million and more with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of 0.1460 and its corresponding p-value of 0.2030.

Additional from the Panel C, average initial returns (offer-to-open) reported an increase with the higher initial trading volume. The group of initial trading volume of less than 25 million was registered for average initial returns (offer-to-open) of

14.8959%, initial trading volume of 25 to less than 50 million was registered for average initial returns (offer-to-open) of 16.4020%, initial trading volume of 50 to less than 100 million was registered for average initial returns (offer-to-open) of 19.8878%, initial trading volume of 100 million and more was registered for average initial returns (offer-to-open) of 20.8017%. The relationship between average initial return (offer-to-open) with the group of initial trading volume are not significantly different from zero even at the 10% level indicated by the F-value of 0.93 and its corresponding p-value of 0.15. It means that there is no relationship between the higher the initial trading volumes, the higher the average initial return (offer-to-open).

Moreover, average initial returns (offer-to-close) are fluctuated with the higher initial trading volume. The group of initial trading volume of less than 25 million was registered for average initial returns (offer-to-close) of 11.0879%, initial trading volume of 25 to less than 50 million was registered for average initial returns (offer-to-close) of 18.9391%, initial trading volume of 50 to less than 100 million was registered for average initial returns (offer-to-close) of 12.6813%, initial trading volume of 100 million and more was registered for average initial returns (offer-to-close) of 14.6617%. The relationship between average initial return (offer-to-close) with the group of initial trading volume are not significantly different from zero even at the 10% level indicated by the F-value of 0.4550 and its corresponding p-value of 0.7140. It means that there is no relationship between the higher the initial trading volumes, the higher the average initial return (offer-to-close). In a nutshell, the higher the initial trading volume, not necessary the higher the average initial return (offer-to-open) and average initial return (offer-to-close).

4.1.4 Boards of Listing

From the panel D of table 4.2 shows the relationship between boards of listing with average initial return (offer-to-open) and average initial return (offer-to-close). When a comparison is made between the average initial return (offer-to-open) and the average initial return (offer-to-close), before the restructuring is made, for the group of Main Board of listing, the results show there is an increase from the average initial return (offer-to-open) of 15.7125% to the average initial return (offer-to-close) of 18.6389%. The relationship between the group of Main Board of listing with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero at the 10% level as indicated by the t-statistic of -1.1990 and its corresponding p-value of 0.24. For the group of Second Board of listing, there is a slightly increase from the average initial return (offer-to-open) of 6.1122% to the average initial return (offer-to-close) of 6.6954%. The relationship between the group of Second Board of listing with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -0.2260 and its corresponding p-value of 0.8230. For the group of MESDAQ of listing, there is a decrease from the average initial return (offer-to-open) of 29.4951% to the average initial return (offer-to-close) of 23.4794%. The relationship between the group of Second Board of listing with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero at the 10% level as indicated by the t-statistic of 1.4050 and its corresponding p-value of 0.1710.

Moreover, when a comparison is made between the average initial return (offer-to-open) and the average initial return (offer-to-close), after the restructuring is made, for the group of Main Market of listing, there is a decrease from the average initial return (offer-to-open) of 4.1226% to the average initial return (offer-to-close) of

3.3958%. The relationship between the group of Main Market of listing with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -0.1680 and its corresponding p-value of 0.8680. For the group of ACE Market of listing, there is a big decrease from the average initial return (offer-to-open) of 37.8305% to the average initial return (offer-to-close) of 19.6624%. The relationship between the group of ACE Market of listing with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of 1.3900 and its corresponding p-value of 0.1820.

Additional from the Panel D, higher average initial returns (offer-to-open) is reported for the MESDAQ of listing and ACE market of listing and lower average initial returns (offer-to-open) is reported for the Main Board of listing, Second Board of listing and Main Market of listing. The group of Main Board of listing was registered for average initial returns (offer-to-open) of 15.7125%, Second Board of listing was registered for average initial returns (offer-to-open) of 6.1122%, MESDAQ of listing was registered for average initial returns (offer-to-open) of 29.4951%, Main Market of listing was registered for average initial returns (offer-to-open) of 4.1226%, ACE Market of listing was registered for average initial returns (offer-to-open) of 37.8305%. The relationship between average initial return (offer-to-open) with the group of boards of listing are significantly different from zero at the 1% level indicated by the F-value of 4.30 and its corresponding p-value of 0.003. It means that the MESDAQ of listing and ACE Market of listing give the higher average initial return (offer-to-open).

Moreover, higher average initial returns (offer-to-close) is reported for the MESDAQ of listing and ACE market of listing and lower average initial returns (offer-to-close)

is reported for the Main Board of listing, Second Board of listing and Main Market of listing. The group of Main Board of listing was registered for average initial returns (offer-to-close) of 18.6389%, Second Board of listing was registered for average initial returns (offer-to-close) of 6.6954%, MESDAQ of listing was registered for average initial returns (offer-to-close) of 23.4794%, Main Market of listing was registered for average initial returns (offer-to-close) of 3.3958%, ACE Market of listing was registered for average initial returns (offer-to-close) of 19.6624%. The relationship between average initial return (offer-to-close) with the group of boards of listing are significantly different from zero at the 10% level indicated by the F-value of 2.3130 and its corresponding p-value of 0.0610. It means that the MESDAQ of listing and ACE Market of listing give the higher average initial return (offer-to-close).

4.1.5 Offer Price

From the panel E of table 4.2 shows the relationship between offer price with average initial return (offer-to-open) and average initial return (offer-to-close). When a comparison is made between the average initial return (offer-to-open) and the average initial return (offer-to-close), for the group of offer price less than 1 ringgit, the results show there is a decrease from the average initial return (offer-to-open) of 20.0301% to the average initial return (offer-to-close) of 15.5331%. The relationship between the group of offer price less than 1 ringgit with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of 1.5250 and its corresponding p-value of 0.00. For the group of offer price of 1 to less than 2 ringgit, there is a slightly decrease from the average initial return (offer-to-open) of 8.17% to the average initial return (offer-to-close) of 7.7826%. The relationship between the group of offer price of 1 to less than 2 ringgit with average initial return (offer-to-

open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of 0.1790 and its corresponding p-value of 0.8590.

Moreover, for the group of offer price of 2 to less than 3 ringgit, there is an increase from the average initial return (offer-to-open) of 6.8647% to the average initial return (offer-to-close) of 9.8271%. The relationship between the group of offer price of 2 to less than 3 ringgit with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -0.9330 and its corresponding p-value of 0.3820. For the group of offer price of 3 ringgit and more, there is an increase from the average initial return (offer-to-open) of 10.8468% to the average initial return (offer-to-close) of 12.4722%. The relationship between the group of offer price of 3 ringgit and more with average initial return (offer-to-open) and average initial return (offer-to-close) are not significantly different from zero even at the 10% level as indicated by the t-statistic of -0.3150 and its corresponding p-value of 0.7730.

Additional from the Panel E, average initial returns (offer-to-open) reported a decrease with the higher group of offer price. The group of offer price of less than 1 ringgit was registered for average initial returns (offer-to-open) of 20.0301%, the group of offer price of 1 to less than 2 ringgit was registered for average initial returns (offer-to-open) of 8.17%, %, the group of offer price of 2 to less than 3 ringgit was registered for average initial returns (offer-to-open) of 6.8647%, the group of offer price of 3 ringgit and more was registered for average initial returns (offer-to-open) of 10.8468%. The relationship between average initial return (offer-to-open) with the group of offer price are not significantly different from zero even at the 10% level indicated by the F-value of 1.0070 and its corresponding p-value of 0.3920. It means

that the higher the the group of offer price, it is not necessary the higher the average initial return (offer-to-open).

Moreover, average initial returns (offer-to-close) also reported a decrease with the higher group of offer price. The group of offer price of less than 1 ringgit was registered for average initial returns (offer-to-close) of 15.5331%, the group of offer price of 1 to less than 2 ringgit was registered for average initial returns (offer-to-close) of 7.7826%, the group of offer price of 2 to less than 3 ringgit was registered for average initial returns (offer-to-close) of 9.8271%, the group of offer price of 3 ringgit and more was registered for average initial returns (offer-to-close) of 12.4722%. The relationship between average initial return (offer-to-close) with the group of offer price are not significantly different from zero even at the 10% level indicated by the F-value of 0.47 and its corresponding p-value of 0.7040. It means that the higher the group of offer price, there is not necessary the higher the average initial return (offer-to-close). In a nutshell, the higher the offer price, there is no relationship with the average initial return (offer-to-open) and initial return (offer-to-close). The results are in line with theory and empirical where the offer price is negatively related to average initial return (offer-to-open) and initial return (offer-to-close). A higher offer price signifies lower uncertainty about the firm and lower information cost for the firm to attain secondary market liquidity. Again, in line with recent study by Fernando et al. (2004), and Wang and Ligou (2009), the empirical evidence shows a nonlinear relationship between the offer price and average initial return (offer-to-open) and initial return (offer-to-close).

4.2 Regression Analysis

Table 4.3: The Regression Between the Board of Listing, Offer Price, Over Subscription Ratio, Private Placement and the Initial Trading Volume with the Initial Performance (offer-to-open).

	Initial Performance (Offer-to-Open)			
	1		2	
	Coef	t-stat	Coef	t-stat
CONSTANT	6.4093	0.6274	7.0805	0.7515
CRISIS	-15.3098	-0.5490	-10.4295	-1.7004***
BOARD	-2.0664	-0.9295	-1.8126	-0.8917
OFFER	-2.9087	-0.6312	-3.1504	-0.7571
OSR	0.4611	8.7122*	0.4583	8.8776*
PRIVATE	10.0799	1.4925	8.2505	1.3791
VOLUME	0.0000	0.4949	0.0000	0.6548
CRISIS*BOARD	3.8462	0.5707		
CRISIS*OFFER	3.7087	0.2940		
CRISIS*OSR	-0.3769	-0.8845		
CRISIS*PRIVATE	-9.4265	-0.5845		
CRISIS*VOLUME	0.0000	0.3432		
Adjusted R squared	39.20%		40.75%	
F-Stat	9.4408*		17.5074*	
Observations	145		145	

Notes: 1. * significant at the 1% level
2. **significant at the 5% level
3. ***significant at the 10% level

Table 4.3 presents the detailed analysis of the regression between the initial performance (offer-to-open) with the over subscription ratio, private placement, initial trading volume, boards of listing and offer price and the regression between the initial performance (offer-to-close) with the over subscription ratio, private placement,

initial trading volume, boards of listing and offer price for the period of 2006 to 2011 with a total of 145 observations (in order to capture the period of pre-global financial crisis, during global financial crisis and post global financial crisis). It is important to study the initial performance of (offer-to-open) and initial return (offer-to-close) with the over subscription ratio, private placement, initial trading volume, boards of listing and offer price because this research also can be used as a benchmark for analyst and researcher for their study and comparison. This research further study the regression relationship between the initial performance (offer-to-open) and (offer-to-close) with the few categories of co-relationship crisis and over-subscription ratio, co-relationship crisis and private placement, co-relationship crisis and initial trading volume, co-relationship crisis and boards of listing, co-relationship crisis and offer price. There is a strong relationship between the initial performance (offer-to-close) with boards of listing, offer price, over subscription ratio, offer price, initial trading volume, financial crisis, co-relationship crisis and over-subscription ratio, co-relationship crisis and private placement, co-relationship crisis and initial trading volume, co-relationship crisis and boards of listing, co-relationship crisis and offer price and are significantly different from zero at the 1% level as indicated by the f-statistic of 9.4408 and its corresponding p-value of 0.01. In term of these, over subscription ratio with the strongest relationship with financial crisis and are significantly different from zero at the 1% level as indicated by the f-statistic of 8.7122 and its corresponding p-value of 0.01. Moreover, the adjusted R-square for the regression is 39.20% which with high level of reliability.

Table 4.4: The Regression Between the Board of Listing, Offer Price, Over Subscription Ratio, Private Placement and the Initial Trading Volume with the Initial Performance (offer-to-close).

	Initial Performance (Offer-to-Close)			
	1		2	
	Coef	t-stat	Coef	t-stat
CONSTANT	21.2951	2.0470**	21.5103	2.1988**
CRISIS	-12.5046	-0.4404	-13.9318	-2.1877**
BOARD	-5.7850	-2.5554**	-4.5562	-2.1588**
OFFER	-3.8512	-0.8207	-5.0474	-1.1683
OSR	0.2107	3.9100*	0.2264	4.2240*
PRIVATE	11.4028	1.6581***	6.2824	1.0114
VOLUME	0.0000	0.7017	0.0000	0.9934
CRISIS*BOARD	3.1158	0.4540		
CRISIS*OFFER	0.1918	0.0149		
CRISIS*OSR	0.6839	1.5764		
CRISIS*PRIVATE	-21.8524	-1.3308		
CRISIS*VOLUME	0.0000	0.2208		
Adjusted R squared	17.53%		16.45%	
F-Stat	3.7833*		5.7257*	
Observations	145		145	

Notes: 1. * significant at the 1% level
2. **significant at the 5% level
3. ***significant at the 10% level

Table 4.4 presents the detailed analysis of the regression between the initial performance (offer-to-close) with the over subscription ratio, private placement, initial trading volume, boards of listing and offer price and the regression between the initial performance (offer-to-close) with the over subscription ratio, private placement, initial trading volume, boards of listing and offer price for the period of 2006 to 2011 with a total of 145 observations (in order to capture the period of pre-global financial crisis, during global financial crisis and post global financial crisis). It is important to study the initial performance of (offer-to-close) and initial return (offer-to-close) with

the over subscription ratio, private placement, initial trading volume, boards of listing and offer price because this research also can be used as a benchmark for analyst and researcher for their study and comparison. This research further study the regression relationship between the initial performance (offer-to-close) and (offer-to-close) with the few categories of interrelationship crisis and over-subscription ratio, interrelationship crisis and private placement, interrelationship crisis and initial trading volume, interrelationship crisis and boards of listing, interrelationship crisis and offer price. There is a strong relationship between the initial performance (offer-to-close) with boards of listing, offer price, over subscription ratio, offer price, initial trading volume, financial crisis, co-relationship crisis and over-subscription ratio, co-relationship crisis and private placement, co-relationship crisis and initial trading volume, co-relationship crisis and boards of listing, co-relationship crisis and offer price and are significantly different from zero at the 1% level as indicated by the f-statistic of 3.7833 and its corresponding p-value of 0.01. In term of these, over subscription ratio with the strongest relationship with financial crisis and are significantly different from zero at the 1% level as indicated by the f-statistic of 0.2107 and its corresponding p-value of 0.01. Moreover, the adjusted R-square for the regression is 17.53% which with moderate level of reliability.

In short, the initial performance of IPOs is generally decreased due to the global financial crisis. The results of IPOs initial performance show a big decrease in the average initial return (offer-to-open) during the global financial crisis The demand of IPOs is also generally decreased due to the global financial crisis, The demand also show a big decrease in the IPOs over-subscription ratio during the global financial crisis compared to the pre global financial crisis and post global financial crisis. We also noted that over-subscription ratio affect the initial performance of IPOs. With the higher over-subscription ratios will result in a higher average initial return For the private placement, the group of offer with private placement also affects the initial performance of IPOs but there is no relationship between the group of offer without

private placement and the initial performance of IPOs. Moreover, there is no relationship between the initial trading volume and the initial performance of IPOs. For the boards of listing, only the MESDAQ of listing and ACE Market of listing affect the initial performance of IPOs. It means that the MESDAQ of listing and ACE Market of listing will result in higher average initial return (offer-to-open) and average initial return (offer-to-close) compared to other boards of listing. Last but not least, for the variable of offer price, there is no relationship between the offer price and the initial performance of IPOs.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.0 Conclusion

This paper examines the initial performance of 145 IPOs listed on Malaysia Stock Market; the results are divided into 3 different scenarios which are pre-global financial crisis; during global financial crisis and post global financial crisis from January 2006 to December 2011. The study measure the effect of the financial crisis towards the initial performance of IPO and relationship between the initial return (offer-to-open) and initial return (offer-to-close) with the pre-global financial crisis, during global financial crisis and post global financial crisis. It also examines the variables that affect the initial performance of IPOs such as over subscription ratio, private placement, initial trading volume, boards of listing and offer price.

We are noted that the initial performance of IPOs is generally decreased due to the global financial crisis. The results of IPOs initial performance show a big decrease in the average initial return (offer-to-open) during the global financial crisis compared to the pre global financial crisis and post global financial crisis. Therefore, during global financial crisis, the initial returns (offer-to-open) are considerably lower compared to the pre global financial crisis and post global financial crisis. On the other hand, the initial performance of IPOs is generally decreased due to the global financial crisis. The results of IPOs initial performance show a big decrease in the IPOs initial return

(offer-to-close) during the global financial crisis compared to the pre and post global financial crisis. Therefore, during global financial crisis, the initial returns (offer-to-close) are relatively lower compared to the pre global financial crisis and post global financial crisis. The demand of IPOs is also generally decreased due to the global financial crisis. The demand also show a big decrease in the IPOs over-subscription ratio during the global financial crisis compared to the pre global financial crisis and post global financial crisis.

We also noted that over-subscription ratio affect the initial performance of IPOs. With the higher over-subscription ratios will result in a higher average initial return (offer-to-open) and with the higher over-subscription ratios will also result in a higher average initial return (offer-to-close). It means that if there is a high demand of the IPOs, the higher average initial return for the IPO is reported. For the private placement, the group of offer with private placement also affects the initial performance of IPOs but there is no relationship between the group of offer without private placement and the initial performance of IPOs. The average initial returns (offer-to-open) reported an increase with the group of offer with private placement. It means that the group of offer with private placement will result in higher average initial return (offer-to-open) and the group of offer without private placement, will result in lower average initial return (offer-to-open). There is no relationship between the private placement and the average initial return (offer-to-close).

Moreover, there is no relationship between the initial trading volume and the initial performance of IPOs. It means that there is no relationship between the higher initial trading volumes with the average initial return (offer-to-open) and average initial return (offer-to-close). In a nutshell, with the higher the initial trading volume, not necessary result in the higher average initial return (offer-to-open) and average initial return (offer-to-close). For the boards of listing, only the MESDAQ of listing and

ACE Market of listing affect the initial performance of IPOs. It means that the MESDAQ of listing and ACE Market of listing will result in higher average initial return (offer-to-open) and average initial return (offer-to-close) compared to other boards of listing. Last but not least, for the variable of offer price, there is no relationship between the offer price and the initial performance of IPOs. It means that there is no relationship between the higher offer price with the average initial return (offer-to-open) and average initial return (offer-to-close). In a nutshell, with the higher offer price, not necessary result in the higher average initial return (offer-to-open) and average initial return (offer-to-close).

5.1 Recommendation

We recommend base on the results of initial performance (offer-to-open) investors still able to get a good return from the disposal of IPOs at opening price on the first day of trading; the only matter is the return become lesser during global financial crisis. Similarly to the initial performance (offer-to-close), investors still able to get a good return from the disposal of IPOs at closing price on the first day of trading; the only matter is the return become lesser during global financial crisis.

During the financial crisis, investors still acquired new IPOs very actively and expected to get a good return from the disposal of IPOs at the opening price or closing price on the first day of trading; the only matter is the demand become lesser during global financial crisis.

5.2 Limitation of Study

The limitation of this study is not including the book building factor. Book building is common in the US stock market and most of the countries around the world, but uncommon for the case of Malaysia IPOs. Book buildings IPOs only become popular in the recent year; therefore this study excluded the book building IPOs because the sample data is insufficient to study. This study only adopted IPO data from Malaysia Stock Market; it is good to study other markets as well to support the phenomenon.

REFERENCES

Aggarwal, R., Leal, R. & Hernandez, L. 1993. The aftermarket performance of initial public offerings in Latin America. *Financial Management* 22: 42-53.

Aussenegg, W. 2000. Privatization versus private sector: initial public offerings in Poland. Multinat. Financ. J. 4 (1–2), 69–99.

Banerjee, S., Dai, L. & Shrestha, K. 2011. Cross-country IPOs: What explain differences in underpricing? *Journal of Corporate Finance* 17(5): 1289-1305.

Beatty, R. & Ritter, J.R. 1986. Investment banking, reputation, and the underpricing of initial public offerings. *Journal of Financial Economics* 15: 213–232.

Benveniste, L.M. & Spindt, P. 1989. How investment bankers determine the offer price and allocation of new issues. *Journal of Financial Economics* 24: 343–361.

Benveniste, L.M. & Wilhelm, W.J. 1990. A comparative analysis of IPO proceeds under alternative regulatory environments. *Journal of Financial Economics* 28: 173–207.

Booth, J. & Chua, L. 1996. Ownership dispersion, costly information, and IPO underpricing. *Journal of Financial Economics* 4: 291–310.

Boulton, T. J., Smart, S. B. & Zutter, C. J. 2007. IPO underpricing and international corporate governance. *Working paper*, Miami University.

Brau., James, C. & Rodriguez, J. 2009. An empirical analysis of Mexican and US closed-end mutual fund IPOs. *Research in International Business and Finance*. 23(1): 1-17.

Bursa Malaysia website (*http://www.bursamalaysia.com*)

Chambers, D. & Dimson, E. 2009. IPO underpricing over the very long run. *Journal of Finance* 64: 1407−1443.

Chahine, S. & Saade, S. 2011. Shareholders' rights and the effect of the origin of venture capital firms on the underpricing of US IPOs. *Corporate Governance: An International Review* 19: 601–621.

Chen Z., Choi J. J. & Jiang C. 2007. Corruption in state owned firms: Evidence from China's IPOs, *Temple University working paper*.

Choi, S.-D., Nam, S.-K. 1998. The short-run performance of IPOs of privately and publicly owned firms: international evidence. Multinat. Financ. J. 2 (3), 225–244.

Chorruk, J. A. & Worthington, A. C. 2010. New evidence on the pricing and performance of initial public offerings in Thailand: 1997–2008. *Emerging Markets Review* 11: 285-299.

Cornelli, F., Goldreich, D. & Ljungqvist, A. 2006. Investor sentiment and pre-IPO markets. *Journal of Finance* 61: 1187–1216.

Dawson, S. M. 1987. Secondary stock market performance of initial public offers, Hong Kong, Singapore and Malaysia: 1978-1984, *Journal of Business Finance and Accounting* 14: 65-76.

Dawson, S. M. 1995. Measuring the costs of IPO under-pricing: The original shareholders' view. *Capital Market Review* 3 (1): 33-48.

Derrien, F. 2005. IPO pricing in "hot" market conditions: Who leaves money on the table? *Journal of Finance* 60: 487–521.

Dewenter, K., Malatesta, P. 1997. Public offerings of state-owned and privately-owned enterprises: an international comparison. J. Financ. 52 (4), 1659–1679.

Fernando, C.S., Krishnamurthy, S. & Spindt, P.A. 2004. Are share price levels informative? Evidence from the ownership, pricing, turnover and performance of IPO firms. *Journal of Financial Markets* 7: 377–403.

Gao. Y. 2010. What comprises IPO initial returns: Evidence from the Chinese market. *Pacific-Basin Finance Journal* 18: 77–89.

Ghosh, S. 2004. Underpricing of IPOs: The Indian experience over the last decade, Reserve Bank of India. *Working Paper*.

Gounopoulos, D., Nounis, C. & Andstylianides, P. 2007. The short and long term performance of initial public offerings in the Cyprus Stock Exchange. *Journal of Financial Decision Making* 4(1): 1-28.

Hameed, A. & Lim, G. H. 1998. Underpricing and firm quality in initial public offerings: evidence from Singapore. *Journal of Business Finance & Accounting* 25: 455-468.

Hibara, N. & Mathew, P.G. 2004. Grandstanding and venture capital firms in newly established IPO markets. *Journal of Entrepreneurial Finance and Business Ventures* 9 (3): 77-90.

Ibbotson, R. G. 1975. Price performance of common stock new issues. *Journal of Financial Economics* 2: 235−272.

Ibbotson, R.G., Sindelar, J.L. & Ritter, J.R. 1988. Initial public offerings. *Journal of Applied Corporate Finance* 7: 6–14.

Ibbotson, R.G., Sindelar J. & Ritter J. 1994. The market's problems with the pricing of initial public offerings. *Journal of Applied Corporate Finance* 7: 66-74.

Investor Digest (a monthly publication of the Bursa Malaysia)

Islam, M., Ali, R. & Ahmad, Z. 2010. An Empirical Investigation into the under-pricing of initial public offerings in the Chittagong Stock Exchange, *International Journal of Economics and Finance* 2(4): 36-46.

Ismail, K. N. I., Abidin, F. Z. & Zainudin, N. 1993. Performance of new stock issues on the KLSE. *Capital Markets Review* 1 (1): 81-95.

Jain, B.A. & Kini, O. 1999. The life cycle of initial public offering firms. *Journal of Business Finance & Accounting* 26: 1281–1307.

Jelic, R., Briston, R.J. 1999. Hungarian privatization strategy and financial performance of privatized companies. J. Bus. Financ. Account. 26 (9–10), 1319–1357.

Jelic, R. & Briston R. 2003. Privatisation initial public offerings: The Polish experience. *European Financial Management* 9: 457-484.

Jenkinson, T. & H. Jones. 2004. Bids and allocations in European IPO book building. *Journal of Finance* 59: 2309-2338.

Jenkinson, T. Mayer, C. 1988. The privatization process in France and the UK. Eur. Econ. Rev. 32 (2–3), 482–490.

Jones, S.L., Megginson, W.L., Nash, R.C., Netter, J.M. 1999. Share issue privatizations as financial means to political and economic ends. J. Financ. Econ. 53, 217–253.

Kazantzis, C. & Levis, M. 1995. Price support and initial public offerings: Evidence from Athens Stock Exchange. *Research in International Business and Finance* 12: 185- 200.

Kearney, C., Sadeghi, M., 1997. The short term price performance of initial public offerings of common stock: Australia 1991–1994. Int. J. Bus. Stud. 5, 1–10.

Kerins, F., Kutsuna, K., & Smith, R. 2007. Why are IPOs underpriced? Evidence from Japan's hybrid auction-method offerings. *Journal of Financial Economics* 85: 637−666.

Kim, J., Krinsky, I. & Lee, J. 1993. Motives for going public and under-pricing: New findings from Korea. *Journal of Business Finance & Accounting* 20(2): 195-211.

Kim, J. B., Krinsky, I. & Lee, J. 1995. The aftermarket performance of initial public offerings in Korea. *Pacific-Basin Finance Journal* 3: 429−448.

Koh, F. & Walter, T. 1989. A direct test of Rock's model of the pricing of unseasoned issues. *Journal of Financial Economics* 23: 251−272.

Krishnamurti, C. & Thong, T. Y. 2008. Lockup expiration, insider selling and bid-ask spreads. *International Review of Economics & Finance* 17: 230−244.

Levis, M. 1990. The winner's curse problem, interest costs and the under-pricing of initial public offerings. *Economics Journal* 100: 76–89.

Levis, M. 1993. The long run performance of initial public offerings: The UK experience 1980-88. *Financial Management* 22 (1): 28-41.

Ljungqvist, A. 1997. Pricing initial public offerings: Further evidence from Germany. *European Economic Review* 41: 1309-1320.

Ljungqvist, A. 2007. IPO underpricing: A survey in B. Espen Eckbo (Ed.), *Handbook of Corporate Finance: Empirical Corporate Finance* 1: 375−422

Loughran, T., Ritter, J. R. & Rydqvist, K. 1994. Initial public offerings: International insights. *Pacific-Basin Finance Journal* 2: 165-99.

Loughran, T. & Ritter, J. R. 2004. Why has IPO underpricing changed over time? *Financial Management* 33: 5−37.

Lowry, M., Officer, M, & Schwert G.W. 2010. The variability of IPO initial returns. *Journal of Finance* 65(2): 425–465.

Lyn, E.O. & Zychowicz, E.J. 2002. The performance of new equity offerings in Hungary and Poland. *Global Finance Journal* 14(2): 181-195.

McDonald, J. G. & Fisher, A. K. 1972. New-issue stock price behavior. *Journal of Finance* 27: 97−102.

Menyah, K. & Paudyal, K. 1996. Share issue privatisations: The UK experience. *In: Levis, M. (Ed.), Empirical Issues in Raising Capital. Elsevier Science, Amsterdam.* 17–48

Mohan, N. J. & Chen, C. R. 2001. Information content of lock-up provisions in initial public offerings. *International Review of Economics & Finance* 10: 41−59.

Moshirian, F., Ng, D. & Wu, E. 2010. Model specification and IPO performance: New insights from Asia. *Research in International Business and Finance* 24(1): 62-74.

Newspaper reports at website (*http://www.biznewsdb.com)*

Ofek, E. & Richardson, M. 2003. Dot-com mania: The rise and fall of Internet stock prices. *Journal of Finance* 58: 1113–1138.

Paudyal, K., Saadouni, B. & Briston, R.J. 1998. Privatization initial public offerings in Malaysia: Initial premium and long-term performance. *Pacific-Basin Finance Journal* 6 (5): 427–451.

Perotti, E. Guney, S. 1993. Successful privatization plans: enhanced credibility through timing and pricing of sales. Financ. Manag. 22 (1), 84–98.

Ritter, J. R. 1984. The 'hot issue' market of 1980. *Journal of Business* 57: 215−240.

Ritter, J. R. 1991. The long-run performance of initial public offerings. *Journal of Finance* 46: 3-21.

Ritter, J.R. and Welch I. 2002. A review of IPO activity, pricing, and allocations. *Journal of Finance* 57: 1795-1828.

Rock, K.1986. Why new issues are underpriced. *Journal of Financial Economics* 15: 187–212.

Samarakoon.L, P. 2010. The short-run underpricing of initial public offerings in the Sri Lankan Stock Market. *Journal of Multinational Financial Management* 20:197-213.

The Star Online (*http://biz.thestar.com.my/marketwatch/ipo*)

Wang, Q. & Ligou, J.A. 2009. The underpricing of IPOs. *Financial Management* 38 (12): 301–322.

Yahoo. Finance (http://sg.finance.yahoo.com)

Yong, O. 1991. Performance of new issues of securities in Malaysia. *Malaysian Accountant*: 3-6.

Yong. O. 1997. Initial public offerings: The Malaysian experience 1990-1994. In A*dvances in Pacific-Basin Capital Markets*, ed T. Bos and T. Fetherston, 3:177-188. Connecticut: JAI Press.

Yong. O. 2007. Investor demand, size effect and performance of Malaysian initial public offerings: Evidence from post-1997 financial crisis. *Jurnal Pengurusan* 26: 25-47.

Yong. O. 2008. Initial performance of IPOs listed on MESDAQ. *Capital Market Review* 16: 27-43.

Yong. O. 2011. Winner's Curse and bandwagon Effect in Malaysian IPOs: Evidence from 2001-2009. *Jurnal Pengurusan* 32: 21-26.

Yong. O. & Isa, Z. 2003. Initial performance of new issues of shares in Malaysia. *Applied Economics* 35: 919-930.

APPENDIX A

Table 4.1. Descriptive statistics of initial return, oversubscription ratio for IPOs listed on Malaysia's stock market, by pre-global financial crisis, during global financial crisis and post global financial crisis

SPSS_Table 4.1_Descriptive

Descriptives

Descriptive Statistics

Year		N	Minimum	Maximum	Mean	Std. Deviation
2006	Oversubscription ratio	39	.00	262.07	30.3687	48.81892
	total unit offered	39	9450000	201874000	54689094.26	54189100.077
	IRoffertoopen	39	-35.77	95.12	21.7203	28.44254
	IRoffertoclose	39	-40.65	139.02	20.0272	35.31895
	Valid N (listwise)	39				
2007	Oversubscription ratio	27	.71	212.59	42.1452	52.73457
	total unit offered	27	11753000	220000000	57801622.22	48301958.597
	IRoffertoopen	27	-15.00	135.71	27.1621	39.57730
	IRoffertoclose	27	-13.64	100.00	28.0716	33.20501
	Valid N (listwise)	27				
2008	Oversubscription ratio	17	-.94	8.63	1.9323	3.12211
	total unit offered	17	19809246	202000000	65669988.41	51884120.680
	IRoffertoopen	17	-34.88	15.86	-3.1501	12.56925
	IRoffertoclose	17	-34.88	42.86	-7.9059	18.57943
	Valid N (listwise)	17				
2009	Oversubscription ratio	13	.22	69.85	16.5908	20.02522
	total unit offered	13	22000000	460000000	94159307.69	1.189E8
	IRoffertoopen	13	-12.86	29.31	5.6142	11.04827
	IRoffertoclose	13	-15.24	49.00	9.4552	18.81927
	Valid N (listwise)	13				
2010	Oversubscription ratio	28	.35	46.75	9.5846	10.52121
	total unit offered	28	15321000	2480000000	2.76E8	5.487E8
	IRoffertoopen	28	-66.84	20.00	1.2105	17.56819

	IRoffertoclose	28	-65.44	76.00	1.0313	23.14315
	Valid N (listwise)	28				
2011	Oversubscription ratio	21	-.10	315.17	49.0386	84.81476
	total unit offered	21	17360000	230000000	68830190.48	44385455.812
	IRoffertoopen	21	-24.21	288.89	36.2311	68.50599
	IRoffertoclose	21	-39.21	148.48	18.9408	42.27188
	Valid N (listwise)	21				

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Oversubscription ratio	145	-.94	315.17	26.6828	49.44844
total unit offered	145	9450000	2480000000	1.05E8	2.580E8
IRoffertoopen	145	-66.84	288.89	16.5148	37.69504
IRoffertoclose	145	-65.44	148.48	13.4769	32.95761
Valid N (listwise)	145				

Frequencies

Statistics

Year			IRoffertoopen	IRoffertoclose	Oversubscription ratio	total unit offered
2006	N	Valid	39	39	39	39
		Missing	0	0	0	0
	Mean		21.7203	20.0272	30.3687	54689094.26
	Median		18.5714	13.9394	14.2900	35000000.00
	Std. Deviation		28.44254	35.31895	48.81892	54189100.077
	Minimum		-35.77	-40.65	.00	9450000
	Maximum		95.12	139.02	262.07	201874000
2007	N	Valid	27	27	27	27
		Missing	0	0	0	0
	Mean		27.1621	28.0716	42.1452	57801622.22
	Median		12.1951	15.4717	28.8100	42000000.00
	Std. Deviation		39.57730	33.20501	52.73457	48301958.597
	Minimum		-15.00	-13.64	.71	11753000

	Maximum		135.71	100.00	212.59	220000000
2008	N	Valid	17	17	17	17
		Missing	0	0	0	0
	Mean		-3.1501	-7.9059	1.9323	65669988.41
	Median		.0000	-12.5000	.7500	45000000.00
	Std. Deviation		12.56925	18.57943	3.12211	51884120.680
	Minimum		-34.88	-34.88	-.94	19809246
	Maximum		15.86	42.86	8.63	202000000
2009	N	Valid	13	13	13	13
		Missing	0	0	0	0
	Mean		5.6142	9.4552	16.5908	94159307.69
	Median		2.2727	8.6207	12.5900	51300000.00
	Std. Deviation		11.04827	18.81927	20.02522	1.189E8
	Minimum		-12.86	-15.24	.22	22000000
	Maximum		29.31	49.00	69.85	460000000
2010	N	Valid	28	28	28	28
		Missing	0	0	0	0
	Mean		1.2105	1.0313	9.5846	2.76E8
	Median		3.6039	.5000	6.0700	84150000.00
	Std. Deviation		17.56819	23.14315	10.52121	5.487E8
	Minimum		-66.84	-65.44	.35	15321000
	Maximum		20.00	76.00	46.75	2480000000
2011	N	Valid	21	21	21	21
		Missing	0	0	0	0
	Mean		36.2311	18.9408	49.0386	68830190.48
	Median		14.2857	8.7719	14.4800	54100000.00
	Std. Deviation		68.50599	42.27188	84.81476	44385455.812
	Minimum		-24.21	-39.21	-.10	17360000
	Maximum		288.89	148.48	315.17	230000000

SPSS_Table 4.1_Median

Frequencies

Statistics

		IRoffertoopen	IRoffertoclose	Oversubscription ratio	total unit offered
N	Valid	145	145	145	145
	Missing	0	0	0	0
Median		8.3333	6.8443	12.0900	46800000.00

APPENDIX B

Table 4.1_Initial return (offer-to-open) - one sample t-test

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoopen	145	16.5148	37.69504	3.13040

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoopen	5.276	144	.000	16.51482	10.3273	22.7023

One-Sample Statistics

Year		N	Mean	Std. Deviation	Std. Error Mean
2006	IRoffertoopen	39	21.7203	28.44254	4.55445
2007	IRoffertoopen	27	27.1621	39.57730	7.61665
2008	IRoffertoopen	17	-3.1501	12.56925	3.04849
2009	IRoffertoopen	13	5.6142	11.04827	3.06424
2010	IRoffertoopen	28	1.2105	17.56819	3.32008
2011	IRoffertoopen	21	36.2311	68.50599	14.94923

One-Sample Test

Year		Test Value = 0					
						95% Confidence Interval of the Difference	
		t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2006	IRoffertoopen	4.769	38	.000	21.72035	12.5003	30.9404
2007	IRoffertoopen	3.566	26	.001	27.16207	11.5058	42.8183
2008	IRoffertoopen	-1.033	16	.317	-3.15014	-9.6127	3.3124
2009	IRoffertoopen	1.832	12	.092	5.61422	-1.0622	12.2906
2010	IRoffertoopen	.365	27	.718	1.21047	-5.6018	8.0227
2011	IRoffertoopen	2.424	20	.025	36.23113	5.0476	67.4147

Table 4.1_Initial return (offer-to-open) Pre Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoopen	66	23.9465	33.26792	4.09500

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoopen	5.848	65	.000	23.94650	15.7682	32.1248

Frequencies

Statistics

IRoffertoopen

N	Valid	66
	Missing	0
Mean		23.9465
Median		16.6846
Std. Deviation		33.26792
Minimum		-35.77
Maximum		135.71

Table 4.1_Initial return (offer-to-open) During Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoopen	30	.6477	12.53741	2.28901

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoopen	.283	29	.779	.64775	-4.0338	5.3293

Frequencies

Statistics

IRoffertoopen

N	Valid	30
	Missing	0
Mean		.6477
Median		.0000
Std. Deviation		12.53741
Minimum		-34.88
Maximum		29.31

Table 4.1_Initial return (offer-to-open) Post Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoopen	49	16.2193	49.35249	7.05036

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoopen	2.300	48	.026	16.21932	2.0436	30.3950

Frequencies

Statistics

IRoffertoopen

N	Valid	49
	Missing	0
Mean		16.2193
Median		5.1724
Std. Deviation		49.35249
Minimum		-66.84
Maximum		288.89

APPENDIX C

Table 4.1_Initial return (offer-to-close) - one sample t-test

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoclose	145	13.4769	32.95761	2.73698

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoclose	4.924	144	.000	13.47687	8.0670	18.8867

One-Sample Statistics

Year		N	Mean	Std. Deviation	Std. Error Mean
2006	IRoffertoclose	39	20.0272	35.31895	5.65556
2007	IRoffertoclose	27	28.0716	33.20501	6.39031
2008	IRoffertoclose	17	-7.9059	18.57943	4.50617
2009	IRoffertoclose	13	9.4552	18.81927	5.21953
2010	IRoffertoclose	28	1.0313	23.14315	4.37364
2011	IRoffertoclose	21	18.9408	42.27188	9.22448

One-Sample Test

Year		Test Value = 0					
						95% Confidence Interval of the Difference	
		t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2006	IRoffertoclose	3.541	38	.001	20.02724	8.5782	31.4763
2007	IRoffertoclose	4.393	26	.000	28.07160	14.9361	41.2071
2008	IRoffertoclose	-1.754	16	.098	-7.90588	-17.4585	1.6468
2009	IRoffertoclose	1.812	12	.095	9.45518	-1.9172	20.8275
2010	IRoffertoclose	.236	27	.815	1.03129	-7.9427	10.0053
2011	IRoffertoclose	2.053	20	.053	18.94084	-.3011	38.1828

Table 4.1_Initial return (offer-to-close) Pre Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoclose	66	23.3181	34.44094	4.23939

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoclose	5.500	65	.000	23.31812	14.8515	31.7848

Frequencies

Statistics

IRoffertoclose

N	Valid	66
	Missing	0
Mean		23.3181
Median		14.7727
Std. Deviation		34.44094
Minimum		-40.65
Maximum		139.02

Table 4.1_Initial return (offer-to-close) During Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoclose	30	-.3828	20.33636	3.71289

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoclose	-.103	29	.919	-.38275	-7.9765	7.2110

Frequencies

Statistics

IRoffertoclose

N	Valid	30
	Missing	0
Mean		-.3828
Median		-3.1373
Std. Deviation		20.33636
Minimum		-34.88
Maximum		49.00

Table 4.1_Initial return (offer-to-close) Post Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoclose	49	8.7068	33.55611	4.79373

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
IRoffertoclose	1.816	48	.076	8.70681	-.9316	18.3453

Frequencies

Statistics

IRoffertoclose

N	Valid	49
	Missing	0
Mean		8.7068
Median		3.7037
Std. Deviation		33.55611
Minimum		-65.44
Maximum		148.48

APPENDIX D

Table 4.1_Initial return (overscription ratio) - one sample t-test

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Oversubscription ratio	145	26.6828	49.44844	4.10647

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Oversubscription ratio	6.498	144	.000	26.68282	18.5661	34.7996

One-Sample Statistics

Year		N	Mean	Std. Deviation	Std. Error Mean
2006	Oversubscription ratio	39	30.3687	48.81892	7.81728
2007	Oversubscription ratio	27	42.1452	52.73457	10.14877
2008	Oversubscription ratio	17	1.9323	3.12211	.75722
2009	Oversubscription ratio	13	16.5908	20.02522	5.55400
2010	Oversubscription ratio	28	9.5846	10.52121	1.98832
2011	Oversubscription ratio	21	49.0386	84.81476	18.50810

One-Sample Test

Year		Test Value = 0					
		t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
2006	Oversubscription ratio	3.885	38	.000	30.36872	14.5435	46.1940
2007	Oversubscription ratio	4.153	26	.000	42.14519	21.2841	63.0063
2008	Oversubscription ratio	2.552	16	.021	1.93228	.3270	3.5375
2009	Oversubscription ratio	2.987	12	.011	16.59077	4.4896	28.6919
2010	Oversubscription ratio	4.820	27	.000	9.58464	5.5049	13.6643
2011	Oversubscription ratio	2.650	20	.015	49.03860	10.4314	87.6458

Table 4.1_Initial return (overscription ratio) Pre Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Oversubscription ratio	66	35.1864	50.39565	6.20328

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Oversubscription ratio	5.672	65	.000	35.18636	22.7976	47.5752

Frequencies

Statistics

Oversubscription ratio

N	Valid	66
	Missing	0
Mean		35.1864
Median		19.7700
Std. Deviation		50.39565
Minimum		.00
Maximum		262.07

Table 4.1_Initial return (overscription ratio) During Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Oversubscription ratio	30	8.2843	15.02981	2.74406

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Oversubscription ratio	3.019	29	.005	8.28429	2.6721	13.8965

Frequencies

Statistics

Oversubscription ratio

N	Valid	30
	Missing	0
Mean		8.2843
Median		2.4350
Std. Deviation		15.02981
Minimum		-.94
Maximum		69.85

Table 4.1_Initial return (overscription ratio) Post Global Financial Crisis

T-Test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Oversubscription ratio	49	26.4935	58.72589	8.38941

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Oversubscription ratio	3.158	48	.003	26.49348	9.6254	43.3615

Frequencies

Statistics

Oversubscription ratio

N	Valid	49
	Missing	0
Mean		26.4935
Median		10.4200
Std. Deviation		58.72589
Minimum		-.10
Maximum		315.17

APPENDIX E

Table 4.2. Average initial return for the period of 2006-2011 based on the over subscription ratio, private placement, initial trading volume, boards of listing and offer price.

Table 4.2_Overscription Ratio_One Way Anova

Descriptives

						95% Confidence Interval for Mean			
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
IRoffertoclose	Less than 10	63	-1.6699	18.65304	2.35006	-6.3676	3.0278	-65.44	42.86
	10 to less than 40	57	16.9482	32.81552	4.34652	8.2411	25.6554	-40.65	139.02
	40 to less than 80	16	40.4674	40.30062	10.07516	18.9927	61.9421	-4.17	148.48
	80 and more	9	49.5357	38.20452	12.73484	20.1691	78.9023	2.88	100.00
	Total	145	13.4769	32.95761	2.73698	8.0670	18.8867	-65.44	148.48
IRoffertoopen	Less than 10	63	1.4085	15.42870	1.94383	-2.4772	5.2942	-66.84	36.36
	10 to less than 40	57	16.0920	24.88130	3.29561	9.4901	22.6939	-35.77	95.12
	40 to less than 80	16	34.0683	40.75758	10.18940	12.3501	55.7865	-33.33	150.00
	80 and more	9	93.7309	84.62362	28.20787	28.6834	158.7784	20.97	288.89
	Total	145	16.5148	37.69504	3.13040	10.3273	22.7023	-66.84	288.89

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
IRoffertoclose	Between Groups	38498.524	3	12832.841	15.345	.000
	Within Groups	117914.855	141	836.276		
	Total	156413.379	144			
IRoffertoopen	Between Groups	72977.731	3	24325.910	26.057	.000
	Within Groups	131634.187	141	933.576		
	Total	204611.918	144			

Table 4.2_Overscription Ratio_paired sample t test

Paired Samples Statistics

OSRatio			Mean	N	Std. Deviation	Std. Error Mean
Less than 10	Pair 1	IRoffertoopen	1.4085	63	15.42870	1.94383
		IRoffertoclose	-1.6699	63	18.65304	2.35006
10 to less than 40	Pair 1	IRoffertoopen	16.0920	57	24.88130	3.29561
		IRoffertoclose	16.9482	57	32.81552	4.34652
40 to less than 80	Pair 1	IRoffertoopen	34.0683	16	40.75758	10.18940
		IRoffertoclose	40.4674	16	40.30062	10.07516
80 and more	Pair 1	IRoffertoopen	93.7309	9	84.62362	28.20787
		IRoffertoclose	49.5357	9	38.20452	12.73484

Paired Samples Correlations[a]

OSRatio			N	Correlation	Sig.
Less than 10	Pair 1	IRoffertoopen&IRoffertoclose	63	.836	.000
10 to less than 40	Pair 1	IRoffertoopen&IRoffertoclose	57	.778	.000
40 to less than 80	Pair 1	IRoffertoopen&IRoffertoclose	16	.855	.000
80 and more	Pair 1	IRoffertoopen&IRoffertoclose	9	.549	.126

a. No statistics are computed for one or more split files

Paired Samples Test[a]

OSRatio			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
Less than 10	Pair 1	IRoffertoopen - IRoffertoclose	3.07837	10.23799	1.28987	.49996	5.65677	2.387	62	.020
10 to less than 40	Pair 1	IRoffertoopen - IRoffertoclose	-.85626	20.62567	2.73194	-6.32899	4.61646	-.313	56	.755
40 to less than 80	Pair 1	IRoffertoopen - IRoffertoclose	-6.39909	21.84876	5.46219	-18.04147	5.24330	-1.172	15	.260
80 and more	Pair 1	IRoffertoopen - IRoffertoclose	44.19519	71.22252	23.74084	-10.55128	98.94166	1.862	8	.100

a. No statistics are computed for one or more split files

APPENDIX F

Table 4.2_Private placement_independent t test

Group Statistics

	private placement	N	Mean	Std. Deviation	Std. Error Mean
IRoffertoclose	no	34	6.3973	28.05482	4.81136
	yes	111	15.6454	34.14061	3.24048
IRoffertoopen	no	34	4.0937	19.99160	3.42853
	yes	111	20.3195	40.96236	3.88797

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
IRoffertoclose	Equal variances assumed	.717	.398	-1.437	143	.153	-9.24803	6.43635	-21.97071	3.47465
	Equal variances not assumed			-1.594	65.674	.116	-9.24803	5.80086	-20.83088	2.33482
IRoffertoopen	Equal variances assumed	4.361	.039	-2.226	143	.028	-16.22572	7.28927	-30.63436	-1.81709
	Equal variances not assumed			-3.130	115.263	.002	-16.22572	5.18374	-26.49347	-5.95798

Table 4.2_Private placement_paired sample t test

Paired Samples Statistics

private placement			Mean	N	Std. Deviation	Std. Error Mean
no	Pair 1	IRoffertoopen	4.0937	34	19.99160	3.42853
		IRoffertoclose	6.3973	34	28.05482	4.81136
yes	Pair 1	IRoffertoopen	20.3195	111	40.96236	3.88797
		IRoffertoclose	15.6454	111	34.14061	3.24048

Paired Samples Correlations[a]

private placement			N	Correlation	Sig.
no	Pair 1	IRoffertoopen&IRoffertoclose	34	.870	.000
yes	Pair 1	IRoffertoopen&IRoffertoclose	111	.733	.000

a. No statistics are computed for one or more split files

Paired Samples Test[a]

private placement			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
no	Pair 1	IRoffertoopen - IRoffertoclose	-2.30360	14.51007	2.48846	-7.36640	2.75920	-.926	33	.361
yes	Pair 1	IRoffertoopen - IRoffertoclose	4.67409	28.18499	2.67520	-.62753	9.97571	1.747	110	.083

a. No statistics are computed for one or more split files

APPENDIX G

Table 4.2_Initial Trading Volumn_One Way Anova

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
IRoffertoopen	Less than 25	75	14.8959	30.93031	3.57152	7.7795	22.0124	-35.77	135.71
	25 to < 50	35	16.4020	27.78858	4.69713	6.8563	25.9477	-66.84	90.48
	50 to < 100	27	19.8878	63.06851	12.13754	-5.0613	44.8369	-33.33	288.89
	100 and more	8	20.8017	22.33695	7.89730	2.1275	39.4758	-9.09	62.50
	Total	145	16.5148	37.69504	3.13040	10.3273	22.7023	-66.84	288.89
IRoffertoclose	Less than 25	75	11.0879	31.97155	3.69176	3.7319	18.4438	-40.65	139.02
	25 to < 50	35	18.9391	36.04006	6.09188	6.5589	31.3193	-65.44	127.27
	50 to < 100	27	12.6813	35.56910	6.84528	-1.3894	26.7519	-39.21	148.48
	100 and more	8	14.6617	17.78899	6.28936	-.2102	29.5337	-10.94	37.50
	Total	145	13.4769	32.95761	2.73698	8.0670	18.8867	-65.44	148.48

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
IRoffertoopen	Between Groups	651.200	3	217.067	.150	.930
	Within Groups	203960.717	141	1446.530		
	Total	204611.918	144			
IRoffertoclose	Between Groups	1500.643	3	500.214	.455	.714
	Within Groups	154912.736	141	1098.672		
	Total	156413.379	144			

Table 4.2_Initial Trading Volumn_paired sample t test

Paired Samples Statistics

InitialVolumn			Mean	N	Std. Deviation	Std. Error Mean
Less than 25	Pair 1	IRoffertoopen	14.8959	75	30.93031	3.57152
		IRoffertoclose	11.0879	75	31.97155	3.69176
25 to < 50	Pair 1	IRoffertoopen	16.4020	35	27.78858	4.69713
		IRoffertoclose	18.9391	35	36.04006	6.09188
50 to < 100	Pair 1	IRoffertoopen	19.8878	27	63.06851	12.13754
		IRoffertoclose	12.6813	27	35.56910	6.84528
100 and more	Pair 1	IRoffertoopen	20.8017	8	22.33695	7.89730
		IRoffertoclose	14.6617	8	17.78899	6.28936

Paired Samples Correlations[a]

InitialVolumn			N	Correlation	Sig.
Less than 25	Pair 1	IRoffertoopen&IRoffertoclose	75	.919	.000
25 to < 50	Pair 1	IRoffertoopen&IRoffertoclose	35	.730	.000
50 to < 100	Pair 1	IRoffertoopen&IRoffertoclose	27	.653	.000
100 and more	Pair 1	IRoffertoopen&IRoffertoclose	8	.834	.010

a. No statistics are computed for one or more split files

Paired Samples Test[a]

InitialVolumn			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Less than 25	Pair 1	IRoffertoopen - IRoffertoclose	3.80808	12.72911	1.46983	.87937	6.73678	2.591	74	.012
25 to < 50	Pair 1	IRoffertoopen - IRoffertoclose	-2.53715	24.68565	4.17264	-11.01696	5.94267	-.608	34	.547
50 to < 100	Pair 1	IRoffertoopen - IRoffertoclose	7.20654	48.09562	9.25601	-11.81945	26.23254	.779	26	.443
100 and more	Pair 1	IRoffertoopen - IRoffertoclose	6.13992	12.35094	4.36672	-4.18572	16.46556	1.406	7	.203

a. No statistics are computed for one or more split files

APPENDIX H

Table 4.2_Boards of Listing_One Way Anova

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
IRoffertoopen	main board	32	15.7125	25.83010	4.56616	6.3998	25.0253	-15.00	95.12
	second board	25	6.1122	12.59010	2.51802	.9153	11.3092	-22.67	36.36
	MESDAQ	29	29.4951	43.95823	8.16284	12.7743	46.2159	-35.77	135.71
	main market	40	4.1226	17.22831	2.72404	-1.3873	9.6325	-66.84	41.67
	ACE market	19	37.8305	71.51386	16.40640	3.3619	72.2991	-24.21	288.89
	Total	145	16.5148	37.69504	3.13040	10.3273	22.7023	-66.84	288.89
IRoffertoclose	main board	32	18.6389	33.61357	5.94210	6.5199	30.7578	-29.09	139.02
	second board	25	6.6954	17.38704	3.47741	-.4816	13.8724	-30.67	42.86
	MESDAQ	29	23.4794	42.60885	7.91226	7.2718	39.6869	-40.65	127.27
	main market	40	3.3958	22.81304	3.60706	-3.9002	10.6917	-65.44	96.67
	ACE market	19	19.6624	43.01464	9.86824	-1.0700	40.3948	-39.21	148.48
	Total	145	13.4769	32.95761	2.73698	8.0670	18.8867	-65.44	148.48

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
IRoffertoopen	Between Groups	22387.566	4	5596.892	4.300	.003
	Within Groups	182224.351	140	1301.603		
	Total	204611.918	144			
IRoffertoclose	Between Groups	9695.927	4	2423.982	2.313	.061
	Within Groups	146717.452	140	1047.982		
	Total	156413.379	144			

Table 4.2_Boards of Listing_paired sample t test

Paired Samples Statistics

listing board			Mean	N	Std. Deviation	Std. Error Mean
main board	Pair 1	IRoffertoopen	15.7125	32	25.83010	4.56616
		IRoffertoclose	18.6389	32	33.61357	5.94210
second board	Pair 1	IRoffertoopen	6.1122	25	12.59010	2.51802
		IRoffertoclose	6.6954	25	17.38704	3.47741
MESDAQ	Pair 1	IRoffertoopen	29.4951	29	43.95823	8.16284
		IRoffertoclose	23.4794	29	42.60885	7.91226
main market	Pair 1	IRoffertoopen	4.1226	40	17.22831	2.72404
		IRoffertoclose	3.3958	40	22.81304	3.60706
ACE market	Pair 1	IRoffertoopen	37.8305	19	71.51386	16.40640
		IRoffertoclose	19.6624	19	43.01464	9.86824

Paired Samples Correlations[a]

listing board			N	Correlation	Sig.
main board	Pair 1	IRoffertoopen&IRoffertoclose	32	.925	.000
second board	Pair 1	IRoffertoopen&IRoffertoclose	25	.671	.000
MESDAQ	Pair 1	IRoffertoopen&IRoffertoclose	29	.858	.000
main market	Pair 1	IRoffertoopen&IRoffertoclose	40	.842	.000
ACE market	Pair 1	IRoffertoopen&IRoffertoclose	19	.604	.006

a. No statistics are computed for one or more split files

Paired Samples Test[a]

listing board			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
main board	Pair 1	IRoffertoopen - IRoffertoclose	-2.92633	13.81145	2.44154	-7.90589	2.05323	-1.199	31	.240
second board	Pair 1	IRoffertoopen - IRoffertoclose	-.58317	12.92532	2.58506	-5.91848	4.75215	-.226	24	.823
MESDAQ	Pair 1	IRoffertoopen - IRoffertoclose	6.01577	23.06544	4.28315	-2.75786	14.78939	1.405	28	.171
main market	Pair 1	IRoffertoopen - IRoffertoclose	.72683	12.45443	1.96922	-3.25629	4.70995	.369	39	.714
ACE market	Pair 1	IRoffertoopen - IRoffertoclose	18.16804	56.98110	13.07236	-9.29597	45.63205	1.390	18	.182

a. No statistics are computed for one or more split files

APPENDIX I

Table 4.2_Offer Price_One Way Anova

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
IRoffertoopen	Less than 1	102	20.0301	41.65575	4.12453	11.8482	28.2121	-34.88	288.89
	Less than 2	31	8.1700	19.21612	3.45132	1.1214	15.2185	-35.77	69.49
	Less than 3	8	6.8647	44.56197	15.75503	-30.3900	44.1195	-66.84	71.76
	More than 3	4	10.8468	5.34539	2.67269	2.3411	19.3525	2.86	14.13
	Total	145	16.5148	37.69504	3.13040	10.3273	22.7023	-66.84	288.89
IRoffertoclose	Less than 1	102	15.5331	34.66046	3.43190	8.7252	22.3411	-39.21	148.48
	Less than 2	31	7.7826	22.69030	4.07530	-.5403	16.1055	-40.65	70.34
	Less than 3	8	9.8271	50.48584	17.84944	-32.3801	52.0343	-65.44	87.79
	More than 3	4	12.4722	9.00011	4.50005	-1.8490	26.7934	5.15	24.93
	Total	145	13.4769	32.95761	2.73698	8.0670	18.8867	-65.44	148.48

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
IRoffertoopen	Between Groups	4292.700	3	1430.900	1.007	.392
	Within Groups	200319.218	141	1420.704		
	Total	204611.918	144			
IRoffertoclose	Between Groups	1547.057	3	515.686	.470	.704
	Within Groups	154866.322	141	1098.343		
	Total	156413.379	144			

Table 4.2_Offer Price_paired sample t test

Paired Samples Statistics

Offerprice1			Mean	N	Std. Deviation	Std. Error Mean
Less than 1	Pair 1	IRoffertoopen	20.0301	102	41.65575	4.12453
		IRoffertoclose	15.5331	102	34.66046	3.43190
Less than 2	Pair 1	IRoffertoopen	8.1700	31	19.21612	3.45132
		IRoffertoclose	7.7826	31	22.69030	4.07530
Less than 3	Pair 1	IRoffertoopen	6.8647	8	44.56197	15.75503
		IRoffertoclose	9.8271	8	50.48584	17.84944
More than 3	Pair 1	IRoffertoopen	10.8468	4	5.34539	2.67269
		IRoffertoclose	12.4722	4	9.00011	4.50005

Paired Samples Correlations[a]

Offerprice1			N	Correlation	Sig.
Less than 1	Pair 1	IRoffertoopen&IRoffertoclose	102	.710	.000
Less than 2	Pair 1	IRoffertoopen&IRoffertoclose	31	.848	.000
Less than 3	Pair 1	IRoffertoopen&IRoffertoclose	8	.990	.000
More than 3	Pair 1	IRoffertoopen&IRoffertoclose	4	.033	.967

a. No statistics are computed for one or more split files

Paired Samples Test[a]

Offerprice1			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
Less than 1	Pair 1	IRoffertoopen - IRoffertoclose	4.49700	29.77992	2.94865	-1.35234	10.34633	1.525	101	.130
Less than 2	Pair 1	IRoffertoopen - IRoffertoclose	.38737	12.01934	2.15874	-4.02136	4.79610	.179	30	.859
Less than 3	Pair 1	IRoffertoopen - IRoffertoclose	-2.96236	8.97770	3.17410	-10.46790	4.54319	-.933	7	.382
More than 3	Pair 1	IRoffertoopen - IRoffertoclose	-1.62539	10.31380	5.15690	-18.03695	14.78616	-.315	3	.773

a. No statistics are computed for one or more split files

APPENDIX J

Table 4.3. The regression between the board of listing, offer price, over subscription ratio, private placement and the initial trading volume with the initial performance (offer-to-open).

Table 4.3_Regression (Offer to Open) During Normal Period

Dependent Variable: ROPEN
Method: Least Squares
Date: 04/28/13 Time: 21:12
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.080513	9.422241	0.751468	0.4537
BOARD	-1.812630	2.032706	-0.891732	0.3741
CRISIS	-10.42946	6.133661	-1.700365	0.0913
OFFER	-3.150439	4.161076	-0.757121	0.4503
OSR	0.458257	0.051619	8.877629	0.0000
PRIVATE	8.250501	5.982522	1.379101	0.1701
V	3.22E-08	4.91E-08	0.654845	0.5137

R-squared	0.432203	Mean dependent var	16.51482
Adjusted R-squared	0.407516	S.D. dependent var	37.69504
S.E. of regression	29.01499	Akaike info criterion	9.620574
Sum squared resid	116178.0	Schwarz criterion	9.764279
Log likelihood	-690.4916	Hannan-Quinn criter.	9.678966
F-statistic	17.50743	Durbin-Watson stat	2.103178
Prob(F-statistic)	0.000000		

Notes:

CRISIS = represent the financial crisis at the time t

BOARD = represent the board of listing at the time t, *during normal period*

OFFER = represent the offer price at the time t, *during normal period*

OSR = represent the over-subscription ratio at the time t, *during normal period*

PRIVATE = represent the private placement at the time t, *during normal period*

V = represent the initial trading volume at the time t, *during normal period*

Table 4.3_Regression (Offer to Open) During Financial Crisis

Dependent Variable: ROPEN
Method: Least Squares
Date: 04/28/13 Time: 21:15
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.409292	10.21623	0.627364	0.5315
CRISIS	-15.30977	27.88555	-0.549022	0.5839
BOARD	-2.066420	2.223200	-0.929480	0.3543
OFFER	-2.908707	4.608171	-0.631206	0.5290
OSR	0.461076	0.052923	8.712202	0.0000
PRIVATE	10.07987	6.753782	1.492478	0.1379
V	2.60E-08	5.26E-08	0.494864	0.6215
CRISIS*BOARD	3.846160	6.739872	0.570658	0.5692
CRISIS*OFFER	3.708670	12.61297	0.294036	0.7692
CRISIS*OSR	-0.376853	0.426064	-0.884498	0.3780
CRISIS*PRIVATE	-9.426510	16.12617	-0.584547	0.5598
CRISIS*V	6.64E-08	1.93E-07	0.343229	0.7320

R-squared	0.438460	Mean dependent var	16.51482
Adjusted R-squared	0.392017	S.D. dependent var	37.69504
S.E. of regression	29.39206	Akaike info criterion	9.678459
Sum squared resid	114897.8	Schwarz criterion	9.924809
Log likelihood	-689.6883	Hannan-Quinn criter.	9.778560
F-statistic	9.440780	Durbin-Watson stat	2.103464
Prob(F-statistic)	0.000000		

Notes:

CRISIS = represent the financial crisis at the time t

BOARD = represent the board of listing at the time t, *during normal period*

OFFER = represent the offer price at the time t, *during normal period*

OSR = represent the over-subscription ratio at the time t, *during normal period*

PRIVATE = represent the private placement at the time t, *during normal period*

V = represent the initial trading volume at the time t, *during normal period*

CRISIS*BROARD = represent the board of listing at the time t, *during financial crisis*

CRISIS*OFFER = represent the offer price at the time t, *during financial crisis*

CRISIS*OSR = represent the over-subscription ratio at the time t, *during financial crisis*

CRISIS*PRIVATE = represent the private placement at the time t, *during financial crisis*

CRISIS*V = represent the initial trading volume at the time t, *during financial crisis*

APPENDIX K

Table 4.4 The regression between the board of listing, offer price, over subscription ratio, private placement and the initial trading volume with the initial performance (offer-to-close).

Table 4.4_Regression (Offer to Close) During Normal Period

Dependent Variable: RCLOSE
Method: Least Squares
Date: 04/28/13 Time: 21:20
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21.51032	9.782670	2.198819	0.0296
BOARD	-4.556152	2.110463	-2.158840	0.0326
CRISIS	-13.93178	6.368292	-2.187679	0.0304
OFFER	-5.047432	4.320249	-1.168320	0.2447
OSR	0.226380	0.053594	4.224001	0.0000
PRIVATE	6.282354	6.211371	1.011428	0.3136
V	5.07E-08	5.10E-08	0.993415	0.3222

R-squared	0.199325	Mean dependent var	13.47687
Adjusted R-squared	0.164513	S.D. dependent var	32.95761
S.E. of regression	30.12490	Akaike info criterion	9.695653
Sum squared resid	125236.4	Schwarz criterion	9.839358
Log likelihood	-695.9349	Hannan-Quinn criter.	9.754045
F-statistic	5.725746	Durbin-Watson stat	2.018024
Prob(F-statistic)	0.000024		

Notes:

BOARD = represent the board of listing at the time t, *during normal period*

OFFER = represent the offer price at the time t, *during normal period*

OSR = represent the over-subscription ratio at the time t, *during normal period*

PRIVATE = represent the private placement at the time t, *during normal period*

V = represent the initial trading volume at the time t, *during normal period*

Table 4.4_Regression (Offer to Close) During Financial Crisis

Dependent Variable: RCLOSE
Method: Least Squares
Date: 04/28/13 Time: 21:20
Sample: 1 145
Included observations: 145

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21.29514	10.40292	2.047036	0.0426
CRISIS	-12.50461	28.39512	-0.440379	0.6604
BOARD	-5.784994	2.263825	-2.555407	0.0117
OFFER	-3.851169	4.692378	-0.820729	0.4133
OSR	0.210711	0.053890	3.910016	0.0001
PRIVATE	11.40284	6.877198	1.658065	0.0997
V	3.75E-08	5.35E-08	0.701681	0.4841
CRISIS*BOARD	3.115820	6.863032	0.454000	0.6506
CRISIS*OFFER	0.191834	12.84345	0.014936	0.9881
CRISIS*OSR	0.683921	0.433850	1.576401	0.1173
CRISIS*PRIVATE	-21.85243	16.42085	-1.330773	0.1855
CRISIS*V	4.35E-08	1.97E-07	0.220765	0.8256

R-squared	0.238330	Mean dependent var	13.47687
Adjusted R-squared	0.175335	S.D. dependent var	32.95761
S.E. of regression	29.92916	Akaike info criterion	9.714676
Sum squared resid	119135.4	Schwarz criterion	9.961026
Log likelihood	-692.3140	Hannan-Quinn criter.	9.814777
F-statistic	3.783304	Durbin-Watson stat	2.079727
Prob(F-statistic)	0.000099		

Notes:

CRISIS = represent the financial crisis at the time t

BOARD = represent the board of listing at the time t, *during normal period*

OFFER = represent the offer price at the time t, *during normal period*

OSR = represent the over-subscription ratio at the time t, *during normal period*

PRIVATE = represent the private placement at the time t, *during normal period*

V = represent the initial trading volume at the time t, *during normal period*

CRISIS*BROARD = represent the board of listing at the time t, *during financial crisis*

CRISIS*OFFER = represent the offer price at the time t, *during financial crisis*

CRISIS*OSR = represent the over-subscription ratio at the time t, *during financial crisis*

CRISIS*PRIVATE = represent the private placement at the time t, *during financial crisis*

CRISIS*V = represent the initial trading volume at the time t, *during financial crisis*

APPENDIX L

NAME LIST OF THE FIRM (LISTED FROM YEAR 2006 – 2011) SELECTED FOR THE STUDY

1	Advance Information	35	FavelleFavcoBhd (M
2	Aeon Credit Services	36	Focus Dynamics Techn
3	Airocom Technology B	37	Focus Lumber
4	AlamMaritimResourc	38	Focus Point Holdings
5	AL-'Aqar KPJ Reit	39	Frontken Corporation
6	Al-Hadharah Boustead	40	GreenyieldBhd
7	Amanahraya REIT	41	GW Plastics Holdings
8	APFT Berhad	42	Halex Holdings Bhd
9	Asia Bioenergy Techn	43	Handal Resources Bhd
10	Asia Media	44	Hap Seng Plantations
11	Atrium REIT	45	hartalega holdings
12	BCT Technology Bhd	46	H-Displays (MSC) Bhd
13	Benalec Holdings	47	HDM-CarlawCorporati
14	Berjaya Food	48	Hektar REIT
15	Berjaya Retail Bhd	49	Help International C
16	BHS Industries Bhd	50	Hock Heng Stone Indu
17	Bio OsmoBhd	51	Homeritz Corporation
18	Boilermech	52	Ideal Jacobs
19	Capitamalls Malaysia	53	iDimension
20	Careplus Group Bhd	54	Imaspro Corporation
21	Catcha Media	55	Inari Bhd
22	Century Software	56	ISS Consulting Solut
23	China Ouhua Winery H	57	Ivory Properties Gro
24	Complete Logistic Se	58	Jadi Imaging Holding
25	Cypark Resources Bhd	59	JCY International Bh
26	dayang enterprise	60	jf technology
27	DeleumBhd	61	JHM Consolidation Bh
28	DSC Solutions Bhd	62	K. SengSeng
29	Dufu Technology Corp	63	Kelington Group Bhd
30	EA Holdings Bhd	64	Kencana Petroleum Bh
31	ECS ICT Bhd	65	key asic
32	ETI Tech Corporation	66	Kimlun Corporation B
33	ewein	67	K-One Technology Bhd
34	EXTOL MSC Bhd	68	KonsortiumTransnasi

69 K-Star Sports Limite
70 luxchem corporation
71 Malaysia Marine and
72 Malaysian Genomics R
73 ManagePay Systems
74 MasterskillEducatio
75 Maxwell
76 MClean Technologies
77 MelatiEhsan Holding
78 Microlink Solutions
79 MMS Ventures Bhd
80 Muar Ban Lee Group B
81 Multi Sports Holding
82 My E.G. Services Bhd
83 Natural Bio Resource
84 Ogawa World Bhd
85 OldTownBhd
86 Oversea Enterprise B
87 P.A. Resources Bhd (
88 Pantech Group Holdin
89 perwaja holdings
90 Peterlabs Holdings
91 Petra Energy Bhd
92 Petronas Chemicals G
93 PrestariangBhd
94 PutrajayaPerdanaBh
95 Quill Capita Trust
96 ResintechBhd
97 RimbunanSawitBhd
98 Samchem Holdings Bhd
99 Sanichi Technology B
100 Sarawak Cable Bhd
101 Sarawak Plantation B
102 Scan Associates Bhd
103 Scanwolf Corporation
104 SCC Holdings Bhd
105 scgm
106 sealinkinternationa
107 Seremban Engineering
108 SIG Gases Bhd
109 signature internatio
110 Silver Ridge Holding
111 Sinaria Corporation
113 Smartag
114 SMR Technologies Bhd
115 Sozo Global Limited
116 StemlifeBhd
117 Sunway Real Estate I
118 Sunzen Biotech
119 Superlon Holdings Bh
120 SweeJooBhd
121 TA Global Bhd
122 Tambun Indah
123 TAS Offshore Bhd
124 TattGiap Group Bhd
125 TechnodexBhd
126 Tejari Technologies
127 TeoSeng Capital
128 TH Plantations Bhd
129 Tomei Consolidated B
130 Tower REIT
131 Trans-Asia Shipping
132 Turbo-MechBhd
133 UMS-Neiken Group Bhd
134 uzma
135 vastalux energy
136 VisDynamics Holdings
137 Voir Holdings Bhd
138 Wellcall Holdings Bh
139 wengzheng resources
140 Wimems Corporation B
141 XiDeLang Holdings Lt
142 XingquanInternation
143 XOX Bhd
144 YoongOnnCorporatio
145 Zhulian Corporation

APPENDIX M

Regression (Offer to Open) During Normal Period

Descriptive Statistics

	Mean	Std. Deviation	N
offer to open return	20.0599	40.86983	112
main board	.1875	.39207	112
second board	.1429	.35150	112
mesdaq	.2589	.44002	112
main market	.2500	.43496	112
ace market	.1607	.36892	112
private placement	.99	.094	112
Oversubscription ratio	30.7917	55.02338	112
OSRatio	.9018	.90005	112
logvolume	16.7471	1.45156	112
logprivateunit	16.8318	1.06255	112
logofferunit	17.6894	.79433	112

Correlations

		offer to open return	main board	second board	mesdaq	main market	ace market	private placement	Oversubscription ratio	OSRatio	logvolume	logprivateunit	logofferunit
Pearson Correlation	offer to open return	1.000	-.015	-.147	.137	-.187	.213	.067	.637	.546	.189	.160	-.024
	main board	-.015	1.000	-.196	-.284	-.277	-.210	.046	-.116	-.075	-.123	.038	.125
	second board	-.147	-.196	1.000	-.241	-.236	-.179	.039	-.157	-.240	-.230	-.481	-.211
	mesdaq	.137	-.284	-.241	1.000	-.341	-.259	.056	.258	.315	-.006	.042	-.340
	main market	-.187	-.277	-.236	-.341	1.000	-.253	.055	-.232	-.305	.211	.226	.374
	ace market	.213	-.210	-.179	-.259	-.253	1.000	-.217	.238	.292	.109	.101	.032
	private placement	.067	.046	.039	.056	.055	-.217	1.000	.030	-.010	-.035	-.034	.003
	Oversubscription ratio	.637	-.116	-.157	.258	-.232	.238	.030	1.000	.794	.107	.037	-.207
	OSRatio	.546	-.075	-.240	.315	-.305	.292	-.010	.794	1.000	.085	-.035	-.328
	logvolume	.189	-.123	-.230	-.006	.211	.109	-.035	.107	.085	1.000	.427	.337
	logprivateunit	.160	.038	-.481	.042	.226	.101	-.034	.037	-.035	.427	1.000	.757
	logofferunit	-.024	.125	-.211	-.340	.374	.032	.003	-.207	-.328	.337	.757	1.000
Sig. (1-tailed)	offer to open return		.439	.061	.075	.024	.012	.241	.000	.000	.023	.046	.401
	main board	.439		.019	.001	.002	.013	.317	.112	.216	.098	.345	.095
	second board	.061	.019		.005	.006	.030	.343	.050	.005	.007	.000	.013
	mesdaq	.075	.001	.005		.000	.003	.278	.003	.000	.473	.331	.000

	main market	.024	.002	.006	.000		.004	.283	.007	.001	.013	.008	.000
	ace market	.012	.013	.030	.003	.004		.011	.006	.001	.127	.144	.369
	private placement	.241	.317	.343	.278	.283	.011		.375	.457	.358	.361	.486
	Oversubscription ratio	.000	.112	.050	.003	.007	.006	.375		.000	.130	.348	.014
	OSRatio	.000	.216	.005	.000	.001	.001	.457	.000		.185	.355	.000
	logvolume	.023	.098	.007	.473	.013	.127	.358	.130	.185		.000	.000
	logprivateunit	.046	.345	.000	.331	.008	.144	.361	.348	.355	.000		.000
	logofferunit	.401	.095	.013	.000	.000	.369	.486	.014	.000	.000	.000	
N	offer to open return	112	112	112	112	112	112	112	112	112	112	112	112
	main board	112	112	112	112	112	112	112	112	112	112	112	112
	second board	112	112	112	112	112	112	112	112	112	112	112	112
	mesdaq	112	112	112	112	112	112	112	112	112	112	112	112
	main market	112	112	112	112	112	112	112	112	112	112	112	112
	ace market	112	112	112	112	112	112	112	112	112	112	112	112
	private placement	112	112	112	112	112	112	112	112	112	112	112	112
	Oversubscription ratio	112	112	112	112	112	112	112	112	112	112	112	112
	OSRatio	112	112	112	112	112	112	112	112	112	112	112	112
	logvolume	112	112	112	112	112	112	112	112	112	112	112	112

logprivateunit	112	112	112	112	112	112	112	112	112	112	112	112
logofferunit	112	112	112	112	112	112	112	112	112	112	112	112

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	logofferunit, private placement, main board, Oversubscription ratio, second board, ace market, logvolume, main market, OSRatio, logprivateunit[b]	.	Enter

a. Dependent Variable: offer to open return

b. Tolerance = .000 limits reached.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.671[a]	.451	.397	31.74925	2.187

a. Predictors: (Constant), logofferunit, private placement, main board, Oversubscription ratio, second board, ace market, logvolume, main market, OSRatio, logprivateunit

b. Dependent Variable: offer to open return

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83598.610	10	8359.861	8.293	.000[b]
	Residual	101809.489	101	1008.015		
	Total	185408.099	111			

a. Dependent Variable: offer to open return

b. Predictors: (Constant), logofferunit, private placement, main board, Oversubscription ratio, second board, ace market, logvolume, main market, OSRatio, logprivateunit

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-166.646	88.354		-1.886	.062		
	main board	7.721	10.424	.074	.741	.461	.544	1.839
	second board	7.828	12.910	.067	.606	.546	.441	2.268
	main market	-2.961	10.478	-.032	-.283	.778	.437	2.287
	ace market	6.999	10.322	.063	.678	.499	.626	1.597
	private placement	30.219	32.876	.070	.919	.360	.941	1.063
	Oversubscription ratio	.383	.092	.516	4.167	.000	.355	2.818
	OSRatio	5.924	6.176	.130	.959	.340	.294	3.402
	logvolume	2.502	2.366	.089	1.058	.293	.770	1.298
	logprivateunit	5.127	5.724	.133	.896	.373	.245	4.074
	logofferunit	.478	7.699	.009	.062	.951	.243	4.118

a. Dependent Variable: offer to open return

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	mesdaq	.[b]	.	.	.	.000	.	.000

a. Dependent Variable: offer to open return

b. Predictors in the Model: (Constant), logofferunit, private placement, main board, Oversubscription ratio, second board, ace market, logvolume, main market, OSRatio, logprivateunit

Collinearity Diagnostics[a]

Model		Eigenvalue	Condition Index	Variance Proportions										
				(Constant)	main board	second board	main market	ace market	private placement	Oversubscription ratio	OSRatio	logvolume	logprivateunit	logofferunit
1	1	6.600	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	1.400	2.171	.00	.01	.02	.04	.09	.00	.05	.02	.00	.00	.00
	3	1.002	2.567	.00	.29	.11	.01	.02	.00	.00	.00	.00	.00	.00
	4	1.001	2.568	.00	.04	.17	.15	.00	.00	.00	.00	.00	.00	.00
	5	.682	3.112	.00	.01	.00	.01	.45	.00	.11	.02	.00	.00	.00
	6	.195	5.811	.00	.42	.26	.44	.28	.00	.21	.02	.00	.00	.00
	7	.107	7.856	.00	.05	.10	.14	.01	.00	.60	.84	.00	.00	.00
	8	.008	28.216	.00	.00	.01	.00	.04	.72	.00	.00	.15	.01	.00
	9	.004	40.993	.02	.01	.00	.00	.01	.14	.00	.01	.85	.04	.02
	10	.001	73.249	.58	.00	.16	.00	.00	.13	.03	.06	.00	.28	.00
	11	.000	142.474	.40	.17	.17	.21	.10	.00	.00	.03	.00	.67	.98

a. Dependent Variable: offer to open return

Casewise Diagnostics[a]

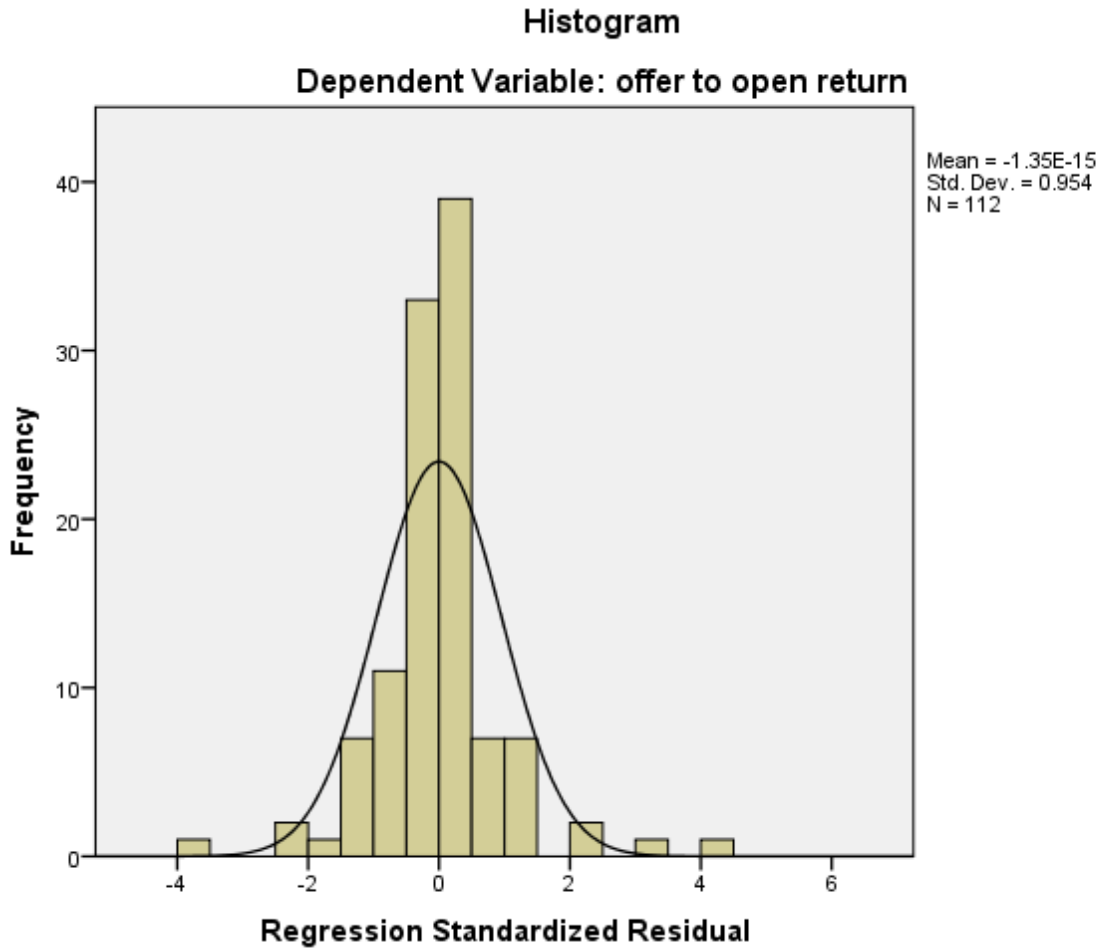
Case Number	Std. Residual	offer to open return	Predicted Value	Residual
128	4.387	288.89	149.6168	139.27206
139	-3.658	20.97	137.1143	-116.14652
140	3.225	150.00	47.5986	102.40136

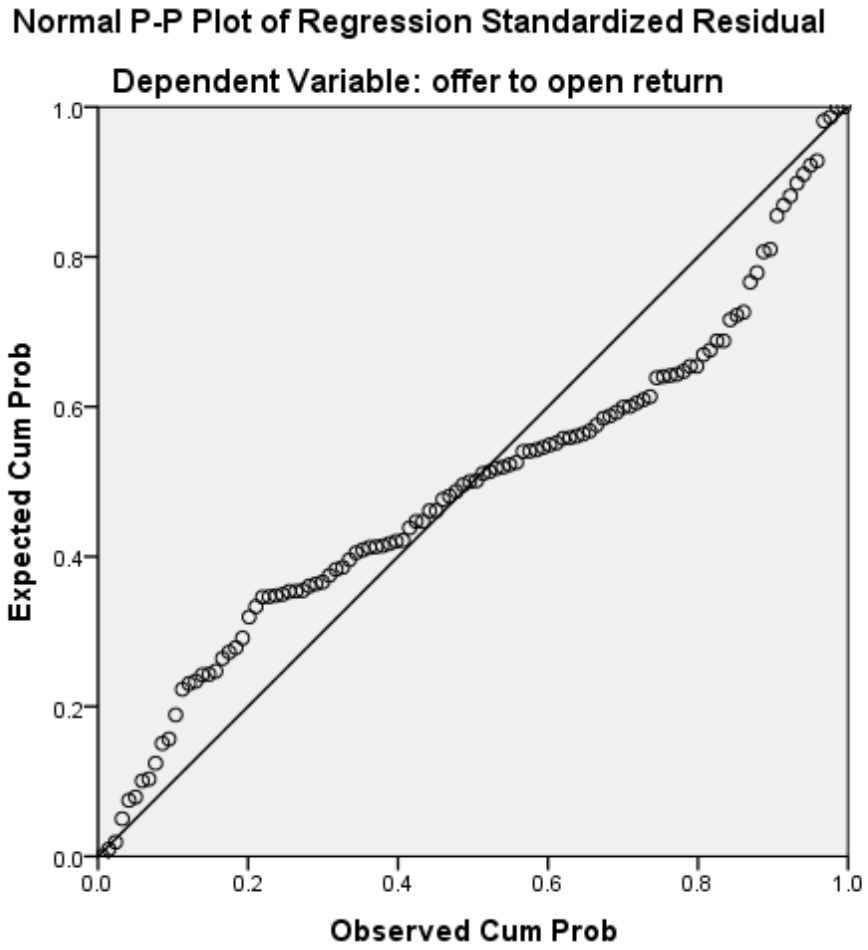
a. Dependent Variable: offer to open return

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-12.5791	149.6168	20.0599	27.44341	112
Residual	-116.14652	139.27206	.00000	30.28535	112
Std. Predicted Value	-1.189	4.721	.000	1.000	112
Std. Residual	-3.658	4.387	.000	.954	112

a. Dependent Variable: offer to open return


Histogram
Dependent Variable: offer to open return
Mean = -1.35E-15
Std. Dev. = 0.954
N = 112
Frequency
40
30
20
10
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: offer to open return
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

Regression (Offer to Open) During Financial Crisis

Descriptive Statistics

	Mean	Std. Deviation	N
offer to open return	20.0599	40.86983	112
main board	.1875	.39207	112
second board	.1429	.35150	112
mesdaq	.2589	.44002	112
main market	.2500	.43496	112
ace market	.1607	.36892	112
private placement	.99	.094	112
Oversubscription ratio	30.7917	55.02338	112
OSRatio	.9018	.90005	112
logvolume	16.7471	1.45156	112
logprivateunit	16.8318	1.06255	112
logofferunit	17.6894	.79433	112
crisis	.2232	.41827	112

Correlations

		offer to open return	main board	second board	mesdaq	main market	ace market	private placement	Oversubscription ratio	OSRatio	logvolume	logprivateunit	logofferunit	crisis
Pearson Correlation	offer to open return	1.000	-.015	-.147	.137	-.187	.213	.067	.637	.546	.189	.160	-.024	-.257
	main board	-.015	1.000	-.196	-.284	-.277	-.210	.046	-.116	-.075	-.123	.038	.125	.072
	second board	-.147	-.196	1.000	-.241	-.236	-.179	.039	-.157	-.240	-.230	-.481	-.211	.210
	mesdaq	.137	-.284	-.241	1.000	-.341	-.259	.056	.258	.315	-.006	.042	-.340	-.121
	main market	-.187	-.277	-.236	-.341	1.000	-.253	.055	-.232	-.305	.211	.226	.374	-.012
	ace market	.213	-.210	-.179	-.259	-.253	1.000	-.217	.238	.292	.109	.101	.032	-.118
	private placement	.067	.046	.039	.056	.055	-.217	1.000	.030	-.010	-.035	-.034	.003	.051
	Oversubscription ratio	.637	-.116	-.157	.258	-.232	.238	.030	1.000	.794	.107	.037	-.207	-.221
	OSRatio	.546	-.075	-.240	.315	-.305	.292	-.010	.794	1.000	.085	-.035	-.328	-.372
	logvolume	.189	-.123	-.230	-.006	.211	.109	-.035	.107	.085	1.000	.427	.337	-.280
	logprivateunit	.160	.038	-.481	.042	.226	.101	-.034	.037	-.035	.427	1.000	.757	-.165
	logofferunit	-.024	.125	-.211	-.340	.374	.032	.003	-.207	-.328	.337	.757	1.000	.046
	crisis	-.257	.072	.210	-.121	-.012	-.118	.051	-.221	-.372	-.280	-.165	.046	1.000
Sig. (1-tailed)	offer to open return		.439	.061	.075	.024	.012	.241	.000	.000	.023	.046	.401	.003
	main board	.439		.019	.001	.002	.013	.317	.112	.216	.098	.345	.095	.225
	second board	.061	.019		.005	.006	.030	.343	.050	.005	.007	.000	.013	.013

	mesdaq	.075	.001	.005		.000	.003	.278	.003	.000	.473	.331	.000	.102
	main market	.024	.002	.006	.000		.004	.283	.007	.001	.013	.008	.000	.448
	ace market	.012	.013	.030	.003	.004		.011	.006	.001	.127	.144	.369	.108
	private placement	.241	.317	.343	.278	.283	.011		.375	.457	.358	.361	.486	.297
	Oversubscription ratio	.000	.112	.050	.003	.007	.006	.375		.000	.130	.348	.014	.010
	OSRatio	.000	.216	.005	.000	.001	.001	.457	.000		.185	.355	.000	.000
	logvolume	.023	.098	.007	.473	.013	.127	.358	.130	.185		.000	.000	.001
	logprivateunit	.046	.345	.000	.331	.008	.144	.361	.348	.355	.000		.000	.041
	logofferunit	.401	.095	.013	.000	.000	.369	.486	.014	.000	.000	.000		.316
	crisis	.003	.225	.013	.102	.448	.108	.297	.010	.000	.001	.041	.316	
N	offer to open return	112	112	112	112	112	112	112	112	112	112	112	112	112
	main board	112	112	112	112	112	112	112	112	112	112	112	112	112
	second board	112	112	112	112	112	112	112	112	112	112	112	112	112
	mesdaq	112	112	112	112	112	112	112	112	112	112	112	112	112
	main market	112	112	112	112	112	112	112	112	112	112	112	112	112
	ace market	112	112	112	112	112	112	112	112	112	112	112	112	112
	private placement	112	112	112	112	112	112	112	112	112	112	112	112	112
	Oversubscription ratio	112	112	112	112	112	112	112	112	112	112	112	112	112
	OSRatio	112	112	112	112	112	112	112	112	112	112	112	112	112

	logvolume	112	112	112	112	112	112	112	112	112	112	112	112	112
	logprivateunit	112	112	112	112	112	112	112	112	112	112	112	112	112
	logofferunit	112	112	112	112	112	112	112	112	112	112	112	112	112
	crisis	112	112	112	112	112	112	112	112	112	112	112	112	112

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Oversubscription ratio	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: offer to open return

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.637[a]	.406	.401	31.63544	2.108

a. Predictors: (Constant), Oversubscription ratio

b. Dependent Variable: offer to open return

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75319.959	1	75319.959	75.260	.000[b]
	Residual	110088.141	110	1000.801		
	Total	185408.099	111			

a. Dependent Variable: offer to open return

b. Predictors: (Constant), Oversubscription ratio

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.483	3.429		1.599	.113		
	Oversubscription ratio	.473	.055	.637	8.675	.000	1.000	1.000

a. Dependent Variable: offer to open return

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	main board	.060[b]	.809	.420	.077	.987	1.014	.987
	second board	-.048[b]	-.647	.519	-.062	.975	1.025	.975
	mesdaq	-.029[b]	-.384	.702	-.037	.933	1.071	.933
	main market	-.042[b]	-.548	.585	-.052	.946	1.057	.946
	ace market	.065[b]	.854	.395	.082	.943	1.060	.943
	private placement	.048[b]	.649	.518	.062	.999	1.001	.999
	OSRatio	.107[b]	.880	.381	.084	.369	2.711	.369
	logvolume	.122[b]	1.659	.100	.157	.988	1.012	.988
	logprivateunit	.137[b]	1.881	.063	.177	.999	1.001	.999
	logofferunit	.113[b]	1.511	.134	.143	.957	1.045	.957
	crisis	-.122[b]	-1.636	.105	-.155	.951	1.051	.951

a. Dependent Variable: offer to open return

b. Predictors in the Model: (Constant), Oversubscription ratio

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Oversubscription ratio
1	1	1.490	1.000	.25	.25
	2	.510	1.709	.75	.75

a. Dependent Variable: offer to open return

Casewise Diagnostics[a]

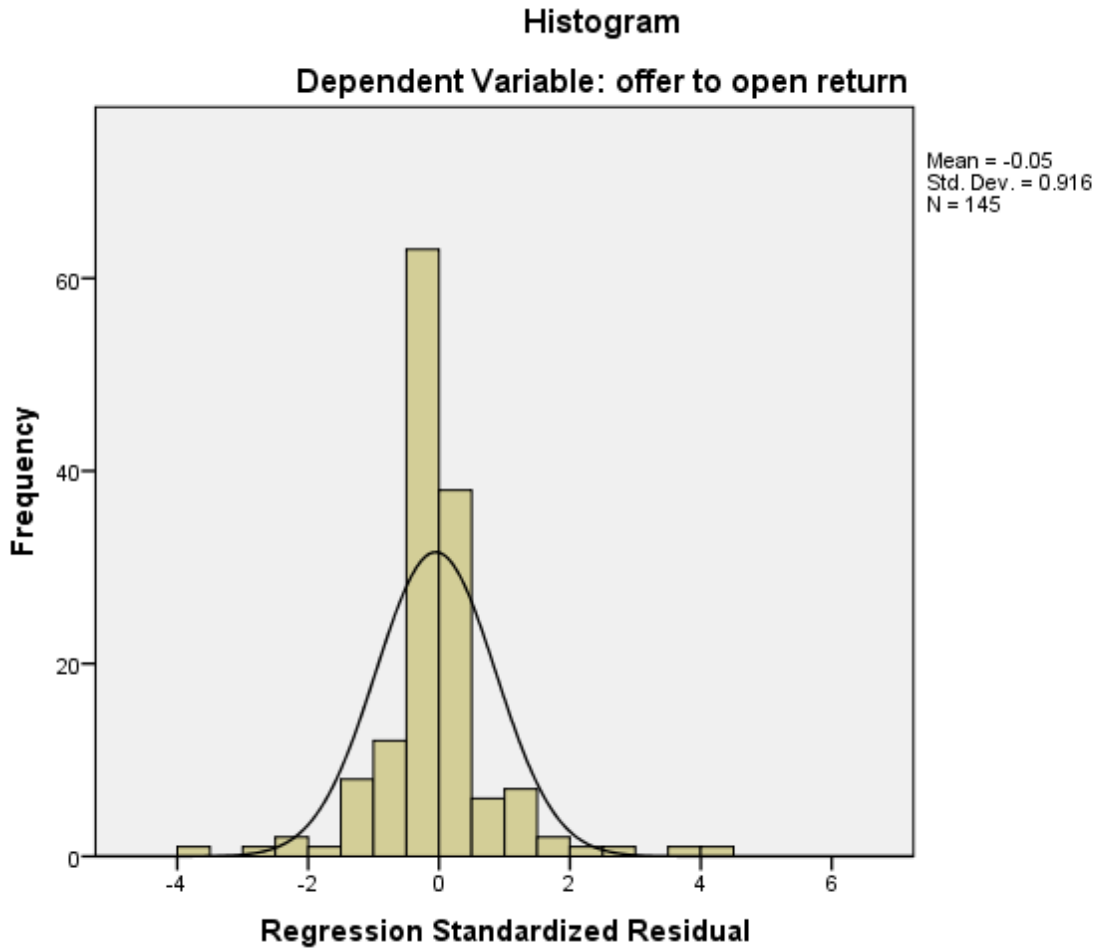
Case Number	Std. Residual	offer to open return	Predicted Value	Residual
128	4.242	288.89	154.6902	134.19869
139	-3.522	20.97	132.3874	-111.41966
140	3.576	150.00	36.8797	113.12028

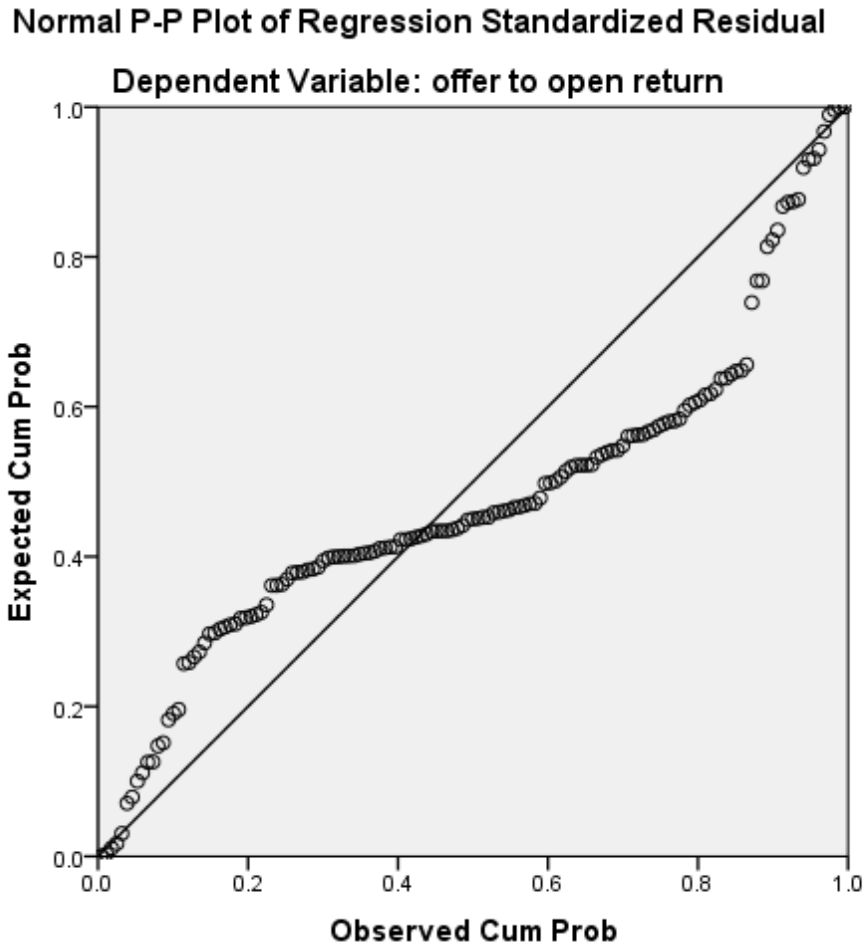
a. Dependent Variable: offer to open return

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.0375	154.6902	18.1147	23.40986	145
Residual	-111.41965	134.19868	-1.59988	28.96814	145
Std. Predicted Value	-.577	5.168	-.075	.899	145
Std. Residual	-3.522	4.242	-.051	.916	145

a. Dependent Variable: offer to open return


Histogram
Dependent Variable: offer to open return
Mean = -0.05
Std. Dev. = 0.916
N = 145
Frequency
60
40
20
0
-4
-2
0
2
4
6
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: offer to open return
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

APPENDIX N

Regression (Offer to Close) During Normal Period

Descriptive Statistics

	Mean	Std. Deviation	N
offer to close return	15.1932	34.32174	112
main board	.1875	.39207	112
second board	.1429	.35150	112
mesdaq	.2589	.44002	112
main market	.2500	.43496	112
ace market	.1607	.36892	112
private placement	.99	.094	112
Oversubscription ratio	30.7917	55.02338	112
OSRatio	.9018	.90005	112
logvolume	16.7471	1.45156	112
logprivateunit	16.8318	1.06255	112
logofferunit	17.6894	.79433	112

Correlations

		offer to close return	main board	second board	mesdaq	main market	ace market	private placement	Oversubscription ratio	OSRatio	logvolume	logprivateunit	logofferunit
Pearson Correlation	offer to close return	1.000	.100	-.153	.143	-.184	.085	.139	.364	.470	.199	.143	.021
	main board	.100	1.000	-.196	-.284	-.277	-.210	.046	-.116	-.075	-.123	.038	.125
	second board	-.153	-.196	1.000	-.241	-.236	-.179	.039	-.157	-.240	-.230	-.481	-.211
	mesdaq	.143	-.284	-.241	1.000	-.341	-.259	.056	.258	.315	-.006	.042	-.340
	main market	-.184	-.277	-.236	-.341	1.000	-.253	.055	-.232	-.305	.211	.226	.374
	ace market	.085	-.210	-.179	-.259	-.253	1.000	-.217	.238	.292	.109	.101	.032
	private placement	.139	.046	.039	.056	.055	-.217	1.000	.030	-.010	-.035	-.034	.003
	Oversubscription ratio	.364	-.116	-.157	.258	-.232	.238	.030	1.000	.794	.107	.037	-.207
	OSRatio	.470	-.075	-.240	.315	-.305	.292	-.010	.794	1.000	.085	-.035	-.328
	logvolume	.199	-.123	-.230	-.006	.211	.109	-.035	.107	.085	1.000	.427	.337
	logprivateunit	.143	.038	-.481	.042	.226	.101	-.034	.037	-.035	.427	1.000	.757
	logofferunit	.021	.125	-.211	-.340	.374	.032	.003	-.207	-.328	.337	.757	1.000
Sig. (1-tailed)	offer to close return		.148	.053	.066	.026	.185	.071	.000	.000	.018	.066	.414
	main board	.148		.019	.001	.002	.013	.317	.112	.216	.098	.345	.095
	second board	.053	.019		.005	.006	.030	.343	.050	.005	.007	.000	.013
	mesdaq	.066	.001	.005		.000	.003	.278	.003	.000	.473	.331	.000

	main market	.026	.002	.006	.000		.004	.283	.007	.001	.013	.008	.000
	ace market	.185	.013	.030	.003	.004		.011	.006	.001	.127	.144	.369
	private placement	.071	.317	.343	.278	.283	.011		.375	.457	.358	.361	.486
	Oversubscription ratio	.000	.112	.050	.003	.007	.006	.375		.000	.130	.348	.014
	OSRatio	.000	.216	.005	.000	.001	.001	.457	.000		.185	.355	.000
	logvolume	.018	.098	.007	.473	.013	.127	.358	.130	.185		.000	.000
	logprivateunit	.066	.345	.000	.331	.008	.144	.361	.348	.355	.000		.000
	logofferunit	.414	.095	.013	.000	.000	.369	.486	.014	.000	.000	.000	
N	offer to close return	112	112	112	112	112	112	112	112	112	112	112	112
	main board	112	112	112	112	112	112	112	112	112	112	112	112
	second board	112	112	112	112	112	112	112	112	112	112	112	112
	mesdaq	112	112	112	112	112	112	112	112	112	112	112	112
	main market	112	112	112	112	112	112	112	112	112	112	112	112
	ace market	112	112	112	112	112	112	112	112	112	112	112	112
	private placement	112	112	112	112	112	112	112	112	112	112	112	112
	Oversubscription ratio	112	112	112	112	112	112	112	112	112	112	112	112
	OSRatio	112	112	112	112	112	112	112	112	112	112	112	112
	logvolume	112	112	112	112	112	112	112	112	112	112	112	112

logprivateunit	112	112	112	112	112	112	112	112	112	112	112	112
logofferunit	112	112	112	112	112	112	112	112	112	112	112	112

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	OSRatio	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	logofferunit	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: offer to close return

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.470[a]	.221	.214	30.42534	
2	.506[b]	.256	.242	29.88250	2.111

a. Predictors: (Constant), OSRatio

b. Predictors: (Constant), OSRatio, logofferunit

c. Dependent Variable: offer to close return

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28928.819	1	28928.819	31.251	.000[b]
	Residual	101827.178	110	925.702		
	Total	130755.996	111			
2	Regression	33422.925	2	16711.463	18.715	.000[c]
	Residual	97333.071	109	892.964		
	Total	130755.996	111			

a. Dependent Variable: offer to close return

b. Predictors: (Constant), OSRatio

c. Predictors: (Constant), OSRatio, logofferunit

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.982	4.079		-.241	.810		
	OSRatio	17.937	3.209	.470	5.590	.000	1.000	1.000
2	(Constant)	-153.215	67.977		-2.254	.026		
	OSRatio	20.394	3.336	.535	6.113	.000	.892	1.121
	logofferunit	8.481	3.780	.196	2.243	.027	.892	1.121

a. Dependent Variable: offer to close return

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	main board	.136[b]	1.620	.108	.153	.994	1.006	.994
	second board	-.043[b]	-.492	.624	-.047	.942	1.061	.942
	mesdaq	-.005[b]	-.060	.952	-.006	.901	1.110	.901
	main market	-.044[b]	-.499	.619	-.048	.907	1.103	.907
	ace market	-.057[b]	-.644	.521	-.062	.915	1.093	.915
	private placement	.144[b]	1.731	.086	.164	1.000	1.000	1.000
	Oversubscription ratio	-.025[b]	-.183	.855	-.018	.369	2.711	.369

	logvolume	.160[b]	1.917	.058	.181	.993	1.007	.993
	logprivateunit	.160[b]	1.921	.057	.181	.999	1.001	.999
	logofferunit	.196[b]	2.243	.027	.210	.892	1.121	.892
2	main board	.117[c]	1.414	.160	.135	.983	1.017	.882
	second board	.019[c]	.216	.830	.021	.849	1.178	.792
	mesdaq	.050[c]	.547	.585	.053	.838	1.193	.830
	main market	-.114[c]	-1.257	.211	-.120	.823	1.216	.809
	ace market	-.086[c]	-.985	.327	-.094	.896	1.116	.801
	private placement	.144[c]	1.763	.081	.167	1.000	1.000	.892
	Oversubscription ratio	-.055[c]	-.398	.691	-.038	.366	2.735	.341
	logvolume	.103[c]	1.150	.253	.110	.843	1.186	.758
	logprivateunit	.035[c]	.262	.794	.025	.376	2.657	.336

a. Dependent Variable: offer to close return

b. Predictors in the Model: (Constant), OSRatio

c. Predictors in the Model: (Constant), OSRatio, logofferunit

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	OSRatio	logofferunit
1	1	1.709	1.000	.15	.15	
	2	.291	2.425	.85	.85	
2	1	2.613	1.000	.00	.05	.00
	2	.386	2.602	.00	.83	.00
	3	.001	54.601	1.00	.12	1.00

a. Dependent Variable: offer to close return

Casewise Diagnostics[a]

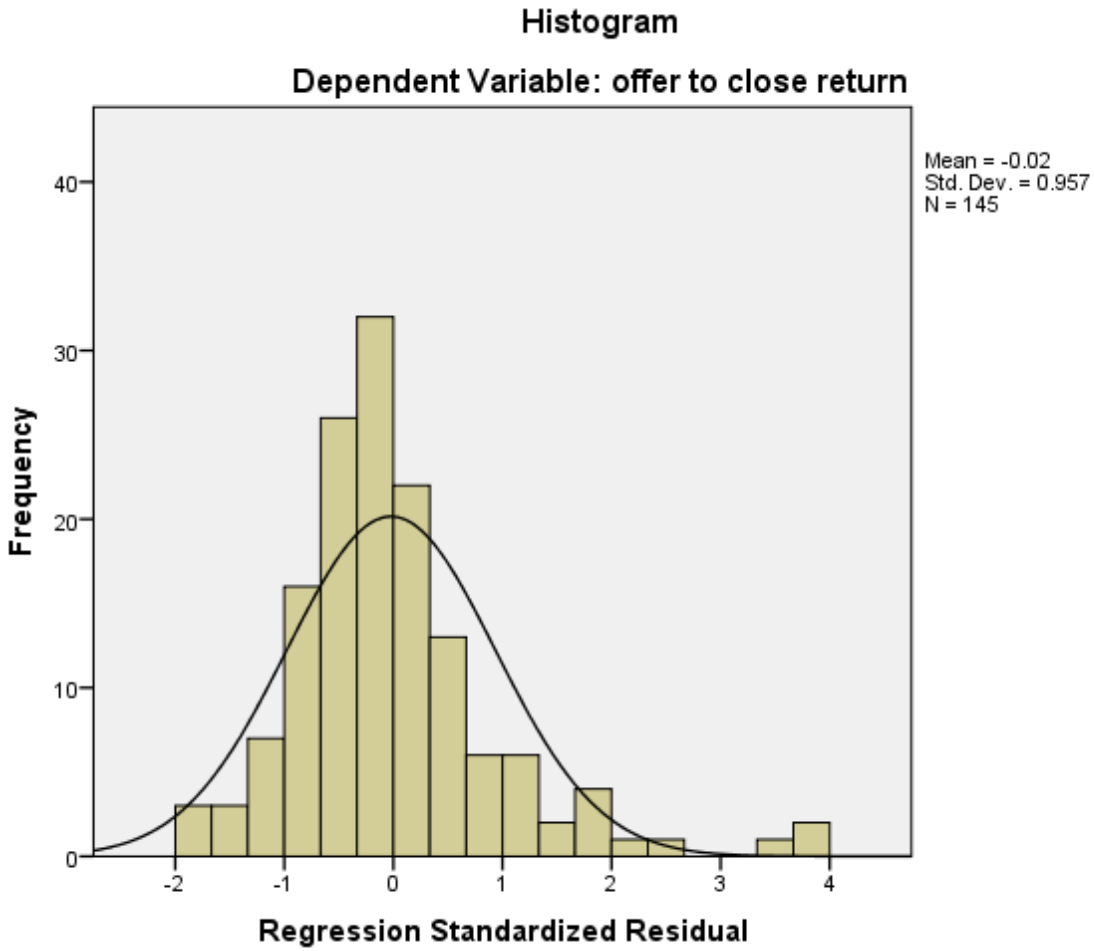
Case Number	Std. Residual	offer to close return	Predicted Value	Residual
4	3.673	139.02	29.2762	109.74817
36	3.736	127.27	15.6272	111.64558
140	3.614	148.48	40.4775	108.00737

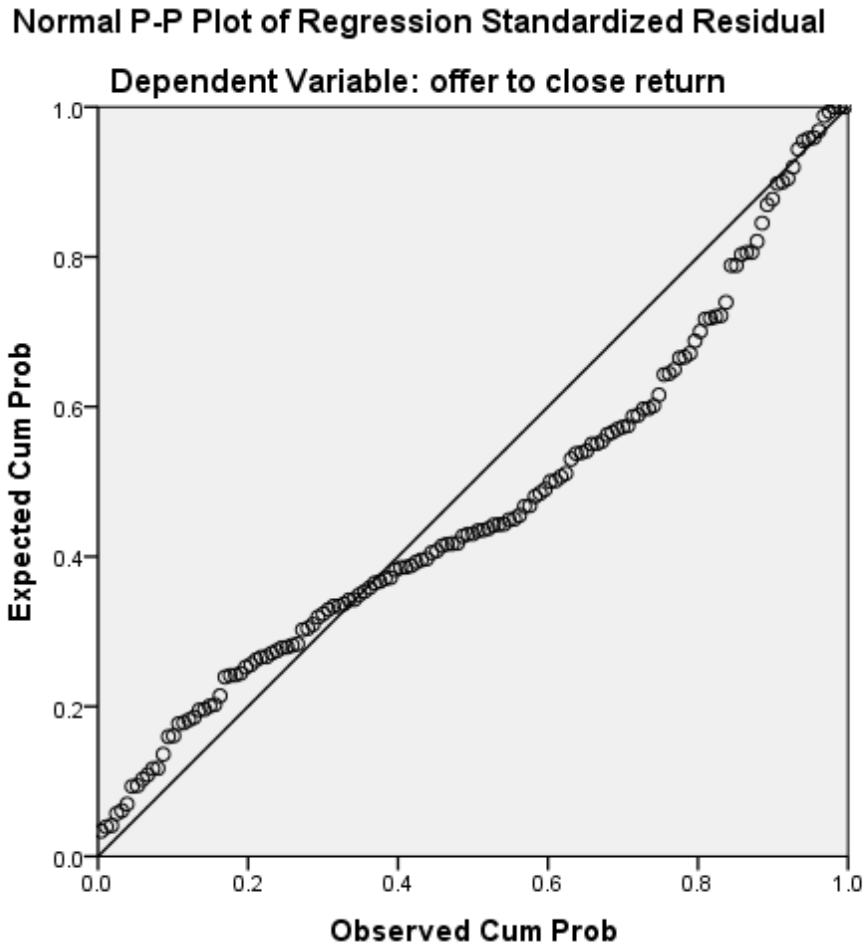
a. Dependent Variable: offer to close return

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-13.9292	59.4188	14.1220	16.35954	145
Residual	-54.73426	111.64558	-.64513	28.58449	145
Std. Predicted Value	-1.678	2.549	-.062	.943	145
Std. Residual	-1.832	3.736	-.022	.957	145

a. Dependent Variable: offer to close return


Histogram
Dependent Variable: offer to close return
Mean = -0.02
Std. Dev. = 0.957
N = 145
Frequency
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: offer to close return
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

Regression (Offer to Close) During Financial Crisis

Descriptive Statistics

	Mean	Std. Deviation	N
offer to close return	15.1932	34.32174	112
main board	.1875	.39207	112
second board	.1429	.35150	112
mesdaq	.2589	.44002	112
main market	.2500	.43496	112
ace market	.1607	.36892	112
private placement	.99	.094	112
Oversubscription ratio	30.7917	55.02338	112
OSRatio	.9018	.90005	112
logvolume	16.7471	1.45156	112
logprivateunit	16.8318	1.06255	112
logofferunit	17.6894	.79433	112
crisis	.2232	.41827	112

Correlations

		offer to close return	main board	second board	mesdaq	main market	ace market	private placement	Oversubscription ratio	OSRatio	logvolume	logprivateunit	logofferunit	crisis
Pearson Correlation	offer to close return	1.000	.100	-.153	.143	-.184	.085	.139	.364	.470	.199	.143	.021	-.276
	main board	.100	1.000	-.196	-.284	-.277	-.210	.046	-.116	-.075	-.123	.038	.125	.072
	second board	-.153	-.196	1.000	-.241	-.236	-.179	.039	-.157	-.240	-.230	-.481	-.211	.210
	mesdaq	.143	-.284	-.241	1.000	-.341	-.259	.056	.258	.315	-.006	.042	-.340	-.121
	main market	-.184	-.277	-.236	-.341	1.000	-.253	.055	-.232	-.305	.211	.226	.374	-.012
	ace market	.085	-.210	-.179	-.259	-.253	1.000	-.217	.238	.292	.109	.101	.032	-.118
	private placement	.139	.046	.039	.056	.055	-.217	1.000	.030	-.010	-.035	-.034	.003	.051
	Oversubscription ratio	.364	-.116	-.157	.258	-.232	.238	.030	1.000	.794	.107	.037	-.207	-.221
	OSRatio	.470	-.075	-.240	.315	-.305	.292	-.010	.794	1.000	.085	-.035	-.328	-.372
	logvolume	.199	-.123	-.230	-.006	.211	.109	-.035	.107	.085	1.000	.427	.337	-.280
	logprivateunit	.143	.038	-.481	.042	.226	.101	-.034	.037	-.035	.427	1.000	.757	-.165
	logofferunit	.021	.125	-.211	-.340	.374	.032	.003	-.207	-.328	.337	.757	1.000	.046
	crisis	-.276	.072	.210	-.121	-.012	-.118	.051	-.221	-.372	-.280	-.165	.046	1.000
Sig. (1-tailed)	offer to close return		.148	.053	.066	.026	.185	.071	.000	.000	.018	.066	.414	.002
	main board	.148		.019	.001	.002	.013	.317	.112	.216	.098	.345	.095	.225
	second board	.053	.019		.005	.006	.030	.343	.050	.005	.007	.000	.013	.013

	mesdaq	.066	.001	.005		.000	.003	.278	.003	.000	.473	.331	.000	.102
	main market	.026	.002	.006	.000		.004	.283	.007	.001	.013	.008	.000	.448
	ace market	.185	.013	.030	.003	.004		.011	.006	.001	.127	.144	.369	.108
	private placement	.071	.317	.343	.278	.283	.011		.375	.457	.358	.361	.486	.297
	Oversubscription ratio	.000	.112	.050	.003	.007	.006	.375		.000	.130	.348	.014	.010
	OSRatio	.000	.216	.005	.000	.001	.001	.457	.000		.185	.355	.000	.000
	logvolume	.018	.098	.007	.473	.013	.127	.358	.130	.185		.000	.000	.001
	logprivateunit	.066	.345	.000	.331	.008	.144	.361	.348	.355	.000		.000	.041
	logofferunit	.414	.095	.013	.000	.000	.369	.486	.014	.000	.000	.000		.316
	crisis	.002	.225	.013	.102	.448	.108	.297	.010	.000	.001	.041	.316	
N	offer to close return	112	112	112	112	112	112	112	112	112	112	112	112	112
	main board	112	112	112	112	112	112	112	112	112	112	112	112	112
	second board	112	112	112	112	112	112	112	112	112	112	112	112	112
	mesdaq	112	112	112	112	112	112	112	112	112	112	112	112	112
	main market	112	112	112	112	112	112	112	112	112	112	112	112	112
	ace market	112	112	112	112	112	112	112	112	112	112	112	112	112
	private placement	112	112	112	112	112	112	112	112	112	112	112	112	112
	Oversubscription ratio	112	112	112	112	112	112	112	112	112	112	112	112	112
	OSRatio	112	112	112	112	112	112	112	112	112	112	112	112	112

	logvolume	112	112	112	112	112	112	112	112	112	112	112	112	112
	logprivateunit	112	112	112	112	112	112	112	112	112	112	112	112	112
	logofferunit	112	112	112	112	112	112	112	112	112	112	112	112	112
	crisis	112	112	112	112	112	112	112	112	112	112	112	112	112

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	OSRatio	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	logofferunit	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: offer to close return

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.470[a]	.221	.214	30.42534	
2	.506[b]	.256	.242	29.88250	2.111

a. Predictors: (Constant), OSRatio

b. Predictors: (Constant), OSRatio, logofferunit

c. Dependent Variable: offer to close return

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28928.819	1	28928.819	31.251	.000[b]
	Residual	101827.178	110	925.702		
	Total	130755.996	111			
2	Regression	33422.925	2	16711.463	18.715	.000[c]
	Residual	97333.071	109	892.964		
	Total	130755.996	111			

a. Dependent Variable: offer to close return

b. Predictors: (Constant), OSRatio

c. Predictors: (Constant), OSRatio, logofferunit

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.982	4.079		-.241	.810		
	OSRatio	17.937	3.209	.470	5.590	.000	1.000	1.000
2	(Constant)	-153.215	67.977		-2.254	.026		
	OSRatio	20.394	3.336	.535	6.113	.000	.892	1.121
	logofferunit	8.481	3.780	.196	2.243	.027	.892	1.121

a. Dependent Variable: offer to close return

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	main board	.136[b]	1.620	.108	.153	.994	1.006	.994
	second board	-.043[b]	-.492	.624	-.047	.942	1.061	.942
	mesdaq	-.005[b]	-.060	.952	-.006	.901	1.110	.901
	main market	-.044[b]	-.499	.619	-.048	.907	1.103	.907
	ace market	-.057[b]	-.644	.521	-.062	.915	1.093	.915
	private placement	.144[b]	1.731	.086	.164	1.000	1.000	1.000
	Oversubscription ratio	-.025[b]	-.183	.855	-.018	.369	2.711	.369

	logvolume	.160[b]	1.917	.058	.181	.993	1.007	.993
	logprivateunit	.160[b]	1.921	.057	.181	.999	1.001	.999
	logofferunit	.196[b]	2.243	.027	.210	.892	1.121	.892
	crisis	-.117[b]	-1.293	.199	-.123	.862	1.161	.862
2	main board	.117[c]	1.414	.160	.135	.983	1.017	.882
	second board	.019[c]	.216	.830	.021	.849	1.178	.792
	mesdaq	.050[c]	.547	.585	.053	.838	1.193	.830
	main market	-.114[c]	-1.257	.211	-.120	.823	1.216	.809
	ace market	-.086[c]	-.985	.327	-.094	.896	1.116	.801
	private placement	.144[c]	1.763	.081	.167	1.000	1.000	.892
	Oversubscription ratio	-.055[c]	-.398	.691	-.038	.366	2.735	.341
	logvolume	.103[c]	1.150	.253	.110	.843	1.186	.758
	logprivateunit	.035[c]	.262	.794	.025	.376	2.657	.336
	crisis	-.100[c]	-1.122	.264	-.107	.855	1.169	.764

a. Dependent Variable: offer to close return

b. Predictors in the Model: (Constant), OSRatio

c. Predictors in the Model: (Constant), OSRatio, logofferunit

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	OSRatio	logofferunit
1	1	1.709	1.000	.15	.15	
	2	.291	2.425	.85	.85	
2	1	2.613	1.000	.00	.05	.00
	2	.386	2.602	.00	.83	.00
	3	.001	54.601	1.00	.12	1.00

a. Dependent Variable: offer to close return

Casewise Diagnostics[a]

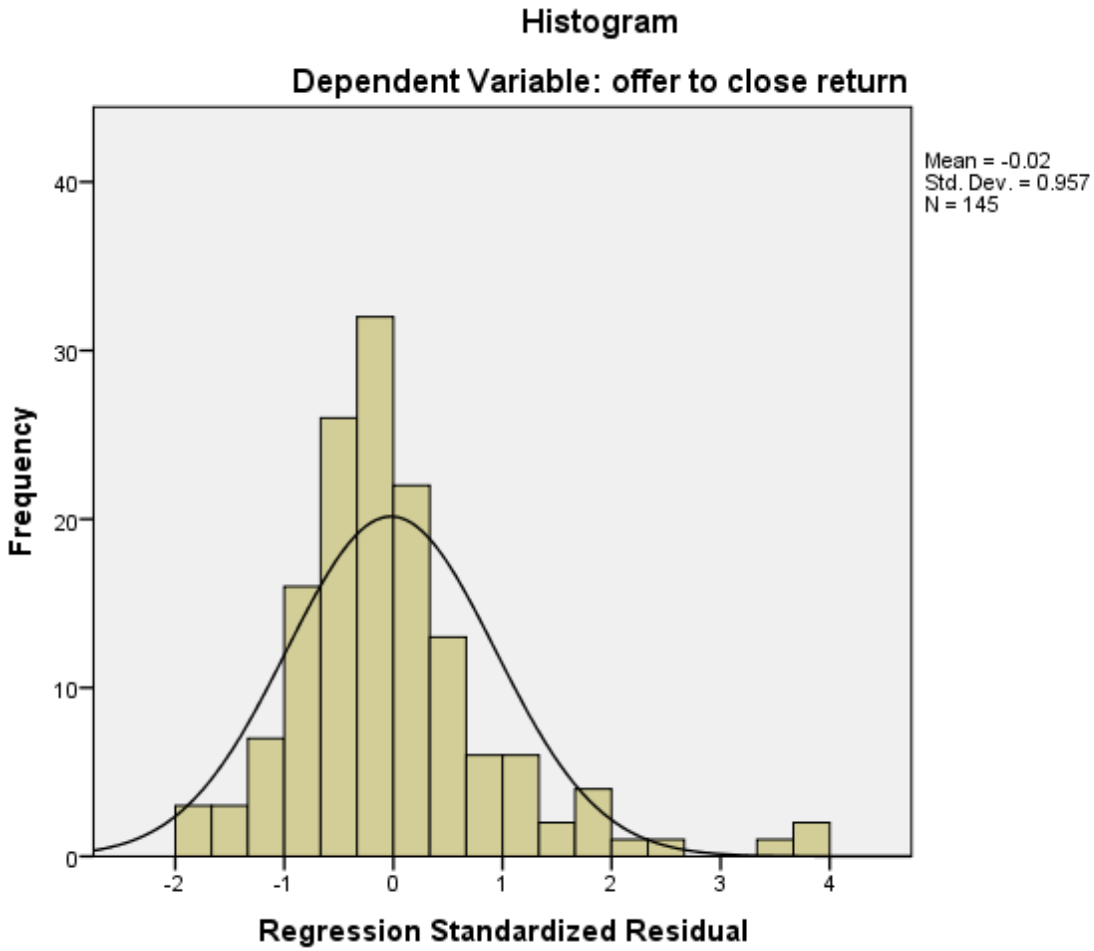
Case Number	Std. Residual	offer to close return	Predicted Value	Residual
4	3.673	139.02	29.2762	109.74817
36	3.736	127.27	15.6272	111.64558
140	3.614	148.48	40.4775	108.00737

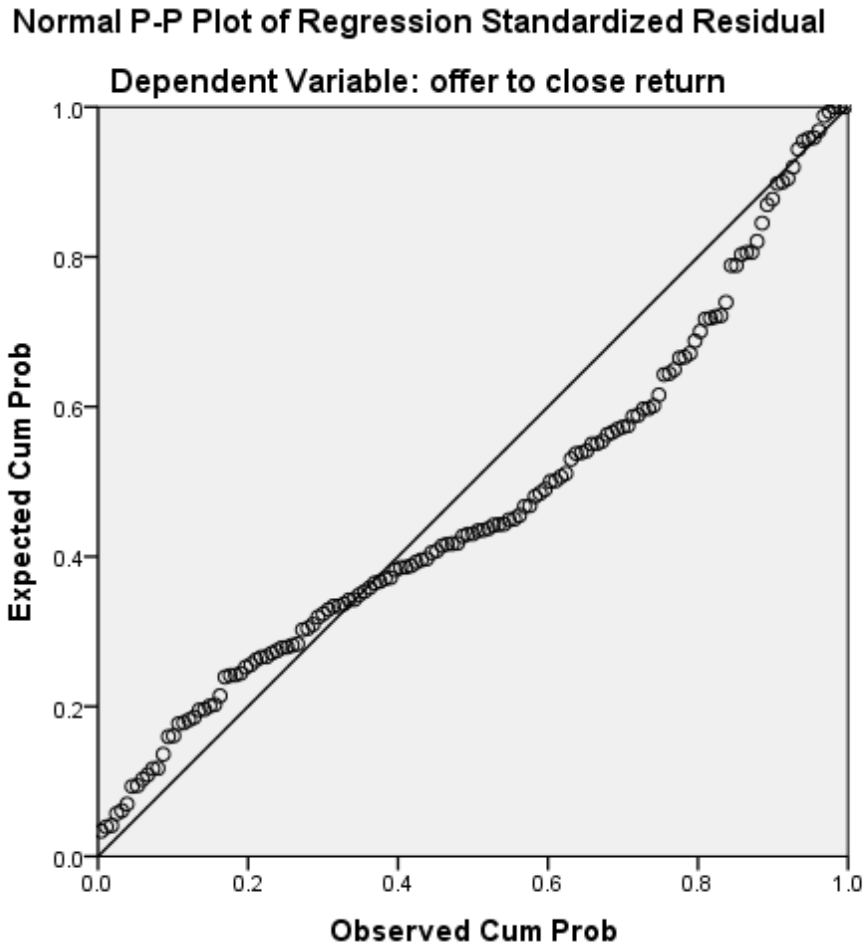
a. Dependent Variable: offer to close return

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-13.9292	59.4188	14.1220	16.35954	145
Residual	-54.73426	111.64558	-.64513	28.58449	145
Std. Predicted Value	-1.678	2.549	-.062	.943	145
Std. Residual	-1.832	3.736	-.022	.957	145

a. Dependent Variable: offer to close return


Histogram
Dependent Variable: offer to close return
Mean = -0.02
Std. Dev. = 0.957
N = 145
Frequency
40
30
20
10
0
-2
-1
0
1
2
3
4
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: offer to close return
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0