

CHAPTER 2: REVIEW OF PRIOR LITERATURE

Chapter 2 begins with history and background information of Kuala Lumpur Stock Exchange. It is then followed by introduction on FTSE Bursa Malaysia Kuala Lumpur Composite Index, the new Bursa Malaysia structure and the IPO approval process in Malaysia. The literature review explains about the issues on underpricing phenomenon with specific focus on short term underpricing and long run performance of IPOs. The motivations for IPO underpricing are also discussed here. It is then followed by looking at the possible explanations for long run performance of IPOs. Finally, the literature review discussed about efficient market hypothesis (EMH) and the three different versions of EMH.

2.1 History and Background of Bursa Malaysia

Bursa Malaysia, previously known as Kuala Lumpur Stock Exchange (KLSE) originated in 1930 when the Singapore Stockbrokers' Association was established as a formal organization dealing in securities in Malaya then. Subsequently in 1964, the Stock Exchange of Malaysia was established. A strong link existed between the KLSE and Singapore Stock Exchange (SES) as Malaysian incorporated companies were listed and traded through the SES and vice versa for Singapore incorporated companies.

As a result of the secession of Singapore from Malaysia in 1965, the Stock Exchange of Malaysia became known as the Stock Exchange of Malaysia and Singapore until 1973, Kuala Lumpur Stock Exchange Berhad (KLSEB) and SES were set up following the cessation of currency interchangeability between Malaysia and Singapore.

The KLSE was then incorporated on December 14, 1976 as a company limited by guarantee, took over the operations of KLSEB in the same year.

In 1990, KLSE achieved a major milestone with the de-listing of Singapore incorporated companies and vice versa for Malaysian companies listed on the SES. This move paved the way for the birth of a truly Malaysian stock exchange.

On April 14, 2004, KLSE was renamed and is currently known as Bursa Malaysia Berhad, following the demutualization exercise. The purpose of this demutualization exercise was to enhance its competitive position and to be more responsive to the dynamic global trends in the exchange sector by being more customer-driven and market-oriented. It was subsequently listed on the Main Board on 18 March, 2005.

Prior to 3 Aug 2009, Bursa Malaysia comprised of the Main Board, the Second Board and The Malaysian Exchange of Securities Dealing and Quotation Berhad (MESDAQ). The Main Board is the avenue for the funding and investing for bigger capitalized companies whilst smaller companies will seek to be listed on the Second Board. On the other hand, MESDAQ provides a means for high growth and technology related companies in Malaysia to raise capital. In March 2002, the MESDAQ Market merged with Bursa Malaysia Securities Bhd as part of the consolidation process of the exchange and as a result it sparked renewed interest in the MESDAQ among market players.

Bursa Malaysia is a relatively new market and it is still considered to be a developing or an emerging market as compared to other matured capital markets such as US and Hong Kong. Notwithstanding that, Bursa Malaysia has grown by leaps and bounds over the years. For example, the number of listed companies grew from 736 in 1998 to 977 in 2008. The market valuation increased from RM375 million in 1998 to RM870 in 2008. This rapid increase in the number of new listings is attributed to a number of factors, mainly to raise financing for expansion, to reduce the cost of new funds and to reduce the level of leverage (Shamsher et al., 1994).

Based on the latest information available at Bursa Resource Centre, foreign ownership in Bursa stood between 21% and 20% from January 2009 to March 2010. In terms of market demography, institutions dominated the retail trading with 71% while the balance 29% by retail investors.

Bursa Malaysia has undergone two extreme market conditions during the 1990s, being the super bull market from 1994 to 1996 and then followed by a bearish market as a result of the Asian financial crisis from 1997 to 1998. Similar to other stock exchanges worldwide, trend in IPO activity can be difficult to predict. The number of IPOs in Bursa declined dramatically by 68% from 88 IPOs in 1997 to 28 IPOs in 1998, reflecting the negative market sentiment following the 1997-98 Asian Financial crisis. As the economy recovered with the return of business confidence and better corporate earnings prospects, number of IPOs has increased steadily from merely 28 IPOs in 1998 to 79 IPOs in 2005.

2.2 FTSE Bursa Malaysia Kuala Lumpur Composite Index (FBM KLCI)

Stock indices are used as benchmarks to gauge the performance of a group of stocks. By proxy, it reflects the investor sentiment on the state of a country's economy. In the last twenty years, stock indices have developed to become much more than economic indicators or market barometer and with growing developments in financial markets, more technical functions of indices have been brought to the forefront.

Many indices are cited by news or financial services firm and are used as benchmarks to measure the performance of portfolios such as mutual funds. Besides, they are also used by the financial community such as investors and fund managers as a general guide or benchmark to evaluate the performance of their stock portfolio in relation to the overall performance of the stock market. The application of indices is now much wider including the use of indices as benchmarks for investor portfolio comparisons and as underlying components of financial products, for example Exchange Traded Funds (ETFs) and derivatives.

Effective 6 July 2009 onwards, Bursa Malaysia together with FTSE, its index partner, have integrated the KLCI with internationally accepted index calculation methodology for a greater worldwide acceptance and better marketability. It is now known as the FTSE Bursa Malaysia KLCI which is a more investable, tradable and transparently managed index with the adoption of the FTSE global index standard. Bursa Malaysia is committed towards extending the Malaysian capital market's global reach by

offering competitive services and infrastructure through adoption of internationally accepted standards which are globally relevant.

FTSE Bursa Malaysia Kuala Lumpur Stock Exchange Composite Index (FBM KLCI) is a capitalization weighted index and is used as an indicator of the performance of the stock market and the country's overall economy as a whole. The index is based on market-capitalization weighted method where it factors in the size of the companies. Thus, a relatively small shift in the price of a large size company will heavily move the index points. Market capitalization refers to the total value of listed companies shares based on the current market price. It is calculated by multiplying a company's outstanding shares by the current market price. Therefore, the larger cap companies are given higher weightage compared to the mid and smaller cap companies. The index computation is as follows:-

$$\frac{\text{Current aggregate Market Capitalisation}}{\text{Base Aggregate Market Capitalisation}} \times 100$$

2.3 New Bursa Malaysia Structure

A significant milestone was achieved on 3 August 2009 when Bursa Malaysia's Main Board and Second Board merged into a single board to form the Main Market, and the MESDAQ Market became the ACE Market which is open to companies of all sizes and from all economic sectors. Consequently, listing processes and procedures were reviewed to shorten the time to market for both IPOs and secondary issuances of securities.

KLCI is now known as the FTSE Bursa Malaysia KLCI effective 6 July 2009 following the migration to the FTSE Bursa Malaysia KLCI to be the primary market benchmark for Malaysia. Previously, calculation of KLCI was based on 100-stock index. This new move to a 30 stock index is calculated according to FTSE's globally accepted index standards provides domestic and international investors with a more transparent, investable and tradable benchmark. Existing products which use this index as the underlying include Exchange Traded Funds, Futures markets and Options. The computation of the index will then be based on the 30 constituents.

In a move to upgrade the main index to international standard, Malaysia has been active in implementing initiatives to stimulate international investment flows and the switch to a 30 stock FTSE calculated benchmark paves the way for the creation of ETFs, structured products and other derivatives to facilitate this. The FBM KLCI joins other regional benchmarks such as the STI in Singapore and FTSE MIB in Italy, which have taken the similar steps to adopt FTSE index calculation.

The FTSE Bursa Malaysia KLCI will be free-float adjusted and liquidity-screened to give investors an investable and tradable index which remains characteristic of the underlying market. Constituents of the FTSE Bursa Malaysia KLCI will be made up of Bursa Malaysia's 30 largest eligible Main Board companies by market capitalization. The two main eligibility requirements stated in the FTSE Bursa Malaysia Index Ground Rules are the free float and liquidity requirements as indicated below:

- i. Free Float: Each company is required to have a minimum free float of 15%. The free float excludes restricted shareholding like cross holdings, significant long term holdings by founders, their families and/or directors, restricted employee share schemes, government holdings and portfolio investments subject to a lock in clause, for the duration of that clause.
- ii. Liquidity: A liquidity screen is applied to ensure the company's stocks are liquid enough to be traded. Companies must ensure that at least 10% of their free float adjusted shares in issue is traded in the 12 months prior to an annual index review in December. The 30 constituents of the FTSE Bursa Malaysia KLCI will be ranked primarily on share capital free float to ensure that only stocks with high free float are included within the index.

2.4 Approval Process of IPOs in Malaysia

In Malaysia, the Securities Commission (SC), a statutory body under the care of Ministry of Finance (MoF), is the central authority on the regulation, supervision and development of securities industry. When a company wishes to go for listing in Bursa, the firm must firstly appoint a principal adviser approved by the SC. Advisers are encouraged to have pre-submission consultations with SC to discuss potential issues pertaining to the IPO application such as new products, practical/implementation issues and regulatory issues.

When the adviser makes IPO application to the SC, SC expects a full and complete submission complete with registrable prospectus from the Adviser in order for

SC to meet its timeline. Incomplete submissions may cause delays in consideration of the application or can even cause the submissions to be returned. Subsequently, SC will expose the prospectus for a period of 15 working days with a view to obtaining feedback from the public. Assessment is made on the applicant's compliance with the quantitative and qualitative requirements taking into account the profits and dividends forecast by the firm and its underwriter.

Rather than market-driven, the pricing mechanism in the Malaysian IPO market is regulated by the SC. Firms in Malaysia employ the fixed price method to go public whereby investors will specify the number of shares to which they wish to subscribe at the pre-announced subscription price. In deriving at the IPO pricing, the prospective price-earnings (P/E) ratio agreed between the firm and its underwriter must fall within a certain range set out by the SC. As a general rule, when an offer price is at or above the value of the underlying security, then the offer is deemed to be fair and reasonable.

Once a firm has agreed to the pricing of the issue with its lead underwriter, an application has to be lodged for approval with the Ministry of International Trade and Industry (MITI), the Foreign Investment Committee (FIC), and the SC. The examination and approval of the proposed listing of the firm by the SC only takes place once both the MITI and FIC have given their consent to the listing. In arriving at a decision, relevant departments within SC provide inputs in relation to compliance with the relevant regulations and guidelines. Before any approval is granted, SC will perform a financial and qualitative evaluation of the firm, taking into consideration the profits and dividends

forecast by the firm and its underwriter. Review is also undertaken to assess compliance with the Bumiputera Equity Requirement for listed companies.

A Recommendation Committee, comprising senior management staff from different departments within SC convenes for a challenge process to ensure thoroughness and consistency in the recommendation of the application to be tabled to the Issues Committee. The Issues Committee, comprising different members of the Commission, convenes to deliberate and decide on the IPO application.

Applicant confirms date of prospectus registration and updates documentation. SC expects that the IPO prospectus contains information that is not false or misleading and there is no material omission of statement/information, and that the prospectus is sufficient for investors to make an informed investment decision. SC conducts final check on registrable IPO prospectus before registering the prospectus. Relevant departments conduct checks on compliance by Adviser/Applicant on approval conditions. Once registered, the Adviser/Applicant is required to lodge the prospectus with Companies Commission of Malaysia. The prospectus is issued to prospective investors and the offer period is open for 5 market days. Listing of the securities by Bursa takes place in a minimum of 11 market days from the issuance of the prospectus.

Following the closing of applications for each public issue, company board members and representatives from both the Malaysian Industrial Development Finance Consultancy and Corporate Services (MIDFCCS) and the SC meet to agree the basis for

allotting the shares. Rationing process is necessary since oversubscription is a very common phenomenon in the Malaysian IPO market. In this pre-balloting meeting, the number of successful applicants for each group as well as the number of shares to be allocated to each applicant is determined. A reserve list is required for both the Bumiputera and the public portion, since application forms are not opened before the balloting process takes place. The rationale of the reserve list is that if a number of applicants have been rejected after the balloting process, the shares which have been allocated to them will then be re-allocated to other investors who were not successful in the first balloting.

The main feature of the balloting process is that it is carried out in public and in two different phases. Representatives from the Anti-Corruption Agency, MIDFCCS, MITI, FIC, SC and members of the board of directors will attend and witness the balloting process. During the first stage, Bumiputera investors are balloted and members of the board of directors are invited to draw a pre-determined number of envelopes from each group. This is then followed by a mini-balloting from the reserve list of the Bumiputera portion. All unsuccessful Bumiputera application forms are then added to the public portion for a second balloting in the second stage. Thus, the Bumiputera investors' probability of success is thus much higher than that of other investors.

2.5 Review of Prior Literature

2.5.1 The Short Run Underpricing of IPOs

Most companies that go public do so via an initial public offering of shares to investors. The issue of underpricing in IPO has been an extensive field for investigation in the financial community, especially during the last decade. This underpricing phenomenon has garnered enormous interest among the financial economists for many decades. In the early days, some studies focus on some specific factors in explaining the underpricing phenomenon. Early researchers such as Logue (1973) and Ibbotson (1975), documented that when companies go public, the IPO shares tend to be underpriced, in that the share price jumps on the first day of trading. This means that an investor who purchases new issues at the offering price and sells them at the closing price on the first day of listing can, on average, make relatively large returns.

Using the data from 1990 till 1998, Loughran and Ritter (2000) found that initial returns on IPOs averaged about 15 percent which was equivalent to approximately USD27 billion of potential IPO proceeds were left on the table as a result of underpricing. More recently, another observation by Ritter (2001) documented that during the two-year period from 1999 to 2000, about USD65 billion was left on the table from the IPOs raised.

Jelic, Saadouni and Briston (2001) using 182 IPOs on the KLSE Main Board over the period January 1980 to December 1995 documented that the degree of underpricing

appeared to be exceptionally evident during the hot issue periods of 1983-1985 and 1993-1995.

Koh and Walter (1989) study 66 IPOs in Singapore Stock Exchange during 1973 to 1987. Their tests reveal similarities with the major findings of Rock's (1986) model whereby there is a significant positive correlation between oversubscription level and first day returns. In Singapore, if the IPOs are oversubscribed, all subscribers of particular size have an equal chance to get the shares. This allocation process makes the calculation of the probabilities of obtaining an allocation in conformance with Rock's model. Furthermore, they also find that underpricing is more prevalent among the large investors than small investors.

Levis (1990) demonstrates that the underpricing of IPOs can be accounted for by winner curse problem and the interest rate cost in his studies on 123 IPOs in London Stock Exchange from the period January 1985 to December 1988. After the allocation rate and interest rate cost is taken into account, the first day return is not significantly different from zero.

Keloharju (1993) studies 80 IPOs in the Finnish market from 1984 to 1989. His evidence confirms the existence of the winner's curse where there is a significantly negative relation between allocation rate and first day return.

The degree of underpricing varies significantly across markets. Loughran et al. (1994) provides an international survey of IPO performance in 25 countries, including 7 regional countries with an average initial return of 78.1% for Korea; 32.5% for Japan; 17.6% for Hong Kong; 80.3% for Malaysia; 27.0% for Singapore; 58.1% for Thailand and 45.0% for Taiwan. From their investigation, they find that the move by East Asian economies to reduce regulatory intervention in fixing IPO subscription prices should result in less underpricing of IPOs in the 1990s compared to the 1980s.

Ritter (2003) reports that the average initial returns experienced in Asian IPOs are significantly higher than the average initial returns of U.S. IPOs. For example, his research shows that the average initial return of new listings in 33 countries ranged from 13.6% to 388% in the developing market and 4.2% to 54.4% in the developed market. In addition, he also reports the extent of underpricing in these countries, including 11 Asian countries with an average initial return of 256.9% for China; 31.4% for Singapore; 74.3% for Korea; 35.3% for India; 15.9% for Hong Kong; 15.1% for Indonesia; 28.4% for Japan; 104.1% for Malaysia; 22.7% for the Philippines; 31.1% for Taiwan and 46.7% for Thailand.

Beatty and Ritter (1986) relate the level of ex-ante uncertainty surrounding the intrinsic value of an IPO to the level of underpricing; the higher the uncertainty level, the higher is the level of underpricing.

Studies in empirical literature on IPOs revolved around the issues of abnormal initial returns and long-term underperformance. The conceptual framework of the hypotheses formulated to explain the abnormal initial returns are based on the uncertainty inherent in the IPO process. These explanations stem from the large amount of uncertainties prevailing during the IPO process and the existence of information asymmetry among the IPO subscribers, the issuer and the underwriter. It is assumed that to decrease this uncertainty IPO shares are deliberately underpriced. Thus, under efficient market conditions, the market should self-correct this deliberate act of underpricing, leading to an equilibrium price and in the long run, these new IPO issues underperform other securities. From this perspective, according to Ritter (1998), none of these hypotheses are mutually exclusive. The fundamental hypotheses which deal with the explanation of this phenomenon are discussed as below:

- i. **Monopsony power of underwriter hypothesis:** This hypothesis says that underwriters possess superior knowledge of market conditions and will take advantage by underpricing IPO offerings, which allows them to reap profits as a result of the price increase. Under the assumption of perfect or symmetric information, Ritter (1984) reasons that in order to maximize their revenues, investment bankers take advantage of their superior information of market conditions to underprice the IPO price. In line with Ritter's (1984) findings, Baron (1982) argues that an informational asymmetry between the underwriters and the issuers causes the significant first-day return. This is because the underwriters possess superior information regarding the demand for the IPOs while the issuers are not aware of the underwriters' distribution efforts. Lowering

IPO price helps underwriters minimize their marketing and promotional efforts in selling the IPOs by way of offering them at a discount.

- ii. **Winner's curse hypothesis:** The winners curse implies that if investors are successful in bidding for something, then most likely the investors are paying higher than the competition. The situation can be either way. Investors either knew more than their competitors and better understood the true value, or they knew less than the competition and bid too much, hence suffering the winners curse. In an IPO, there are essentially a fixed number of shares available at a fixed price. IPO subscribers only submit orders if they are confident that on the average, IPOs are underpriced sufficiently to compensate for the risk. This is especially true for retail investors that are not successful in getting the IPO shares but have to purchase them in the post IPO listing period. Asymmetric information models assume that one of these parties knows more than the others. Rock (1986) assumes that investors who are better informed than others will avoid participation in subscribing overvalued IPOs. In order to counter the resulting winner's curse problem experienced by uninformed investors, there has to be some degree of deliberate underpricing. Based on Rock's (1986) model, uninformed investors are likely to purchase overvalued IPO stocks at the offering date, resulting in the winner's curse problem. Consequently, the issuing firm has to fix the IPO offer price with a discount to attract the uninformed investors purchase the IPO stocks.
- iii. **Hypothesis of prestigious underwriters:** Based on the studies by Booth and Smith (1986) and Carter and Manaster (1990), non-reputable underwriters may

aggressively market IPO stocks by underpricing them. Thus, underpricing of IPOs is negatively related to the reputation of underwriters. It suggests that the reputation of an underwriter has an impact on the quantum of initial return. The empirical evidence seems to point out that well-established underwriters with a better reputation tend to reduce the initial underpricing (Beatty and Ritter, 1986; Johnson and Miller, 1988; Beatty and Welch, 1996; Carter et al., 1998; Paudyal et al., 1998). However, Beatty and Welch (1996), suggest that the negative relationship between the level of IPO underpricing and underwriters' reputation may be reversed depending on changes in the economic environment. In Japan, Beckman et al. (2001) study the relationship between an underwriter's reputation and the level of underpricing in Japanese IPOs between 1980 and 1998. They find no evidence to suggest that underwriter's reputation has an influence on the level of underpricing. In Malaysia, Jelic et al. (2001), report that on average, underwriters with a better reputation seem to increase the initial underpricing based on his data from 1980 to 1995. This contradicts with the findings by Beatty and Ritter (1986) and Carter et al. (1998) whose studies on underwriters' role in other countries suggest that underpricing of IPOs is negatively related to the reputation of underwriters.

- iv. **Lawsuit avoidance hypothesis:** The litigiousness of American investors has given rise to a legal insurance or lawsuit avoidance hypothesis. The notion that underpricing may reduce legal liabilities goes back at least to Logue (1973) and Ibbotson (1975). According to the lawsuit avoidance hypothesis, companies deliberately offer their IPO shares at a discount to reduce the likelihood of future

lawsuits filed by shareholders who are dissatisfied with the post-IPO performance of their shares. Therefore, large positive initial IPO returns reduce the probability of a lawsuit, the probability of an unfavorable judgment in the event a lawsuit is filed, and the quantum of damages if there is an adverse judgment. In other words, the more significant the degree of underpricing, the lower the probability that investors will lose money in their investments, and hence, reducing the number of lawsuits.

- v. **Signalling hypothesis:** Welch (1989) and others assume that the issuer is better informed about its true value, leading to an equilibrium in which higher-valued firms use underpricing as a signal. Therefore, the evidence clearly supports the notion that some companies are willing to leave money on the table deliberately to get a more favorable price at seasoned offerings in the future, when they are substantially wealth constrained, a prediction embedded in the signalling hypothesis. The insiders may also recoup the costs of underpricing through subsequent open-market sales of their subsequent share offerings at a more favorable price. If companies have better inside information about the present value or risk of their future cash flows than the IPO subscribers do, underpricing may be used to signal the company's 'true' high value. This is indeed a costly exercise, but if successful, signalling may give advantage to the issuer to return to the market to sell equity on more favourable terms at a later date. Ibbotson (1975), who is credited with the original idea on the IPO signalling literature, in his words, stated that issuers underprice their IPOs in order to 'leave a good taste in investors' mouths'. Allen and Faulhaber (1989), Grinblatt and Hwang (1989), and

Welch (1989) have contributed similar theories on this. Firms raise equity in two stages, firstly via an IPO and subsequent offerings at a later date. High-quality firms have more incentive to signal their higher quality, in order to issue shares on more advantageous terms at a later date. Low-quality firms tend to follow the footsteps of high-quality firms. They argue that underpricing by higher quality firms enables them to receive higher returns from their subsequent offerings. Thus, the more a firm underprices its IPO, the more likely it is that it will re-issue subsequent share offering.

- vi. **Market feedback hypothesis:** Underpricing is used as a method to induce potential investors to truthfully reveal their valuations during the book-building exercise. To induce investors to tell the truth with useful information, the expected profit of the truth tellers must be higher than those who won't tell the truth. The more favourable the feedback provided to the bankers by the investors, the more underpricing seems to take place. The underpricing provides incentives for potential investors to offer positive pricing information. According to Benviste and Spindt (1989) and Jegadeesh et al. (1993), under the condition of asymmetric information between underwriters and investors, the underwriters underprice the IPOs to induce regular investors to reveal information during the pre-selling period and through the book-building process, underwriters obtain valuable information which assists them to re-price the new issue.
- vii. **Market bandwagon hypothesis:** The existence of a large group of informed investors also creates a bandwagon effect when the market over-reacts to the pricing of an IPO. According to Welsh (1992), if potential investors pay attention

not only to their own information about a new IPO, but also as to whether other investors are purchasing, bandwagon effects or also known as information cascades, may develop. If potential investors see that there is little demand for a particular IPO, they may not want to buy the IPO shares fearing the winner's curse situation. Therefore, in order to generate lots of interest and enthusiasm, the issuers may want to underprice initially and create a bandwagon effect whereby many investors become excited about the IPO and they will want to join and buy in, regardless of their initial thoughts on the stock.

- viii. **Ownership dispersion or control hypothesis:** According to this hypothesis, firms deliberately underprice the offering to generate excess demand and widely dispersed shareholders so that any single investor can't challenge the management by way of having a large number of small shareholders. Brennan and Frank (1997) assert that the underpricing of the issue could potentially reduce the risks of a hostile takeover since it will lead to oversubscription, creating increased liquidity for the stock and a large number of small shareholders. The larger numbers of owners will also directly increase the liquidity of the stock. They hypothesize that IPO managers tend to discourage new blockholdings to reduce the likelihood of being monitored or scrutinized by any single investor. This is because underpricing encourages oversubscription, allowing discrimination against large blockholders.
- ix. **The IPO as a marketing event:** The IPO can itself be a powerful marketing tool. The media coverage of the IPO event provides the firm with publicity that it might otherwise be unable to afford. For example, in the event a firm's exorbitant

initial return on its IPO became front page news, then it will instantly create mass recognition. Closely related to the signalling hypothesis is the notion that publicity is generated by a high first-day return. Demers and Lewellen (2003) examined the relationship between initial return and the internet traffic at the business-to-consumers companies' websites. Their findings suggest that the publicity could generate additional product market revenue from a higher number of website traffic and greater brand awareness while Chemmanur (1993) advocates that this publicity could generate additional investor attention.

2.5.2 The Long Run Underperformance of IPOs

One puzzle in the IPO literature is why the value of IPO investments generally decline after going public. Previous findings on long run performance indicate significantly poor long term performance of IPOs. In other words, IPO investors who buy shares at the end of the first trading day tend to earn a three-year cumulative return far less than that of comparable stocks. Ritter (1991) was among the first to document poor abnormal returns following an IPO. Ritter (1991) and Loughran and Ritter (1995) have documented that in the long run, the U.S. IPOs are overpriced. Ritter (1991) and Loughran and Ritter (1995) advocate that the long run underperformance of IPOs was attributable to the overreactions or over-excitement by investors at the IPO offering dates, leading to the high initial returns. They also argue that companies are able to intentionally time their offerings for periods when the market sentiment is good where investors are overoptimistic.

The long run performance of IPOs has been confirmed in many countries (Loughran, Ritter, and Rydqvist, 1994). In addition, most subsequent research, using larger and longer sample periods in the US market and overseas, confirmed Ritter's initial results. The growing body of empirical literature on IPOs provide evidence of positive short-term returns but long-term losses. For example, Ritter (1991) for the US, Keloharju (1993) for Finland, Uhlir (1989) for Germany, Levis (1993) for the UK, Aggarwal et al. (1993) for Brazil, Chile and Mexico.

Ritter (1991) studies the IPOs in the US during the years from 1975 to 1984. His findings reveal that new issues substantially underperformed a sample of matching firms from the closing price on the first day of public trading to their 3 years anniversaries. The average return for a three year holding period return for the sample after going public was about 34.47% whereas a control sample of 1,526 listed stocks matched by market value and industry was found to generate a return of 61.86% over the same three years holding period. In addition, Ritter found that there was a high likelihood for firms with high adjusted initial returns to have the worst post IPO performance and this tendency was more obvious in the smaller IPO issues than the larger ones. In the same studies, Ritter also found that there was considerable variation in the underperformance from year to year and across industries, with companies that went public in higher volume years performing the worst. On the other hand, Ritter (1991) came to a conclusion that if investors adopt a buy and hold strategy of investing at the end of the first day listing and holding on the portfolio for a three-year period resulted in the investor only having 83% of the wealth relative to the wealth at the initial period. Ritter (1991) used IPOs and

matching firms from the New York Stock Exchanges. This observation is consistent with an IPO market in which investors can sometimes be over-optimistic about the earnings prospects or growth potential of IPO firms. Older IPOs with longer years of operation were found to perform significantly better than younger IPOs.

The long-term underperformance is not just unique to the U.S. IPOs. Jelic et al. (2001) examines the long term performance of Malaysian IPOs from 1980 to 1995. He finds that the 36 month buy-and-hold adjusted return is approximately 22.0% which is significantly positive. Producing similar results to the buy-and-hold method, the cumulative abnormal return was found to be significantly positive as well at 24.8%. McGuinness (1993) reports a significant market-adjusted return of -18.26% between the close of the first day of trading and the 500th day of listing of Hong Kong IPOs for the period 1980-1990. In Japan, Cai and Wei (1997) report that five-year holding period returns are 62.1% for Japanese IPOs and 101.4% for matched firms during the 1991-1992 period.

Purnanandam and Swaminathan (2004) study a sample of 2000 relatively large capitalization IPOs between 1980 and 1997. They examine the pricing of IPOs using comparable firms, and find that, IPOs generally have an offer price 50% higher than predicted on the basis of industry peers. They also find that the more the IPO is overpriced; the worse will be the long term performance of the stocks.

On the other hand, Sullivan and Unite (2001) report an average raw return of 48.3% during the 3 years after going public for 104 Philippine IPOs for the period 1987–1997; the average market-adjusted return is –5.4%.

Among the emerging Asian economies, Loughran et al. (1994) report that high average raw returns during the 3 years after going public were earned in Japan (109.6%), Korea (58.0%) and Singapore (22.5%) whilst the market-adjusted returns were significantly lower for Japan (9.0%) and Korea (2.0%) and negative for Singapore (–9.2%). Needless to say, the results indicate that IPO investment is not beneficial for the average investor in the long run.

As many authors have documented, IPO stocks on average decline over the long term. Behavioral economists have demonstrated that individuals often violate rational choice theories when making decisions under uncertainty in experimental settings (Kahneman and Tversky (1982). Behavioral theories posit that investors give too much weight to recent results and trends. Eventually, over-optimistic investors are disappointed and subsequent returns decline. Besides, financial economists have also discovered long run pricing anomalies may have been attributed to investor sentiment. As the optimism about a firm's profitability or growth prospects subside over time, the returns of these IPO stocks will also decline.

In a similar vein, a number of reasons have been put forward for the long run returns on IPOs. One argument is that, with costly and at times prohibited short-selling of

stocks and differing views among investors, the most optimistic investors will eventually determine the market price. As more information about a firm becomes available over time such as announcement on the actual operational and financial performance, the divergence of beliefs will decrease, and the level of optimism of IPO holders will reduce, so the price of stocks will decrease as optimism decreases. In short, poor post-IPO stock market performance is due to over-optimistic investors extrapolating current growth into the future.

Other explanations are discussed here:

- i. **The agency cost hypothesis:** It is a cost that arises from the inefficiency of a relationship between an agent and a principal. In a publicly-traded company, agency costs may arise because the company's executives (the agents) may act in their own interest in a way that is detrimental to shareholders (the principals). An agency cost is an economic concept that arises within an organization associated with problems such as conflicting management-shareholder objectives. Agency theory assumes that when owner-manager entrepreneurs sell a portion of their share in their firms, agency costs are incurred. They arise because the original entrepreneurs' incentives change when they no longer bear all the costs of their decisions. This may lead to lower firm value and lower share price because an increase in agency costs should manifest itself in the form of reduced profitability and lower operational efficiency. For example, they may increase their own salaries to an unrealistic level. Agency costs are best reduced by providing appropriate incentives to align the interests of both agents and principals. Jensen

(1986) argues that some managers tend to divert proceeds from IPO, or utilize the excess cash flow to investments or projects with negative net present value at the expense of shareholders' wealth as a result of the divergence of interest between managers and shareholders. In line with this hypothesis, McLaughlin et al. (1996) find that the long-term decline in operating performance is more evident for companies that have higher free cash flows which suggest that the excess cash flow may have been utilized on investments with negative net present value at the detrimental to the shareholders.

- ii. **Earnings management hypothesis:** The earnings management hypothesis also suggests a potential explanation for poor post-IPO performance. This hypothesis suggest that prior to the IPO offer date, IPO firms unusually experience larger and significant gains in operating performance compared to the industry average. Investors may overvalue new issues because of misinterpreted high earnings reported at the time of offerings, and that they fail to realise that the earnings management symbolises a transitory increase in earnings As a result, this aggressive earnings management has led investors to be overly optimistic about the issuer's prospect. When these IPO firms cannot sustain the initial earnings, disappointed investors will revalue the firm down to a more justified level. (Teoh *et al.*, 1998). Therefore, investors are likely to be disappointed by the declining post-IPO operating performance and adjust their valuation downwards, which in turn causes the poor stock market performance.
- iii. **The fads hypothesis:** Investor sentiment has long been suspected of playing a role in the IPO underpricing puzzle. Based on the evidence that IPOs

underperform the market over the long-term, Aggarwal and Rivoli (1990) test the “fads” hypothesis and conclude that IPOs are subject to overvaluation caused by fads in early aftermarket trading. This is especially prevalent when fads occur in the hot issue market because during this period, investors are overoptimistic about the growth potential of the IPO. Aggarwal and Rivoli (1990) argue that the abnormal initial returns for IPOs is not due to systematic underpricing but overvaluation of IPOs by investors or the presence of fads in the early aftermarket trading. In other words, the fads hypothesis argues that IPOs may be correctly priced but investors overvalue the new issues in the early aftermarket. Therefore, under the assumption of efficient markets, the price of IPOs should reach their equilibrium price leading to a decline of the initial returns and poor long-term performance of IPOs. Shiller (1990) proposes this hypothesis from an investor's viewpoint. Shiller argues that one of the causes of the price movement is when people reacting to each other with increasing levels of attention and emotion, trying to figure out what other investors were likely to do, and falling back on intuitive models like models of price reversal or continuation. It says that fads and emotional involvement exist in the securities markets and the IPO market overpricing is due to the presence of fads, rather than based on a rational expectations model where prices are rationally determined.

- iv. **The window of opportunity hypothesis:** According to Ritter (1991) and Loughran and Ritter (1995), when a firm is substantially over-valued during a period when IPO subscribers are overly optimistic particularly when the general market sentiment is good, the manager will have more incentive to issue equity in

order to take advantage of the opportune time to lower the cost of capital. The fact that IPOs under-perform the market following the issue, implies that the cost of raising external equity capital are not exceedingly high for these firms. This hypothesis comes from a manager's viewpoint. Using Japanese data, Kang et al. (1999) has contradictory findings on this hypothesis that suggests temporary over-valuation will be corrected by the market over time. Using market-to-book equity ratio as proxy for over-valuation, they find that IPO long-term under performance still persists, even after the market-to-book equity ratio is controlled for.

2.6 Efficient Market Hypothesis

Efficient markets proponents argue that once an IPO is publicly traded, it is just like any other stock and thus aftermarket stock price should appropriately reflect the shares' intrinsic value. Besides, most of the IPO literature either explicitly or implicitly assumes the market is efficient and investors are rational such that the aftermarket trading price reflects the intrinsic value of an IPO share. The efficient markets hypothesis (EMH), better known as the Random Walk Theory, is the proposition in which current prices reflect all the publicly available information about a security. Hence, there is no opportunity to earn excess profits by using this information. According to Random Walk Theory, changes in prices are expected to be random and unpredictable, because naturally, availability of new information is unpredictable. Therefore, movement of stock prices are said to follow a random walk.

The first time the term "efficient market" used was in a 1965 paper by E.F. Fama who argues that in an efficient market, information is instantaneously and efficiently incorporated into asset prices at any point in time, so that old information cannot be used to predict future price movements. The market is said to be efficient if the reaction of market prices to new information should be quick and unbiased. As a result, the current prices of securities reflect all available information at any given point in time.

The main rationale why efficient market exists is due to the intense competition among investors to profit from any new information. For example, investors such as retail investors as well as fund managers will spend enormous amount of time and resources in an effort to identify "mis-priced" stocks. These investors are trying to identify and buy those stocks which are currently trading at prices below the intrinsic or true value. Consequently, as more and more investors compete against each other in their attempt to take advantage of over- and under-valued securities, the chances of being able to find and exploit such mis-priced stocks becomes more and more remote. For the vast majority of investors, the transaction costs are likely to be greater than the information analysis payoff, resulting in a futile attempt to exploit such arbitrage opportunities. In fact, only a relatively small number of investors will be able to profit from the detection of mis-priced securities, mostly by chance.

Depending on the level of available information, there are three versions of EMH as follows:

- i. **The weak form:** The weak form of the efficient markets hypothesis asserts that the current price fully incorporates information contained in the past history of prices only where current asset prices already reflect past price and volume information. It is named weak form because the security prices are the most publicly and easily accessible pieces of information. It implies that no one should be able to outperform the market using something that "everybody else knows". That is, nobody can detect mis-priced securities and "beat" the market by analyzing past prices. However, many financial analysts attempt to generate profits by studying exactly what this hypothesis asserts is of no value - past stock price series and trading volume data. They usually employ a technique called technical analysis. The empirical evidence is quite strong and consistent with this form of market efficiency, and therefore it works against the value of technical analysis. It is very difficult to make money based on publicly available information such as employing technical charting to predict future price movements based on the past sequence of stock prices.
- ii. **The semi-strong form:** The semi-strong form of market efficiency hypothesis suggests that all publicly available information is fully absorbed into the current stock price. Public information includes not only past prices, but also data reported in company's financial statements such as annual reports, quarterly announcements, filings with Bursa, announced merger plans, financial situation of competitors, as well as expectations regarding macroeconomic circumstances such as inflation, unemployment, etc. Hence, no one should be able to make money from the market based on something that is already made known to

everyone. This indicates investors are not able to forecast future price movements and generate high returns based on a company's financial statements.

- iii. **The strong form:** The strong form EMH states that even private information or insider information too, is immediately incorporated by market prices and therefore cannot be used to make abnormal trading profits. In other words, all information, public or private alike, is fully absorbed in a stock's current market price. Therefore, this implies that even the company's management or insider is not able to make gains from inside information which they possess. They are not able to exploit the advantage to profit from information such as a profitable take-over decision which has been made five minutes ago. The rationale for this is that the market anticipates in an unbiased manner, future development and therefore information has been incorporated and evaluated into market price in much more objective and informative way than insiders.

2.7 Conclusion

This section is highly related to the large body of finance literature on IPO underpricing, especially those IPO papers relating underpricing to IPO size, market volatility, IPO subscription price, and underwriter reputation. In this chapter, the literature review is designed to present the issues on underpricing phenomenon with specific focus on short-term underpricing and long run performance of IPOs. In addition, this chapter presented the existence for underpricing phenomenon which has been observed and well documented in many countries. Several researchers have suggested various potential explanations as to why the offer price is substantially lower than the

first after market price. Possible explanations for the short run underpricing phenomenon and long run underperformance of IPOs are also discussed here. This chapter ended with a discussion on the three different versions of efficient market hypothesis.