Chapter 2

Literature Review

The structure of this chapter is organized as follows. The first section reviews papers on the short-run underpricing. The second section collects papers, which study performance of the newly issued stocks in the secondary market. The third section reviews the papers that study the IPOs' anomalies in the Thai stock market. Finally, the last section collects papers discussing the accuracy of EPS forecast from financial analyst and the relationship of them with the aftermarket performance of IPOs.

I. The Short-Run Underpricing

The underpricing of unseasoned new issues of common stock is one of the most puzzling phenomena in finance during past decade. Almost all of previous researches document that the returns on the first day of new issues are very much positive or traditionally called 'underpricing' (Logue (1973), Ibbotson (1975), Ritter (1984) and Ibbotson, Sindelar and Ritter (1988)). For instance, Ibbotson, Sindelar and Ritter (1988) report that the first trading prices of 8668 new issues during 1960-1987 are on average 16.37% higher than their offer prices. This phenomenon of short-run underpricing not only occurs in the U.S. stock market, but it is also evidenced in other countries including the Thai stock market. A survey from 25 countries shows that the average initial returns are positive and vary across countries (Loughran, Ritter and Rydqvist(1994)). Wethyavivorn and Koo-smith (1991) estimate that the initial returns on the new stocks during 1988-1989 are 58.1% and Sribooncharoen (1997) finds that the average initial returns of the new issues from the Thai market during 1992-1993 are 34.57%.

Numerous explanations have been offered to explain the underpricing of initial public offerings. Those include the explanations based on adverse selection model (Rock (1986), Beatty and Ritter (1986), Carter and Manaster (1990)), the principal-agent model (Baron(1982), Muscarella and Vetsuypens (1989)), and the signalling hypothesis (Allen and Faulhaber (1989), Welch (1989), Grinblatt and Hwang (1989)).

A. The Adverse Selection Model

Rock (1986) suggests that underpricing arise as a compensation device for uninformed traders. The existence of informed traders implies that uninformed traders receive shares in IPOs with greater frequency when the shares are "bad"(overpriced) than when they are "good". In order to attract the uninformed to the market, shares must be underpriced on average. In the model, Rock (1986) shows that total dollar demands for IPO shares are:

(a) $NT^* + \$I$ if $p < v$

(b) NT^* if $p > v$

where v is true value per share and p is the offering price. Rock assumes that informed investors know v but uninformed do not. Informed investors spend $\$I > 0$ on shares if $p < v$, but have zero demand if the issue is overpriced ($p>v$). Uninformed investors, of whom there are N, each invest a fraction T^* of their wealth in the issue. Thus, when shares are underpriced, orders by informed investors compete with those of uninformed investors but when shares are too expensive, the uninformed are the only bidders. Next, Rock can show that the probability (b) of receiving allocation of an underpriced issue by uninformed investors is less than or equal to the probability (b′) of receiving an allocation of an overpriced issue. If N_u is the number of uninformed orders filled and N_I is the number of informed orders filled. The value of issue equals the value of the orders filled or

$$N_u T^* + N_I = pz \text{ if } b < 1$$

Taking expectations,

$$bNT^* + bI = pz \text{ if } b < 1, \text{ or}$$

$$b = \min((pz/(NT^* + I)), 1)$$

similarly,

$$b' = \min((pz/(NT^*), 1)$$

which the above equations show that $b < b'$. Rock relies on a "large market" assumption to demonstrate that the level of uninformed demand increases as price decreases.

Rock's model has several implications: - first, the level of informed investors should be positively correlated with underpricing. Second, the method by which shares in oversubscribed offerings are rationed is critically important, and should be related to underpricing. Third, reputable underwriters may have the ability to certify the value of the issue, assuring uninformed potential buyers of its value and reducing or eliminating underpricing.

Koh and Walter (1989) provide the strongest support to Rock's model. Using the Singapore data which imposes a strict rationing rule and a public rationing method, they find that expected returns to the uninformed investors are normal and also find positive correlation between degree of oversubscription and the level of initial returns.

Carter and Manaster (1990) extend the Rock (1986)'s model. Carter and Manaster (1990) show that the relationship between proportion of informed investors and the underpricing is positive. In equilibrium, their model demonstrates that issuing firm will maximize the offer price subject to the constraint that the uninformed investors earn an expected return of at least zero, or

$$\int_0^P (V-P)f(V|\sigma)dV + (1-\alpha)\int_P^{\alpha}(V-P)f(V|\sigma)dV = 0$$

where V is the random variable that represents the aftermarket equilibrium price of an IPO. $f(V|\sigma)$ is the density function of V conditioned on σ. P is the subscription price and α is the proportion of shares subscribed by informed investors. The first integral in the above equation represents the expected loss to uninformed investors from purchasing IPOs for more than their secondary market equilibrium price. The second integral represents the expected profits to the uninformed investors from purchasing IPOs when the subscription price is less than the secondary market equilibrium price. And, from this constraint, Carter and Manaster (1990) can show

that the offer price (P) must fall as the proportion of informed investors (α) rises to maintain equilibrium.

Implied from Rock (1986)'s model and extended by Carter and Manaster (1990)'s model, informed investors will increase their subscription in the underpriced offerings and the level of informed traders will exhibit positive relationship with the degree of underpricing. Empirically, institutional investors, if they are assumed to be informed investors , their level of subscription should correlate positively to the degree of underpricing.

Hanley and Wilhelm (1995) cast doubt on the Rock (1986) model. Although they find that approximately 70% of the shares in underpriced offerings are allocated to institutional investors, they argue that institutional investors also participate in less attractive offerings. Hanley and Wilhelm explain that informed investors participate in the profit offerings but at a cost. The threat to abstain from less attractive offering can cost an investor the opportunity to participate in future offerings. Hanley and Wilhelm (1995), then, conclude that there is no evidence of a statistically significant relation between institutional holdings and initial returns.

Stoughton and Zechner (1998) develop the model posited that rationing method by issuer can explain underpricing found on the first-day trading of IPOs. Empirical implications obtained from the model are that (1) the ability to ration in favor of large shareholders should be positively correlated with underpricing. (2) underpricing should be larger for companies with high benefit-to-cost ratios for monitoring activities, such as high-tech firms and (3) when regulations require significant participation of small investors then IPO's should be more underpriced. Another finding of the model is that large shareholders do not sell out in the secondary market in order to capture the gains from underpricing. This feature is consistent with the empirical evidence reported by Hanley and Wilhelm (1995).

B. The Principal-Agent Model

Baron (1982) applies the principal-agent analysis to explain the underwriting of IPOs. The main assumption that makes the Baron's model different from the Rock model is that banker or underwriter has information superior to that of the firm. The principal-agent analysis of Baron (1982) suggests that underpricing occur due to attempts by the issuer to motivate the agent (underwriter) both to expend effort on sales promotion activities, and to reveal private information valuable to the issuer. Thus, underpricing arises in this framework because the investment bank has private information unavailable to the issuing firm. The Baron model implies that in the self-market (the case when investment banks go public themselves) where there is no information asymmetry between issuer and underwriter, underpricing should not exist.

Muscarella and Vetsuypens (1989) empirically investigate the Baron's model. They examine initial returns 38 IPOs of investment banks, which participated in the distributions of their own securities over the years 1980 to 1987. Muscarella and Vetsuypens (1989) find that, contrary to the predictions of the Baron framework, these IPO exhibit statistically significant underpricing, with first day returns of around 7% on average.

C. The Signalling Model

In a pathbreaking application of the signalling idea to finance theory, Leland and Pyle (1977) argue that the level of retention of shares by the original owners can be a convincing signal of firm value to outsiders. Leland and Pyle (1977) model IPO firm value as a positive function of the proportionate share ownership of the entrepreneurs who bring the company to listing. The intuition behind the model is that entrepreneurs who retain a large investment stake in the company only do so if they are very confident about the firm's prospects. Investors recognize this commitment by the entrepreneur and accordingly place a higher valuation on the IPO. Signaling hypothesis can also apply to explain the short-run underpricing of IPOs. The key assumption that makes the signaling model different from Rock's and Baron's model is that the issuing firm knows more about its prospects than do any other market

participants. In the signaling hypothesis framework, underpricing arises from attempts by issuers (underwriters) to signal their private information on the values of shares. Underpricing, in this case, can either be a signal of value, or may establish the reliability of some more traditional signal such as share retention. The model is developed by Allen and Faulhaber (1989), Grinblatt and Hwang (1989) and Welch (1989). The signaling hypothesis predicts that high variance projects are sold at larger discounts in equilibrium. Further, issuers with high value projects retain a greater fraction of shares. Additionally, underpricing is greater for higher value projects.

Downes and Heinkel (1982) provide an important early application of the share retention signal suggested by Leland and Pyle (1977) to a sample of 297 U.S. IPOs for the period 1965 – 1969. Downed and Heinkel (1982) operationalized Leland and Pyle's model in the form of the following regression equation:

$$V_j = \beta_0 + \beta_1 NK_j + \beta_2 \alpha + \mu_j, \qquad j = 1,2,\ldots\ldots,n.$$

where V is the initial market valuation of the firm's equity, α the entrepreneur's proportionate ownership after the issue and NK is the firm's net assets after the issue. Based on this construction α is expected to have a negative sign in the regression model. Downes and Heinkel (1982) and Hughes (1989) concluded that the retained ownership model is supported.

Ritter (1984) provides additional empirical evidence using a sample of 559 IPOs for the period 1965-1973. Ritter's findings cast doubt on the Downes and Heinkel (1982) results: the percentage of shares retained is not seen as a significant determination of firm market value.

Beatty and Ritter (1986) propose that there is a positive relation between initial return and ex ante uncertainty. Using a sample of 545 IPOs , they find that the initial return is negatively correlated with the gross proceeds which is used as proxy for ex ante uncertainty.

D. Lawsuit Avoidance Theory

Tinic (1988) presents a simple theoretical model suggesting that underpricing may represent a form of insurance against lawsuits by disgruntled investors. The reputations of underwriters, which are valuable assets, can be damaged by widely publicized legal troubles. In this framework, underpricing may reduce this risk since losses on shares then become less likely. Tinic (1988) calls his model as the insurance hypothesis.

The insurance hypothesis claims that the IPOs issued after 1933 should exhibit substantially larger initial excess returns than the new issues brought to the market before the enactment of the Securities Act. It also predicts that issuers and investment bankers whose exposure to potential legal liabilities is low should price their offerings more fully than highly speculative firms that employ relatively inexperienced fringe investment banking firms. To support this theory, Tinic examines underpricing levels before and after the Securities Act of 1933. This act greatly expanded investor opportunities to pursue lawsuits against issuers and their underwriters. Tinic finds that while the initial excess returns on the pre-SEC sample of IPOs were significantly positive, the magnitude of the underpricing is small in comparison to the excess returns garnered by the IPOs issued after 1933. Moreover, the data indicate that the prestigious investment banking firms started to avoid underwriting highly speculative small issues after 1933.

E. Incomplete Spanning of IPOs by the Secondary Market

Mauer and Senbet (1992) argue that incomplete spanning of IPO securities by the secondary market can explain underpricing. This means that no portfolio of securities tradable on the secondary market is capable of replicating the returns of securities offered in IPOs. Mauer and Senbet suggest that underpricing in the primary market reflects a "primary market risk premium" that results from incomplete spanning. The risk occurs because access to the primary market is limited. Thus, the primary and secondary markets are separate markets. Many testable hypotheses can be implied from this model. First, underpricing should not relate to market risk or beta. Second, underpricing levels increase with the degree of unspanned component

of IPO cash flow and industries should exhibit different levels of underpricing since they presumably exhibit different degrees of secondary market spanning. Mauer and Senbet (1992) also perform empirical test on their model by regression the following equation:

$$IR_j = \alpha_0 + \alpha_1 BETA_j + \alpha_2 RESRISK_j + \alpha_3 SIZE_j + \alpha_4 AGE_j + \alpha_5 HOT_j + \alpha_6 HOTOIL_j + \gamma_l INDUM_{ij} + \eta_j$$

where

IR_j = initial returns of securities j

$BETA_j$ = the beta coefficient,

$RESRISK_j$ = unsystematic risk of securrity j,

$SIZE_j$ = dollar value of offering j ,

AGE_j = the age of the company,

HOT_j = is a dummy variable set equal to 1 if offering j occurred during the hot issue period,

$HOTOIL_j$ = is a dummy variable set equal to 1 if offering j is in the oil and gas industry,

$INDUM_{ij}$ = dummy variables set equal to 1 if offering j is in the i^{th} industry.

Results from regression analysis find that initial return (IR_j) is significantly and negatively correlated with $SIZE_j$ and AGE_j of firm and positively correlated with HOT_j and $HOTOIL_j$. In their model, size and age are used as proxies for accessibility of investors. The evidence also indicates that IPOs in the industries that are not likely to have close substitutes in the secondary market experience lower initial returns. For example, IPOs in the service industries, such as banks, saving and loans, are likely to have many secondary market substitutes and therefore experience lower initial returns. On the other hand, IPOs in the computer, technical services, and electronic equipment industries are likely to have few close secondary market substitute. Therefore, these firms experience higher initial returns.

F. The Market Information Acquisition Model

Benveniste and Spindt (1989) present a model, which relies on the market information acquisition by investment bankers through the presale solicitations of interest. In their model, underpricing is a way of compensating regular investors for revealing their private information. Empirical implications from the model are that the new issues will be underpriced and the distribution priority will be given to an underwriter's regular investors (informed traders). Furthermore, the model suggests that underpricing will lead to an increase in more valuable investor information. Informed investors, in this case, are investors who distribute valuable information and should get preferential treatment in allocations.

Hanley and Wilhelm (1995) support the idea of institutional investors favored in the offering process. They find that institution investors not only participate in the underprice offering, they also involve in the overprice offerings. Hanley and Wilhelm (1995) explain that because they (institutional investors) are afraid of exclusion from the next allocation of good offerings, they have to buy the offerings, which are not good by investment bankers. Empirical evidences also support their arguments.

Booth and Chua (1996), in contrast to the Benveniste and Spindt (1989), propose an explanation for IPO underpricing in which the issuer's demand for ownership dispersion creates an incentive to underprice. In their model, broad initial ownership can increase secondary-market liquidity, which is the target criteria desired by issuing firms. However, broad initial ownership requires an increase in investor-borne information costs. These information costs, in this model, are offset through initial underpricing.

Brennan and Franks (1997) support Booth and Chua (1996) by proposing the 'reducing monitoring hypothesis'. According to Brennan and Franks (1997), the underpricing which in turn generates oversubsription allows the issuer both to ration the allocation of shares and to discriminate between applicants so as to reduce the individual size of new blockholdings post-IPO. The greater dispersion of outside holdings will reduce incentives for the new shareholders to monitor the current management which Brennan and Franks call as the reduced monitoring hypothesis.

The reduced monitoring resulting from dispersed ownership incurs cost due to lower efficiency of issuing firm. However, Brennan and Franks explain that this cost will fall more heavily on those pre-IPO investors who sell their shares in the IPO, and less on those who retain their shares. The researchers find that selling shareholders tend to be non-directors rather than directors. Brennan and Franks' model predict that the degree of underpricing is negatively correlated with the block holdings of outsiders.

II. The Long-Run Underperfomance of Initial Public Offerings.

Numerous papers studied the performance of new issues stocks in the secondary market document the poor long-run performance of IPOs (Stoll and Curly (1970), Ibbotson (1975), Ritter (1991), Loughran and Ritter (1995), Brav and Gompers (1997)). Stoll and Curly (1970) find that small IPOs issued in 1957, 1959 and 1963 underperform the S&P industrial average for up to the ninth year after seasoning. Ibbotson (1975) examines IPOs issued from 1960 through 1969 and finds negative performance from the second through the fourth years of seasoning. Many explanations attempt to explain this poor long-run underperformance. Those include the 'investor sentiments' or 'fads' hypothesis (Ritter (1991), Lee, Shleifer and Thaler (1991), Brav and Gompers (1997)), and the 'windows of opportunities' (Ritter (1991), Loughran and Ritter (1995))

Ritter (1991) studies the aftermarket performance of IPO stocks in the long-run (3 years). He finds that the 3-year holding periods returns of 1526 IPO stocks are significantly less than that from listed firm matched by market value over the same period by a ratio of 0.831. In other words, he finds that every dollar invested in the IPO stocks can generate $1.3447 for three- years holding period, where as this amount can generate $1.6186 when invested in the listed firms of similar characteristics (closest size and same industry). Ritter (1991) also finds that the long-run performance of IPOs is positively related to the offer size, the initial return and the age of firms. He explains that the long-run underperformance anomaly is consistent with the hypothesis conjecturing that investors are subjected to 'fads' in the market. The fads hypothesis or investor sentiment hypothesis was first offered by Shiller (1990). In this framework, firms will go public when investors are irrationally over-optimistic about future potential industries.

Lee, Shleifer and Thaler (1991) propose an explanation supporting the 'fads' hypothesis by examining the discount of the close-end mutual funds. They explain that since close-end funds are held primarily by individual investors, the degree of discount which reflects investors' demand can be proxy for individual investor sentiment since individual investors will not trade on fundamentals. Then, holding the funds is riskier than holding its portfolio directly since the fund impounds a resale risk resulting from changing investor sentiment. The result of finding on the co-movement in the degree of discount across funds means that there is systematic sentiment in the market. The paper also finds positive correlation between number of IPOs and degree of discount. This evidence supports the 'investor sentiment' or 'fads' hypothesis of the IPOs' anomalies. This explanation can apply to small size effect in which researchers usually discover excess returns on small capitalization stocks. Empirical implications from their paper are that small size new issues should be held by individual investors and should be traded with large underpriced issues in the offering process. Second, the aftermarket performance of the small size IPO stocks should be lower than large size IPOs. The volume of IPOs should be negative correlated with the discount on the closed-end mutual funds.

Loughran and Ritter (1995) explain the long-run underperformance of the new issues using the 'window of opportunities' hypothesis. According to this hypothesis, issuing firms will issue new stock when they are substantially overvalued. Loughran and Ritter (1995) find that the five-year period after offering buy-and-hold returns are 50 percent lower than they are for comparable size-matched firms. They conjecture that the market overweighs the operating performance of the new issue during the offering period and underweighs long-term mean revert.

Field (1997) explores the information acquisition ability from informed investors (institutional investors). Her findings echo the superior ability of institutional investors in separating the good from the bad IPOs in the secondary market. In details, Field (1997) uses 2973 IPOs during 1979-1989 to demonstrate the existence of IPOs that do not seem to experience the poor long-run performance as documented by Ritter (1991). More specifically, Field (1997) finds that higher

institutional shareholdings[1] at the first quarter of the second market experience better long-run performance than IPOs with smaller institutional shareholdings. This finding is explained as the superior information of institutional investors to select the new issues. Field (1997) further discovers that institutional investors are more likely to hold IPOs issued by more reputable investment banks or those with venture capital banking. Alternative explanation of the findings is that institutions may follow investment strategies, which happen to be correlated with higher long-run IPO performance. For example, institutions may have a policy of trying to invest conservatively. This example fits well with the finding of positive correlation between size and firm age with institutional shareholdings. Field (1997) further finds a negative correlation between initial return and institutional investment at the first quarter. This evidence could be interpreted as institutional investors being reluctant to invest speculatively in firms in which little is known.

Brav and Gompers (1997) investigate the long-run underperformance of IPO firms in a sample of 934 venture-backed IPOs from 1972-1992 and 3,407 nonventure-backed IPOs from 1975-1992. They find that venture-backed IPOs outperform non-venture-backed IPOs using equal weighted returns. This study also shows that underperformance documented by Loughran and Ritter (1995) is not unique to firms issuing equity. Specifically, the underperformance found in the nonventure-backed sample is driven primarily by small issuers. Brav and Gompers (1997) argue that underperformance found in the small, low book-to-market firms can be explained by the 'investor sentiment hypothesis'. According to this hypothesis, the small IPO firm whose their equity is held primarily by individuals is likely to be subjected to fads and investor sentiment. In contrast, the venture-backed IPOs are held by institutional investors and these firms are not subjected to be fads. The relatively higher institutional holdings may occur because institutions have greater information on small, venture-backed firms through their investment in venture capital funds.

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[1] Institutions are classified by the SEC as 13f investment managers who are required to declare their holdings to the SEC at the end of each calendar quarter.

Krigman, Shaw and Womack (1999) study the information content of block trade in the first- day trading of IPO stocks. By focusing on large-trader[1]behavior, the researchers are able to discern whether informed traders garner excess profits due to their potentially informed nature. Furthermore, this study can verify the strong support to favor institutional during offering process due to the fact that they can stabilize the market. The absence of block trade, then, is a measure of whether their placement strategy has been successful. In the study, the researchers employ 1232 IPOs during January 1988 and May 1995 to measure the effect of 'flipping' to the long-run performance of IPOs. In their context, flipping is defined as the immediate first-day selling of block allocations by institutional investors. Flipping is measured by computing the ratio of first-day sell-signed block-trade dollar volume to total dollar volume trade on the first day. Thus, flipping is a proxy for informed traders who sell their shares on the first day of IPOs and a measure of flipping is hypothesized to be valuable in detecting informed behavior by large traders. Two main findings can be deducted from this paper. First, future performance of IPO firms is related with first day return. Specifically, IPOs with lower flipping on the first day (especially the lowest quartile) significantly outperform those with high first-day flipping. Second, flipping is predictable especially for larger deals. Krigman, Shaw and Womack (1999) conclude that flipping of IPOs is rational behavior of informed traders. That is, flippers quickly sell issues that perform the worst in the future, and they sell less in the best future performing issues. This evidence suggests that institutional investors have superior information relative to the underwriter regarding IPO quality.

Teoh, Welch and Wong (1998) explore a possible source for over-optimism by examining the variation of accruals in the IPOs. In this paper, managers can time the offering using accounting method. Teoh, Welch and Wong (1998) find that discretionary current accruals, which are under the control of management and proxy for earning management, are high around the IPO relative to those of nonissuers. The paper documents that issuers with higher discretionary accrual have poorer stock return performance in the subsequent three years.

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[1] Large trading is defined as transactions of 10,000 shares or more.

The long-run anomaly of unseasoned offerings is not only found in the U.S. stock market, many foreign stock markets also evidence this anomaly. However, the results of international anomaly in the aftermarket performance of IPOs are not consistently concluded as found in the short-run anomaly (short-run underpricing) For example, Hwang and Jayaraman (1993) study the post-listing return and trading volume behavior of 292 stocks that are listed on the Tokyo Stock Exchange (TSE) during 1975-1989. They find that the abnormal returns for the full sample are significantly positive and the volume has a positive impact on the post-listing returns.

Kim, Krinsky and Lee (1995) empirically investigate Korean initial public offerings. Their sample consists of 169 firms listed on the Korea Stock Exchange during 1985-1989. Their results reveal that the Korean IPOs outperform seasoned firms with similar characteristics.

Paudyal, Saadouni and Briston (1998) evidence the short-run and long-run anomalies in the IPOs of the Malaysian Stock Market. They find that, on average, Malaysian IPOs are underpriced in the short-run. Furthermore, the privatization initial public offers (PIPO) offer significantly higher initial returns than other IPOs. The analysis of secondary market performance suggests that neither PIPOs nor other IPOs significantly outperform or underperform the market over the three years horizon.

In conclusion, unlike the short-run anomaly, the long-run underperformance of IPOs subsequent to their trading is not universally documented. Country that the newly issued stocks outperform the market is Korea whereas IPOs in the Malaysian stock market do not underperform or overperform the market. These findings are not consistent with the findings of Ritter (1991) and Loughran and Ritter (1995) who find long-run underperformance of IPOs in the U.S. stock market. Moreover, the long-run underperformance is not unique to IPO firms. Specifically, venture-backed, high institutional holdings IPOs do not exhibit the long-run underperformance.

III. The Studies of IPOs in the Thai Stock Market

IPOs in the Thai stock market also exhibit anomalies as found in other countries (Wethyavivorn and Koo-smith, Suewattana (1993), Sribooncharoen (1997),

(1997), Kritsernvong (1998)). Evidences from these studies indicate that, in the Thai market, the first-day trading prices of IPOs are greater than their offering prices and their performances substantially decline after listing in the market.

Suewattana (1993) explores the factors used in determining the new issues in the Thai stock market and examines the initial returns of IPOs during 1987-1991. She finds that earning per shares, asset size, debt to equity ratio, offering size and market condition are main factors used in determining the IPO prices. From these factors, earning per shares is the most important factor. According to this paper, initial returns of the new issues are highest on the first day trading and decline in the subsequent period. When initial returns are examined by industry, She finds that the highest initial returns occur in the service sectors and property development sector.

Sriboncharoen (1997) finds similar results to Suewattana (1993). Sriboncharoen studies the 79 IPOs during 1992-1993 and discovers that the IPOs seem to be underpriced only for a short period of time. The average initial return is 34.57%. Furthermore, this study also evidenced the declining in performances of the new issues subsequent to their offering. Specifically, she reveals that the 3-year holding period returns are downward declining and the operating performances also decline in the after market (operating performance is measured using the return of asset, total asset turnover, EPS and M/B).

Kritsernwong (1998) studies the underpricing of IPOs in the Thai stock market. He separates the whole sample into two sub periods. The first sub-period is during 1992 to 1994 which is the period before the SEC announced the rules providing the fairness of allocating new stock to the primary market. The second period is after the announcement of this rule, which was during 1994 to 1996. He finds interesting result that the first sub period sample of IPOs exhibits more underpricing than the second sub period sample. This finding is consistent with Rock (1986) implication asserting that underpricing arises from the intention of issuers to encourage uninformed investors to participate in the offerings and any device that guarantees reduced informed trading should increase prices and reduces initial returns. Since this regulation promotes the accessibility of individual investors who are uninformed investors, underpricing should decrease after this event.

IV. Information Dissemination in the Offering Process.

Rajan and Servaes (1997) study the relationship between long-run performance of IPOs and analyst following data. Using data of IPOs completed between 1975 and 1987, they show that firms underprice the offering price to attract analyst interest since the results exhibit positive relationship between level of underpricing and number of analyst. Their results also show that analysts are systematically overoptimistic with regard to the earnings of firms that recently went public. Moreover, the results indicate that the overoptimism on the part of analysts is about twice as severe for IPOs. Rajan and Servaes (1997) further find that there is positive relationship between number of firms entering the market and analyst long-term earnings growth projections. This finding is consistent with the 'window of opportunity hypothesis'. Finally, they find that the long tern growth performance projected by analysts is negatively correlated with the long-run performance of IPOs. This evidence supports the fads hypothesis for the long-run underperformance of IPOs.

Allen Cho and Jung (1997) examine the analysts' [1]earnings forecasts in Pacific-Basin capital markets and compare the results to that of the U.S. stock market. Their results suggest that there are substantial differences in forecast errors between most of the Pacific-Basin capital markets, including the Thai stock market, and the more established capital markets such as the U.S. and Japan. Specifically, they find that, except for Japan, Hong Kong and Singapore, the forecast errors for the Pacific-Basin capital markets are greater than those of the U.S. These differences significantly decline as the forecast horizon approaches the earnings reporting month. This paper indicates that analysts' forecasts are more accurate for more established capital markets.

Higgins (1998) assesses financial analysts' ability to forecast the earnings per share of firms in seven countries. Through examining more than 11,000 firms for the

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[1] Analyst earning forecasts data are obtained from the Institutional Brokerage Estimate System or the I/B/E/S.

1991-1995 period, the article shows an association between the level of disclosures in a country and analysts' forecasting performance. The findings support the notion that analysts forecast earning for firms in countries that mandate high level of disclosure (the United States and the United Kindom) with more accuracy and less bias than for firms in countries that impose lower disclosure levels (Japan, Germany and Switzerland).

Firth (1997) studies the influence of information dissemination through profits forecast obtained from offering prospectus in the New Zealand Stock Exchange. Empirical evidences reveal that the IPOs in New Zealand Stock market are underpriced and subsequent prices are worse than benchmark. This finding contributes to the hypothesis conjecturing the overreaction by investors in pricing the new issues on the first day of trading. Further, initial valuations of IPO stocks appear to rely heavily on the profit forecasts appearing in the prospectus. The provision of profit forecasts in prospectuses acts as a major signal of company valuation. More specifically, the level of long-run underperformance is significantly related to profit forecast accuracy, corporate earnings and cash flows, and growth rate. Firth (1997) explains that investors are supposed to use profit forecasts in pricing IPOs and if the forecasts turn out to be erroneous, stock prices should react accordingly. The result shows that profit forecast accuracy is highly significant and is a major determinant of abnormal returns in the one year subsequent to listing.

Firth and Tan (1997) test the relationship between the market valuation and information from prospectus using Singapore stock market data. They find that the higher the forecast dividend and forecast dividend yield, the higher the market valuation.

Kim, Krinsky and Lee (1995) investigate the role of information disclosed through the prospectus in the new issues market. The evidence indicates that the market price is significantly affected by financial variables, such as earnings per share, offer size, industry-wide prospects, and offers type. This study, therefore, highlights the importance of financial variables contained in the offering prospectus for the pricing of IPOs in the new issues market where information is scarce.

In conclusion, this chapter reviews literature discussing the short-run underpricing, the long-run underperformance of IPOs and the relationship between IPOs' anomaly and information disseminated in the market. Next chapter discusses the data and methodology used in the study.