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CHAPTER 2. LITERATURE REVIEW

Clustering of initial public offerings (IPOs) is a well-documented phenomenon. The initial public offerings of any company is one of the most important moments in its corporate life- it only happens once, and while companies can become skilled at acquisitions and divestitures, they do not have a similar opportunity to become skilful at executing IPOs. There are managerial and economic reasons for making this decision (Zingales 1995, Pagano et al. 1998, Chemmanur and Fulghieri 1999, Stoughton et al. 2001).

IPO provides access to public equity capital for companies at a lower cost of financing their operations and investments. It also provides new opportunities for trading the company’s shares, enabling its existing shareholders to diversify their investments and to crystallize their capital gains. The act of going public itself may improve the company image on the market and the publicity may bring indirect benefits, such as improving the company management. At the same time, IPO will bring new benefits from the increasing transparency and disclosure requirements, an improving of accounting system addressed now to a group of relatively anonymous shareholders who will tend to sell the shares rather than assist the company’s decision-makers when the things seem to go wrong.

1 Privatization or IPO Failure/Successful

Recent literature has highlighted a privately held firm’s choice of going public via an initial public offering (IPO) or staying private. This literature addresses only two outcomes, staying private or conducting an IPO; however, an important, yet unexplored alternative pathway exists for private firms wishing to access public markets. Agreeing to a takeover by a publicly traded acquirer is often an attractive opportunity for private firms and presents an alternative to the IPO route. One can observe that few firms go public during recessions, but many do during the booming periods (Lowry 2003, and Paster
and Veronesi 2005). This suggests that the success of initial public offerings depend not only on the quality of the issuing firm, but also on the aggregate state of the economy.

When one of the private firms goes public successfully (or unsuccessfully), the other actors in the economy obtain new information about the aggregate conditions i.e., a successful (or failed) IPO is the event that aggregates this privately held information (Diamond and Verrecchia 1981, Pesendorfer and Swinkels 1997, and Gunay 2008). If the first IPO fails, it will incur monetary and reputational costs. If successful, however, it will draw in many more IPOs (Lowry and Schwert 2002, and Benveniste et al. 2003). In such a game, the informational advantages of delayed issuance causes the private firms to engage in strategic waiting. This strategic behavior of private firms leads to several interesting outcomes. The “death” or “failure” refers to the IPO event. They estimate and compare the survival functions of various quality groups.

Many privately held companies aspire to go public through an initial public offering (IPO). There are two obvious benefits: first, an IPO can put a great deal of capital into the company’s coffers. Second, a successful IPO can generate tremendous wealth for company insiders and Pre-IPO investors. According to Lowry and Schwert (2002) and Benveniste et al. (2003), number of new IPOs entering the market is significantly affected by the success (and/or underpricing) of recent and contemporaneous offerings. Lowry and Schwert (2002), in particular, suggest that more positive information revealed during the registration period leads to higher initial returns and higher subsequent IPO activity.

Demers and Joos (2007) point out that the Post-IPO stock return performance of new listing little has been documented regarding the firm-specific characteristics that are associated with IPO failure. They address to
the IPO literature by developing an IPO failure prediction model that includes both financial and non-financial variables that are known to the market as of the IPO date. They find that proxies for underwriter prestige, audit quality, the “hotness” of the IPO market, firm age, offer price, and various accounting measures of financial leverage, Pre-IPO performance, and investments in intangible assets, are all significant determinants of Post-IPO failure. They also find out significant differences in the failure models that are applicable to non-tech, combined high tech and internet, and high tech only IPO samples, the structural differences across the models are largely driven by accounting-based proxies for firms’ investments in intangible assets. They also document that their estimated probabilities of failure as of the IPO date are significantly negatively associated with one-year and two year Post-IPO abnormal returns (ARs). Prior studies have found size is negatively associated with the probability of IPO firm failure (Schultz 1993, Hensler et al. 1997, Peristiani 2003). Various measures of leverage have been documented to be important predictors of firm failure in non-IPO settings (Altman 1968, Ohlson 1980, Zmijewski 1984, Shumway 2001, Hillegeist et al. 2004).

According to Killian et al. (2001), there are good and bad IPOs, those include:

1.1 What Makes a Good IPO?

Good IPOs are like happy families—they share a number of characteristics. There are 10 success factors. Every IPO won’t have all 10, but will likely possess a majority of them, are as follows:

i. Winning IPOs address a significant market opportunity.
ii. The IPO should be a first mover or category killer.
iii. The product or service must be superior.
iv. The IPO needs to have a reasonable size, giving its market and competitors.
v. The management of the company should have relevant backgrounds and be up to the task.
vi. Barriers to entry should be high.
vii. A focused company is more likely to be a successful company.
viii. To reach a high valuation, a growth company must have sustainable growth.
ix. Strong brand identity is a necessary in both consumer and business markets.
x. Having a low cost structure allows an IPO to survive the expected pricing and competitive pressures as its market develop.

1.2 How to Avoid Bad IPOs?

There are many ways in which a company can be fundamentally flawed. It can have a questionable business model, face daunting competition, or be a little fish in a big pond. The reasons why an IPO is particularly bad fall into one of two categories: (i) Fundamentals and (ii) Management Issues. Here are some “flop” predictors.

i. No Barriers to Entry
ii. Financial Chicanery
iii. History Repeats Itself
iv. Overly High Expectations
v. When The Insiders are Bailing Out, You watch out!
vi. Customers are Under whelmed
vii. Abandoning The Franchise That Once Made a Company Great
viii. The Emperor has No Clothes
ix. The Prospectus Makes You Laugh
x. A Small Company With Huge Capital Spending Requirements
xi. If It Doesn’t Work on Land, Why Will It Float At Sea?
 xii. Trying to Wed A Land-Based Business to The Net
2 Theories of why firms go public

Going public implies selling stock to outside investors, assumed to be risk neutral. Going public is costly: first, there are fixed and proportional listing costs. Second, and more importantly, rational and forward-looking investors expect that, everything else equal, managerial effort will drop when the entrepreneur’s equity stake falls. There are two benefits from going public: first, the IPO allows the firm to overcome the borrowing constraints that keep production at a sub-optimal level. Second, it gives the entrepreneur the chance to unload part of the risk she bears to risk-neutral investors.

Going public marks an important watershed in the life of a young company. It provides access to public equity capital and so may lower the cost of funding the company’s operations and investments. It also provides a venue for trading the company’s shares, enabling its existing shareholders to diversify their investments and to crystallize their capital gains from backing the company – an important consideration for venture capitalists. The act of going public itself shines a spotlight on the company, and the attendant publicity may bring indirect benefits, such as attracting a different caliber of manager. At the same time, the company acquires new obligations in the form of transparency and disclosure requirements, and becomes accountable to a larger group of relatively anonymous shareholders who will tend to vote with their feet (by selling the shares) rather than assist the company’s decision-makers in the way a venture capitalist might (Zingales 1995, Ritter 1998, and Subrahmanyam and Titman 1999).

Why and how firms conduct initial public offerings (IPOs)? Two empirical studies of reasons for going public are Pagano et al. (1998) escape this criticism with a unique data set of Italian firms that go public to firms that stay private. They find that larger companies and companies in industries with high market-to-book ratios are more likely to go public, and that
companies going public seem to have reduced their costs of credit. Remarkably, they also find that IPO activity follows high investment and growth, not vice versa. Lerner (1994) focuses on a single U.S. industry, biotechnology. Lerner documents that industry market-to-book ratios have a substantial effect on the decision to go public rather than to acquire additional venture capital financing. Brau et al. (2003) compare U.S. firms that go public to U.S. private firms that choose to be bought in a takeover. And, In the Review of the IPO literature, Ritter and Welch (2002) discuss three broad reasons why firms go public; First, firms need to raise additional external equity for capital structure reasons and to fuel growth. Second, principals desire an increase in liquidity. Third and generally considered subordinate to the first two explanations, firms could have nonfinancial reasons, such as prestige, market recognition, analyst coverage, and media attention. As to characteristics of firms going public, Rydqvist and Hogholm (1995) find that European IPO firms tend to be established firms from mature industries, an observation confirmed by Pagano et al. (1998) for the case of Italy. Corwin and Harris (1998) and Gompers (1996) show that IPO firms in the US are at the opposite side of the maturity spectrum, with an average age of around 6 years.

### 3 Motivations for Going Public

According to previous studies motivations for going public are as follows:

- First, the cost of capital literature, Scott (1976) and Modigiliani and Milliron (1963) argue that firms conduct a public offering when external equity will minimize their cost of capital (thereby maximizing the value of the company). Based on asymmetric information and possible stock price misevaluation, Myers and Majluf (1984) and Myers (1984) further argue for a peaking order of financing: internal equity, debt financing, and then external equity.
Second, Zingales (1995) and Mello and Parsons (1998) argue that an IPO allows insiders to cash out. Ang and Brau (2003) demonstrate that insiders opportunistically sell shares in the IPO for personal gain. Additionally, Black and Gilson (1998) argue that the IPO gives Venture Capitals (VCs) the opportunity to exit, providing an attractive harvest strategy.

Third, IPOs may facilitate takeover activity. Zingales (1995) argues that an IPO can serve as a first step toward having a company taken over at an attractive price. Brau et al. (2003) argue that IPOs may be important because they create public shares for a firm that may be used as “currency” in either acquiring other companies or in being acquired in a stock deal.

Fourth, IPOs may serve as strategic moves. Chammanur and Fulghieri (1999) argue that IPOs broaden the ownership base of the firm. Maksimovic and Pichler (2001) assert that firms conduct IPOs to capture a first-mover advantage. They also suggest that an IPO can increase the publicity or reputation of the firm going public. Finally, Bradley et al. (2003) show that analyst recommendations are often biased upward after an IPO. Analyst coverage may thus motivate a firm to conduct an IPO.

Fifth, Brau & Fawcett (2006) survey that primary motive for going public is to fund growth opportunities. More specifically, IPOs create a currency publicly-traded shares that can be used to grow through acquisitions. Chief Financial Officers (CFOs) about their views on the IPO process provide a window into their perceptions and understanding.

4 Investment Banks

In the United States, the Glass-Steagall Act (Banking Act of 1933) prohibited banks from offering both commercial and investment services. The Glass-Steagall Act was repealed by the Gramm-Leach-Bliley Act in 1999.

Preparing a company for flotation requires the involvement of a large number of players, each with a specific role to play. The leading participant,
and generally the first advisor, appointed, is a merchant bank or an investment bank. In international offerings, the lead bank will be known as the lead manager, book runner, or global coordinator. The role of the lead manager is guiding companies and their management to market is crucial. When a company wants to raise funds through initial public offering (IPO) it appoints an investment bank for underwriting the issue. An Investment bank is also called as merchant bank. There is no regulatory restriction to use the services of a merchant bank for IPO. Since in an IPO a company participates for the first time, it doesn’t have complete understanding of the rules and documentation, required to be submitted, to get a clearance from the regulator.

According to Jay Ritter (1998), once the firm has decided to go public, it hires an investment bank to underwrite the IPO. This firm will assist with pricing and marketing the stock. The underwriter conducts a due diligence investigation of the firm, writes the prospectus, and files the needed documents with the Securities and Exchange Commission (S.E.C.). The level of detail required depends upon firm size, total amount of funds being raised, and age of the company. Until 1996, some individual states had their own filing requirements in addition to the S.E.C. requirements. Once the firm has attained the needed S.E.C. approval, firm management and the underwriter conduct the road show. It means during the registration period, the company and its underwriter go on a road show to market the issue to institutional investors, and these investors have the opportunity to express interest in the offering.

An investment bank is a financial institution that helps companies takes new bond or stock issues to market, usually acting as the intermediary (underwriter or agent) between the issuer and investors. Investment banks may underwrite the securities by buying all the available shares at a set price and then reselling them to the public. Or the banks may act as agents for the
issuer and take a commission on the securities they sell. Investment banks are also responsible for preparing the company prospectus, which presents important data about the company to potential investors. In addition, investment banks handle the sales of large blocks of previously issued securities, including sales to institutional investors, such as mutual fund companies, either through secondary offerings or through negotiations; maintain markets for securities already distributed; and act as finders in the private placement of securities. Along with their investment banking functions, the majority of investment bankers also maintain broker-dealer operations, serving both wholesale and retail clients in brokerage and advisory capacities and offering a growing number of related financial services (Baron’s Book, P. 515). Unlike a commercial bank or a savings and loan company, an investment bank doesn't usually accept deposits from and provide retail banking services to individuals. It may also assist companies involved in mergers and acquisitions, and provides ancillary services such as market making, trading of derivatives, fixed income instruments, foreign exchange, commodities, and equity securities.

While banks try to sell potential clients a variety of services, customers must decide which bank to use. From a client’s point of view, all investment banks are not the same: the desirability of services depends on the bank’s quality, which is not directly observable. Service “units” obtained from a high-quality bank are more valuable than those from low-quality one. Thus, investment banks that are perceived to be of high quality can sell more of their services at a higher price. At the same time, investment banks of higher quality are also likely to be more efficient in the production of services other than IPOs, giving them a cost advantage over their lower-quality counterparts. Because high-quality banks can increase output more cheaply than low-quality ones, burning money, such as selling underpriced IPOs instead of retaining them, can act as a credible signal for quality. This leads to
the implication that the total dollar amount of underpriced IPOs distributed is a signal for underwriter quality.

4.1 Lead Underwriters

Underwriting is the business of investment bankers, who usually form an underwriting group (also called a Lead Underwriter, Purchase Group, Syndicate Manager or Simply Manager) to pool the risk and assure successful distribution of a new issue of securities, that is usually the originating investment banker- the firm that began working with the issuer months before to plan details of the issue and prepare the registration materials to be filed with the Securities and Exchange Commission. The manager, acting as agent for the group, signs the underwriting agreement (or purchase contract) with the issuer. This agreement sets forth the terms and conditions of the arrangement and the responsibilities of both issuer and underwriter. During the offering period, it is the manager’s responsibility to stabilize the market price of the issuer’s shares by bidding in the open market, a process called PEGGING. The manager may also appoint a selling group, comprised of dealers and the underwriters themselves, to assist in distribution of the issue (Baron’s Book, P. 921). The syndicate operates under an Agreement among underwriters, also termed a syndicate contract or purchase group contract to act as agent for the group in purchasing, carrying, and distributing the issue as well as complying with all federal and state requirements; to form the selling group; to determine the allocation of securities to each member; to make sales to the selling group at a specified discount-or concession-from the public offering price; to engage in open market transaction during the underwriting period to stabilize the market price of the security; and to borrow for the syndicate account to cover costs. The underwriter makes a profit on the difference between the price paid to the issuer and the public offering price, called the underwriting spread (Baron’s Book, P. 921).
Underwriting Group temporary association of investment bankers, organized by the originating investment banker in a new issue of securities. Operating under an agreement among underwriters, it agrees to purchase securities from the issuing corporation at an agreed-upon price and to resell them at a public offering price, the difference representing the underwriting spread. The purpose of the underwriting group is to spread the risk and assure successful distribution of the offering. Most underwriting groups operate under a divided syndicate contract, meaning that the liability of members is limited to their individual participations. It also called distributing syndicate, purchase group, investment banking group, or syndicate (Baron’s Book, P. 921).

The issuer agrees to pay all expenses incurred in preparing the issue for resale, including the costs of registration with the Securities and Exchange Commission (SEC) and of the red herring prospectus (RHP), and agrees to supply the managing underwriter with sufficient copies of both the preliminary prospectus (red herring) and the final, statutory prospectus. The issuer guarantees (1) to make all required SEC filings and to comply fully with the provisions of the securities Act of 1933; (2) to assume responsibility for the completeness, accuracy, and proper certification of all information in the registration statement and prospectus; (3) to disclose all pending litigation; (4) to use the proceeds for the purposes stated; (5) to comply with state securities laws; (6) to work to get listed on the exchange agreed upon; and (7) to indemnify the underwriters for liability arising out of omissions or misrepresentations for which the issuer had responsibility. The underwriters agree to proceed with the offering as soon as the registration is cleared by the SEC or at a specified date thereafter. The underwriters are authorized to make sales to members of a selling group (Baron’s Book, P. 921).

There are two types of underwriters: those who are myopic and those who are non-myopic. The myopic underwriters ignore litigation risk and overprice
whenever possible, and who maximizes short-run profits, whereas the non-myopic underwriters price in a way that trades off their immediate gain from the issue price and their expected future litigation cost, and who maximizes long-run profits. Ritter (1984) finds that underwriter monopsony power and differences in the average risk of companies going public are important.

There are two basic methods by which underwriters are chosen by issuers and underwriting spreads are determined: Negotiated Underwriting and Competitive Bid underwritings. Generally, the negotiated method is used in corporate equity (stock) issues and most corporate debt (bond) issues, whereas the competitive bidding method is used by municipalities and public utilities (Baron’s Book, P. 921).

Underwriters access and analyze firm’s current performance, firm’s future earnings potential, industry scenario, competition in the same sector, current local and global market situations etc. to decide the issue price/price band. They also work on the activities like completion of the mandatory documentation as required by the regulatory body. Underwriters charge a fee for this activity, which is generally a percentage of the issue size. If the issue size is very large a syndicate of merchant banks takes up the task of underwriting the issue. However one merchant bank leads the other. The direct underwriting responsibilities include preparing the Securities and Exchange Commission registration statement; consulting on pricing of the securities; forming and managing the syndicate; establishing a selling group if desired; and PEGGING (stabilizing) the price of the issue during the offering and distribution period (Baron’s Book, P. 514-515).

Krigman et al. (2001) report that many issuers choose a book manager because it is the only one that will underwrite their IPO. Syndicate formation begins with the selection of the book manager (or lead underwriter) by the issuing firm. Competition to be the book manager can be fierce for the
largest, most desirable IPOs, as underwriters vie for top positions in underwriting rankings and seek the higher fees associated with the lead position. For these large IPOs, issuing firms can choose from a number of potential book managers. The Securities Industry Association’s Capital Markets Handbook (2003), states that general reputation, research support, industry knowledge, and prior relationships are likely to be important factors in the selection of the book manager. For smaller, less desirable IPOs, issuing firms may not have a choice of book managers.

4.1.1 Underwriter Commissions/ Fees

Chen and Ritter (2000) suggest that the standardization of the underwriting fees at 7% may be due to “strategic pricing” in this market; competition based on underwriter quality and analyst coverage rather than fees. Chen and Ritter (2000) provide an example of the fee distribution within an underwriting syndicate. The gross spread, which is typically 7% of offer proceeds, is divided between management fees, underwriting fees, and selling concessions. Management fees are shared between the book manager and co-managers, with the book manager typically receiving a larger share. Underwriting fees, less any underwriting and stabilization expenses, are shared among all syndicate members according to the number of shares underwritten. Finally, the selling concession, which is usually about 60% of the gross spread, is divided among syndicate members based on the number of shares each is credited with selling. Since the vast majority of selling credits are assigned to the book manager, and to a lesser extent to the co-managers, this breakdown awards most of the fees to the book manager, with non-managing syndicate members earning only a small fraction of the total fees paid by the issuer.
4.1.2 Underwriter Performance

Ljungqvist and William (2005) derive/develop a behavioral measure/proxy of the IPO decision-makers satisfaction with an IPO underwriter’s performance based on Loughran and Ritter (2002) and assess its ability to explain the decision-makers choice among underwriters in subsequent securities offerings.

Ljungqvist and William (2005) say that IPO firms are less likely to switch underwriters for their first seasoned equity offering when their behavioral measures indicates they were satisfied with the IPO underwriter’s performance, and they point out that the underwriters also extract higher fees for subsequent transactions involving satisfied decision-makers. Ljungqvist and William (2005) conclude that satisfaction with the IPO outcome is associated with both a reduced likelihood of switching underwriters after the IPO and paying higher fees for Seasoned Equity Offering (SEO) underwriting services.

Other determinants of the decision to switch underwriters can be organized into three groups:

- First, Krigman et al. (2001) investigate the reasons why firms switch underwriters for their SEO. Based on large-sample and survey evidence, they conclude that the timeliness and perceived quality of research coverage is an important determinant of the decision to switch. However, they do not investigate underpricing as a means of compensation for this research coverage. In fact, they conclude that issuing companies “allocate their resources in the form of underwriting fees, to increase and improve this coverage.” They suggest that issuers seek to ‘graduate’ to more reputable underwriters. In a related vein, Carter (1992) investigates why firms raise equity following their IPO and finds that, conditional to
reissuing, the likelihood of switching underwriters decreases in the IPO underwriter’s reputation.

- A second determinant of the switching decision suggested by previous work reflects the issuer’s interest in having its stock covered by a reputable research analyst. Krigman et al. (2001) provide both statistical and survey evidence on this point. Cliff and Denis (2003) investigate whether issuers indirectly compensate the underwriter for research coverage by tolerating greater underpricing, and find evidence consistent with this hypothesis.

- Finally, Fernando et al. (2003) argue that underwriters and issuers engage in ‘positive assertive matching’ whereby counter-parties mutually seek partners of similar quality or repute.

### 4.1.3 Syndicate

In investment banking, an underwriting firm leads a syndicate. A syndicate is a group of underwriters responsible for placing a new issue of a security with investors. Every syndicate is a temporary arrangement. The lead arranger assigns parts of the new issue to other underwriters for placement and usually takes the largest part itself. It is also called a managing underwriter or a syndicate manager or, less formally, a book runner.

Almost all IPO syndicates include one or more co-manager and several non-managing underwriters. Corwin and Schultz (2005) say that syndicate size may be limited for several reasons; First, prestigious book managers and co-managers demand sizeable share allocations in order to participate in an IPO syndicates. Thus, syndicate size may be limited by the amount/size of the offer and the choice of book manager. In addition, they find out that being a co-manager in the IPO significantly increases an underwriter’s chances of becoming the book manager in follow-on offerings. Their result also suggests that the set of potential syndicate members may be limited to those with
existing relationships with the book manager. Finally, at least for small IPOs, they find out that underwriting spreads increase as the number of co-managers in the syndicate increase. Corwin and Schultz (2005) document that the size of underwriting syndicates is significantly smaller during 1997-2002. While Benveniste et al. (2003) document that higher initial returns result in a reduction of underwriters rank for subsequent issues. This evidence suggests that there may be rigidities intrinsic to the IPO process which makes it difficult to reduce uncertainty through greater information collection. Underwriters may exert pressure to limit syndicate size for reasons that benefit the underwriter but impose potential costs on the issuer; First, high-quality underwriters will require a substantial share allocation in order to participate in a syndicate, Second, lead managers may seek to limit the number of co-managers in order to diminish competition for future underwriting business and reduce the number of underwriters talking to the issuer during the IPO process. Third, lead managers may only be willing to work with underwriters with whom they an ongoing relationship, and may refuse to work with some co-managers altogether.

4.1.4 Audit

Once an entrepreneur decides to offer shares in his/her firm to the public, he/she selects an auditor to attest to the financial information contained in the Registration Statement. The auditor’s attestation reduces information asymmetry between owners and investors, and thus reduces the cost to the owners of initial underpricing of the securities.

Audit quality is empirically defined as the size of the audit firm rendering the opinion (Beatty 1989, Hogan 1997, Willenborg and McKeown 2001). The coefficient on auditor quality is then interpreted as the average increase or decrease in underpricing or auditor compensation from choosing a higher quality auditor (Beatty 1989, Balvers et al. 1988).
Previous studies argue that there is a demand for a high quality auditor in an IPO setting to reveal information to investors about firm value (Simunic and Stein 1987, Datar et al. 1991) and to reduce underpricing (Balvers et al. 1988, Beatty 1989) more than low quality. And the marginal costs may also be greater for high quality auditors, and high quality auditors may also charge a higher audit fee. For high risk clients, large audit firms charge a fee sufficient to cover potential litigation and reputation losses and may price themselves out of the market. Several studies consider the cost of an audit to be made up of two components: A production Cost Components, and an Expected loss Component (Scott 1973, O’Keefe at al. 1994, Day 1995). Both of these cost components depends on the level of audit quality provided and client characteristics: (i) the production cost component is increasing in client size and complexity, and likely increases at a faster rate for small audit firms than for the large audit firms with greater resources and, (ii) The expected losses include losses from both litigation and the potential cost of repairing reputation. These costs are increasing in client-specific risk which increases the probability of being sued (Bell et al. 1994). In the IPO audit market, auditors face potential post-audit losses if the subsequent stock price falls below the initial offering price and there has been a failure to detect and report material misstatements in the financial statements. Under Section 11 of the 1933 Securities Act, during the early 1990s the auditor had joint and several liabilities (with all parties signing the registration statement) for the maximum damages if there was a material misstatement or omission of a material fact in the Registration Statement. Maximum damages are defined as the difference between the offering price and the price when investors sell their stock or at the time of the lawsuit. This limit on damages applies even if an investor purchases the stock subsequent to the initial offering for a higher price than the offering price.
4.1.5 The role of the Auditor Versus the underwriter

The value of the auditor’s services is contingent on the extent to which an underwriter could substitute for auditors to reduce uncertainty. Auditors and underwriters provide different services. Auditor’s attestation to financial statements included in the Prospectus assists investors and underwriters in estimating future cash flows. An underwriter, however, provides assurance about the market. Underwriters’ knowledge about similar securities and potential investors helps to determine a price for the offering. Underwriters also assist in establishing and stabilizing the aftermarket (particularly in a firm commitment offering). Underwriters play a more vital role than auditors in start-up companies that do not have much financial information.

4.2 Investment Bankers Roles

Investment bankers provide a wide range of services to firms issuing new shares through an initial public offering (IPO) by the leading underwriters. These services include Pre-IPO activities related to the Information Production, Certification and Underwriter Reputation, Pricing, Marketing, and Distribution of the offering, as well as Post-IPO activities such as Price Stabilization, Market Making, and Analyst Research Coverage.

4.2.1 Information Production

The information production process is organized by the leading underwriter who also manages the distribution of the shares among the bidders. He collects the fees from the owner for his services. These fees, which are proportional to the shares sold, depend on the initial price reduction ratio $V_{IPO}/V_0$.

Underwriters are third-party intermediaries who produce information about new issues and certify the issue price. Benveniste and Spindt (1989)
hypothesize that underwriters only partially incorporate positive information learned during the registration period into the final offer price. Benveniste and Spindt (1989) partial updating hypothesis contains predictions on the effects of private versus public information in the pricing process. They posit that informed investors provide underwriters with private information about the value of the IPO firm during the filing period. Underwriters compensate these investors for the private information they provide by only partially incorporating it into the offer price, thus allowing the informed investors to earn especially high returns on the first day the IPO firm trades. Consistent with this theory, Ljungqvist and Wilhelm (2002) find that institutions that reveal more valuable information during the registration period are rewarded with higher allocations when such information is positive. Also, Hanley (1993) and Cornelli and Goldreich (2001), show that this private information learned during the registration period is only partially incorporated into the offer price. Loughran and Ritter (2002) note that benveniste and Spindt’s (1989) model implies that underwriters should only partially incorporate private information learned about firm value during the registration period, but that public information should be fully reflected in the offer price. Loughran and Ritter find that there are strong positive correlations between the pre-offer market return and the price update and also between the pre-offer market return and the initial IPO return, indicating that the price adjustment to this publicly available information is only partial. Derrien and Womack (2006) study how French underwriters incorporate pre-IPO market momentum in the offer price. They regress price adjustments on market momentum and find a slope of 0.7 for unconstrained adjustments and 0.1 for adjustments constrained by the upper bound of the price range. They find that French IPOs that use an auction mechanism incorporate market momentum better, especially in ‘hot’ markets.

Lowry and Schwert (2004), investigate underwriters’ treatment of public information beginning at the time the preliminary price range is set, and
continuing throughout the determination of the final offer pricing process. And, they point out two key findings emerge: First, public information is not fully incorporated into the initial price range. While the economic magnitude of the bias is small, it is puzzling because it is not clear who benefits from it. Further, it indicates that the filing range midpoint is not an unbiased predictor of the offer price, as prior literature has assumed. Second, while public information is similarly not fully incorporated into the final offer price, the small economic significance of this relation indicates that the IPO pricing process is almost efficient.

Jenkinson and Jones (2006) raise doubts concerning the extent of information production by institutional investors in the IPO process, and instead provide support for the agency view.

4.2.2 Underwriter Prestige and Ranking (Certification and Underwriter Reputation)

Underwriter certification has been argued to reduce information asymmetry; however, this certification should have no impact on moral hazard problems. In particular, while investment banks (high reputation or low) can certify asset the value of an asset, they cannot certify (or prescribe) managers’ future actions. In fact, without retained (and locked) equity as a costly signal, insiders have difficulty making credible promises regarding their own actions. It is less plausible still that such a commitment could be delegated to a third party not be involved in running the firm. Hence, ceteris parabus, underwriter certification should reduce the severity of information asymmetry relative to that of commitment problems. Therefore it should be more likely that the dominant concern for firms taken public by high reputation underwriters is moral hazard. Conversely, it should be more likely that asymmetric information is the determining friction for the lockup
provision in firms taken public by low reputation underwriters who do not benefit from the certification of more reputable investment banks.

Underwriter prestige plays a certification role at the time that a company goes public. Prior evidence suggests that IPO firms with higher prestige underwriters earn lower first day returns, consistent with there being a lower level of risk and information asymmetry associated with these offerings (Carter and Manaster 1990, Megginson and Weiss 1991). And, Schultz (1993) finds out that the probability of firm failure within either two or three years of IPO is negatively associated with underwriter prestige.

Brau and Fawcett (2006) point out the underwriter selection process is driven by a very small set of selection criteria, namely, underwriter reputation and IPO process expertise. CFO perceptions on underwriter selection have remained consistent in pre- and post-bubble years. They say that their analysis of IPO process design (i.e., underwriting contract type, lockups, and overallotment option, window dressing, and unit offerings) reveals that CFOs view the use of a firm-commitment underwriting contract as the most important issue. Krigman et al. (2001) survey CFOs and ask them to rank various criteria used to select an IPO underwriter, and say only firms that successfully conducted an IPO, to include CFOs from successful, withdrawn, and not-tired firms.

Underwriter Rank, as a measure of underwriter quality as defined by Carter and Manaster (1990) and updated by Loughran and Ritter (2004). The reputation of the underwriter has been used more frequently as a risk measure/proxy i.e., market lower-risk and higher-quality IPOs (Carter and Manaster 1990, Megginson and Wesis 1991, Johnson and Miller 1988). Carter and Manaster (1990), Carter et al. (1998), and Cooney et al. (2001) present evidence that underwriter reputation and prestige is negatively related to underpricing because of prestigious underwriters are more likely to
underwriter high quality issues with a lower level of uncertainty. Since the early 1970s, several studies have tested this argument by using different measures of underwriter reputation (McDonal and Fisher 1972, Block and Stanley 1980, Neuberger and LaChapelle 1983, Beatty and Ritter 1986, Johnson and Miller 1988, Carter and Manaster 1990, Booth and Chua 1996, Nanda and Yun 1997, Carter et al. 1998). All these studies conclude that, on average, short-run returns are less positive for those IPOs that are brought to the market by more prestigious underwriters. Whereas, Beatty and Welch (1996) note that contrary to prior research, underwriter reputation was positively related to underpricing in their sample of IPOs (1992-1994). Consistent with this, Seguin and Smoller (1997) show that after 1991, penny stocks constituted only a very small fraction of all firms listing on the Nasdaq. Benveniste et al. (2003) and Loughran and Ritter (2004) recently report evidence for a positive relation between underpricing and underwriter prestige during the 1999-2000 hot market. Cliff and Denis (2003) find a positive association between underpricing and analyst coverage by prestigious underwriters. However, Loughran and Ritter (2004) argue that underwriter rank may be positively related to underpricing because (i) going-public companies want to attract the best analysts, who are often associated with the best underwriters, and (ii) these underwriters tend to have more leverage to underprice the IPO shares, creating valuable currency to allocate to current or potential future investment banking clients.

5 Pricing

5.1 Pricing Mechanisms Process

Pricing in the IPO market has a long and well-established history in the finance literature and has received increasing attention from management scholars. Scholars have examined a variety of predictors of pricing in the IPO market, including items such as venture capital (VC) backing (Barry et al.
1990, Megginson and Weiss 1991), underwriter prestige (Carter et al. 1998, Carter and Manaster 1990), firm size (Ibbotson et al. 1988), firm age (Megginson and Weiss 1991, Mikkelson et al. 1997, and Ritter 1991), whether the CEO is also the founder (Certo et al. 2003), level of CEO equity (Certo et al. 2003), media attention (Pollock and Rindova 2003), and top management team legitimacy (Cohen and Dean 2005). IPO Price is the price at which the shares are offered to public. Issue price can be either at par or premium. Company with a record of profitability can issue shares at a premium.

The various methods of bringing new issues to market differ largely in terms of their risk of undersubscription and the costs they impose on investors in acquiring firm-specific information. Auctions, Fixed offer price, and Bookbuilding are the most commonly used IPO mechanisms, and while some countries are associated with the use of just one mechanism, typically firms have a choice. Generally, public information is not completely incorporated into the final offer price for IPOs and firm risk is positively related to the extent of underpricing and/or initial returns to investors.

5.1.1 Auctions

IPO firms can bring their shares to market via a Dutch auction approach (sometimes referred to as a uniform price auction), where investors are invited to submit bids indicating both the number of shares required and the price they are willing to pay. IPO shares are then sold to the highest bidders, with a uniform price set at the level of the bid of the lowest winning bidder. This standard uniform price equates supply of shares with demand by investors. Underwriters may engage in information acquisition before the offer price is set but, unlike the bookbuilding mechanism, issuing firms do not control spending on company research and investor demand determines expected issue proceeds. Auctions also carry a much higher risk of under-
subscription than the alternative approaches and the offer price that clears the market is generally well below a fair value, particularly for companies and in industries that are not well established or understood. A further risk is that it may be possible for bidders to tacitly collude by placing demand functions such that the market-clearing price is very low, if aggressive bidding to gain market share were to push prices too high to yield attractive initial returns to investors. These attributes of the auction process have been cited as a rationale for the decline of this price-setting approach worldwide.

Benveniste and Spindt (1989) take an auction-design approach to model the pricing of new issues, arguing that underpricing is generated by the underwriters’ desire to extract from “regular IPO investors” information useful in setting the IPO offer price. Auctions represent a different offering mechanism for issuers and there has been some work on this issue (Sherman 2002, Derrien and Womack 2006, Kutsuna and Smith 2004). Sherman (2002) finds in a survey that auctions are losing popularity in the last decade or two. Derrien and Womack (2006) analyze French IPOs and find that auctions are better able to incorporate information from recent market conditions.

Leleux and Paliard (1995) and Derrien and Womack (2006) state that the auction mechanism is associated with less underpricing and thus more efficient, since this procedure is able to incorporate more information from recent market momentum into the pricing of the IPO. Also Biais et al. (1998) suggest the optimality of the auction-like procedure. Bulow and Klemperer (1998) show that it can be optimal in an auction to set a price at which there is excess demand. Kandel et al. (1999) examine the IPO auctions in Israeli; they state that in auctioned IPOs investors gain information about the elasticity of the demand for stock, revising the prices of securities according to the new information.
5.1.2 Fixed Offer Price

It means the applicants are required to pay a particular price for a share while applying for them. It is the issue price and the total amount of capital to be raised is fixed and known to investors prior to subscription. Under a fixed offer price regime, the number of IPO shares and the price at which these shares will be issued to the public is set and advertised approximately a week before the actual IPO date, this price being the result of negotiations between an issuing firm and its underwriter. Potential investors submit their orders for new shares at this fixed price and shares are allocated on a pro-rata basis. Again, underwriters incur costs of acquiring information about the issuing firm; these costs are levied on the issuing firm in the form of underwriter fees/compensation. Because the offer price is set before information regarding investor demand is known, the underwriter bears the risk of under-subscription and must buy any unsold shares, so typically the offer price will stand at a substantial discount to true value to ensure full subscription that is, a successful offer. In consequence, fixed offer price IPOs are associated with greater underpricing than other mechanisms on average (Loughran et al. 1994), which imposes an indirect cost on the IPO firm. Because efficient price discovery requires some adjustment of offer price to demand, this fixed offer price mechanism is commonly regarded as one of the less efficient pricing mechanisms and consequently is not extensively used.

5.1.3 Book building

The book building (BB) method has now become the most popular mechanism for pricing and marketing IPOs (Ljungqvist et al 2003, Ritter 2003). It is not the issue price nor is the amount of capital to be mobilized known in advance. A company does announce a price band, indicating the minimum and maximum price. i.e. a company may provide a floor price indicating the minimum value instead of a price band.
In the United States the bookbuilding method is the standard mechanism to price and market IPOs. The IPO process starts with a ‘due diligence’ investigation carried out by the lead underwriter. After this first stage a preliminary prospectus (also known as the ‘red herring’) is filed with the SEC. Then a “waiting period” of approximately three weeks commences. While the SEC scrutinizes the preliminary prospectus, underwriters ‘sound the market’ by collecting indications of interest from their largest clients: they ‘build a book’ of non-binding orders. The waiting period ends when the SEC approves the prospectus. Soon after the approval, the lead underwriter sets the final offer price, taking into account the information gathered during the waiting period. The setting of the offer price typically occurs at the fortnight of the actual offering. At the IPO date shares are distributed and soon afterwards trading in the security starts. At that time all market participants can air their opinion on the firm by submitting buy and sell-orders.

Benveniste and Spindt (1989) argue that the book-building process enables underwriters to obtain costly information from informed investors and underpricing is a way to compensate investors for information they reveal. They also say that, offer price revisions should impound public and private information on investor demand gathered during the book-building process. How information is incorporated into offer prices mainly comes from book-building models where the pricing of a single IPO is analyzed in isolation (Benveniste and Spindt 1989, and Benveniste and Wilehlm 1990). Loughran and Ritter (2002) report evidence that the offer price is not fully revised relative to the filing range in response to public information that emerges during the book building phase, and argue this contradicts Benveniste and Spindt (1989) provide information revelation model.

Sherman and Titman (2002) build a model suggesting that for firms with the most to gain from accurate pricing (i.e. collecting information is very costly), the number of investors participating in the offering is larger, and
underpricing will be greater. When information is costly, more investors will be invited to participate in the book building phase but increased participation increases rationing and underpricing. Cornelli and Goldreich (2001) examine book building by one European investment bank and find that investors who post more information bids on average earn higher profits since they receive more favorable allocations of IPO shares.

A recent academic study suggests that, by using the book building method, underwriters “(1) reduce risk for both issuers and investors and (2) control spending on information acquisition, thereby limiting either underpricing or after market volatility” (Sherman, forthcoming). Book building carries less risk for both issuers and investors, leading to less underpricing (even under risk neutrality); and it gives issuers more control over information expenditures and thus more control over underpricing. Benveniste and Spindt (1989) suggest that the book building procedure is efficient since it induces revelation of the investors’ beliefs and (contrary to the auction method) allows the underwriter to discriminate in the allocation of shares. Hanley (1993) documents a positive relation between IPO pricing with respect to the file range set at the beginning of the book-building process and the level of initial return. Leite (1999) presents a model showing that the use of book building allows more accurate pricing, this ameliorating the adverse selection problem facing less informed investors and hence reducing the need for underpricing. Benveniste and Wilhelm (1990), Ljungqvist et al. (2003), Sherman (2002) hypothesize that book building induces revelation of the investors’ beliefs and contributes to reduce the underpricing. With book building, underwriters have discretion over the allocation of hot IPOs. Some shares went to “friends and family” of the issuing firm, as Ljungqvist and Wilhelm (2003) show. Sherman (2002) also says that since more control and less risk are beneficial to all issuers, the advantages of book building’s allocation flexibility may explain why global patterns of issuer choice are surprisingly consistent. Book building is the primary initial public offering
(IPO) method in the U.S. method in the U.S., but for decades it has generated controversy because it allows shares to be preferentially allocated.

5.2 Underpricing

The underpricing of initial public offerings (IPOs) is one of the most extensively documented anomalies in financial economics (see, McDonald and Fisher 1972, Logue 1973, Ibbotson 1975, Ritter 1984, and Ritter 1991). Early writers, notably Logue (1973), Ibbotson (1975) and Ljungqvist (2006), documented that when companies go public, the shares they sell tend to be underpriced, in that the share price jumps substantially on the first day of trading. Since the 1960s, this ‘underpricing discount’ has averaged around 19% in the United States, suggesting that firms leave considerable amounts of money on the table.

Underpricing is the sale of shares at lower price than the current market price (Ibboston et al. 1994). In other words, Underpricing is defined as the percentage difference between the offering price and the market price during the first trading day(s) in the secondary market. Following Ritter (1984), IPO underpricing is calculated using the first day return of an IPO. Following Rock’s (1986) equilibrium model, for instance, underpricing is a consequence

The underpricing phenomenon in IPO is first found in (Mcdonald and Fisher 1972, Logue 1973, and Ibbotson 1975). Among the empirical literature, in explaining this phenomenon, Ritter (1984, 1991) and Loughran and Ritter (1995), Ibbotson et al. (1988) identify underpricing as a response to the asymmetric information, Rajan and Servaes (1997) justify underpricing as a means to an increased analysts following the issue after the IPO, and Demers and Lewellen (2003) explain underpricing as a substitute for conventional marketing and publicity techniques. Underpricing creates information momentum, which shifts the demand cover for the firm’s stock outwards.
of asymmetric information between the investors concerning the fair value of a new issue. “Underpricing” is often measured as the difference between the IPO price \( (P_0) \) and closing price on the first day of trading \( (P_1) \) divided by offer price \( (P_1-P_0)/(P_0) \) by Beatty and Ritter (1986). When an offering is underpriced, management has “left money on the table”; that is, they have lost additional gains that would have been received if the offer price more accurately reflected the value of the firm. To estimate underpricing, we need information on the stock prices of issues on their opening day of trading. These price data are obtained from the Prime database and if unavailable, hand-collected from print records of the stock exchanges. In other words, the IPO offer price is subtracted from the closing price on the first trading day, and then scaled by the IPO offer price. If the first day closing price is not available, the mid-price of bid and ask is used. Underpricing is higher for lower priced stock (Jegadeesh et al. 1993, Beatty and Welch 1996). A number of studies report higher underpricing when stock return volatility is higher (Barry et al. 1990, Barry et al. 1991, Jegadeesh et al. 1993). A number of studies suggest that issuers hire more reputable banks to certify the offer price (Smith 1986, Booth and Smith 1986, Carter and Manaster 1990).

5.2.1 Why IPOs are Underpriced?

IPO underpricing inspired a large theoretical literature in the 1980s and 1990s trying to rationalize why IPOs are underpriced. The resulting theoretical models in turn have been confronted with the data over the past fifteen years or so. Prior studies suggest that younger and smaller companies are riskier and thus more underpriced (Ritter 1984, Ritter 1991, Megginson and Weiss 1991), whilst the presence of credit relationships reduces uncertainty and required underpricing (James and Wier 1990). Initial Public Offerings are generally underpriced. Clearly, underpricing is costly to a firm’s owners: shares sold for personal account are sold at too low a price, while the value of shares retained after the IPO is diluted. In dollar terms, IPO
firms appear to leave many billions ‘on the table’ every year in the U.S. IPO market alone. IPOs are on average underpriced. Ritter and Welch (2002) show that IPO underpricing persists across time and nations and that the average IPO underpricing in the US from 1980 to 2001 is over 18 percent.

Underpricing has been explained as: a mechanism to elicit from investors truthful revelations of their knowledge of from prospects (Benveniste and Spindt 1989); a costly signal for “good” firms to communicate their type, with the knowledge that only good firms have the opportunity to recoup the cost in secondary markets (Allen and Faulhaber 1989), a device to induce information production about the firm at the IPO date, which will benefit good firms in secondary markets when their type is revealed by the information (Chemmanur 1993), an incentive to broaden ownership and thereby increase liquidity in secondary markets (Booth and Chua 1996), or a mechanism to ensure that the trade-based price is above the offer price and thereby thwart the possibility of investors reneging on orders of interest (Schultz and Zaman 1994). Booth and Chua (1996), Brennan and Franks (1997), Mello and Parsons (1998), and Stoughton and Zechner (1998) all point out that underpricing creates excess demand and thus allows issuers and underwriters to decide to whom to allocate shares.

A number of theoretical models have been proposed to explain why initial public offerings of equity (IPOs) are on average underpriced (Ibbotson 1975, and Ritter 1987). Recently, Allen and Faulhaber (1989), Chemmanur (1993), Grinblatt and Hwang (1989), Welch (1989) presented signaling models of IPOs that differ from earlier models in two important respects; First, These models endow the issuer, not outside investors or underwriters, with superior information. Second, the issuers explicitly consider the possibility of future equity issues in deciding on IPO prices. Typically, in these models, the firm raises capital through IPOs and expects to raise additional funds in the future through seasoned equity offerings (SEO). ‘High-quality’ firms underprice
their IPOs to credibly separate themselves from low-quality firms, and thereby raise additional capital under more favorable terms in the future. Underpricing has tended to fluctuate a great deal, averaging 21% in the 1960s, 12% in the 1970s, 16% in the 1980s, 21% in the 1990s, and 40% in the four years since 2000 (reflecting mostly the tail-end of the late 1990s internet boom). The average underpricing for U.S. IPOs during the period 1960-2004 was 18%, which means that primary market investors who received an IPO allocation earned an average immediate one-day return of 18% (Jay Ritter website at: http://bear.cba.ufl.edu/ritter/index.html, from 1960 through 2004).

The reasons that IPOs are underpriced vary depending upon the environment. If the proportion of IPOs that represent risky stocks increases, the average underpricing should increase (Ritter 1984). In the 1980s, it is conceivable that the winner’s curse problem and dynamic information acquisition were the main explanations for underpricing that averaged 7% in the U.S. during the internet bubble; these were not the main reasons for underpricing. Evidence suggests also that in some countries IPO underpricing may be due to the regulatory environment (see Loughran et al. 1994), or because the allocation of IPO shares can be used as a bribe. Previous work by Chowdhry and Sherman (1996) compared US and UK-style IPOs. Under the UK method, underwriters have two reasons for underpricing IPOs. First, which has already been discussed, is the adverse selection problem. Second reason for underpricing is to reduce the probability that the issue will fail due to the leakage of adverse information. And, under the UK method the price of the issue is usually set well in advance, and there is a subscription period of several days or more during which investors may place their orders. During this period, there is a possibility of information leakage.
5.2.2 Underpricing as a means of compensating investors

Underpricing is used by underwriters as a means to compensate investors in exchange for revealing positive information about the stock. And, it happens to compensate the regular (institutional) investors for the risk of losing money on their inventory in the event that the hot issue market ends prematurely. Many of the underpricing theories contend that underpricing is a form of compensation for the risk that a particular party bears because of an assumed informational advantage of one of the parties over another, and other theories propose underpricing is compensation for providing information to other participants.

Sherman and Titman (2002) argue that there is an equilibrium degree of underpricing which compensates investors for acquiring costly information. Brau and Fawcett (2006) survey that CFOs view underpricing mainly as a means of compensating investors for taking on the risk of the IPO. They typically do not believe that underpricing is a result of practices such as “spinning” or “flipping” that are often criticized as being detrimental to issuers. They say that Underpricing was a cost of going public that the CFOs readily accepted without much complaint. Yet they may have the ability to reduce the amount of underpricing and so raise the offer price.

5.2.3 Factors Affecting Underpricing

The IPO literature shows a variety of approaches explaining the IPO-underpricing. Jenkinson and Ljungqvist (2001) summarize more than 60 possible theories to explain underpricing. Ljungqvist (2006) groups these 60 theories in four broad categories: asymmetric information, institutional Theories, control consideration, and behavioral approach. The key parties to an IPO transaction are the issuing firm, the bank underwriting and marketing the deal, and the new investors. Asymmetric information models between the different parties (issuers, investors, and underwriters) involved in IPO
process, which assumes that one of these parties knows more than the others and that the resulting informational frictions give rise to underpricing in equilibrium and, creates uncertainty along the parties about value of firm. Institutional theories focus on three features of the marketplace: litigation, banks’ price stabilizing activities once trading starts, and taxes. Control theories argue that underpricing helps shape the shareholder base so as to reduce intervention by outside shareholders once the company is public, which focus on control of firm and corporate governance issues and, Behavioral theories assume the presence of ‘irrational’ investors who bid up the price of IPO shares beyond true value.

5.2.3.1 Asymmetric Information Model

Asymmetric information Model is one of the most important of factor affecting underpricing which one introduced by Rock (1986). Traditional explanations focus on information asymmetries (Beatty and Ritter 1986, Rock 1986, Michaely and Shaw 1994), or institutional features (Tinic 1988, Lowry and Shu 2002), and recent work considers the effects of investor over-optimism (Cornelli et al. 2006, and Derrien 2005). Rock (1986) and Benveniste and Spindt (1989) posit that IPO underpricing is driven by information asymmetry.

A large body of IPO studies attributes the underpricing phenomenon to information asymmetry that may take place between (i) the issuer and the underwriter/investor, (ii) the issuer/underwriter and the investor, and (iii) different groups of investors. The various theoretical models trace the underpricing to information asymmetries about the new issue’s values between various IPO market participants such as issuers, underwriters and differentially informed investors (Baron 1982, Rock 1986, Grinblatt and Hwang 1989, Chemmanur 1993).
There are two main models developed in the literature supporting the asymmetric information hypothesis: the Baron’s (1982) model and the Rock’s (1986) model; According to the Baron’s model, it is assumed that the investment bankers/underwriters have more information about the demand for a security than the issuers have. The issuer has to compensate the underwriter for the use of his/her superior information set. Rock, in other words, assumes that there are two groups of investors in the IPO market: the informed investors and the uninformed investors who subscribe to every IPO indiscriminately. Systematic underpricing is needed in order for the uninformed buyers to earn a normal expected rate of return on the shares allocated to them.

Reasons for reduce information asymmetry and reduce underpricing are as follows: (i) Information available about firm value prior to an IPO (Rock 1986), (ii) The prestige of the firm underwriting an IPO, the presence of venture capital backing, and the legitimacy of the organization as evidence of firm quality (Barry et al. 1990, Carter and Manaster 1990, Megginson and Weiss 1991). Reasons for keeping uninformed investors in the market include; participating in the New Issues (IPO) market without any knowledge about the future prospects and true information about the fair values of the shares, net present values (NPV), and firm future cash flows to earn a normal expected rate of return on the shares allocated to them. And, as we know if uninformed investors have a good prior knowledge about IPO firms then they do not face an allocation disadvantage, and underpricing is not required to induce them to participate in the market.

Asymmetric Information Models include: Winner’s Curse Model (Adverse Selection), Information Revelation Model, Principal-Agent Models (Moral Hazard, Agency Problem), Underpricing as a Signal of Firm Quality Model.
5.2.3.1.1 Winner’s Curse Model

Rock (1986) demonstrates that if some investors have more information than others about the value of IPO shares, the uninformed investors will face an adverse selection, i.e. while uninformed investors subscribe to every IPO; informed investors only buy new shares if the issue price is less than the fair value. The term ‘Winner’s Curse’ is from the auction literature: in a sealed bid auction with bidders who have some independent private information on the value of the item being auctioned, the highest bidders at the auction finds out ex post that her valuation was probably too high. Thus, the person who wins the auction may be cursed by learning that she overpaid. With IPOs, when the uninformed investors ‘win’ by receiving large allocations, it is because many informed investors chose not to order, and so there is a higher probability that the issue is overpriced. The uninformed realize this problem and rather their orders accordingly.

5.2.3.1.1.1 Adverse Selection

Adverse selection, anti-selection, or negative selection is a term used in economics, insurance, statistics, and risk management. It refers to a market process in which "bad" results occur when buyers and sellers have asymmetric information (i.e. access to different information): the "bad" products or customers are more likely to be selected. Adverse selection was first noted by Nobel Laureate George Akerlof in 1970. Adverse selection can explain average first day returns of 65% during the “internet bubble” (Ritter and Welch 2002).

Underpricing the issue serves to compensate uninformed investors ex ante for the “adverse selection” cost faced by them. However, underpricing has a major drawback- it is an expensive way to keep uninformed investors in the market because it rewards the informed as well as the uninformed investors. This suggests that there may be more efficient ways in which the uninformed
investors could be compensated. The idea that the adverse selection problem faced by uninformed investors can be mitigated has been discussed in the literature in the context of overallotment options (see Smith 1986, Ritter 1987, Benveniste and Spindt 1989, and Schultz and Zaman 1994). A common perspective is that price support, like underpricing, helps mitigate adverse selection problems in the IPO market. Schrand and Verrechia (2005), point out that underpricing in IPOs is a significant cost of raising capital that theory purport (meaning) arises from adverse selection at the IPO date. And Disclosure is a tool firms can use to improve adverse selection to reduce information asymmetry (Healy and Palepu 2001, Verrecchia 2001), disclosure is then expected to reduce IPO underpricing. La Porta et al. (2006) gauge the strength of disclosure requirements in six areas: Prospectus delivery, Insiders’ compensation, Ownership structure, Insider Ownership, Irregular Contracts, and Transactions with related parties such as the issuer, its directors and large shareholders.

5.2.3.1.1.2 Lemons Problem

The concept of adverse selection has been generalized by economists into markets other than insurance, where similar asymmetries of information may exist. For example, Akerlof (1970) developed the model of the "market for lemons." People buying used cars do not know whether they are "lemons" (bad cars) or "cherries" (good ones), so they will be willing to pay a price that lies in between the price for lemons and cherries, had there been perfect information on the part of the buyers. The sellers will sell fewer good cars since they think the price is too low, but they will sell more bad cars because they get a very good price for them. After a while, the buyers will realize this, and they will no longer want to pay the old price for a used car. The price will lower and even fewer cherries, and even more lemons, will be put up for sale. In the extreme, the cherry sellers will have been driven, as it were, out of business. The "price mechanism" fails to keep the lemons off the market,
even in a competitive market. Instead, they dominate the market. Guarantees (or Lemon Laws) are needed. Note that this is not a market with perfect competition, because of the information asymmetry. However, it still represents a case of atomistic competition, with no firm having monopoly price-setting power, which may be a more accurate description of real-world competition than the model of perfect competition. If the issuer is more informed than investors, rational investors fear a lemons problem: only issuers with worse-than-average quality are willing to sell their shares at the average price. In other words, if investors are more informed than the issuer, for example about the general market demand for shares, then the issuer faces a placement problem. The option withdraw the offering is modeled as part of the placement method by Benveniste et al. (1999) and finds that the underpricing is lower when investors’ perception of an IPO’s likelihood of withdrawal is high. Falkenstein (1996) and Gompers and Metrick (2000) observe that institutional investors tend to avoid investing in low-priced stocks, a fact possibly relevant for IPO placement.

5.2.3.1.2 Information Revelation Model

Baron (1982) views underpricing as compensation to the investment bank for revealing its superior information about market demand and as payment for marketing effort. Underpricing is necessary to induce uninformed investors to bid and reveal positive information, given their vulnerability to overpricing (Rock 1986). Another information-based theory, According to Benveniste and Spindt (1989) and Benveniste and Wilhelm (1990) state that the underpricing is a mean to induce informed investors to reveal private information about the demand for shares in the pre-selling phase, thus allowing the intermediates to better evaluate the offering. Benveniste and Spindt (1989) develop an information extraction model in which the information about the value of IPO shares, which will determine their aftermarket price, is privately held by some large institutional investors. They
show that the flexibility offered by the book-building mechanism in terms of IPO share allocation allows underwriters to extract this private information. The information extraction theory predicts a partial adjustment to private information collected during the IPO process. Hanley (1993) confirms this partial adjustment empirically. According to the information extraction theory, IPO underpricing is a cost paid to extract private information only.

The importance of first issuers in revealing information has also been emphasized by Benveniste et al. (2002). They propose a model explaining how first IPOs reveal information about the growth opportunities in their industry, and thus trigger a new wave of free-riding firms the same industry that benefit from this information generation. Investment banks try to mitigate this free-riding problem. Similarly, Maksimovic and Pichler (2001) examine the influence of the product market competition on firms’ IPO timing. A private firm in possession of a new know-how is facing a trade-off between raising capital and revealing its technology to potential new entrants to its industry. Similar arguments are made by Ghod and Lyandres (2008) study.

5.2.3.1.3 Principal-Agent Model

In political science and economics, the problem of motivating a party to act on behalf of another is known as ‘the principal–agent problem’ or agency dilemma. The principal–agent problem arises when a principal compensates an agent for performing certain acts that are useful to the principal and costly to the agent, and where there are elements of the performance that are costly to observe, i.e., when a principal hires an agent. This is the case to some extent for all contracts that are written in a world of information asymmetry, uncertainty and risk. Here, principals do not know enough about whether (or to what extent) a contract has been satisfied. The solution to this information problem — closely related to the moral hazard problem — is to ensure the provision of appropriate incentives so agents act in the way principals wish.
Baron (1982) casts the new-issues market in a principal agent context, in which investment bankers have superior information about demand in capital markets. The investment banker (i) advises the firm on price and (ii) sells the stock. Compensation in the optimal contract between the firm (principal) and the banker (agent) is a function of the IPO proceeds and the price. The contract may involve underpricing to induce the banker to put forth the correct level of effort.

Exhibit 1: Basic idea of Agency Theory (P: Principal, A: Agent)
Source: Principal-Agent Problem: Wikipedia, the free encyclopedia
http://en.wikipedia.org/wiki/Principal-agent_problem

The principal – agent model by Baron (1982) assumes that the underwriter has information superior to that of the issuer. This information may include intimate knowledge of market demand for the issue and industry conditions related to the issuer’s financial prospects. To induce the underwriter to work diligently to market shares, it is optimal for the issuer to allow some underpricing. In contrast, signaling models (Grinblatt and Hwang 1989, Welch 1989, Chemmanur 1993) are built on the premise that the issuing firm is more informed about its own prospects than investors are. Underpricing is then used as a signal for high quality firms to separate themselves from low quality ones.
The equilibrium analysis, as the model involves both the owner’s and the underwriter’s problems, is, hence, addressed in a principal-agent type game theoretical setting. At each point in time, the owner makes a decision that maximizes the expected value of her total net payoffs by taking the beliefs and the current information set of the underwriters into account. Paun et al. (2006) review of the principal theories that have been proposed to explain IPO underpricing and discuss the main empirical models used to measure it.

5.2.3.1.4 Underpricing as a Signal of Firm Quality

Leland and Pyle (1977) analyze the role of signaling within the process of IPOs. The authors show how companies with good future perspectives and higher possibilities of success “good companies” should always send clear signals to the market when going public (e.g., the owner should keep control of a significant percentage of the company). To be reliable, the signal must be too costly to be imitated by “bad companies”. If no signal is sent to the market, asymmetric information will result in adverse selection in the IPO market. Almost all signaling models are based on the concept of Ibbotson (1975) to leave “good taste in investors mouths”, so that issuers can raise equity at higher share prices in later stages (seasoned offering). There are two types of firms in the world; (i) high quality firms, and (ii) low quality firms. The high quality firm wants to signal that it is a high quality firm and the low quality firm wants to mimic the high quality firm. There is a possibility that the quality of the firm is discovered before the seasoned offering. Allen and Faulhaber (1989), Grinblatt and Hwang (1989), and Welch (1989) have contributed theories with this feature.

In the IPO underpricing literature, Allen and Faulhaber (1989), Grinblatt and Hwang (1989), Welch (1989) and Chemmanur (1993) point out that IPO underpricing may serve as a signaling device. By underpricing their shares in the IPO, good firms can signal their type. Then, the original owners of good
firms may benefit from higher share prices when they sell their remaining equity in the secondary securities market (Allen and Faulhaber 1989, Grinblatt and Hwang 1989), or when they arrange future seasoned offerings (Welch 1989). Furthermore, good firms may benefit from future analyst coverage (Chemmanur 1993).

By developing a signaling model, Courteau (1995) shows that the use of lockup agreement can signal the value of a firm. Brau et al. (2005) argue that auditor quality or underwriter reputation can provide certification for offerings to investors and improve transparency. Consequently, firms with high-quality auditors or reputable underwriters are more transparent and may rely less on lockups for the purpose of signaling.

Brau and Fawcet (2006) point out that due to asymmetric information between IPO insiders and potential investors, signaling theory continues to be an important of IPO research. Leland and Pyle (1977) argue that selling insider shares and selling a large portion of the firm in the IPO served as negative signals to potential investors. Using prestigious underwriters (Booth and Smith 1986, Carter and Manaster 1990, Carter et al. 1998), using a reputable accounting firm (Titman and Trueman 1986, Beatty 1989, Michaely and Shaw 1995), and having VC backing (Meggison and Weiss 1991, Barry et al. 1990) serve as strong signals or certification that the firm going public is a good firm. They also say that three other positive signals are proposed in the literature. First, Welch (1989), Allen and Faulhaber (1989), and Chemmanur (1993) model that only good firms can afford to dissipate wealth by underpricing. Second, Courteau (1995) and Brau et al. (2005) model those insiders who commit to a long lockup- a period of time after the IPO in which insiders agree not to sell personal shares- signal firm quality. Third, Teoh et al. (1998) suggest that a history of strong earnings signals future strong performance.
5.2.3.2 Institutional Explanations Model

Institutional Explanations theory focuses on three features of the marketplace: litigation, banks’ price stabilizing activities once trading starts, and taxes. Ibbotson (1975) and Tinic (1988) posit that firms intentionally underprice their shares as a form of insurance against future liability (litigation), and the issuer and the underwriter agree to set the offer price below the expected market value of the securities because this decreases the probability of future litigation as well as the costs of litigation in the event of a lawsuit. The IPO literature shows a variety of approaches explaining the IPO-underpricing. We now turn to three ‘institutional’ explanations for IPO underpricing: First, the litigiousness of American investors has inspired a legal insurance or lawsuit avoidance hypothesis. The basic idea, which goes back at least to Logue (1973) and Ibbotson (1975), is that companies deliberately sell their stock at a discount to reduce the possibility of future lawsuits from shareholders disappointed with the Post-IPO performance of their shares. Tinic (1988) extends and develops the theoretical framework. This explanation is somewhat U.S.-centric, in that underpricing is a global phenomenon, while strict liability laws are not. The risk of being sued is not economically significant in Australia (Lee et al. 1996), Finland (Keloharju 1993), Germany (Ljungqvist 1997), Japan (Beller et al. 1992), Sweden (Rydqvist 1994), Switzerland (Kunz and Aggarwal 1994), or the U.K. (Jenkinson 1990), all of which experience underpricing. Still, it is possible that lawsuit avoidance is a second-order driver of IPO underpricing. The second institutional approach is based on the practice of price support. One of the services that underwriters provide in connection with an IPO is price stabilization, intended to reduce price drops in the after-market for a few days or weeks. Perhaps surprisingly, such ‘price manipulation’ is legal in many countries, including the U.S. (1934 Securities Exchange Act, Rule 10b-7, since replaced by Regulation M). Statistically, price stabilization results in fewer observations of overpricing, and so shifts up the observed mean initial
return. Third, there may be tax advantages to IPO underpricing. This results in a trade-off between the tax benefit and the dilution cost of underpricing. Depending on their tax situation, managers may prefer more or less underpricing.

5.2.3.2.1 Legal Liability

Under the securities laws in countries like the U.S., issuers, underwriters, and accountants face litigation risk as investors can use them for misleading statements or omissions in the IPO prospectus. The securities Act of 1933 confers investors the right to bring an IPO-related lawsuit against any participants involved in the marketing and sale of a new equity issue. The potential settlement payments and legal fees associated with lawsuits are notably costly. In addition, the loss of management time, and potential damages to the reputations of underwriters and issuers are also considerable.

Tinic (1988) provides the first empirical test of the lawsuit avoidance hypothesis. He compares the underpricing of 70 IPOs filed between 1923 and 1930 (prior to the Securities Act of 1933) to the underpricing of 134 IPOs filed between 1966 and 1971 (after the securities Act of 1933). He finds that the post 1933 IPOs provide significantly higher initial returns than the pre-1933 IPOs. He argues that the increased litigation risk for issuers and underwriters after the 1933 Securities Act motivated them to use higher underpricing as a form of insurance against potential lawsuits. By selling an IPO share below is expected value, both the issuer and the underwriter are less likely to be sued. In addition, a lower offer price reduces the amount of damages that plaintiffs can claim. In Tinic’s model, the expected legal liabilities are measured by the probability of the issuer or the underwriter being sued and the amount of damages suffered by these parties. The former is a decreasing function of the post offer price over the offer price and the latter is an increasing function of the difference between the offer price and

Drake and Vetsuypens (1993) question Tinic’s results. They find no support for the deterrence effect. They claim that underpricing does not reduce the probability of a lawsuit. They find that underpriced IPOs are just as likely to be sued as overpriced IPOs and that there is no significant difference in underpricing between sued and non-sued firms. Lowry and Shu (2002) argue that Drake and Vetsuypens’ ex post comparison is biased and suggest that it is litigation risk—not the actual occurrence of litigation—that is associated with higher underpricing. The Drake and Vetsuypens (1993) analysis suffers from the following endogeneity problem. Under the litigation-risk hypothesis, initial returns can be related to the probability of a lawsuit along two dimensions. First, firms with higher litigation risk should underprice their IPOs by a greater amount as insurance against litigation. This implies that initial returns are an increasing function of litigation risk. Second, firms that buy more insurance against litigation, i.e., underprice more, should be sued less often. This implies that litigation is a decreasing function of initial returns. Because the probability of being sued is itself an endogenous variable that could depend on underpricing, a comparison of initial returns across sued and non-sued firms is problematic.

Prabhala and Puri (1999) also provide evidence against Tinic’s conjecture. They compare Tinic’s pre-1933 IPO sample to a sample of IPOs filed between and 1985 and 1994. They predict that pre-1933 IPOs should be riskier than IPOs in the 1985-1994 sample since issuers and underwriters faced little legal liability prior to 1933 (They argue that pre-1933 IPOs were largely unregulated. The lack of regulation prior to 1933 increased the
possibility that IPO investors were misled by the issuer and was unable to recover their losses). They consider offer price, offer size and the standard deviation of initial returns as proxies for IPO risk and find that 1985-1994 IPOs were riskier than 1923-1930 IPOs. They conclude that the difference in underpricing between Tinic’s pre-1933 and post-1933 IPO sample is likely caused by differences in risk without recourse to potential differences in legal risk enforced by the Securities Act of 1933.

Lowry and Shu (2002) examine the link between risk and IPO underpricing by postulating two implications of the lawsuit avoidance hypothesis: the insurance effect and the deterrence effect of IPO underpricing. (i) Under the insurance effect, IPO firms associated with higher litigation risk should underprice their shares more to avoid being sued (legal liability) (See also, Tinic 1988, Hughes and Thakor 1992, and Hensler 1995). (ii) Under the deterrence effect, higher levels of underpricing reduce the probability of litigation for possible misstatements or omissions in the IPO prospectus of being sued and the expected legal liability costs (See also, Ibbotson 1975, Tinic 1988, Hughes and Thakor 1992, Hensler 1995, Jenkinson and Ljungqvist 2001, Saha and Ferrel 2007). In order to resolve the methodological problems of previous studies, Lowry and Shu adopt a simultaneous equations system in a cross-sectional framework using a sample of 1841 IPOs between 1988 and 1995. Their empirical results provide support for both the insurance effect and the deterrence effect of IPO underpricing. Lowry and Shu (2002) address the endogeneity of the insurance and deterrence effects and find support for the insurance effect. If firms purchases ineffective insurance (i.e., insurance holds and deterrence fails), then the likelihood of this being a stable result seems unlikely.

Turtle and Walker (2004) use a sample of 1669 IPOs filed in the US between 1996 and 2000, and find no support for the lawsuit avoidance hypothesis in a simultaneous equations framework similar to Lowry and Shu.
They do not reject the lawsuit avoidance hypothesis as a potential explanation for IPO underpricing but point out that it has become less important in the US in recent years. They argue that two recent security law reforms, the 1995 Private Securities Litigation Reform Act and the 1998 Securities Litigation Uniform Standards Act, have significantly reduced the litigation risk borne by US issuers and their underwriters and have reduced the need to buy litigation insurance through underpricing. In addition, they observe that IPO characteristics, including underpricing, have little influence on plaintiffs’ decision to file a lawsuit and that a firm’s litigation risk is largely determined by events in the IPO aftermarket including unrelated industry downturns.

The incidence of litigation has been found to be increasing in client firm size and membership in certain high-risk industries (Francis et al. 1993, O’Brien and Hodges 1993). Alexander (1991) also argues that the larger companies are more likely to be targets of litigation because the absolute drop in market value, and thus the potential recovery, must be sufficient to cover legal fees. Keloharju (1993) says that legal liability is not the primary determinant of underpricing is that countries in which U.S. litigate tendencies are not present have similar levels of underpricing.

Pukthuanthong et al. (2009) consider legal opportunism as an explanation of litigation following a large sample of IPOs. And, they characterize legal opportunism by the existence of lawsuits filed largely in response to negative ex post market behavior for the firm and its industry. And, they find out evidence that litigation rise for IPO firms and related settlement amounts are largely explained by aftermarket performance, not ex ante risks that were apparent at the time of the IPO. Ex ante variables provides little ability to predict lawsuit activity or settlement amounts. Their findings suggest that prior support for the hypothesis may have been sample specific and that lawsuit avoidance plays at best out no support for either the insurance or the
deterrence effect of IPO underpricing. Firms with high litigation risk do not underprice their IPOs more to purchase litigation insurance, nor does underpricing deter future litigation.

Lowry and Shu (2002) argue that plaintiffs may preferentially seek out IPOs underwritten by reputable underwriters as they tend to have ‘deeper pockets’. The pre-1995 regime of joint and several liability made underwriters equally liable and allowed plaintiffs to recover damages from underwriters if the sued firm had insufficient funds. The post-1995 regime of proportionate liability suggests less likelihood that higher ranked underwriters will be sued more often. In particular, large firms with deep pockets tend to be sued in sustained firm and industry downturns. Michaely and Shaw (1994) propose that larger firms should be more underpriced because larger issues may be harder to sell. Rogers and Van Buskirk (2009) suggest that managers that experience litigation learn this and reduce their forecasting behavior following litigation. In successful real-world IPO litigation, two conditions generally appear to hold: (1) the stock price in the after-market falls below the issue price, and (ii) earnings are below expectations, leading to a “sufficiently” high probability that the firm was overpriced in the IPO.

5.2.3.2.1.1 Legal Act

A potential link between IPO underpricing and legal liabilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 was first suggested by Ibbotson (1975), and since has received empirical support by Tinic (1988).

As a point of legal fact, the amount of damages that can be awarded in lawsuits filed under Section 11 of the 1933 Securities Act increases in the difference between the offer price and the subsequent (lower) trading price. Thus, underpricing reduces the likely damages. This in turn reduces the probability of litigation assuming the size of expected damages affect class-
action lawyers’ incentives to file a suit. Section 11 (a) of the Securities Act of 1933 defines the civil liability for public offerings as follows: if a registration statement (i.e., Prospectus), at the time it became effective, “contained an untrue statement of a material fact or omitted to state a material fact … any person who acquired any security covered by the registration statement can sue certain specific persons to recover the difference between the price he paid for the security (but not more than the public offering) and the price at which he disposed of it or (if he still owns it) its value at the time of suit.” The purchaser must demonstrate only that there was a material misstatement or omission in the prospectus and that he lost money. Section 11 (b) states that the purchaser can sue every person who signed the registration statement, including the underwriters. But underwriters are relieved of civil liability under the “due diligence” defense if they can demonstrate that they had a reasonable ground for believing the truth of the statement. Despite this, litigation risk exists even for issuers who are not fraudulent because a sufficiently unfavorable ex post outcome may create the suspicion of fraud. Under the 1933 Securities Act, the maximum loss an investor can claim is the difference between the price paid for a security (but not more than the offer price) and the selling price or (if still owned) its value at the time of the suit. Thus, the lower the offer price of a security, the lower the likelihood of a suit and the lower the damages a plaintiff can claim.

Tinic (1988) proposes that more experienced underwriters were associated with lower underpricing in the post-1933 sample but not before. This is consistent with his prediction that greater due diligence skills reduce the need for underpricing as a form of protection against lawsuits. On the other hand, simple certification arguments yield the same prediction, so as a test of the legal insurance hypothesis, the relation between underwriter experience and underpricing has little power. This relation appears to have changed sign in the 1990s (Beatty and Welch 1996). However, it is not impossible to rationalize a positive relation within the legal insurance hypothesis: more
prestigious underwriters may have deeper pockets and so is more worth suing, leading them to rely more heavily on underpricing. Evidence based on the relation between underpricing and underwriter experience thus also appears inconclusive.

Lowry (2002) stats that one reason for IPO underpricing is litigation risk. The risk of lawsuits arise in the context of section 11, Sections 12 and Section 10(b) securities act (1933) under section 11 damage for direct purchases in the IPO are based on the difference between the offer price and either the sale price or the securities price at the time of lawsuit. Section 12 and Section 10 (b) similarly apply to both direct and after market purchases Damage under both these sections are based on the investor’s purchase price. IPO underpricing represents a form of insurance against future litigation in that it has a lower potential damage and decreased probability of being sued. He concludes that after controlling for the endogeneity of initial returns and lawsuit probability, the evidence lends support to the litigation risk hypothesis. First, they find out that firms with higher litigation risk underprice their IPO by a significantly greater amount. Second, consistent with underpricing representing a viable form of insurance, firms that engage in more underpricing significantly lower their litigation risks, especially for lawsuits occurring closer to the IPO dates.

5.2.3.2.2 Price Stabilization

The Securities and Exchange Commission (SEC) defines price stabilization as “… transactions for the purpose of preventing or retarding a decline in the market price of a security to facilitate an offering.” Such practices are permitted because: Although stabilization is a price-influencing activity intended to induce others to purchase the offered security, when appropriately regulated it is an effective mechanism for fostering an orderly distribution of securities and promotes the interests of shareholders,
underwriters, and issuers. (SEC release No. 34-38067, 1997, P.81). Price stabilization is defined, as share purchase made by the underwriters that are designed to increase the aftermarket stock price. The price stabilization or price support by underwriters after the IPO curtails the negative returns (Hanley et al. 1993, Ruud 1993, Schultz and Zaman 1994). Benveniste et al. (1996) hypothesize about stabilization activities, “(stabilization) effort is ordinarily undertaken by posting a stabilizing bid at the offer price in the secondary market,” and Benveniste et al. (1998). Prabhala and Puri (1999) hypothesize that underwriters are more active in aftermarket activities for less risky IPOs.

Hanley et al. (1993) suggest that price support allows underwriters to disguise overpriced offerings from investors by temporarily inflating the stock price. They argue that “if a price drop [after IPO] is apportioned over a number of days, the perception of overpricing may be obscured by intervening market moves or information stocks, thus concealing the overpricing from the underwriter’s clients (both investors and issuers).”

The third indication of price support is motivated by Ruud (1993) and Prabhala and Puri (1999). They document that the distribution of initial returns is almost censored at zero with an unusually low probability of negative returns. Both studies suggest that these patterns are caused by stabilizing transactions aimed at preventing the market price from dropping below the offer price (See also, Lewellen 2006). Based on this reasoning, Prabhala and Puri (1999) propose an indicator variable as a measure of price support that is equal to one if the IPO closes the first trading day at the offer price (stabilized) and is equal to zero if it closes below the offer (not stabilized). The most important beneficiaries of the price stabilization in aftermarket trading seem to be the institutional investors who participate to the book building of IPO (underwriters). A significant indicator for price stabilization is the retention of stocks for underwriters after few days from the
trading start point. The leader underwriter is an important market maker after few days from launching and his contribution to price support is notable.

Aggarwal (2000) points out that the short run underpricing and long run overpricing continue to be a puzzle, (See also, Beatty and Ritter 1986, and Miller and Reilly 1987) for short-run performance; (See also, Aggarwal and Rivoli 1990, and Ritter 1991) for long-run performance; and (See also, Asquith et al. 1998, and Ruud 1993) for distributional properties of IPOs in the short run. And underpricing refers to the initial trading of IPOs above the offer price in the immediate aftermarket, whereas overpricing refers to long-run underperformance. Aggarwal and Conroy (1999) and, Aggarwal (2000) posit that the aftermarket activities are price-influencing activities that effect both issuers and investors. Aggarwal et al. (2002) offer that managers strategically underprice IPOs in order to attract interest from analysts and the media, thereby building price momentum. And, Stabilization of an IPO’s secondary market price usually involves one or more of the following practices: Stabilizing bids (Pure Stabilization), Penalty bids, Syndicate short positions (Short Covering). She finds out that pure stabilization, in which an identified stabilizing bid is posted, is never done, and that aftermarket short covering is the principal form of stabilization. And she says that aftermarket short covering leads to the same results as “pure” stabilization but has no disclosure requirements. The short position must be taken ex-ante, before trading starts, so they do find that sometimes short covering has to be done in the aftermarket even for IPOs that go up in price. Underwriters cannot predict completely which offerings will trade above or below the offer price. She also find out that, on average, aftermarket short covering is not expensive for underwriters and amounts to a very small proportion of the gross spread they receive. The penalty bids are used selectively and tend to be assessed only for weak offerings. The underwriter can manage the price stabilization process by the combined use of covering the short position in the aftermarket, exercising the overallotment option, and restricting flipping by using penalty bids. The
availability of these various options limits the losses incurred by the underwriter. And, she concludes that underwriters manage the stabilization process and limit their losses by using a combination of short covering in the aftermarket, penalty bids, and exercise of the overallotment option. These activities are relatively inexpensive overallotment option because the underwriter can manage the process. And, she finds out that instead that aftermarket activities are less transparent and include stimulating demand through short covering and restricting supply by penalizing the flipping of shares. Aggarwal (2000) shows that underwriter almost always oversells the issue and start the first trading day with a short position. They have an option to cover this short position in the aftermarket or to purchase up to 15% of shares offered from the issuer. According to Ellis et al. (2000) and Aggarwal (2000) that the strongest share repurchases of cold IPOs, presumably by the lead underwriter, take place on the first trading day but that inventory build-up continues after day one. (See also, Schultz and Zaman 1994, Benveniste et al. 1998, Chowdhry and Nanda 1996, Benveniste et al. 1996, Prabhala and Puri 1999).

Lewellen (2006) suggests three explanations for the results: First, retail banks might value price support because it allows them to discriminate among investors: a promise to repurchase weak IPOs can be targeted to specific investors. Second, Hanley et al. (1993) suggests that underwriters support prices to disguise weak offering from initial investors. If such tactics indeed take place, they are probably targeted at unsophisticated investors and therefore may be favored by retail banks. Third, it is possible that retail banks suffer larger reputation damage from ex-post overpriced IPOs.

The literature suggests two reasons why discrimination could be important; First, Chowdhry and Nanda (1996) argue that price support is a put option given specifically to uninformed investors to compensate them for the winner’s curse. Second, Benveniste et al. (1996) suggest that price support is
offered selectively to institutional investors in exchange for information is the pre-offering period.

5.2.3.2.3 Tax Arguments

Taxation is another factor identified by the theory based on institutional and legal aspects of IPO. In few countries, the level of taxation for employment is higher than the taxation applied to the capital gains. So, the companies prefer as remuneration to issue new stocks on the capital market through IPO mechanism and to allocate a part of issued for their employees.

Rydqvist (1994) referring to the Swedish market, points out tax-driven benefits in underpricing shares. Loughran et al. (1994) explain the huge level of IPOs underpricing in emerging markets invoking institutional binding rules. Perhaps surprisingly, underpricing may be advantageous from a tax point of view. Rydqvist (1997) explores this possibility in the context of Swedish IPOs. The argument is simple. Before 1990, Sweden taxed employment income much more heavily than capital gains. This created an incentive to pay employees by allocating appreciating assets in lieu of salaries. One such appreciating asset is underpriced stock, allocated preferentially to the firm’s own employees at the IPO. In 1990, the Swedish tax authorities made underpricing-related gains subject to income tax, removing the incentive to allocate underpriced stock to employees. Underpricing then fell from an average of 41% in 1980-1989 to 8% in 1990-1994.

A similar argument is put forward by Taranto (2003). A quirk of U.S. tax laws may increase senior managers’ incentive to underprice their company’s IPO. Holders of managerial or employee stock options pay tax in two steps. First, when they exercise the option, they pay income tax on the difference between the strike price and ‘fair market value’. Second, when they eventually sell the underlying stock they acquired at exercise, they pay capital
gains tax on the difference between ‘fair market value’ and the sale price. Since the capital gains tax liability is deferred, and since capital gains tax rates are typically lower than income tax rates, managers prefer ‘fair market value’ to be as low as possible. U.S. tax law considers ‘fair market value’ for options exercised in conjunction with an IPO to be the offer price, rather than the price that will prevail in the market once trading begins. This then generates an incentive to underprice.

While it is unlikely that tax alone can explain why IPOs are underpriced, the tax benefit from underpricing may help explain the cross-section of underpricing returns. Taranto’s (2003) empirical results are generally consistent with this argument, in that they show companies to be more underpriced the more they rely on managerial and employee stock options. However, it is possible that boards award stock options to protect managers from dilution in anticipation of the underwriter underpricing the stock. Thus the direction of causation is unclear.

5.2.3.3 Ownership and Control Model

Becoming a public company represent a crucial decision for a company in terms of control and ownership that will be strongly diluted. Ownership, control and agency costs represent the third important element of the underpricing theory. (i) Brennan and Franks (1997), Stipulate that underpricing gives managers the opportunity to protect their own benefits by distributing stock strategically in case of an IPO. The managers tend to sustain a great dilution of shares between many small investors, this situation protecting their private benefits of control. But this is not the only reason to encourage a greater distribution of shares. (ii) Another important one refers to the possibility of a takeover for the new public companies. Underpricing will maintain attractive the company for small investors and the possibility to be absorbed by a bigger company is smaller. Two additional solutions (besides
underpricing) are suggested in this case: to use some strategies against a possible takeover. Issuing non-voting shares would guarantee that managers could retain control of the company, gathering all private benefits, as a conclusion, the distribution of shares is important for the level of underpricing. The second approach refers to the agency problems and related costs. (iii) The separation of ownership and control will determine the managers to try to maximize their expected private utility by strengthening their control benefits. Large investors will exercise a closer and better monitoring of company’s management, so the using of underpricing will ensure a good dispersion of shares and a lower level of control.

According to Ljungqvist (2006) Going public is, in many cases, a step towards the eventual separation of ownership and control. Ownership matters for the effects it can have on management’s incentives to make optimal operating and investment decisions. In particular, where the separation of ownership and control is incomplete, an agency problem between non-managing and managing shareholders can arise (Jensen and Meckling 1976); rather than maximizing expected shareholder value, managers may maximize the expected private utility of their control benefits (say, perquisite consumption) at the expense of outside shareholders.

Two principal models have sought to rationalize the underpricing phenomenon within the context of an agency cost approach. Their predictions are diametrically opposed: while Brennan and Franks (1997) view underpricing as a means to entrench managerial control and the attendant agency costs by avoiding monitoring by a large outside shareholder, Stoughton and Zechner’s (1998) analysis instead suggests that underpricing may be used to minimize agency costs by encouraging monitoring.

Prior research has shown that ownership structure affects firm value (Morck et al. 1988, and McConnell and Servaes 1990). In the context of IPOs
Field (1995) shows that investment by institutional investors is positively related to performance. There is an efficiency argument which suggests that restrictions on ownership harm a bank’s performance (Cole and Mehran 1998). Other research by Booth and Chua (1996), Brennan and Franks (1997), Stoughton and Zechner (1998) and Mello and Parsons (1998) suggest that the ownership structure is an important consideration driving the firm’s IPO decision.

Underpricing will increase the investor base and ownership dispersion with the objective of increasing liquidity (Booth and Chua 1996), or reducing monitoring by large shareholders (Brennan and Franks 1997). According to Brennan and Franks (1997), Small outside stakes reduce external monitoring, owing to two free-rider problems; First, because it is a public good, shareholders will invest in a sub-optimally low level of monitoring (Shleifer and Vishny 1986). Second, greater ownership dispersion implies that the incumbent managers benefit from a reduced threat of being ousted in a hostile takeover (Grossman and Hart 1980). The role of underpricing in this view is to generate excess demand. Excess demand enables managers to ration investors so that they end up holding smaller stakes in the business.

Field and Sheehan (2000) examine the relationship between underpricing, ownership structure, and post-IPO liquidity using a sample of 952 US IPOs from 1988 to 1992. As predicted by Brennan and Franks (1997), they find a negative correlation between underpricing and several measures of post-IPO ownership concentration, though they argue that the magnitude of this effect is small relative to the underpricing cost. Field and Sheehan also report that a large fraction of going-public firms have blockholders in place to the IPO, so if managers use underpricing to prevent blocks from forming, they have already lost the battle. With respect to the link between ownership structure and post-IPO liquidity, Field and Sheehan find that the sign of this
relationship depends on the type of outside shareholder and not on the size of the blockholding per se.

Brau and Fawcett (2006) survey 336 CFOs to compare practice and they also find out that a main reason for remaining private is to preserve decision-making control ownership. Being private, entails “private benefits of control” (Hart and Moore 1994, 1995). The “private benefits” costs considered in detail by Jensen (1986), include any costs of separating ownership from control, but can also refer to administrative costs (e.g., filing requirements, audited financial statements, etc) and the costs of increased disclosure of inside information that might reduce the competitive advantages of the company. Chemmanur and Fulghieri (1999) argue that both public and private ownership entail information advantages and that the optimal decision on this structure minimizes the related costs.

5.2.3.3.1 Underpricing as a Means to Retain Control

Leland and Pyle (1977) argue that ownership retained by an entrepreneur is a signal of firm value. They predict that risk is increasing in the percentage of the firm offered to the public, conditional on firm value. Menon and Williams (1991) find that the percentage of the firm offered to the public is positively related to underwriter compensation, which they argue is consistent with the Leland and Pyle (1977) argument. In an extension of the Leland and Pyle model, Grinblatt and Hwang (1989) predict that the degree of underpricing is positively related to ownership retained, for a given cash flow variance. The percentage of ownership retained by the insiders (Leland and Plye 1977, Downes and Heinkel 1982, Balatbat et al. 2005). The determinants of ownership structure, Demsetz and Lehn (1985) speculate that private control benefits influence ownership structures in industries such as media, sports, and entertainment.
Grinblatt and Hwang (1989) model underpricing and fraction of ownership retained as a quality signal, where quality depends on both expected cash flows and uncertainty. Welch (1989) explores the conditions under which high-quality firms signal by underpricing and limiting IPO size versus when they pool with low-quality firms. Allen and Faulhaber (1989) develop a similar model.

Models by Zingales (1995), Brennan and Franks (1997), and Mello and Parson (1998) all suggest that IPO firms may desire a dispersed ownership structure, leaving insiders with more autonomy from outside shareholders. Brennan and Franks (1997) hypothesize that one motivation for underpricing is management’s desire to control the firm. Utilizing a sample of U.K. IPOs, the authors present empirical evidence consistent with their hypothesis that underpricing is used strategically to influence ownership dispersion.

Underpricing represents a significant fraction of the total cost of going public. Given that dual-class firms experience less underpricing, why don’t more firms choose this financial structure? Put differently, what costs and benefits must companies weight when deciding to create either one or more share classes? Dual class ownership structures provide managers with protection from the corporate control market. If managers issue dual-class shares to protect private control benefits, the protection should come at a cost to issuers. Dual-class shares substantially reduce the dilution effect and mitigate the underinvestment problem.

A large body of literature, centered on the pioneering work of Jensen and Meckling (1976), examines the mechanisms designed to align the interests of management and shareholders. Such mechanisms include firm-specific characteristics such as the board of directors, managerial compensation plans, the structure and size of managerial and block ownership positions, and external influences such as the managerial labor market and the market for
corporate control. Each of these governance mechanisms plays a role in providing incentives for management to make decisions not only with their own interests in mind, but also the interests of other stakeholders in the firm, particularly shareholders. Dual-class IPOs provide a superior setting in which to explore all such possible outcomes because outside shareholders buy on terms reflecting inferior voting rights by Jensen and Meckling (1976). Many studies explore the value of voting rights, especially when a single investor holds a large voting block (Barclay and Holderness 1989, 1991; Zingales 1994, 1995). Holding controlling ownership stakes (Demsetz and Lehn 1985), diversifying the firm’s operations (Shleifer and Vishny 1989), implementing a dual-class equity structure (Nenova 2003), and strategically configuring the board of directors (Baker and Gompers 2003).

Brennan and Franks (1997) and Stoughton and Zechner (1998) provide contrasting arguments for why monitoring considerations create incentives for managers to underprice their firms’ IPOs. Smart and Zutter (2003) argue that lower underpricing among dual-class IPO is consistent with the reduced monitoring hypothesis. Based upon their sample, Smart and Zutter arrive at four important inferences with respect to the above monitoring arguments: (i) Dual-class IPOs are underpriced less than single-class IPOs, even when other factors influencing IPO underpricing are accounted for in the analysis. (ii) Dual-class IPO firms have higher early post-IPO average institutional ownership than single-class IPO firms. (iii) There is a significant negative relationship between early post-IPO institutional ownership and the initial returns of single-class IPOs. (iv) Dual-class firms face significantly lowered odds of being acquired due to their dual-class stock structure. Arugaslan et al (2004) address and examine evidence from a sample of IPOs from January 1990 through December 1999, and they point out that the recent research has suggested that monitoring considerations create incentives for managers to underprice their firm’s stock in its first public offering. They find out at different conclusions about the role of monitoring considerations in IPO
underpricing: (i) They find out that dual-class IPOs are underpriced less than single-class IPOs because they are significantly larger, and therefore should be underpriced less under typically uncertainty/asymmetric information arguments. They are less inclined to create a liquid secondary market as in Booth and Chua (1996) and, they have no need to create ownership dispersion to retain control (Brennan and Franks 1997). (ii) Institutional shareholdings in firms immediately after their IPOs are driven by firm size and not by their underpricing or dual-class status. (iii) Firm size and total institutional shareholdings, rather than dual class status or IPO underpricing, are significant influences on the likelihood of a firm being acquired within 3 years after its IPO. They conclude that monitoring consideration are not important determinants of IPO underpricing and their evidence rejects the monitoring explanations in both Brennan and Franks (1997) or Stoughton and Zechner (1998) for IPO underpricing. Boulton et al. (2006) find out those firm-specific and dual-specific characteristics widely used in IPO single-country underpricing studies (e.g., offer size, underwriter reputation, and industry) can explain variation in an intentional cross section of initial returns. They also point out that IPO underpricing is a cost of acquiring information during the book-building process.

5.2.3.3.2 Underpricing as a Means to Reduce Agency Costs

Brennan and Franks (1997) implicitly assume that, in the wake of the separation of ownership and control, managers try to maximize their expected private utility by entrenching their control benefits. However, it could be argued that managers should actually seek to minimize, rather than maximize, their scope for extracting private benefits of control. Why? Agency costs are ultimately borne by the owners of a company, in the form of lower IPO proceeds and a lower subsequent market value for their shares. To the extent that managers are part-owners, they bear at least some of the costs of their own non-profit-maximizing behavior. If their stakes are large enough so that
the agency costs they bear outweigh the private benefits they enjoy, it will be in their interest to reduce, not entrench, their discretion.

Based on this intuition, Stoughton and Zechner (1998) observe that, in contrast to Brennan and Franks (1997), it may be value-enhancing to allocate shares to a large outside investor who is able to monitor managerial actions. Monitoring is a public good as all shareholders benefit, whether or not they contribute to its provision. Since a large shareholder will monitor only insofar as this is privately optimal (which is a function of the size of her stake), there will be too little monitoring from the point of view of both shareholders and incumbent managers. To encourage better monitoring, managers may try to allocate a particularly large stake to an investor. However, if the allocation is sub-optimally large from the investor’s point of view (say, because it is not easily diversified), an added incentive may be offered in the form of underpricing. Such underpricing may not even represent an opportunity cost: in the absence of monitoring, the firm would have had to be floated at a lower price anyway, owing to outside shareholders anticipating higher agency costs.

Why are the predictions of Brennan and Franks (1997) and Stoughton and Zechner (1998) so different? There are at least two reasons. The first is the different institutional environments in which the models are placed. Brennan and Franks effectively model an IPO mechanism involving prices that are fixed rather than responsive to demand and shares that are allocated pro rata. Stoughton and Zechner, on the other hand, model a bookbuilding regime with discretionary allocations. In a prorata regime Stoughton and Zechner would have difficulty allocating enough stock to the large shareholder to ensure effective monitoring. In a bookbuilding regime, Brennan and Franks would not need to underprice as much to discriminate against large investors: absent pro rata allocation rules, the issuer (and underwriter) could simply select which investors to exclude from allocations. This illustrates the importance of the institutional assumptions made in IPO modeling. Second, Stoughton and
Zechner assume that managers internalize the agency costs they impose on outside investors, via the lower price that investors are willing to pay for the stock. This internalization is absent from the Brennan–Franks model.

Brennan and Franks (1997) suggest that firms underprice shares to generate excess demand and ownership dispersion, but with a different end in mind. They also find support for the reduced monitoring hypothesis by identifying a negative correlation between first-day returns and subsequent blockholder ownership in a sample of United Kingdom IPOs. Other papers which model issues surrounding the ownership structures of going-public firms include Zingales (1995), Mello and Parsons (1998), and Stoughton and Zechner (1998). Brennan and Franks (1997) develop their hypothesis in reference to ordinary issues of common stock (i.e., one share, one vote) but note that firms could issue nonvoting shares to circumvent monitoring and thereby reduce the control motivation for underpricing.

Baron’s (1982) model combines agency costs, asymmetric information and costly monitoring and predicts that underwriters tend to underprice IPOs both to minimize their selling efforts and to maximize the probabilities of a successful offering. Jensen (1986) suggests that leverage can reduce the agency cost of free cash flows.

Biais et al. (2002) combine the agency cost setting of Baron (1982) with Benveniste and Spindt’s (1989) assumption that some investors hold pricing-relevant information worth extracting before the offer price is set. In such a setting, the investment banker could collude with the informed investors, to the potential detriment of the issuing company. Biais et al. (2002) derives an optimal IPO mechanism that maximizes the issuer’s proceeds. In this mechanism, the IPO price is set higher the fewer shares are allocated to (uninformed) retail investors. Allocating more to institutional investors when their private signals are positive (i.e. when the IPO price should be set higher)
is consistent with Benveniste and Spindt’s (1989) information acquisition argument. Conversely, allocating more to retail investors when institutional investors’ signals are less positive while at the same time lowering the IPO price lessens the winner’s curse.

5.2.3.3.2.1 Agency Problem

Another important issue related to study based on asymmetric information refers to agency conflicts. In principle, issuers can mitigate agency conflicts in two ways; they can monitor the investment bank’s selling effort and bargain hard over the price, or they can use contract clauses to realign the bank’s incentives by making its compensation an increasing function of the offer price. Adjusting the bank’s compensation to the issuer’s valuation should reduce agency conflicts and thus underpricing. Few empirical studies indicated that issuing firm’s contractual choices has a significant influence on the pricing behavior of their IPO underwriters.

Gomes (1999) says that the agency problem emphasized is not standard agency problem between managers and shareholders, but the conflicts between a large shareholder that exerts control over the management and can extract private benefits of control, and minority shareholders in the firm. And, he concludes the several novel empirical implications: First, the model predicts that the insider ownership time-series and cross-section variation is related to the degree of moral hazard. At the IPO, the size of the block of shares diverted is negatively related to the degree of moral hazard problem, and following the IPO shares are gradually divested at a rate that is also negatively related to the degree of moral hazard. Second, he believes that this model has empirical relevance in explaining the existence of stock markets in emerging economics, despite the very weak legal institutions offering protection to minority shareholders.
5.2.3.2.2 **Moral Hazard Problem**

The risk that a party to a transaction or activity is not acting in good faith, or that one party has perverse incentives to act in a manner detrimental to the counter party. Moral hazards may exist for almost anything. For example, a plan for a government to bail out delinquent mortgages has the moral hazard that it will encourage mortgage holders to refrain from making their home payment. Likewise, deregulation has the moral hazard that companies will use it as incentive for short-term, unsustainable profits, rather than proper economic growth.

According to the moral hazard hypothesis, first outlined by Jensen and Meckling (1976), higher ownership retention by managers reduces their incentives to undertake value-reducing projects. Without information revelation, firms face moral hazard problem and investors encounter adverse selection problem. To resolve both problems, an obvious incentive compatible strategy for the owner-manager of a higher quality firm would be to reveal information. Sherman and Titman (2002) model the moral hazard problem of providing incentives for regular investors to correct information. They do not consider the role of retail investors in the book building process and so do not consider the tradeoff between information gathering costs and adverse selection risk.

5.2.3.4 **Behavioral finance Model**

Behavioral finance theory is the one group of four broad headings of initial public offerings (IPOs) underpricing. Behavioral theories assume either the presence of ‘irrational’ investors who bid up the price of IPO shares beyond true value, or that issuers suffer from behavioral biases causing them to put insufficient pressure on the underwriting banks to have underpricing reduced.
Behavioral finance focus on three features of the marketplace: Cascades, Investor sentiment, and Prospect theory.

5.2.3.4.1 Cascades

The possibility of cascades gives market power to early investors who can ‘demand’ more underpricing in return for committing to the IPO and thus starting a positive cascade. It is in this sense that cascades may play a role in explaining IPO underpricing. In an information cascade, investors attempt to judge the interest of other investors. They only request shares when they believe the offering is hot. Pricing just a little too high leaves the issuer with too high a probability of complete failure, in which investors abstain because other investors abstain. In support, Amihud et al. (2003) find that IPOs tend to be either undersubscribed or hugely oversubscribed, with very few offerings moderately oversubscribed. But cascades are not inevitable. In bookbuilding cascades do not develop because the underwriter can maintain secrecy over the development of demand in the book. Less underpricing is therefore required. Bookbuilding also offers the issuer the valuable option to increase the offer size if demand turns out to be high (either unconditionally, by issuing more shares, or conditionally, by giving the underwriter a so called overallotment option).

Benveniste and Spindt (1989) suggest that the American bookbuilding procedure is efficient, since it encourages investors to reveal their beliefs about the issue’s value, at a cost of initial underpricing. On the other hand, Welch (1992) focuses on the fixed price procedure used in some European countries, and shows that this procedure can cause informational cascades: investors who observe the investment choice made by previous investors can update their beliefs about the value of the issued shares. This possibility forces issuing firms to underprice their shares, choosing a price that is likely to create positive informational and price cascades.
Information cascades or herding in IPOs by Welch (1992); If investors learn about the value of the issued company by observing the behavior of other investors, issuers will underprice their stock to create a cascade or herding of buyers. If investors can communicate freely, cascades also do not form, for then investors can learn the entire distribution of signals. Yet Welch (1992) shows that issuers are better off with cascades than with free communication, because free communication aggregates all available information which maximizes the issuing company’s informational disadvantage compared to investors. Moreover, preventing free communication reduces the chance that one investor’s negative information becomes widely known, and so reduces the likelihood that the IPO will fail.

Amihud et al. (2003) examine Welch’s (1992) theory of information cascades (herding) by which investors set their own demand after having observed the demand of others. This leads to herding where investors’ demand is either very high or is very low, in which case the offering fails. Then, underpricing is a means to create a cascade of high demand that will ensure the success of the offering. They also obtain that the distribution of allocations to IPO subscribers exhibits an extreme U-shaped pattern, indicating strong herding among investors. They either subscribe overwhelmingly to new issues or largely abstain, in which case the issue is undersubscribed. At a more basic level, Amihud et al. (2003) analysis of demand and allocations in Israeli IPOs supports Welch’s (1992) prediction that demand is either extremely low or there is oversubscription, with few cases in between. In conclusion, Welch’s cascades model remains one of the least explored explanations of IPO underpricing.

5.2.3.4.2 Investor sentiment

Investor Sentiment defined broadly is a belief about future cash flows and investment risks that is not justified by the facts at hand (Delong et al. 1990),
on the other hands, Betting against sentimental investors is costly and risky (shleifer and Vishny 1997). The Behavioral finance theory of DeLong et al. (1990) predicts that noise trader sentiment can persist in financial markets. Although, it is so difficult to predict but in fact, the theory predicts that sentiment can influence security pricing under two necessary conditions: (1) the assets are held predominantly by sentiment (noise) traders, and (2) transaction costs are high enough to prevent systematic arbitrage by arbitrageurs.

Behavioral finance is interested in the effect on stock prices of ‘irrational’ or ‘sentiment’ investors. The potential for such an effect would seem particularly large in the case of IPOs, since IPO firms are young, immature, and relatively informational opaque and hence hard to value. Opening performance of initial public offerings (IPO) on the stock exchange depends on the investor sentiment. Baker and Wurgler (2006) utilize interim advances in behavioral finance theory to provide sharper tests for the effects of sentiment. In the many behavioral models of securities markets inspired by DeLong et al. (1990), investors are of two types; Rational arbitrageurs who are sentiment-free and irrational trades prone to exogenous sentiment. They compete in the market and set prices and expected returns. But rational arbitrageurs are limited in various ways.

The first paper to model an IPO company’s optimal response to the presence of sentiment investors is Ljungqvist et al. (2006). They assume some sentiment investors hold optimistic beliefs about the future prospects for the IPO Company. The issuer’s objective is to capture as much of the ‘surplus’ under the sentiment investors’ downward-sloping demand curve as possible, that is, to maximize the excess valuation over the fundamental value of the stock. Flooding the market with stock will depress the price, so the optimal strategy involves holding back stock in inventory to keep the price from falling. Eventually, nature reveals the true value of the stock and the price
reverts to fundamental value. That is, in the long-run IPO returns are negative, consistent with the empirical evidence in Ritter (1991) and others. This assumes the existence of short sale constraints, or else arbitrageurs would trade in such a way that prices reflected fundamental value even in the short term.

There are two investor sentiment approaches as follows: Bottom Up, Top Down. First one is “Bottom Up” that using biases individual investor psychology, such as over confidence, representativeness, and conservatism, to explain how individual investors under- or over-react to past returns or fundamentals. When aggregated, these models make predictions about patterns in market wide investor sentiment, stock prices, and volume. The investor sentiments approach by distinctly “top down” and “Macro-economic”. The advantage of the bottom up model is in providing micro foundations for the variation in investor sentiment that the top-down model takes as exogenous. And another is “The Top down Approach” that focuses on the measurement of reduced-form; aggregate sentiment and traces (find) its effects to market returns and individual stocks. The stocks of low capitalization, younger, unprofitable, high-volatility, non-dividend paying, growth companies or stocks of firms in financial distress are likely to be disproportionately sensitive to broad waves of investor sentiment. The advantage of the top down approach is its potential to encompass bubbles, crashes, and more everyday patterns in stock prices in a simple, intuitive, and comprehensive way.

5.2.3.4.2.1 Role of Investor Sentiment in the IPO Underpricing

Investor sentiment has long been suspected of playing a role in the IPO underpricing puzzle. Aggarwal and Rivoli (1990) argue that IPOs are subject to overvaluation or fads in early aftermarket trading. Lee et al. (1991) and Lowry (2003) find that “hot issue” periods coincide with low discounts on
closed-end funds. Ljungqvist et al. (2006) model an IPO company’s optimal response to the presence of sentiment investors and short sale constraints. They conclude that IPOs are to be underpriced even in the absence of asymmetric information. However, the offer price still exceeds fundamental value. Rajan and Servaes (1997) find more firms complete IPOs when analysts are particularly optimistic about the growth prospects of recent IPOs, but the degree of underpricing correlated to optimism is not directly tested. Derrien (2005) show that large individual investors’ demand, as a proxy for investor sentiment, leads to high IPO prices, large initial returns, and poor long-run performance.

Cornelli et al. (2006) study the role (if any) of sentiment investors in the pricing of newly listed stocks, using a unique dataset that helps identify the valuations and informational updating among small investors. And, they test the predictions of the model using grey market price data for a large set of European IPOs completed between 1995 and 2002. They find out that the grey market price is more correlated with the issue price and the aftermarket price when the grey market price is high, although there is a positive correlation even when the grey market price is low. This suggests that the grey market price contains information about the fundamental value, but also that grey market investors overweight their information in a way that is reflected in the aftermarket price and exploited by the underwriter when setting the issue price. They also find out higher levels of aftermarket trading volume when the grey market is high, consistent with book building investors selling their shares to grey market investors only when the grey market investors have higher valuations. In other words, their empirical findings support the view that sentiment investors can drive up prices in the short-run aftermarket. Their empirical results suggest that sentiment demand is present and influences the pricing of newly listed firms. The market for newly listed firms is a good setting in which to study the effect of sentiment investors on stock prices.
Derrien (2005) and Ljungqvist et al. (2006) demonstrate that issuers and investment bankers’ regular customers benefit from the presence of sentiment investors (noise traders). In both models it is the sentiment investors (noise traders) that overpay. Evidence consistent with either of these models is provided in Derrien using French IPO data, Dorn (2003) using German IPO data, Cornelli et al. (2006) using European gray market data, and Purnanadam and Swaminathan (2004) using U.S. data. Interestingly, Purnanandam and Swaminathan conclude their study by noting that investment bankers often aggressively market IPOs and that such marketing efforts warrant further study. While the models of Derrien and Ljungqvist et al. suggest that the issuer and regular customer of an investment banker benefit from the presence of sentiment investors, neither model considers that an investment banker might promote an issue in such a way as to induce sentiment investors into the market for an IPO. Supporting this premise, Degeorge et al. (2004) find in the French IPO market that book built issues attract more press than auctions, but only after the book-building route is selected. They also find that analysts affiliated with the lead underwriter issue more frequent and favorable recommendations than they would under an auction process. These favorable recommendations occur even following poor stock performance.

Cook et al. (2006) find out evidence that an investment banker’s ability to market an IPO to sentiment investors is important. They conclude this evidence is consistent with an investment banker’s promotional activity attracting sentiment investors to an IPO to the benefit of the issuer, the investment banker’s regular customers. They find out a positive and significant correlation between retail trading activity during the first day of trading in an IPO and the IPO’s pre-issue publicity, consistent with the pre-issue publicity attracts retail sentiment (noise) investors to an IPO.
5.2.3.4.3 Prospect Theory

Prospect theory is also defined as asserts that individuals make choices under uncertainty by maximizing a value function that evaluates wealth changes, rather than an expected utility function that ranks choices according to the level of expected utility. The value function is positive and concave in the domain of positive changes (from the anchor level) and negative and convex in the domain of negative changes.

Relying on the assertion of prospect theory (Kahneman and Tversky 1979) the people’s behavior focuses on changes in their wealth rather than the level of their wealth, Loughran and Ritter contend that issuing firm executives bargain less hard for a higher IPO price when the offer price is already being revised upward during the book building process.

Loughran and Ritter (2002) and Ritter and Welch (2002) point out that partial adjustment also can result from risk sharing, and may be affected by agency costs, prospect theory, or other considerations. Loughran and Ritter prospect theory explanation of underpricing states that if there is a sudden increase in wealth, entrepreneurs don’t mind leaving money on the table very much, and underwriters take advantage of this, and note that information production cannot account for a positive relationship between underpricing and market run up before the IPO. Loughran and Ritter (2002) explore the agency conflict between issuer and underwriter and use prospect theory to explain that the greater the recent increase in issuer’s wealth, the less is the bargaining effort in negotiations with the underwriter over the offer price. One answer to the question of why issuers do not choose a more efficient selling mechanism like auctions (for example, see Biais and Faugeron (2002) is the spinning or corruption hypothesis introduced by Loughran and Ritter (2002) (see also evidence presented in Klein and Zoeller 2003). Additionally, Bradley and Jordan (2002) and Lowry and Schwert (2002) document results
that when the overall stock market rally underwriters do not fully adjust the offer price. The prospect theory explanation implies that the underwriter is not necessarily attempting to obtain the price justified by the value driven of the issuing firm.

Loughran and Ritter (2002) reasons that IPOs are underpriced: Loughran and Ritter (2002), in the 1980s, it is conceivable that the Winner’s Curse problem and dynamic information acquisition were the main explanations for underpricing that averaged 7% in the U.S. During the internet bubble, these were not the main reasons for underpricing. Instead, we argue that agency problems increased in importance. Prospect theory is a necessary, but not sufficient, condition for severe underpricing to exist if the conditions are right. Conflicts of interest between issuers and underwriters are a necessary, but not sufficient, condition for severe underpricing to exist. If issuer cared a lot about the dilution costs associated with severe underpricing, and chose a lead underwriter accordingly, the agency problems would be minimized. But together, when market conditions are such that valuations are high and getting higher, both of these necessary conditions are satisfied and underpricing can be severe. Arosio, Giudici, and Paleari (2001) present evidence for the severe underpricing of European internet stocks which they argue is consistent with the prospect theory explanation of underpricing.

Ljungqvist and William (2005) emphasize that their test can reject only the following joint hypothesis: (i) IPO decision-makers anchor on the specific measure of firm value asserted by Loughran and Ritter (2002). (ii) The mapping from an unobserved value function of the form implied by prospect theory to a statement of the decision-makers satisfaction with the IPO outcome takes the explicit form hypothesized by Loughran and Ritter. (iii) Decision-maker satisfaction with the IPO outcome influences the decision whether to engage the same bank to underwriter the IPO issuer’s first SEO.
6 Marketing and Distribution of the offering

6.1 Initial Public Offering Market Timing and its Life Cycles

Market-timing theories suggest that firms recognize strong markets and maximize firm value by issuing equity when stock prices are temporarily overpriced. Most life cycle responses are robust across sharply different bull and bear market conditions. Only mixed and inconclusive support is reported for cost of capital, pecking order, market diversification, and market perception motivations. The life cycle theory argues that, as a company grows, at some point it is more economical for it to obtain external equity financing through an IPO. The timing decision is thus a natural consequence of a company’s maturation. According to this theory, companies go public when they reach a point in their life cycle where they need an IPO to raise equity to fund growth and create a public and liquid market for firm ownership.
<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exhibit 2:</strong> Key Dates in the Life of an IPO&lt;br&gt;&lt;br&gt;&lt;br&gt;<strong>Source:</strong> Renaissance Capital, Greenwich, CT (IPOhome.com).</td>
<td></td>
</tr>
</tbody>
</table>
6.2 Understand Where the Company is in Its Stage of Development

Killian et al. (2001) has identified five stages of the development of Internet and technology companies from formation to being like a normal company with ongoing profits. This is diagrammed in Exhibit 4.2, “Life Cycle of Internet Companies.”

1. Market development, focus on branding
2. Revenue Ramp
3. Years to profitability
4. Emerging Leader
5. Established growth company

<table>
<thead>
<tr>
<th>Investment Prospectus</th>
<th>Highly Uncertain</th>
<th>Excellent</th>
<th>Good to Okay</th>
<th>Okay, may be too late</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Strategies</td>
<td>Build Brand</td>
<td>Build Infrastructure</td>
<td>Positive Cash Flow</td>
<td>Defend Market Position</td>
<td>Sell Out</td>
</tr>
<tr>
<td></td>
<td>Develop awareness of product and services</td>
<td>Cash Drain</td>
<td>Establish Competitive advantages</td>
<td>Cost Control</td>
<td>Look for Product Line Extensions</td>
</tr>
</tbody>
</table>

Exhibit 3: Life Cycle of Internet Companies

*Note: Many Internet Companies never make it to this stage.
Source: Renaissance Capital, Greenwich, CT (IPOhome.com).
6.3 IPO Market timing and its life Cycles

The lifecycle and development of a firm is very diverse and difficult to predict. One of the decisions that has a major influence on the development and lifecycle of a firm is the decision to go public. This process is called an initial public offering (IPO) (Griffith 2004). During the IPO process, one of the most important aspects is to determine the correct offering price. Empirical studies show that most shares in IPO markets are offered below market price, hence the underpricing of IPOs. Delong et al. (1990), Lerner (1994), Loughran et al. (1994), Rajan and Servaes (1997), and Pagano et al. (1998), among others, also provide evidence of market timing behavior by managers and underwriters in the IPO market.

Ritter and Welch (2002) go on to argue that there are two major groups of theory that attempt to explain why firms go public: (1) firms life cycle theories and (2) market-timing theories. First one is the life cycle theories that include, IPOs facilitate optimal capital structure (Modigliani and Miller 1963, Scott 1976), IPOs are a natural consequence of the pecking order theory (Myers and Majluf 1984, Myers 1984), Firms get a higher acquisition price after an IPO (Zingales 1995), IPOs create a public market for increase founder liquidity (Mello and Parsons 1998), IPOs may allow principals to immediately cash out (Dhillon et al. 1999, and Brau et al. 2005), IPOs allow for optimal dispersion of ownership (Chemmanur and Fulghieri 1999), IPOs give first mover/reputation advantage (Maksimovic and Pichler 2001), and IPOs allow for the creation of an analyst following (Bradley et al. 2003) that according to Brau et al. (2006) some articles advance a theory of increased liquidity for original owners, and others articles suggest that IPOs can increase the reputation of the firm by either providing a first-mover advantage or by creating an analyst following. Second one is the Market-timing theories that include, Firms postpone IPOs if founders feel they are undervalued (Lucas and McDonald 1990), Firms avoid IPOs when few other good firms
are issuing (Choe et al. 1993), Choe et al.’s (1993) findings suggest that more companies have seasoned equity offerings when economic conditions are better, IPOs occur during windows of opportunity by issuing shares, if not overvalued, are at least sufficiently fully valued to avoid dilution of the existing shareholders’ claims (Loughran and Ritter 1995, Persons and Warther’s 1997, and Stoughton et al. 2001) models suggest that the cycles in IPO volume are potentially consistent with efficient markets and do not necessarily reflect irrational bubbles. Persons and Warther show that if firms rationally condition their decision to go public on the outcome of recent IPOs. Stoughton et al. posit that the clustering of IPOs is the result of information effects, and IPOs are more likely after public market valuations have increased (Ritter and Welch 2002) that according to Brau et al. (2006), firms time their IPOs to maximize the firm value.

Furthermore, Brau et al. (2006) also study the issue of why firms choose to go public. They examine two broad classes of theories: life cycle theories, and market-timing theories. They argue that CFOs mainly perceive IPOs as vehicles for funding firm growth and for developing liquidity, and their responses are not consistent with the following five theories for going public; to obtain an optimal capital structure, to increase options for changing control of the firm, to provide an exit for venture capitalists, to immediately change control of the firm, or to allow the original owners to exit. Brau et al. (2006) find mixed results for the pecking order theory of issuing capital and for the ownership dispersion theories of going public. They find out that CFOs are concerned with the direct fees of issuing an IPO such as underwriter fees. And, they are more concerned with the indirect cost of loss of confidentiality than the direct costs of conducting the IPO, and that several CFO responses are correlated with after-market performance. Finally, authors say negative relationships between the focus on immediate growth and long term returns, information costs and long term returns, and, exposure to public scrutiny and long term returns. They also find out that the majority of CFO response is
stationary across bull and bear market periods. Bull markets favor larger IPOs and more offerings by growth companies. While liquidity considerations are very important to CFOs in both markets, they tend to be even more favored during bear markets. They find out a substantial linkage between IPO and SEO planning.

Alti (2005) shows that IPO market timing by the followers emerges as an equilibrium clustering pattern, and he points out a firm chooses the timing of its IPO to minimize of going public cost to extract private information and resolve asymmetric information among investors for setting the benchmark for IPO timing; when there are no information spillovers, there is no room for IPO market timing; a firm goes public only if it needs immediate financing.

Going public is costly because of privately informed investors extract rents in an IPO. A firm chooses the timing of its IPO to minimize this cost. Waiting until year 2 has an option value, since if no project is discovered, the firm will avoid the costly IPO in year 2. Therefore, the firm has a strict preference to wait and issue in year 2 only if a project is discovered. This result sets the benchmark for IPO timing: when there are no information spillovers, there is no room for IPO market timing; a firm goes public only if it needs immediate financing. The cost of going public in year 1 is zero, as information has become symmetric among investors, and hence the entrepreneur will get the fair value for her firm. In contrast, the cost of waiting until year 2 is positive, because in year 2 informed investors will receive signals, and a new asymmetry of information will arise before a potential year-2 IPO.

6.4 Market Conditions

The role of marketing, and particularly promotion, in the pricing and trading of securities is limited in most asset pricing models. IPO market conditions have a strong influence on both timing and valuation, yet most CFOs look only at market or industry-wide performance. Good economic
conditions affect the cash flows of both publicly traded and privately held firms. Hence, the waves in IPOs, which occur when the cash flows of the issuing firms are high, happen when the cash flows of publicly traded firms are high as well. Thus, IPO waves coincide with times of relatively high share prices.

“The [Current] rule in the IPO market seems to be: Buy it at any price” (Wall Street Journal, May 20, 1996, P.C2), and “when [Investors] get bearish, you can’t go public. But when they go bullish, just about anyone can go public” (Wall Street Journal, April 19, 1999, P.C1). Lowry and Schwert (2002) and Benveniste et al. (2003) find that firms attempt to time IPO market conditions. Unexpectedly, high offer prices are followed by dramatic increases in the numbers of initial filings and completed offerings, whereas low prices lead to an increase in withdrawal rates. Baker and Wurgler (2002) suggest issuers may be timing investor sentiment. Positive price revisions of pioneers may simply signal high investor sentiment and attract more firms to the IPO market.

6.5 Strategy Waiting for IPO

Waiting can be a part of the market timing strategy of the private firms. Waiting for another firm to generate favorable signal about the economy, or waiting for the stock market to rise, or waiting for the cash flows to peak?

Cukierman (1980) and Bernanke (1983), show how option to wait can lead to business cycles: if projects are irreversible, uncertainty about economic conditions can lead to depressed current investments, because waiting for new information is valuable. Draho (2000) analyzes the option to wait in the IPO markets. In his model, IPO firm try to time their issuance to the difference between the public and the private valuations of the firm. Aboody and Kasznik (2000) and Yermack (1997) suggest that such strategic timing enables executives to increase the value of their stock options awards,
receiving at-the-money options just prior to releasing news that increases company stock prices by an average of approximately two percent, Heron and Lie (2006) suggest that managers obtain such gains by backdating options.

Benninga et al (2005) propose that firms go public during periods of high cash flow which also brings stock prices up, especially within industries. Pastor and Veronesi (2005) propose a similar theory that pinpoints other specific market factors that lead to higher valuations in general which lead to greater IPO volume. Colak and Gunay (2009) analyze the strategic waiting tendencies of IPO firm. Their model shows why some high-quality firms may strategically delay their initial public offering until a favorable signal about the economic conditions is generated by other issuing firms. Their analyses suggest that IPOs in the highest quality deciles have significantly higher median waiting days (since the start of a rising IPO cycle) than the IPOs in the lowest deciles. During the early stages of an expanding IPO cycle the average from quality is lower than in its later stages. They find supporting evidence also from the IPOs of future S&P 500 firms.

6.6 Factors that Influence IPO Timing

There are three ways that companies and/or underwriters can affect the timing of the IPO in response to recent IPO initial returns: First, companies must file the issue. Second, they have the option to change the planned issue date. Third, they have the option to cancel the issue. Do firms manage the timing of the IPO process? The strong positive relation between initial returns and subsequent IPO volume suggests that companies are timing their IPOs in response to the size of recent initial returns. The finding that high initial returns are followed by increased numbers of IPOs suggests that high initial returns represent good news to private companies considering an IPO.

Ibbotson and Jaffe (1975), Ritter (1984), and others show that IPOs come in waves. Brau and Fawcett (2006) discuss three theoretical domains that
explain the timing of IPOs. First, managers take advantage of bull markets and attempt to capture attractive stock prices. Empirical measures of bull markets include current overall market conditions (Lucas and McDonald 1990), current industry conditions (Pagano et al. 1998), predicted overall market conditions (Lucas and McDonald 1990), predicted industry conditions (Lowry 2002), and recent historical market conditions (Ritter and Welch 2002). Using long-run returns, Ritter (1991) and Loughran and Ritter (1995) posit that firms time IPOs to take advantage of favorable windows that allow them to get the most attractive offering prices. Second, timing is driven by the attractiveness of the IPO market. Lowry and Schwert (2002) argue that recent first-day stock performance of firms going public leads other firms to decide to go public. Choe et al. (1993) argue that firms prefer to go public when other good firms are currently issuing. Third, Choe et al. (1993) and Lowry (2002) argue that firms go public when they reach a certain point in the business growth cycle and need external equity capital to continue to grow.

Loughran et al. (1994) go further in claiming that issuers ‘time’ their IPOs to coincide with periods of excessive optimism. Such patterns can persist if rational investors are dissuaded by the cost of implementing arbitrage strategies (Shleifer and Vishny 1997).

Baker and Wurgler (2002) show that firms issue relatively more equity around market peaks, just prior to periods of low market returns. They examine several potential explanations for this phenomenon and conclude that it reflects market timing. Baker and Wurgler (2002) find a significant negative relation between future market returns and relative equity financing [equity/ (equity + debt)]. They conduct a number of tests to determine if the source of this relation is consistent with efficient markets, but conclude that it reflects market timing on the part of firms issuing equity.
6.7 Benefits of Advertising and Marketing

The advertising and marketing benefits are most important in the company’s product markets. In the process of marketing the IPO (after the IPO has been filed), the firm and its underwriters glean information from informed investors about their valuation of this new firm. This information is a determinant of both the pricing of that IPO, as well as the number of private companies that find it optimal to issue public equity in the near future.

Stoughton et al. (2001) suggest that high initial returns at the time of IPO could cause an upward revision in the consumers’ perception of the quality of the issuing company’s product. Similarly, Nelson (1970, 1974, 1978) and Milgrom and Roberts (1986) suggest that firms use advertising or any other observable expenditure (such as leaving money on the table at IPO) to signal the quality of a newly introduced experience good to prospective consumers, even though the advertisement itself has little or no information content.

7 Underwriter Price Support/ Aftermarket Trading/ Price stabilization

The price stabilization or price support by underwriters after the IPO curtails the negative returns (Hanley et al. 1993, Ruud 1993, Schultz and Zaman 1994). Hanley et al. (1993) suggest that investment banks use price support to conceal the true market price from investors. They argue that price support temporarily inflates the stock price. It is well known (Hanley et al. 1993) that underwriters typically stand by and intervene, if necessary, by buying back shares in aftermarket trading so as to “stabilize” the stock price. Benveniste et al. (1996) and Ritter (1998) advance a favored customer hypothesis for explaining price support: simply the underwriter wants to bail her most favored customers out of losers IPOs. Aggarwal (2000) and Ellis et al. (2000) provide evidence that underwriters intervene to stabilize the price.
of IPO stocks that exhibit poor aftermarket performance. They find that on average, this practice is not costly because most of the price stabilization is done by covering short in IPO shares taken by the underwriter at the time of the offering.

Aggarwal (2000) describes how price support is performed on Nasdaq. She shows that underwriters almost never disclose stabilizing bids to the market participants, and that they start the first trading day with large short positions in the IPO stock. Aggarwal (2000) confirms that in the first two weeks after the listing the underwriters manage price support by aftermarket short covering (in order to stimulate demand) and the selective use of the overallotment option, but excludes that stabilizing bid are posted, since short-covering achieves the same purpose but it is less risky. Moreover, she finds that the underwriters restrict supply by penalizing the flipping of shares, taking away selling concessions. Stock flippers are investors who purchase shares in IPOs and sell them when the issue begins trading. Underwriters can use; (i) a combination of pure stabilization, (ii) aftermarket short covering and (iii) selective use of the overallotment option and (iv) penalty bids to manage aftermarket activities. Aftermarket short covering allows them to absorb shares flipped in the first few days of trading; otherwise, flipping would put downward pressure on the stock price. Therefore, in weak offerings the underwriters must have a large enough short position to absorb the selling pressure from flipping, else the stock price falls. If the short position is not large enough and flipping is excessive, they are not able to provide effective price support unless they take a long position and hold inventory of the stock. Ex ante, Underwriters also try to restrict flipping by including a short position and specify a penalty bid in the underwriting contract. For weak offerings, they actually penalize those syndicate members whose clients flip. If flippers do not cause the price to drop, the underwriter can cover the short position up to 15 percent by exercising the overallotment option. Fishe (2002) argues that underwriters choose the offer price, the over-allotment, and the degree of
price support to maximize their profits from the offering, including the profits from aftermarket trading.

An alternative explanation for stabilization is developed in Benveniste et al. (1996). They build on the insight in Benveniste and Spindt (1989) that information asymmetries among investors can be resolved by rewarding investors providing strong indications of interest during the “book-building” (used extensively in the U.S.) phase with relatively large allocations of underpriced shares. Several recent papers establish that IPO underwriters trade in the secondary market after the initial share distribution, and that these trades can indeed influence the observed return distribution (Benveniste et al. 1996, and Chowdhry and Nanda 1996). For empirical evidence on price support (Miller and Reilly 1987, Ruud 1993, Aggarwal 2000, and Zhang 2004).

Schultz and Zaman (1994) argue that the primary motivation for stabilization is to control the supply of stock in the aftermarket. They suggest that underwriters issue fewer shares than the actual pre-issue demand in anticipation of selling activity during the first few trading days. That is, the underwriter buys shares at the stabilizing bid merely to cover a net short position established at the time of issue. And, they suggest that the purpose of price support is permanently increasing the aftermarket stock price. They point out that, because of settlement delays, investors can renege on their IPO allocations during the first few days after the stock begins trading. Investors have an incentive to do so if the IPO trades below the offer price because they can purchase the stock at a lower price in the aftermarket than in the primary market, and to prevent a “cascade” of offer withdrawals, the underwriter promises to repurchase shares in the aftermarket at the offer price. This strategy is successful because underwriters are able to permanently affect the market price by reducing the supply of IPO shares.
Chowdhry and Nanda (1996) say that the underwriters need not possess any superior information about the firm and the role of the underwriter in their model is to commit some funds to support the price stabilization, if required. Their argument thus provides a positive role for the underwriter even in the absence of any informational advantage possessed by the underwriter. And, they state that price stabilization helps to alleviate risk and provides the investors with a put option. Prabhala and Puri (1999) hypothesize that underwriters are more active in aftermarket activities for less risky IPOs. Thomas and Cotter (1998) document that the risk of price support is decreased by the use of the overallotment option (“green shoe”). Underwriters are allowed to sell additional shares to be covered with stock repurchases in the open market if the stock price does not increase, or by exercising the option if it does. Prabhala and Puri (1999) point out; there are reasons to expect an opposite relation. Support that investor’s view price support as an option to sell back a certain number of IPO shares at the offer price. This option is more valuable for riskier stocks and, consequently, less stabilization, i.e. smaller promised share repurchases, and might be needed to encourage investors to participate in the IPO.

Prabhala and Puri (1999) argue that IPOs supported by the underwriters are larger, have lower gross spreads and high offer prices, but not necessarily are successful. Rather, the “better quality” IPOs appear to experience price support. They claim stabilization commits intermediates to produce more accurate information about the issuing firm and suggest a liquidity-based explanation price support. Therefore they find no evidence that stabilization is simply an extra cost of underwriting an IPO, designed to fool investors and recovered by higher spreads.
8 Analyst Coverage

If several underwriters participate in the “back sale” to be the book manager, the issuer is likely to select some to be co-managers. Co-managers may be chosen because of their ability to provide analyst coverage or market making, or because their distribution system complements that of the book manager. Book managers may, on occasion, advise issuers on the best co-managers to include in a syndicate. They may also affect the choice of co-manager indirectly. Book managers typically set a lower bound on the portion of the fees that they must get to agree to be the book manager, thereby limiting the potential number of co-managers and their allocations. The book manager may also limit the number of co-managers to avoid competition during the IPO process. As one investment banker told us, “If we’re the lead, the best number of co-managers is zero.” Additional Co-managers lead to increased analyst coverage and more market makers. In addition, employing more co-managers results in more accurate offer prices and possibly less underpricing if the initial filing price is set too low.

Dunbar (2000) reports that underwriters increase their market share of IPOs if they have an analyst highly rated in the annual Institutional Investor survey, and Clarke et al. (2003) report that underwriters adding an all-star analyst gain greater IPO market share (though losing an all-star is not associated with a decline in market share). Further confirmation of the importance of research coverage in the choice of underwriter is provided by Krigman et al. (2001). Krigman et al. (2001) report survey evidence indicating that improved research coverage is the most important element of the decision to switch underwriters between a company’s IPO and its subsequent seasoned equity offering (SEO). Providing research coverage is costly to investment bankers, however, with the largest brokerage firms each spending close to $1 billion per year on equity research during the bubble (Rynbecki 2002).
Loughran and Ritter (2002) argue that analyst coverage has become more important to issuers over time. They base this argument on three observations: (i) The use of co-managers in IPO underwriting has increased over time. According to Loughran and Ritter, investment bankers claim that co-managers are present in underwriting syndicates almost exclusively to provide additional research coverage; (ii) Growth options have become a larger percentage of firm value, thereby increasing the importance of analyst’s forecasts of future growth. And (iii) analysts are increasingly more visible via the internet and cable television.

Cliff and Denis (2003) examine the links among IPO underpricing, post-IPO analyst coverage, and likelihood of switching underwriters. Their findings indicate that underpricing is positively related to analyst coverage by the lead underwriter and to the presence of an all-star analyst on the research staff of the lead underwriter. These findings are robust to controls for other determinants of underpricing previously documented in the literature and to controls for the endogeneity of underpricing and analyst coverage. In addition, after controlling for other potential determinants of switching underwriters, they find out that the probability of switching underwriters between IPO and SEO is negatively related to the unexpected amount of post-IPO analyst coverage. Loughran & Ritter (2004) argue that the changing issuer objective function hypothesis asserts that why issuers more become complacent about underpricing over time, they say the analyst lust hypothesis states that analyst coverage has become a more important factor for issuers when choosing a lead underwriter. Since underwriters do not charge explicit fees for providing analyst coverage, issuers pay via the indirect cost of underpricing.

Bradley et al. (2004) find out that the number of analysts who initiate coverage on a firm in the year following its IPO is positively related to market capitalization, trading volume, and the prestige of the lead
underwriter. Bradley et al. (2004) find out the number of analysts covering, company during the year following its IPO does not depend on the number of managing underwriters, contrary to the conventional wisdom that issuing firms are buying additional analyst coverage by hiring incremental co-manager at the IPO stage. Ljungqvist and William (2005) also find out that evidence of “strategic analyst coverage” in the sense that issuers are more likely to switch when their IPO underwriter did not provide research coverage for the issuer’s stock.

9 Market Maker

The lead underwriter plays an important role in pricing and placing shares. She decides at what time during the day trading will start in an IPO and revises her own quotes after observing what other market makers (especially the wholesalers) are quoting (Aggarwal and Conroy 1999). She always enters the first quote during the preopening, but her activity continues beyond the IPO date, when she often becomes a market maker for the newly traded stock. Seguin and Smoller (1997) and Carter et al. (1998) show that IPOs marketed by more reputed underwriters perform better in the long run than those sold by less reputed underwriters. Biais et al. (2002) examine the other extreme, assuming that the underwriter colludes with informed investors against the issuer. Since the bid-ask spread compensates the market-maker for providing liquidity, the width of the spread reflects the costs of market-making, including administrative costs, costs from inventory risk and costs from losses to informed traders or information asymmetry risk (Glosten and Harris 1988, and Stoll 1989).

How important are/were the following criteria in selecting a lead IPO underwriter (Krigman et al. 2001)? Choosing the right underwriter can greatly enhance the going public process. The underwriter performs a variety of roles; the most important of which is to generate market visibility and interest
in the offering. To help make this marketing effort successful, the underwriter coaches the company and assists in the preparation of the offering prospectus so it meets SEC requirements and looks attractive to potential investors. During the marketing stage, the company’s officers go on “roadshow” to pitch the IPO. Underwriters provide vital guidance throughout this process and “build the book” of orders by gauging the level of interest of major institutional investors. After the IPO, the underwriter usually provides liquidity, often as a market maker, to maintain the stock’s strength and build momentum for the future. According to Ellis et al. (2000) and Aggarwal (2000) that the strongest share repurchases of cold IPOs, presumably by the lead underwriter, take place on the first trading day but that inventory build-up continues after day one. Boehmer and Fishe (2001) report that the lead underwriter does not trade to support a certain price level after the first two days. Griffin et al. (2007) study trading by clients through the lead underwriter immediately after an IPO, and investigate the reason for the predominance of buys over sells in such trading.

The strategic role of the overallotment option is confirmed by Ellis et al. (2000). The greater majority of IPOs begin trading on Nasdaq, where the lead underwriter almost always acts as the dominant market maker during the first days of trading she takes a substantial inventory position in trading shares for less successful IPOs but aftermarket activism generates positive profits, by using the overallotment option (Schultz and Zaman 1994, Ellis et al. 2000). Though Ellis et al. (2000) find that co-managers play a negligible role in aftermarket trading, underwriters told us that co-managers, and even non-managing syndicate members with market-making operations are expected to make a market in the stock once trading begins. And, they report that market making is a profitable activity for the lead underwriter, with the profits during the first three months amounting to about two percent of the issue size.
Corwin and Schultz (2005) find out that adding co-managers to an IPO syndicate increases both the number of market makers and the number of analysts issuing reports in the aftermarket. Boehmer et al. (2006) find the lead underwriter is responsible for allocating approximately 75% of the total number of shares offered. Reuter (2006) suggests that these institutional clients provide stable streams of commission revenues, whereas Nimalendran et al. (2007) find circumstantial evidence consistent with investors opportunistically sending transient commission payments to lead underwriters in the period immediately surrounding the IPO offer date. Jenkinson and Jones (2006) support the idea that lead underwriters allocate lucrative IPO shares to clients who provide them with commission revenues.

10 Who Benefits from the IPOs

Underwriters benefit from the money left on table through the rent-seeking activity of buy-side investors. Investors are willing to offer quid pro quos to underwriters in return for receiving IPO allocations. Prestigious underwriters have responded to this change in the economics of IPO underwriting by lowering their standards. At the same time, issuing firms have been increasingly willing to accept greater underpricing from prestigious underwriters because of increases in the perceived importance of analyst coverage and higher wealth levels. Issuers may leave more money on the table when they have personal benefits from the underwriters. They argue that there is substantial evidence in the US the underwriters open personal brokerage accounts to allocate “hot” IPOs to executives and related parties of the issuing company.

Allen and Faulhaber (1989) hypothesize that underwriters also want to gain the goodwill of strategic clients, assigning them underpriced shares. Baron and Holmstrom (1980) highlight that marketing expenses have a decreasing marginal return and it is less costly to convince investors to
subscribe underpriced IPOs. Leland and Pyle (1977) and Holmen and Hogfeldt (1999) argue that new shareholders ask for underpriced shares in order to be compensated for the extraction of private benefits by the entrepreneur who would like to continue to stay in control. Thus, underpricing will be closely related to the motives for going public, and to the resulting ownership structure. On one hand, underpricing may be desired also by the issuing firm if the managers want to stimulate the small investors’ demand and avoid monitoring shareholders to purchase large blocks (Brennan and Franks 1997). On the other hand, it can be argued that the controlling shareholder welcome monitoring large shareholders in order to commit themselves to the investors and obtain research coverage (Stoughton and Zechner 1998).

There are several ways in which underwriters might benefit from underpricing. First, underwriters can allocate more underpriced IPOs to favored clients, perhaps in return for future investment banking business. According to this hypothesis, labeled the corruption hypothesis by Loughran and Ritter (2002), the money left on the table in an underpriced deal is currency with which investment bankers can compensate other venture capitalists and issuing company executives. This practice, known as spinning, has been the subject of recent congressional investigations of Credit Suisse First Boston (CSFB), Goldman Sachs, and Salomon-Smith Barney. The recently proposed NASD Rule 2712 clarifies and strengthens the prior Rule 2710 which prohibits spinning.5 Second, underwriters can allocate shares to hedge funds and other large investors who then do more of their trading with the investment bank. Some claim that these investors pay higher than normal commissions.6 Third, because underpricing is positively correlated with subsequent trading volume (Krigman et al. 2001) and lead underwriters are the primary market makers (Ellis et al. 2000), underwriting firms can benefit from underpricing. Note: Underwriters may perceive greater benefits from receiving compensation in the form of underpricing.
Previous work by Chowdhry and Sherman (1996) compared US and UK-style IPOs. Under the UK method, underwriters have two reasons for underpricing IPOs. The First, which has already been discussed, is the adverse selection problem. The Second reason for underpricing is to reduce the probability that the issue will fail due to the leakage of adverse information. And, Under the UK method the price of the issue is usually set well in advance, and there is a subscription period of several days or more during which investors may place their orders. During this period, there is a possibility of information leakage. Chowdhry and Sherman (1996) show that, because of information leakage and the pay in advance system, UK style IPOs will tend to be more underpriced than US-style issues. Issuers under a UK system will underprice both because of the adverse selection problem and because of information leakage, whereas information leakage in the US is limited because the IPO price in US offerings is set only shortly before the shares are sold. However, the comparison of US and UK offerings becomes more complicated if underwriters can reduce or eliminate the winner’s curse though their allocation method.

Loughran and Ritter (2002, 2004) provide two alternative hypotheses, related to underwriters, for severe underpricing; first, when issuers place more importance on hiring reputed underwriters, they become less concerned about avoiding underwriters with a reputation of severe underpricing. Second, issuers may leave more money on the table when they have personal benefits from the underwriters. They argue that there is substantial evidence in the US the underwriters open personal brokerage accounts to allocate “hot” IPOs to executives and related parties of the issuing company.

Lowry and Schwert (2004) point out two key findings emerge: First, public information is not fully incorporated into the initial price range. While the economic magnitude of the bias is small, it is puzzling because it is not clear who benefits from it. Further, it indicates that the filing range midpoint
is not an unbiased predictor of the offer price, as prior literature has assumed. Second, while public information is similarly not fully incorporated into the final offer price, the small economic significance of this relation indicates that the IPO pricing process is almost efficient.

11 Overview of Indian Initial Public Offerings (IPOs)

History

11.1 Indian Primary Capital Market-Present Scenario

An initial public offer (IPO) is the selling of securities to the public in the primary market. It is the largest source of funds with long or indefinite maturity for the company. At present, this segment of the capital market is attracting huge funds; reflecting a healthy sign for Indian economy. In terms of number of IPOs issued, India is positioned 4th in Asia and 15th in the global IPO market. According to Bubna and Prabhal (2011), Sarala and Tahsin (2009), the first stock exchange in the world was set up in London about 200 years ago. In India, the first stock exchange was established in the year 1875 in Mumbai. At present, there are 25 stock exchanges in the country; of which, 21 stock exchanges are categorized as regional stock exchanges. In the recent context, there are 2 major stock exchanges in India i.e., Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). The BSE and NSE perform a number of functions such as acting as ready market, agency for capital formation, control of speculative business and provide permanent market, wide distribution of securities, help companies and governments to raise funds and foster growth of corporate form of businesses. The increase in demand for IPOs in the Indian equity market can be attributed to high returns from the market. However, in the recent past, the Indian capital market has witnessed a series of scams, which has hit the investor really hard and also exposed the loopholes in the regulatory system. Till now, SEBI has not been able to take any substantive action against vanishing companies and also
unable to attract retail investors to invest in the primary market. These issues actually made investors to shy away from the stock markets. So, the biggest challenge before the market regulator is how to win the confidence of the investors, especially retail investors. However, SEBI has taken several initiatives to sustain investors’ interests, among them being the introduction of optional grading of IPOs.

According to Ahmad et al. (2006), till the early 1980s there was no index to measure the movements of the stock prices. The BSE came out in 1986 with the Sensex, a basket of 30 stocks with the base year 1978-79. The Sensex was initially calculated on full market capitalization but from September 2003 was shifted to the free float market capitalization. The NSE launched the S&P CNX Nifty in April 1996 based on 50 stocks. The NSE Nifty is calculated from the base period November 1995 on the market capitalization weighted method. Both the BSE and NSE have introduced other popular and sectoral indices. In the early 2000s a rogue trader bulldozed the operations of the Indian capital market putting it into a period of crisis. An important structural defect in the stock market had persisted till 2001. It featured leveraged futures style trading on the spot market called “Badla” in the local jargon. This led to a mismatch between the extent of leverage and the risk management. All variants of badla transactions were stopped from July 2001 (Shah and Thomas 2004).

With the relaxation of foreign institutional investor (FII) inflows, the FIIs have made their mark and 2004 has seen record inflows of over $8.5 billion to the Indian equity market. According to Ahmad et al. (2006), the Ashok Lahiri Committee (Lahiri et al 2004) was set up in regard to the investment limits for FIIs in different listed companies. The committee was reconstituted twice and had its last meeting in June 2004. A cautious approach has been proposed towards scaling up of FII investments in different sectors of the economy. The committee has suggested increasing investment caps in different sectors
while pointing that there are difficulties in monitoring sector specific composite ceilings for diversified companies. Investment caps of 100, 74, 50, 49, 20 per cent for FDI, FIIs and American Depository Receipts (ADRs)/Global Depository Receipts (GDRs) confuses and builds in inefficiencies. It also ignores the derivatives market altogether, where the total daily transactions are more than the combined cash transactions of both NSE and BSE. Further, even with the introduction of modern technology, FII trades are related publicly after two days, the day of the trade and the next day. This is a vital source of information as FIIs have a significant influence in terms of equity holdings and turnover. Immediate dissemination of FIIs trades would help in accessing this information by all sections of market players thereby improving efficiency.

Finally an important issue is the level of free floats of company equity which may possibly affect the efficiency in the stock market. Free floats are the possible equity available for trading. Higher levels of free floats improve liquidity in the market. This seems to be lacking in the Indian stock market. For example, taking the top five companies in terms of market capitalization, out of them three are government owned (ONGC, NTGC and Indian Oil). The Indian government has over 75 per cent equity holding in them. In case of the two private companies, Reliance’s 34 per cent equity ownership is not clear and promoter’s own over 85 per cent of Tata Consultancy Services (TCS). Further some of the major Nifty and Sensex constituents have low floating stocks like ONGC, SBI, Sail, Wipro, etc. The low free floats may possibly make price discovery and instantaneous adjustment to information difficult.

According to Madan 2003, the initiation of the process of reform in India would not have possible without changes in the regulatory framework. The new Economic policy (1991) led to a major change in the regulatory framework of the capital market in India. The Capital Issues (Control) Act
1947 was repeated and the Office of the Controller of Capital Issues (CCI) was abolished. The Securities and Exchange Board of India (SEBI), established in 1988 and armed with statutory powers in 1992, came to be established as the regulatory body with the necessary authority and powers to regulate and reform the capital market. The Controller of Capital Issues (CCI) has been the regulatory body for over fifty years. The CCI has had a strong control over the Indian Capital market as a regulatory authority. Guidelines for issue of capital and pricing of securities have been rigid. SEBI came to be recognized as a regulatory body for the capital market after the abolition of the CCI. The control on pricing of capital issue has been abolished and easy access is provided to the capital market. The objectives of the SEBI are: (i) to protect the interest of the investors (ii) to promote and develop the capital market and (iii) to regulate the securities market. SEBI is set up on the lines of the SEC in the US and the Strategic Investment Board Limited (SIB) in the UK. The SEBI has taken over all the functions of the Office of the Controller of Capital Issues (CCI).

According to Marisetty and Subrahmanyam (2008), there have been three distinct regimes in the Indian primary market, namely, (i) the immediate post-liberalization regime (1990-1995), (ii) the initial regulated regime (1996-2000), and (iii) the reformed regulated regime (2001-2004).

The primary market for equity in India gained momentum after the liberalization initiative taken by the government in the early 1990s. Following the improvement in the growth rate of the economy at that time, there were a large number of IPOs, particularly during the period 1990-2004. Unlike the US market, which is the basis for many IPO studies, the Indian IPO market has been dominated by retail investors (Aggarwal 2000). During the last fifteen years, the Indian IPO market has undergone many changes that are widely seen to have improved its transparency and efficiency. In particular, the initial years of liberalization, after 1990-91, witnessed a boom in the
Indian IPO market. With fewer regulations during this period, many entrepreneurs used the primary market as the main vehicle to raise capital as well as reduce their own holdings. The spurt in interest in the equity markets also witnessed several instances of “fly-by-night” entrepreneurs who eroded investor wealth. During 1995-96, the new securities regulator, the Securities and Exchange Board of India (SEBI), introduced more regulations on IPO pricing and enforced other restrictions on promoters, such as the lock-in period for their holdings.

To encourage equity participation after the 1995-98 slump, between 1999 and 2000 the SEBI tried to shore up investor confidence by tightening its norms for public issues of equity. Some of the main changes are related to (i) financial reporting norms; (ii) allotment norms; (iii) cost/efficiency norms; (v) transparent book building procedures.

According to Madan (2003), the year 2002 was to be the year of IPOs once again (Economic Times, May 28, 2002). Some of the high profile companies like Maruti, Tata Consultancy Services, and Nalco were to tap the stock market. However, the primary market is said to be dead at present. IPOs are no more in fashion. The recessionary trend worldwide, the slowdown of the Indian economy, excess liquidity situation for commercial banks, lack of demand for capital from corporate, no quality offerings currently available and so on are various reasons cited for the primary market bearing the desolate look. However, private placements are on a rise. Companies are all set to raise large amount of funds via the private placement route. The financial institutions and commercial banks are found to be catering to this demand.

The different kinds of issues which can be made by an Indian Company in India include: Primarily, Issues made by an Indian company can be classified as Public, Rights, Bonus and Private Placement. While right issues by a listed
company and public involve a detailed procedure, bonus issues and private placements are relatively simpler.

11.2 The classification of issues is as illustrated below:

![Exhibit 4: The Classification of issues](source: www.sebi.gov.in)

**Public Issue:**

When an issue/offer of securities is made to new investors for becoming part of shareholders’ family of the issuer it is called a public issue. Public issue can be further classified into initial public offer (IPO) and Further public offer (FPO). The significant features of each type of public issue illustrated below:

(i) Initial Public Offer (IPO): When an unlisted company makes either a fresh issue of securities or offers its existing securities for sale or both for the first time to the public, it is called an IPO. This paves way for listing and trading of the issuer’s securities in the Stock Exchanges.
(ii) Further Public Offer (FPO) or Follow on Public Offer: When an already listed company makes either a fresh issue of securities to the public or an offer for sale to the public, it is called a FPO.

11.3 SEBI Guidelines for IPOs

1. **IPOs of small companies**

   Public issue of less than five Crores has to be through OTCEI and separate guidelines apply for floating and listing issues. (Public Offer by Small Unlisted Companies)

2. **Size of the Public Issue**

   Issue of shares to general public cannot be less than 25% of the total issue, in the case of information technology, media and telecommunication sectors this stipulation is reduced subject to the conditions that:

   ✓ Offer to the public is not less than 10% of the securities issued.
   ✓ A minimum number of 20 lakh securities are offered to the public and Size of the net offer to the public is not less than Rs. 30 crores.

3. **Promoter Contribution**

   ✓ Promoters should bring in their contribution including premium fully before the issue
   ✓ Minimum promoters contribution is 20-25% of the public issue.
   ✓ Minimum lock in period for promoters contribution is five years
   ✓ Minimum lock in period for firm allotments in three years
4. *Collection centers for receiving applications*

There should be at least 30 mandatory collection centers, which should include invariably the places where stock exchanges have been established.

For issuers not exceeding Rs. 10 Crores (including premium, if any), the collection centers shall be situated at: (i) for four metropolitan centers viz. Bombay, Delhi, Calcutta, Madras; and (ii) at all such centers where stock exchanges are located in the region which the registered office of the company is situated.

5. *Regarding allotment of shares*

i. Net offer to the General public has to be at least 25% of the total issue size for listing on a stock exchange.

ii. It is Mandatory for a company to get its shares listed at the regional stock exchange where the registered office of the issuer is located.

iii. In an issue of more than Rs. 25 Crores the issuer is allowed to place the whole issue by book building.

iv. Minimum of 50% of the net offer to the public has to be reserved for investors applying for less than 1000 shares.

v. There should be at least 5 investors for every 1 lakh of equity offered (not applicable to infrastructure companies).

vi. Quoting of permanent Account Number in application for allotment of securities is compulsory where monetary value of investment is Rs. 50,000 or above.

vii. Indian development financial institutions and Mutual Fund can be allotted securities upto 75% of the issue amount.

viii. A Venture Capital Fund shall not be entitled to get its securities listed on any stock exchange till the expiry of 3 years from the date of issuance of securities.
ix. Allotment to categories of Foreign Institutional Investments (FIIs) and Non Resident Indians (NRIs)/Overseas Corporate Bodies (OCBs) is up to a maximum of 24%, which can be further extended to 30% by an application to the Reserve Bank of India (RBI)-supported by a resolution passed in the General Meeting.

6. Timeframes for the issue and Post-Issue formalities

i. The minimum period for which a public issue has to be taken open is 3 working days and the maximum for which it can be kept open is 10 working days. The minimum period for a rights issue is 15 working days and the maximum is 60 working days.

ii. A public issue is affected if the issue is able to procure 90% of the total issue size within 60 days from the date of earliest closure of the public issue. In case of over-subscription the company may have the right to retain the excess application money and allot shares more than the proposed issue, which is referred to as the ‘green-shoe’ option.

iii. A rights issue has to procure 90% subscription in 60 days of the opening of the issue.

iv. Allotment has to be made within 30 days of the closure of the public issue and 42 days in case of a rights issue.

v. All the listing formalities for a public issue have to be completed within 70 days from the date of closure of the subscription list.

7. Dispatch of Refund Orders

i. Refund orders have to be dispatched within 30 days of the closure of the public issue.

ii. Refunds of excess application money i.e., for un-allotted shares have to be made within 30 days of the closure of the public issue.
8. *Other Regulations Pertaining to IPO*

i. Underwriting is not mandatory but 90% subscriptions are mandatory for each issue of capital to public unless it is disinvestment in which case it is not applicable.

ii. If the issue is undersubscribed then the collected amount should be returned back (not valid for disinvestment issues).

iii. If the issue size is more than Rs. 500 Crores voluntary disclosures should be made regarding the development of the funds and an adequate monitoring mechanism to be put in place to ensure compliance.

iv. There should not be any outstanding warrants or financial instruments of any other nature, at the time of initial public offer.

v. In the event of the initial public offer being at a premium, and if the rights under warrants or other instruments have been exercised within the twelve months prior to such offer, the resultant shares will not be taken into account for reckoning the minimum prompter’s contribution and further, the same will also be subject to lock-in.

vi. Code of advertisement specified by SEBI should be adhered to.

vii. Draft prospectus submitted to SEBI should also be submitted simultaneously to all stock exchanges where it is proposed to be listed.

9. *Restrictions on other Allotments*

i. Firm allotments to mutual funds, FIIs and employees not subject to any lock-in period.

ii. Within twelve months of the public/rights issue no bonus issue should be made.
iii. Maximum percentage of shares, which can be distributed to employees, cannot be more than 5% and maximum shares to be allotted to each employee cannot be more than 200.

10. Regulations to Public Issues by Infrastructure Companies

These relaxations would be applicable to infrastructure companies as defined under section 10(23G) of the income tax Act, 1961, provided their projects are appraised by any developmental financial institution (DFI) or IDFC or IL&FS. The projects must also have a participation of at least 5% of the project cost (in debt and/or equity) by the appraising institution.

i. The infrastructure companies will be exempted from the requirement of making a minimum public offer of 25% of its securities.

ii. The requirement of 5 shareholders per Rs. 1 lakh of offer is also waived in case of offerings by infrastructure companies.

iii. For public issues by infrastructure companies, minimum subscription of 90% would no longer be mandatory provided disclosure is made about the alternate source of funding which the company has considered, in the event of under subscription in the public issue.

iv. Infrastructure companies are permitted to freely price the offerings in the domestic market provided that the promoter companies along with equipment suppliers and other strategic investors subscribe to 50% of the equity at the same or a higher price than what is being offered to the public. Adequate disclosures about the justification for the pricing will be required to be made in the offer documents.

v. The Infrastructure companies would be allowed to keep their issues open for 21 days. The relaxation would give infrastructure companies sufficient time to mobilize funds for their issues.
vi. Infrastructure companies would not be required to create and maintain a Debenture Redemption Reserve (DRR) in case of Debenture Issues.

11.4 The Life Cycle of an IPO Prospectus:

**Stage 1:** Draft Offer Document

‘Draft Offer Document’ is prepared by Issuer Company and the Book Building Lead Manager of the public issue. This document is submitted to SEBI for review. After reviewing this document either SEBI ask lead managers to make changes to it or approve it to go ahead with IPO processing.

‘Draft Offer Document’ is usually a PDF file having information of an investor who needs to know about the public issue. It means contain information about the company, its business, management, risk involve in applying to this issue, company financials and the reason why company is raising money through IPO.
Stage 2: Offer Document


‘Offer Document’ is submitted to the registrar of the issue and stock exchanges where issuer Company is willing to list.

Stage 3: Red Herring Prospectus

Once ‘Offer Document’ gets clearance from stock exchanges, issuer Company add issue size and price of the issue to the document and make it available to the public. The issue prospectus is now called ‘Red Herring Prospectus’.

11.5 The IPO Life Cycle in Indian Stock Market:

Below is the detail process flow of a 100% Book Building Initial Public Offer (IPO). This process flow is just for easy understanding for retail IPO investors. The steps provided below are most general steps involve in the life cycle of an IPO. Real processing steps are more complicated and may be different.
1. **Issuer Company**: IPO Process Initialization
   (i) Appoint lead manager as book runner
   (ii) Appoint registrar of the issue
   (iii) Appoint syndicate members

2. **Lead Manager’s**: Pre Issue Role- Part 1
   (i) Prepare draft offer prospectus document for IPO
   (ii) File draft offer prospects with SEBI
   (iii) Road shows for the IPO

3. **SEBI**: Prospectus Review
   (i) SEBI review draft offer prospectus

4. **Lead Manager**: Pre Issue Role- Part 2

5. **Investor**: Bidding for the Public Issue

6. **Lead Manager**: Price Fixing

7. **Registrar**: Processing IPO Applications

8. **Lead Manager**: Stock Listing

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**Exhibit 6**: The IPO Life Cycle in Indian Stock Market
(Source: www.chittorgarh.com/newPortal/ipo_faq_detail.asp?a=13#)
(ii) Revert it back to lead manager if need clarification or changes (Step 2)

(iii) SEBI approve the draft offer prospectus, the draft offer prospectus is now become offer prospectus

4. Lead Manager- Pre Issue Role-Part 2

(i) Submit the offer prospectus to stock exchanges, registrar of the issue and get it approved

(ii) Decide the issue date and issue price band with the help of issuer company

(iii) Modify offer prospectus with date and price band. Document is now called Red herring Prospectus

(iv) Red Herring Prospectus and IPO Application forms are printed and posted to syndicate members; through which they are distributed to investors

5. Investor- Bidding for the public issue

(i) Public issue open for investors bidding

(ii) Investors fill the application forms and place orders to the syndicate members (syndicate member list is published on the application form)

(iii) Syndicate members provide the bidding information to BSE/NSE electronically and bidding status gets updated on BSE/NSE websites

(iv) Syndicate members send all the physically filled forms and Cheques to the registrar of the issue

(v) Investor can revise the bidding by filling a form and submitting it to syndicate member

(vi) Syndicate members keep updating stock exchange with the latest data

(vii) Public issue closes for investors bidding
6. **Lead Manager- Price Fixing**
   (i) Based on the bids received, lead managers evaluate the final issue price
   (ii) Lead managers update the ‘Red Herring Prospectus’ with the final issue price and send it to SEBI and Stock Exchanges

7. **Registrar- Processing IPO Applications**
   (i) Registrar receives all application forms and Cheques from syndicate members
   (ii) They feed applicant data and additional bidding information on computer systems
   (iii) Send the Cheques for clearance
   (iv) Find all bogus application
   (v) Finalize the pattern for share allotment based on all valid bid received
   (vi) Prepare ‘Basis of Allotment’
   (vii) Transfer shares in the demat account of investors
   (viii) Refund the remaining money through ECS or Cheques

8. **Lead Manager- Stock Listing**
   (i) Once all allocated shares are transferred in investors depository accounts, Lead manager with the help of stock exchange decides issue listing date
   (ii) Finally share of the issuer company gets listed in stock market

**11.6 IPO Pricing Mechanism in India:**

To summarize, starting in 1999, there are two mechanisms available in the Indian IPO market:

1. A Fixed Price Mechanism, and A Bookbuilding Mechanism, and
2. Within bookbuilt Offerings, there are hybrids and straight bookbuilt offering.
3. Since 2000, when the book-building mechanism was introduced in the Indian market, investment bankers managing some, but not all, IPOs have used it. However, the use of book building still does not rule out the possibility of excess demand and consequent oversubscription.

11.5.1 Issue pricing regimes in India:

Flotation of new shares in India has so far seen three distinct regimes starting with a thoroughly regulated regime that existed prior to 1992 to the current regime of laissez-faire, which are as follows:

✓ The CCIs Formula Pricing Regime: The antediluvian Capital Issues (Control) Act, 1947, enforced through the Office of Controller of Capital Issue (CCI) required the companies to obtain approval from CCI for raising capital. During the period prior to 1992 new companies were allowed to issue shares only at par while existing companies with substantial reserves could issue shares at a premium that too to be calculated in accordance with CCI norms. These regulations are aimed at protecting the investors from erring issuers provide no lee way for companies realize their true market price.

✓ The Fixed Price (FP) regime: The CCI guidelines were abolished in May 1992 and Securities and Exchange Board of India (SEBI) was formed under the SEBI Act, 1992. The role of SEBI is something similar to SEC in the U. S. context. Under the new regime eligible companies have the freedom to issue shares at a price determined by themselves in consultation with the lead manager and giving justifications for the proposed premium by disclosing all the relevant information such that the investor can make an informed choice. During the period 1992 to 1999 the regulator played on role in the determination of the price and is solely left to the issuer but the investors have the choice to invest in it or leave it. In case of over
subscriptions the allocation will be made on a pro-rata basis. The major disadvantage of this method is the price is determined solely by the issuers and the lead managers well in advance (at least 2-3 months prior to the offering) and is guide difficult for the lead manager to gauge the market clearing price. To compound the problem, if the issue is underpriced it will lead to oversubscription resulting in huge refunding costs. While in case of overpricing, the issue may not be fully subscribed leading to devolvement and the lead manager’s future business prospects will also be Issuing hampered.

11.5.2 Issuing Shares through Book Building mechanism:

According to Kumar (2007), an important reform in the primary market sphere is the introduction of Book Building process of issuing shares. Book Building involves from the professional investors how many shares they are willing to buy and at what price. Book Building process helps the issuer not only to determine the demand but also aids the process of ‘price discovery’ i.e., the price at which shares shall be issued will be determined by the demand and supply forces of the market. The Malegam Committee in 1995 recommended the introduction of book building as a mechanism to gauge the issue price from the market that is determined by demand and supply forces. However, it was in 1998 that SEBI brought forward the guidelines for issuing shares through the book building process. SEBI defines “book building” as a process undertaken by which demand for the securities proposed to be issued by a body corporate is elicited and built up and the price for such securities is assessed for the determination of the quantum of securities to be issued by means of a notice, circular, advertisement. Document or information memoranda or offer document”. Under book building method a company can issue shares to the public in the following ways:
i. 100% of the net offer to the public through book building process or

ii. 75% of the net offer to the public through book building process and 25% of the net offer to the public at the price determined through book building process.

The process starts off with the issuing company appointing the lead manager for the issue who in turn will enter into an agreement with a set of underwriters called as syndicate members who will elicit bids from prospective investors. The bids from the investors have to be in a price band determined in the following way. The company in consultation with the lead managers specifies a minimum acceptable price known as the floor price. Once the floor price is fixed the upper price of the issue is automatically capped at 120% of the floor price as per regulation. Of course, the floor price could be revised by 20% upwards or downwards but subsequently the ceiling price will also gets revised and the books shall be open for a minimum period of three days consequent to the revision subject to the condition that the total bidding time will not exceed thirteen days. Therefore, it appears a little restrictive but book building gives ample opportunities for price discovery. All the institutional investors have to place limit orders while retail investors can place their bids at the cut off price to be determined later.

Once the bidding process is complete the lead manager and issuer will determine the cut off price or the market clearing price and shares will be allocated on a uniform price basis to all successful bidders. Allocation to the retail investors is to be made on a proportionate basis while allocation to institutional investors is at the discretion of the lead manager. But in the revised guidelines that came in to force from November 2005 this flexibility is also withdrawn for the lead managers and allotment to them is also to be made on proportionate basis. The first company to issue shares under the book building mechanism was Hughes Software Systems Limited in
September 1999. However, even today the fixed price route of issuing shares is still available to the issuers (See also, Pandey 2004).

According to Khursheed et al. (2009), the firm conducting an IPO first selects its investment banker who is known as the Book Running Lead Manager (BRLM). The book runner first files a Draft Red Herring Prospectus (DRHP) with the regulator. At the draft red herring prospectus stage, a price band is not disclosed. The book runner then carries out the pricing of the firm and circulates it in the form of a report amongst its known institutional clients. The book runner and the firm then go on the road show among these institutional clients. At the end of the road show the book runner has enough information to arrive at a price band. It then files a Red Herring Prospectus (RHP) with the regulator. The red herring prospectus contains the price band on which the book is then built.

The price band gives a maximum and a minimum price, a range within which the offer is priced. Unlike in the U.S. the price band is almost never revised upwards in practice. However, if weak demand is encountered, the price band may be revised downwards. In case of a revised price range, the book building period is extended by 3 days but has to be less than or equal to 10 days in all. By regulation, the maximum price given in the price range cannot exceed 120% of the lower end of the band. However, the maximum price actually chosen by firms to price their offer is invariably set lower than the maximum permissible price. For example if the lower end of the price band is Indian Rupee (INR) 200, then Maximum permissible price is INR 240 but very few firms choose Maximum price actually equal to Maximum permissible price; it is typically to have Maximum price actually set well below Maximum permissible price, say at INR 230.

Once the red herring prospectus has been filed, the book runner forms a syndicate of brokers and banks/financial service providers to carry out the
book building for the firm. The syndicate members have the right to accept the bids from investors. According to the Indian regulatory setup, investors are divided into three categories and the allocation trenches of these categories are pre-defined. Institutional investors (known as Qualified Institutional Buyers or QIBs) are to be allocated no more than 50% of the offered shares. Non-institutional investors (NIIs), defined as individuals investing more than INR 100,000 in the issue are allocated 15% of the offered shares and retail investors, who invest upto a maximum of INR 100,000 have to be allocated no less than 35% of the offered shares.

It is important to note that all investor types including QIBs have to place their bids through this syndicate only. The bids placed by all categories of investors can be modified during the book building period. Once the book closes, the non-QIB investors can still cancel their bids whereas the QIBs cannot. It is also important to note that while the NIIs and retail investors have to put in the full amount mentioned in their bid applications, the QIBs are permitted to apply with only 10% of their application money. The retail investors are also allowed to make “cut off” bids instead of indicating a price within the band (price bid). Cut off bids allow retail investors to participate in the allocation process at whatever “cut off” price is determined by the book. For instance, if a retail investor bids for the shares at a price of INR 220 and the price determined by book building is INR 230, then such a retail investor would not get any shares. On the other hand, a cut off bid would consider this retail investors’ application at a price of INR 230 for allocation purposes.

The book building process usually lasts for a period of 5 days (minimum of 3 days and a maximum of 10 days is prescribed by regulation). The bids are electronically entered in the software available with syndicate members and using VSAT network the book is updated at the Bombay Stock Exchange (BSE)/ National Stock Exchange (NSE) websites. The books on the BSE/NSE are updated every half-hour by regulation. At the end of the day
stock exchange websites show the cumulative bids at their respective prices. The websites also show how many shares against each of the investors-categories have been applied for and the percentage of the issue that has been subscribed to.

After the book has been built, the issuing firm, in consultation with the book runner, decides an offer price for the IPO shares. If the issue has been oversubscribed in any category, then the pro-rata allocation is made among the investors in that class by means of a lottery. Officials from the stock exchange have to be present to ensure that share allocation lottery is impartial. If the issue has been undersubscribed in any investor category then the firm can reallocate the leftover shares to any over-subscribed category as per the disclosures made on this subject in the prospectus. The basis of allocation document is now issued by the registrar of the IPO and those investors who have been successful in getting share allotments receive the shares in their account whereas the unsuccessful subscribers get their money refunded. The allotment procedure has to be completed within 15 days of the closure of the book otherwise an interest of 15% has to be paid to the investors. The final prospectus containing the offer price is filed with the Registrar of Companies within 2 days of the close of the book building process.

In India the book is built over a period of 3-7 days and the maximum price of the book building range cannot be more than 120% of the minimum price. In India the price range is almost never revised upwards in practice and only rarely is it revised to a lower level, if the subscriber demand is unexpectedly. Finally, for Indian IPOs the offer price is never set above the upper end of the price band. Final prospectus is filed with the registrar of companies and takes almost 21 days before the offer is listed.
11.7 The Book building Process in India:

1. Nominate Book Runner Lead Manager

2. Form Syndicate of brokers, Underwriters and Financial Institution, etc.

3. Submit draft offer document to the SEBI without mentioning coupon rate.

4. Circulate offer document among syndicate members

5. Ask for bids on price and quality of securities

6. Aggregate and forward all offers to book runners

7. Run the book to maintain a record of subscribers and their orders

8. Consult with issuer and determine the issue price as a weighted average of the offers received

9. Firm up underwriting agreements

10. Allot securities among syndicate members

11. Securities listed

12. Trading commences on exchanges

Exhibit 7: Provides the sector-wise IPOs through Book building between 1999-2006 except 2001 and 2002 since no firm resorted to book building method in these years. There were four IPOs which went public in 2001 and 2002. In the remaining years, all the 73 firms adopted 100% book building method of pricing.

Source: BSE

According to Khursheed et al. (2009) unlike in the U.S. where book building has been the preferred method of IPO price discovery for more than two decades, the Indian IPO market did not use this method until 1999. According to them, the regulatory framework in developing countries is often designed to protect and encourage the participation of the retail investors in
the capital market. Until the early 1990s the Indian Primary issue market was regulated by the Controller of Capital Issues (CCI), a government regulator, who also determined the price at which IPO firms offered their shares to the market. In 1992 the Capital Issues (Control) Act was abolished bringing an end to the control on pricing of new issues and the Securities and Exchange Board of India (SEBI) took over as the new market regulator. Even though SEBI introduced book building guidelines for primary markets as early as 1995, almost no book building activity was seen in the Indian IPO markets till the year 1999-2000.

In its early days book building mechanism was used by only 10% of the issuers (SEBI, Annual Report 1999-2000, Part B). However, by 2006-07, the book building mechanism has come to dominate the fixed-price mechanism offerings and more than 80% of the IPOs price their shares using the book building mechanism (Prime Annual Report, Part II).

Before November 2005, book built IPOs in India followed a process that was similar in some respects to that in the U.S. or Europe. An issuer interested in going public appoints an investment banker to manage the IPO process. The investment banker conducts extensive pre-market information gathering by sampling demands of potential institutional investors. The information is used to set a price band for the issue. Regulations cap the price and at 20 percent of the floor price, wider than the typical price range of $2 or 0 percent in the U. S. IPO market.

After the IPO’s price band is set, retail and institutional investors bid for the IPO. Bidding is open for at least three working days after which the book runner sets the final offer price. In India, the final offer price must lie within the price band. If a higher or lower price is desired, the price range can be reset though the process is a little onerous. The issuer decides the amended filing range and reopens the bidding for three more days subject to an overall
cap of ten working days for the entire bidding period. If the filing range is revised, investors can amend or delete their price bids and the fresh book is used to price the IPO. Few issuers make this choice and instead price the IPO at the top of the price band. The reluctance to price above the filing range is also likely due to the simultaneous hybrid method followed in India with a large retail tranche. Retail investors need some assurance that the price will not be above the upper end of the filing range, and regulations are prone to taking actions to protect retail interest. Having a wider price band makes it more likely that the final offer price will lie within the band. Thus, Indian IPOs tend to be priced within the initial price band, a practice similar to the one used in the European IPO market (Ljungqvist et al. 2003).

With the respect to bidding for IPOs, the type of bid allowed depends on investor category. Investors are categorized as small (or retail) and non-retail (including institutional investors). Retail investors have a cap on the value of their bids, currently at INR 100,000 (about $2000). Unlike retail investors who can submit either market or limit orders, non-retail bidders must place only limit bids. Valid bids are those that are at or above the final offer price and are eligible for allocation up to the amount sought by the bidder. An important aspect of the IPO process is that all bids are largely binding so bidders with valid bids legally obliged to take up any allocations awarded by underwriters. In contrast, bids are only indicative expressions of interest in the U. S. or the European markets. The quantity of shares available for allocation for retail investors and institutions is known before the offer. 50% of the shares are reserved for institutional bidders. Adjustments between categories can only be done if a category is undersubscribed.

After the bidding phase ends, the allocation process begins. All individuals- small ‘retail’ investors or high net worth individuals making big bids-must be treated on a non-discriminatory basis. Qualified institutional bidders (QIBs) are a different matter. Prior to November 2005, IPO managers
had discretion in allocations to institutional investors. After November 2005, this power is withdrawn from underwriters, so what the Indian IPO market calls a book built IPO after November 2005 is a dirty Dutch auction in the parlance of the auction literature.

To summarize, at any point of time, there were two mechanisms available for firms going public in Indian IPO market. Prior to November 2005, issuers could choose between fixed price IPOs and book built IPOs. In fixed price IPOs, underwriters set the offer price and open the IPO for bidding and allocations are then proportional to bids. In book built IPOs, underwriters set an indicative price range and open the IPO for bidding. Underwriters enjoy flexibility over final price and share allocations. Thus, in the pre-November 2005 regime, the difference between fixed price and book built offerings reflects the value of both pricing and allocation flexibility. After November 2005, issuers chose between fixed price and “book building”, which is really a dirty Dutch auction in which underwriters enjoy similar pricing flexibility as before but lose allocation powers. Thus, in the post-November 2005 period, the difference between fixed price and “book built’- dirty Dutch-offerings reflects the value of pricing flexibility alone. The (across-regime) difference in difference should reflect the effect of varying allocation power in IPOs.

Bubna and Prabhala (2011) analyze the level of bidding, the informativeness of bids, underpricing, and the variance of underpricing across fixed price and book built offerings in the post-1999 regime when both options were available to issuers. And, they point out that fixed price offerings have historically dominated the IPO landscape in India. And in 1999, investment banks (Lead Managers) were allowed to use a version of book building as a mechanism for bringing IPOs to the Indian Capital market. For instance, over 60% of the IPOs brought to the market in 2005 were book built. They also obtain and analyze data on oversubscription for IPOs. Book
building affects oversubscription on both quantity and non-quantity dimensions. Book built IPOs have greater oversubscription yet have lower underpricing. On the non-quantity dimension, oversubscription is more strongly related to underpricing in fixed price issues rather than book built issues, suggesting that book building increase the extent of pre-issue-information production.

11.8 Fixed Price vs. Book building: Theory and Evidence

According to Pandey (2004), Fixed Price vs. Book building: Theory and Evidence: Since 1999, trend in India also has been towards book build issues particularly for large IPOs once book building method was allowed for IPOs by the regulator. However, fixed price offerings have also continued in Indian IPO markets. i.e., Book Building Method of Pricing has been allowed and used in India since 1999.

IPOs have to be underpriced on an average to compensate uninformed investors. The early empirical studies on IPO markets in India focused mainly on the initial returns (IRs) or under pricing. Krishnamurti and Kumar (1994) analyzed 98 IPOs from 1992-93 period and reported average initial returns of 35.3%. On a wider data set of 2056 IPOs listed during the period January 1991 to April 1995, Shah (1995) found mean initial unadjusted returns of 105.6% on equally weighted basis and mean initial returns of 113.7% if weighted by the size of issues. He also finds that very small as well as very large issues had higher initial returns than the issues of medium size.

The issuers in India were not free to price their issues and required approval from CCI during that period. On a data set of 1243 IPOs during the period April, 1993 and March, 1995, Pandey and Kumar (2001) found mean initial market adjusted returns of 69.8% on equally weighted basis. They also found that smaller sized issues tend to have higher initial returns (or higher under pricing) as compared to large issues, that the insiders’ stake in the
issuing firm is interpreted as positive sign and that the large revealed demand (level of subscription) at the time of fixed price offerings is a good indicator of subsequently realized returns. During early nineties, most of Indian IPOs were by issuers issuing equity at par for taking up green-field projects or starting businesses. While the average initial returns used to be significantly high, possibly due to opening up of the economy and economic reforms initiated in 1991, there were wide variations in realized initial returns reflecting the diverse quality of the issuers. Unlike under pricing issue, studies on Indian IPOs have not examined their long run performance, expect the one by Shah (1995). In his sample, he finds that Indian IPOs generated excess returns even after listing. His returns could however be attributable to excessive optimism generated during the period covered by him. The sample used by him was of the IPOs, which came immediately after the initiation of economic reforms and easing of control in 1991. Casual observation, from later periods, suggests poor long run performance of an average Indian IPO. A large number of issuers of IPOs are reported to vanish after mobilizing capital and several such firms are listed on the regulator’s web-site (www.sebi.com, Vanishing Companies). Similarly, Indian IPOs after the introduction of book building method have not been studied extensively.
11.9 The difference between Book Building Issue and Fixed Price Issue

Initial Public Offering can be made through the fixed price method, book building method or a combination of both.

<table>
<thead>
<tr>
<th>Features</th>
<th>Fixed Price Process</th>
<th>Book Building Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing</td>
<td>Price at which the securities are offered and would be allotted is made known in advance to the investor.</td>
<td>A 20% Price band is offered by the issuer within which investors are allowed to bid and the final price is determined by the issuer only after closure of the bidding. i.e. Only an indicative price range is known.</td>
</tr>
<tr>
<td>Demand</td>
<td>Demand for the securities offered is known only after the closure of the issue.</td>
<td>Demand for the securities offered and at various prices, is available on a real time basis on the BSE website during the bidding period. i.e. It can be known everyday as the book is built.</td>
</tr>
<tr>
<td>Payment</td>
<td>100% advance Payment is required to be made by the investors at the time of subscription wherein refund is given after allocation.</td>
<td>10% advance Payment is required to be made by the QIBs along with the application, while other categories of investors have to pay 100% advance along with the application.</td>
</tr>
<tr>
<td>Reservations</td>
<td>50% of the shares offered are reserved for applications below Rs. 1 lakh and the balance for higher amount applications.</td>
<td>50% of shares offered are reserved for QIBs, 35% for small investors and the balance for all other investors.</td>
</tr>
</tbody>
</table>

Exhibit 8: Difference between shares offered through book building and offer of shares through normal public issue:

Source: www.BSE.com

11.10 Phenomenon of Underpricing in India

According to Madan 2003, a sample of 1597 companies having made an Initial Public Offers (IPOs) during 1989 to 1995 and listed at the Bombay Stock Exchange form the data set for the analysis. Out of the 1597 IPOs offered and listed for the period 1989-1995 considered here, 72 issues were
fairly priced (zero returns on listing); 157 were overpriced (negative returns on listing) and a total of 1368 were under priced (positive returns on listing).

Considering the Net Return, 1268 out of the total 1597 IPOs registered positive return on the stock index whereas 259 IPOs registered negative returns. Initial returns on IPOs are found on an average to be quite high. Return on listing for the total sample 1597 is found to be 94%.

Performance year-wise (1989-1995): a return on listing, as high as 287%, is registered for year 1991 and as low as 26.6% for the year 1995. Year 1991 and 1992 show higher returns on listing at 112.9% and 104.7%. For the years 1993, 1989 and 1994, the return on listing are 98.4%, 89.66%, and 88.1% respectively, much on par with the one registered for the overall sample of 94%. For the years 1989, 1990, 1991, 1993, and 1994, the return on listing and issue price are found to be statistically independent. For the years 1992 and 1995, the relation between return on listing and issue price is found to be statistically significant (.05 level).

Return on IPOs is found to decline with the passage with the passage of time. The study by Madhusoodan and Thiripralraju (1997) analyzed the Indian IPO market and the phenomenon of underpricing, considering both, the short as well as the long term (three year after listing) view. The extent of underpricing of IPOs (Short-run) in the capital market is reported to be higher than the experiences of other countries. However, in the long run, the study reports high as positive returns by Indian offerings. According to Madan (2003), another study by Rao and Chowdary (1999) also considered the long run (Two years after listing) performance of 146 IPOs offered at a premium in the Indian Capital market during 1994-96. The returns were found to be very high in the short-run, whereas, in the long run, the returns were negative.

According to Madan (2003), Most of the studies on the Indian primary market concerning the phenomenon of ‘underpricing’ are found to be in the
post-liberalisation period i.e. after the abolition of the CCI. The initial excess returns on IPOs in the Indian primary capital market are very high as compared to the experience of the capital markets of countries abroad.

According to Shah (1995), The Primary market in India is unique by world standards in many ways – it has been shaped by an unusual history of regulation, the institutional details of how IPOs take place singular, the share size and scope of the primary market is enormous and the large-scale direct participation in the primary market by millions of retail investors is unlike that is any other country in the world. The total resources raised on India’s primary market in 1994-95 were 20% of domestic savings (this includes both IPOs and Seasoned offerings).

Prior to the recent economic reforms, a government agency named the Controller of Capital Issues (CCI) had regulatory control over all capital issues. Before any public issue could take place, the offer price had to be cleared by the CCI. The “CCI formula” was used to calculate a “fair price” of equity in the light of accounting information. This often led to extreme underpricing, and heavy over-subscription. Investors often applied for ten times as many shares as were put up for sale. This extent of underpricing deterred firms from going public: relatively few issues took place and debt played a major role in financing projects.

From October 1991 to May 1992, the BSE was embroiled in a speculative bubble engineered by an illegal diversion of funds from the banking system. This episode is commonly called “the scam”. It had two kinds of consequences for the primary market: issues priced just before the scam often produced enormous returns from issue date to listing date, and issues priced during the scam often produced very poor returns from issue date to listing date.
Shortly after the scam, on 29 May 1992, the CCI was abolished, and firms were free to price equity at whatever price they chose. There was a transitional phase after the abolition of the CCI in which extremely few issues took place. The newly created regulatory agency governing financial markets, the Securities and Exchanges Board of India (SEBI), then took up the role of vetting prospectuses for public offerings with an eye to ensuring truthful information disclosure in the prospectus. SEBI was functional in this role from late 1992 onwards.

Nowadays, as in the entire post-CCI period, the sequence of events in an IPO is as follows:

- The firm and the merchant banker choose an offer price, and prepare a prospectus. This takes place roughly five months before the issue date. The “face value” of shares in India is typically Rs. 10, and the difference between the offer price and the face value is called “premium”. By law, IPOs are prohibited from pricing equity with a positive “premium” unless this condition is met: Either the issuing company, or any company promoted by the owners of the issuing company, should have made profits for at least the most recent three years. For companies which are allowed to price shares above Rs. 10 in the light of these criteria, there is no hurdle in choosing the offer price.

  There is also a regulatory control on the amount of equity which can be sold: the post-issue ownership of the promoters should be greater than 25%.

- This prospectus is submitted to SEBI for approval.

  From 1 April 1995 onwards, SEBI no longer requires the offer price to be precisely chosen at the time the prospectus is submitted for vetting. If the company specifies an offer price of x at this time, then the actual offer
price can be anything between x and 1.2 x. another constraint on choosing a price early is the Registrar of Companies, which has to be told the offer price 21 days before the issue opens.

➢ After SEBI approves of the information disclosures in the prospectus, a mass media advertising campaign targeted at the lay investor commences. This is roughly a month before the issue date.

A consortium of underwriters is often put together. Each underwriter guarantees to bring forth application forms (either from lay investors, or failing that, from own funds) worth Rs. X, and is paid a fee which is typically 2.5% of x. the underwriting arrangements were mandatory before January 1995, and are now optional.

➢ The issue closes four to ten days after it opens. Investors apply for shares, and pay an amount which is often less than the full offer price. If there is over-subscription, then there is a possibility that the money paid at the time of application may be returned some months hence. In this event, the investor has lost the time value of money for these months.

Many banks offer “stock invests” schemes which help eliminate this. This allows the investor to create a special kind of savings account. When submitting the application for shares, the investor furnishes information about his stock invest account. The offering firm only withdraws money from an investors stock invest account to the tune necessitated by the allotment received by him.

For issues where the issuer chose to not put together an underwriting consortium, if the subscriptions received fall below 90% of the shares offered, and then the issuing company is required to refund all applications within 90 days.
After the issue closes, the allotment itself takes place. For issues which are highly oversubscribed, many application forms may yield no allotment. For issues which are highly oversubscribed, the allotment process is often delayed owing to the volume of paperwork. Once allotment takes place, the investors receive shares and/or refund Cheques.

The actual listing and the date of first trading, takes place long after the issue itself opens- the modal listing delay is 11 weeks.

According to Deb and Mishra (2009), Madhusoodanan and Thiripalraju (1997) is one of the earliest papers on Indian IPOs that looked at the determinants of IPO pricing. Nandha and Sawyer (2002) studied 381 Indian IPOs during 1994-1995; they found that initial returns averaged above 100%, though size was negatively related to underpricing. Ghosh (2005), using 1842 IPOs in India’s Bombay Stock Exchange during 1993 and 2001, also found that large issue-size had less underpricing and that uncertainty played a role in underpricing. Agarwalla (2008) studied 110 Indian IPOs during 2002-2005 and found that the extent of oversubscription significantly affected the level of underpricing and the post-IPO returns. He found that the 180 day post-IPO period yielded a mean return of 17.36%. Based on an analysis of Indian IPOs in 2000-2006, Garg, Arora, and Singla (2008) found that “(i) there exists a significant level of underpricing in the short-run; (ii) the IPOs are usually overpriced over long-run; (iii) the opening price returns does not differ significantly from the closing price returns; (v) the level of underpricing does not differ much in the hot and cold IPO markets; (iv) the abnormal returns from the IPO underpricing differ significantly in the bearish and the bullish phases of the market.” Janakiramanan (2008) studied medium-run performance 116 IPOs issued in India in 2000 and 2001 and concluded that they gave positive abnormal return by the end of 60 days.
According to Deb and Mishra (2009) More recently, Pande and Vaidyanathan (2009) found that the demand generated for an issue during book building as well as the delay in listing positively affect day-0 absolute return and abnormal return (AR); like many other studies, they also found that Post-IPO performance during one month after the listing is negative. Mayur and Kumar (2009) compared the pre-IPO performance of Indian Public firms to their post-IPO performance and discovered that the performance of Indian public firm worsened significantly after going public and, in particular, those with the lowest insider stake following the IPO had the greatest deterioration in their post-IPO performance. Acharya (2009) recently reported in the Business Line newspaper that a study conducted by the newspaper on 285 IPOs made between January 2002 and August 2009 found that only that 85 of them offered a compound annual-return (from offer price till 17th September 2009) of 15% or more; interestingly. It found that, though 148 issues had negative returns, the ones that gave positive returns gave very good returns. The report further highlighted that seven out of ten IPOs managed some gain on listing; more than 15% delivered 15% or more return on the listing date itself. Deb (2009) has more recently found, using a sample of IPOs during 2001 and 2009, that there is evidence of underpricing, but this vanishes within a month; he however has not studied long-run performance of the IPOs.