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Regulatory Framework and IPO Underpricing

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Abstract: Underpricing in IPOs is one of the widely studied areas of finance. The regulatory framework governing the IPOs is a deciding factor that can increase or reduce underpricing in IPOs. The regulatory framework is a guiding light for the investor to take fair decisions and also exercises strict control on the issuing firm. The pricing mechanism, through which the shares are issued, is one of the main regulatory guideline which affects the IPO underpricing. Fixed pricing and book building are the two most widely used pricing mechanism for the issue of IPOs. The shares can also be issued by using auction pricing but it is not much used and is applicable to some countries. This paper is an attempt to find out what major changes have been made in the regulatory framework for the issue on an IPO in India and to study the impact of regulatory framework on IPO underpricing.

Keywords: Underpricing, IPO, Fixed Pricing, Book building, JEL Classification: G32

INTRODUCTION

Underpricing in IPOs is present in the system since the beginning of raising capital through issue of shares. The main reason that the share becomes underpriced is the anxiety on the part of the company to play safe so that the issue is fully or oversubscribed and stimulate interest in the market.The IPO market in India is growing with large number of companies issuing equity shares. Since 1992, the Indian IPO market went through different phases of policy changes, restructuring and streamlining. Among these restructurings and transforms, probably the most significant modification introduced was the substitution of Controller of Capital Issues (CCI) by a free pricing mechanism. CCI had the regulatory control on all capital issues in Indian market. CCI was the authority which actually cleared the issue price which is set as the offer price for that issue. The CCI's formula was used to compute the fair price of equity in the light of accounting information [1]. This resulted into extreme underpricing and heavy over subscription in maximum issues. This scenario forced the Indian IPO market to move to the free pricing. The unrestricted pricing system allowed the companies to raise funds from the investors at fair prices. It actually made the companies independent to evaluate the issue and to price it accordingly for the market which makes the issue more attractive and beneficial to investors and companies.

The Indian primary market is distinctive from other world markets in many ways. Initially it was a controlled and closely regulated market but now it has transformed into a comparatively mature and big market, the process of issuing IPO is distinctive, the size of the primary market is huge and the huge number of prospective shareholders directly taking part in the primary market makes it different from many other economies of the world. Various laws have been enacted and modified from time to time to give necessary impetus to the Indian primary market. Securities and Exchange Board of India Act, 1992, Securities Contracts (Regulation) Act, 1956, SEBI (Stock Brokers and Sub-Brokers) Regulations, 1992**,** SEBI (Prohibition of Insider Trading) Regulations, 1992, Depositories Act, 1996 etc. are some of the acts that govern the primary market in India.

Traditionally IPOs were priced as a normal commodity i.e. the issue price was fixed by the issuing firm on the basis of market expectations and economic environment prevailing at that particular point of time. There were some restrictions also on the pricing of IPOs. But with the passage of time new mechanisms evolved. The two most popular of these mechanisms are book building and auction pricing. Now there are three different mechanisms available for pricing an IPO i.e.fixed price, bookbuilding and auction pricing. Most of the countries give a choice to the companies to select a particular method of pricing an IPO.

Fixed pricing mechanism is the traditional way of pricing an IPO. In this case the issuing company fixes a price after making consultations with merchant banker, keeping in consideration the market environment and other parameters. To be on safer side, the price is normally kept lower than what has actually been calculated whereas the investors are ready to pay a more price for these shares. This result in higher listing price and underpricing is caused in the IPOs. Against fixed pricing, book-building is comparatively a more market oriented pricing mechanism. An option is given to the prospective shareholder to select a price from the given range, normally called as price band. The price band is the range within which shareholder can apply for the shares of the company. The shares are finally allotted at a price within this price range only.

The last method of pricing share issues is auction pricing. It is the investor who is to decide the price of the shares by bidding for the shares. A reserve price is decided by the company and generally the auction takes place through online process. This method of pricing is rarely used in most of the countries. There are very few examples in history when auction pricing has been successful for the company. Google is one of those rare cases when it issued shares through auction pricing in 2004. This is despite the fact that auction price will normally be very near to expected price of investors and there are very less chances of underpricing. Sherman and Jagannathan[2] tried to analyse the reasons behind the failure of auction pricing method and also the reasons for the gaining popularity of book building process. They found two main reasons for the failure of auction pricing (a) Winner's Curse and (b) Free Rider problem. They also summarized the various methods of issuing IPOs that are being used in various countries (Figure 1).

PANEL A

		Auctions		Book Building			
	Traditional method(s)	First introduced	Apparently abandoned	First Introduced	Now dominant or gaining?	Hybrid with Fixed Price	Main Sources
Europe							
Austria	Fixed price			1992	yes	yes	Letter - Wiener Borse(Vienna Stock Exchange), 14 June 1996
Belgium		1980s	1991	1993	yes		News articles; Ljungqvist, Jenkinson and Wilhelm (2003)
Czech Rep.	Fixed price						E-mail, the Czech Securities Commission, 10/26/99
Denmark	Fixed price			1992	yes	yes	News articles
Finland	Fixed price			1993	yes	yes	E-mail, Financial Supervision Authority of Finland, 11/29/99; "Letter - Mandatum & Co., 30 May 1996; www.rata.bof.fi
France	Auctions, fixed price	1960s	1999?	1993	yes	yes	E-mail - Listing Division, Paris Bourse SBF SA, 7/28/2000, "Derrien and Womack (1999)
Germany	Fixed price	only 2		1995	yes	yes	E-mail- BAWe(Bundesaufsichtsamt fur den Wertpapierhandl) 2/2/2000, www.bawe.de; "E-mail - DGBank, 11/18/99
Greece	Fixed price			1994	yes	yes	News articles.
Hungary	Fixed price			1995	yes	yes	E-mail-Hungary Banking & Capital Mkt Supervision11/30/99
Ireland	Fixed price			1992		yes	E-mail, Irish Stock Exchange, 9/15/ 99
Italy	Fixed price	1980s	1986	1992	yes	yes	E-mail, Borsa Italiana S.p.A. 11/24/99; "Italian Stock Exchange Commission (CONSOB) web page, www.consob.it
Luxembourg				1996	yes		Ljungqvist, Jenkinson and Wilhelm (2003)
Netherlands	Fixed price	1980s	1989	1994	yes	yes	E-mail, Stichting Toezicht Effectenverkeer (Securities Board Of The Netherlands), Oct. 1999
Norway	Fixed price			1995	yes	yes	E-mail - Banking, Insurance and Securities Commission of Norway, Sep. 99; "Letter - Oslo Bors, 14 June 1996
Poland	Fixed price	1993?		1995	yes	yes	News articles.
Portugal	Fixed price	1987	1992	1995	yes	yes	E-mail, Comissão do Mercado de Valores Mobiliários (www.cmvm.pt), 11/11/99.
Spain		Only 2	1998	1993	yes	yes	E-mails, Bolsa de Bilbao 11/16/99; *Comisión Nacional Del Mercado De Valores 9/23/99, 10/18/99.
Sweden	Fixed price	1980s	1980s	1993	yes	yes	Letter Finansinspektionen (Financial Supervisory Authority), 12/18/1996; E-mail OM Stockholm Exchange 7/25/2000.
Switzerland	Fixed price	1980s	1980s	1995	yes	yes	E-mail - Switzerland Stock Exchange, 11/24/99; "Letter - Zurcher Borse (Zurich Stock Exchange), 4 June 1996
U. K.	Fixed price	1960s	1987	1992	yes	yes	General sources; Brennan and Franks (1997); Levis (1990)

PANEL B

		Auctions		Book Building			
	Traditional method(s)	First introduced	Apparently abandoned	First Introduced	Now dominant or gaining?	Hybrid with Fixed Price	Main Sources
North & South America							
Argentina		1991	1992	1993	yes	yes	E-mail - Comisiân Nacional De Valores 1/29/99
Barbados	Fixed price						Letter - Securities Exchange of Barbados, 8/28/97
Brazil	Fixed price	yes			yes	yes	E-mail, Comissâ*f*o de Valores Mobiliârios 9/20/99; ^www.bndes.gov.br.; *Letter - Bolsa Do Rio, 26 Aug. 1996
Canada	Bookbuild				yes	yes	E-mail Com. des Valeurs Mobilières du Québec, 10/29/99
Chile					yes		E-mail Sup. de Valores y Seguros 10/99; Santiago SE 11/99
Mexico	Fixed price						E-mail, Bolsa Mexicana de Valores Sept. & Nov. 1999
Paraguay	Fixed price						E-mail - Comision Nacional de Valores, Oct 99
Peru	Fixed price	yes		1996	yes	yes	E-mail - Lima Stock Exchange, 10/20/99
U. S.	Bookbuild	1999	--		yes	yes	General sources
Asia/Pacific							
Australia	Fixed price	1999	1999	1992	yes	yes	Letter - Australian Stock Exchange, 23 April 1996
Bangladesh	Fixed price						News articles.
China	Fixed price				yes	yes	News articles.
Hong Kong	Fixed price			1993	yes	yes	News articles, general sources.
India	Fixed price			1993	yes	yes	SEBI web page, Dec. 99;*Bombay Stock Exchange, 4/13/96; ^Assoc. of Merchant Bankers of India, 5/27/96.
Indonesia	Fixed price				yes	yes	Indo. Cap Mkt Supervisory Agency(BAPEPAM) 9/24/99
Japan	Fixed price	1989	1997	1997	yes	yes	Pettway (1999); News articles.
Korea	Fixed price	1993?			yes	yes	E-mail, Korea Securities Research Institute 10/26/99; ^Korea Stock Exchange fax, International Relations, April 13, 1996
Malaysia	Fixed price	1992	1994	1995	yes	yes	E-mail, Kuala Lumpur Stock Exchange, 1996; web page.
New Zealand	Fixed price				yes	yes	E-mail 10/15/99 Sec. & Exchange Commission of New Zealand; ^Fax - Cavill White Securities Ltd., 21 May 1996
Philippines	Fixed price	1994	1994		yes	yes	News articles.
Singapore	Fixed price	1991	1994		yes	yes	E-mail - Stock Exchange of Singapore, 10/11/99; web page.
Sri Lanka	Fixed price						Letter - Colombo Stock Exchange, 26 May, 1997
Taiwan	Fixed price	1995	?				E-mail Chinese Securities Association, 11/2/99
Thailand	Fixed price				yes	yes	Letter - Securities and Exchange Commission, 14 May 1996;
Africa/MidEast							
Kenya	Fixed price						Fax, Capital Markets Authority, 4/3/00
Israel	Auctions, fixed price	< 1993	?				e-mails - Tel Aviv Stock Exchange, Feb., Sept. and Oct. 1999
Jordan	Fixed price						E-mail, Amman Stock Exchange, 24 June, 1997; web page.
Pakistan	Fixed price			1995	no		E-mail, SEC of Pakistan, 12/01/99; ^web page - Karachi SE
South Africa	Fixed price					yes	Web page, e-mail - Johannesburg Stock Exchange, 10/99.
Turkey	Fixed price	1993	1997		yes	yes	Istanbul Stock Exchange: Email, 3/99; Fax, 17 June 1996

Fig-1: Country Wise IPO Issue Methods *Source: Sherman and Jagannathan [2]*

It is clear from the figure that most of the countries which have started using auction method of issuing IPOs have abandoned the same and there are very few countries where this method is still used. Fixed pricing method, which is the most traditional method of issuing IPOs, is still used in most countries. Book building is the dominant method which is being used in almost all the countries. Even in the most advanced markets, auction pricing is rarely used.

A study was conducted of issue mechanism of 50 countries and it was found that auction method has been tried in 25 countries, but is rare today[3]. Book building is gaining popularity while fixed-price method is still being used in smaller countries which are not having developed market scenario or in case of smaller companies who are not willing to get into the process of book building.

REVIEW OF LITERATURE

Since inception, the IPO market has transformed from a tightly-controlled system to a market-oriented system. Some of the important reforms included the abolishment of listing quotas and fixed issue price determination; allowing for more market participation in IPO pricing etc. The following section documents the reviews of studies on regulatory framework and how these regulatory changes affect IPO underpricing.

Loughran, Ritter and Rudqvist analyzed the post issue performance of international IPOs[4]. They cited variations in regulatory environments, contractual arrangements, and firm characteristics as main reasons of different performance of IPOs in different countries. They expected that the performance of IPOs in Asian countries will improve during 1990s as compared to the 1980s due to mitigation of regulatory restrictions.

Pettway and Kaneko [5] found that the change in pricing mechanisms has actually helped in reducing underpricing. Removing price limits and introduction of auctions has resulted in reduction of initial returns significantly. They concluded that the issue mechanism which provides more information to the public can reduce underpricing, if not eliminating it completely.

Asquith, Jones and Kieschnick studied the role of politics in IPO pricing by taking a sample from 59 countries of 630 share issues [6]. They found that the government favour domestic investors in share allocation, put a restriction on private firms, hires national investment banker as main underwriter, and adopts fixed pricing mechanism as against book building or auctions in order to give benefit to some interested parties.

Arosio, Giudici and Paleari conducted a survey of 164 IPOs on Milan Stock Exchange and tried to determine the forces that drive IPO initial and after market performance [7]. They found that underpricing and the age and systematic risk of the firm are negatively correlated whereas in case of book building the relation was not significant. The underpricing was found to be 8.12% for IPOs through book building and 28.33% in case of fixed priced IPOs.

Tian studied the IPOs issued in Chinese market from 1991 to 2000 [8]. The IPOs in China were found to be regulated by the government to a large extent with a cap on the price and also the quantity of shares to be offered to the public.This strict restriction on number and issue price of share had led to a very high average underpricing (267%) as the demand for shares generally tend to be high after the listing of shares.

Claessens and Laeven concluded that firms have less growth rate and value if it is operating in an environment which provides insufficient protection to its rights and assets [9]. The insufficient level of protection from the regulatory framework will result in uncertainty with respect to decisions and post issue approaches that may affect firm value negatively. This uncertainty among the investors regarding future returns leads to more underpricing in IPOs.

Pandey analysed 84 fixed priced and book build Indian IPOs from 1999 to 2002 for a period of 500 trading days. It was found that fixed price IPOs performed the worst and all types of IPOs, on an average underperformed till about two years subsequent to listing [10].

Singh and Mittal analysed the long-run performance of 500 Indian IPOs offered during 1992 to 1996 up to three years [11]. The Indian IPOs earned excess returns up to six months from the listing date and after that the returns declined sharply, though remained positive at the end of first year. However, the investors who held their investments for a period of 2-3 year experienced negative returns.

Sherman found that since 1990s most of the countries across the globe have started using book building method as the most preferred method atleast for the larger issues [12]. The fixed pricing method was mostly used in smaller countries and where the stock market is less mature or in case of smaller issues. Auction pricing was hardly being used anywhere and was not a dominant method in any country.

Jovanovic and Szentes compared two different mechanisms of issuing IPOs – auctions and book building [13]. They found that underpricing is almost non-existent in case of auction pricing as the price will be much closer to the investors' expectations so there will be comparatively no listing gains whereas in case on book-building, the underpricing do exists. They also found that as more information is disclosed under book building mechanism, most of the companies prefer to adopt this method only and auctions are used to a minimum extent.

Tian and Megginson studied the China's primary market by taking a sample of 1397 IPOs issued from 1991 to 2004 and found that IPOs in Chinese market were highly underpriced and they attributed this to strict regulation in China. The government puts a restriction on IPO quota and on IPO pricing [14]. They found that this strict regulation and lack of proper information about the firm leads to high degree of underpricing.

Engelen and Essen have studied the relationship around the world between the underpricing of IPOs and the prevalent legal framework in that country [15]. Their findings show a negative relationship between the legal framework of the country and the IPO underpricing. They concluded that countries with robust investor protection give an advantage, in terms of cost to the public, to the companies in comparison to the countries where investor protection is weak.

Boulton, Smart and Zutter found that value of capital markets is linked with the legal system of that country[16]. The corporate governance practices adopted in a country affects the underpricing of IPOs. They concluded that the IPOs issued in the countries that have adopted corporate governance practices have reported higher underpricing. The reason attributed to this strange finding is that the companies in order to maintain control over the company and to produce more demand for the IPO underprice their shares which results in spreading of ownership.

Ma, Song and Yang examined the role of government in the growth of China's securities market [17]. They found that the development of securities regulations depends upon the response of government direction and supervision especially when the government owns and regulates the securities market.

From the above discussion, it can be concluded that the regulatory framework plays an important role in determining the initial returns to the investors. The past research has been focused mainly in international markets. Very few studies have been undertaken in India, which provides an opportunity to study the impact of regulatory framework in India mainly due to the fact that the environmental factors are different in India as compared to other developed economies and certain developing nations like China.

DATA COLLECTION AND RESEARCH METHODOLOGY

The sample taken for the study is 3452 companies which have issued IPOs from Jan 1992 till Dec 2010. Sample selection is based on the criteria that the IPO is made in the free pricing era of SEBI, is listed on stock exchange and data regarding variables is available [18-22]. The various sources of data inputs for IPO sample are:

- Prime Database by Praxis Consulting and Information Services Pvt. Ltd.
- Capitaline – Indian corporate database of Capital market
- Prowess – Indian corporate database of CMIE
- Bombay Stock Exchange, www.bseindia.com
- Money Control, www.moneycontrol.com
- Securities and Exchange Board of India, www.sebi.gov.in

For the purpose of present study, the initial price performance of IPOs has been examined.The initial price performance of the IPOs has been taken as the difference between the closing price on the listing day and the issue price, divided by the issue price.

$$R_i = \frac{P_1 - P_0}{P_0} \times 100$$

Where

R_i= Initial return (Underpricing)
P_1= Closing price on the listing day
P_0 = Issue price

REGULATORY FRAMEWORK AND IPO UNDERPRICING

Year 1992 has been the historic and one of the most important years in Indian economic environment. The reforms process was started by the central government which became the basis for all policy issues and placed the Indian economy on the world map as one of the most growing economy. The Indian Capital Market also saw a number of policy initiations to streamline the primary and secondary markets since 1992. The process started with the abolishment of Capital Issues (Control) Act and incorporation of a new body i.e. Securities and Exchange Board of India (SEBI). Although SEBI was incorporated in 1988 but it got the statutory status in 1992 when SEBI Act 1992 was passed in parliament. The main objectives with which SEBI was incorporated were to protect the interests of investors and to develop and regulate the primary and secondary market.

Since the inception of SEBI, the securities market in India has undergone a lot of changes and has matured in the last 21 years. SEBI introduced more stringent disclosure standards, prudential norms and also simplified the procedure for issue of shares. A lot of guidelines have been framed and some other acts have also been enacted (Securities Contracts (Regulation) Act 1956, Depositories Act 1996, Prevention of Money Laundering Act 2002 etc.). During 1995-96, SEBI introduced more regulations on IPO pricing and enforced other restrictions on promoters, such as the lock-in period for their holdings. This resulted in a slump in the IPO market immediately following this period. Y.H. Malegaon Committee submitted its report in the year 2000 recommending the broadening of disclosure requirements, simplification of norms, revising of accounting standards to international standards etc.

In 2001, Government took a historic decision of separating ownership and management of stock exchanges from trading rights by corporatization and demutualisation of stock exchanges. Under this scheme, at least 51 per cent of the ownership of the stock exchanges will be in the hands of general public who are not having any trading rights on such stock exchanges. Sixteen out of nineteen stock exchanges converted to corporatization and demutualisation system by 2009 and three stock exchanges lost their license.SEBI introduced various policy changes related to financial reporting norms, allotment norms, cost/efficiency norms andtransparent book building procedures to achieve its objectives. The protection of small and medium investors was also one of the major focus areas before SEBI. With the support of central government and other regulatory agencies, SEBI has been able to generate confidence not only of Indian investors but also of foreign investors in the Indian Securities Market.

In the last 20 years of reform process, the Indian capital market had witnessed a number of initiatives to make it more competitive among the world markets by various regulatory authorities. Table 1 summarizes the major policy changes and initiatives taken mainly by SEBI and also by other regulatory agencies to regulate the primary markets since 1992. Although some of the measures are directly related with secondary market but they were instrumental in generating confidence among the investors and also made the process to deal in shares in the primary and secondary market comparatively easy which led to the growth of primary market also.

Table-1: Policy Changes Introduced To Regulate Primary Market

Year	Major Initiatives
1992-93	Repealment of Capital Issues (Control) Act, 1947
	SEBI Act was passed
	SEBI issued Guidelines for Disclosure and Investor Protection
	NSE was incorporated in November 1992
	OTCEI Started its operations
	SEBI (Stock Brokers and Sub-Brokers) Regulations, 1992 and SEBI (Prohibition of Insider Trading) Regulations, 1992 were notified
1993-94	Disclosure requirements in offer documents were introduced
	Proportional allotment of shares was introduced in primary issues
	Minimum application money was raised to Rs 5,000 from Rs. 1,000
	Flexibility in pricing of issues was allowed
	Firm allotment was allowed to Mutual Funds, Foreign Institutional Investors and Financial Institutions
	Slab rates were introduced for promoters' contribution
	Association of SEBI representatives in the Allotment process in case of oversubscribed public issues
	Post issue reporting requirements by lead Managers were made mandatory
	Securities and Exchange Board (Underwriters) Rules and Regulations were notified
1994-95	Detailed guidelines on pricing of preferential issues by listed companies were issued
	Underwriting was made optional in order to reduce issue cost
1995-96	Recommendations of Malegam Committee were implemented by SEBI
	Offer document was made a public document at the draft stage also
	Eligibility norms were strengthened for public issues in order to improve the quality of issues
	Guidelines to introduce book building procedure were issued
	Allotment procedure was amended by reserving minimum 50percent of net offer to public for individual investors applying for less than 1000 shares and remaining for applying for 1000 or more shares.
	Online screen-based order driven trading system was introduced in BSE
	National Securities Clearing Corporation Ltd. (NSCCL) was set up by National Stock Exchange (NSE)
1996-97	The Depositories Act, 1996 was passed to provide for the establishment of depositories in securities.
	National Securities Depository Limited (NSDL), first depository in India, co-promoted by NSE was set up
	SEBI (Custodian of Securities) Regulations, 1996, SEBI (Depository and Participants) Regulations, SEBI (Venture Capital Funds) Regulations, 1996, Revised SEBI (Mutual Funds) Regulations, 1996, Revised SEBI (Substantial Acquisitions of Shares and Take- overs) Regulations, 1997 were notified
1997-98	20 stock exchanges in the country, accounting for almost 99.8 per cent of the total all-India turnover, had shifted to on-line screen based trading
	Facility of book-building was extended to the entire issue size for issuer companies which

	propose to make an issue of capital of and above Rs.100 crores
1998-99	Eligibility norms were relaxed by the SEBI without diluting the disclosure standards
	SEBI exempted public and private sector banks from fulfilling eligibility norms in order to come out with public issues
	SEBI granted specific relaxations to infrastructure companies.
1999-00	Rationalisation of guidelines for public issues
	Online Securities Offer System introduced to market initial public offers through the secondary market
	Compulsory linking of issuer companies with a depository and compulsory trading by new IPOs
2000-01	Derivatives trading commenced in June 2000 in the Indian securities market on NSE and BSE only.
	Corporatization of stock exchanges by which ownership; management and trading membership would be segregated from one another.
2001-02	Prevention of Money Laundering Act, 2002 was passed to prevent money laundering and to provide for confiscation of property derived from or involved in money laundering.
	Accounting Standards Committee of the SEBI as well as the Kumar Mangalam Birla Committee on Corporate Governance recommended the financial disclosures for listed companies to improve corporate governance
	Underwriting was made mandatory with the exception of 60 per cent of the net offer to public which has to be allotted to Qualified Institutional Buyers (QIBs).
	Rolling settlement on T+5 bases was introduced in respect of specified scrip's reducing the trading cycle to one day.
	Central Government established a fund called Investor Education and Protection Fund (IEPF) in October 2001 for the promotion of awareness amongst investors and protection of the interest of investors.
2002-03	Disclosure requirements in offer documents for Public Issue/Rights Issue/Offer for sale were streamlined and strengthened.
2003-04	SEBI introduced an additional criteria of 'net tangible assets', 'minimum number of allottees in public issue' and 'profitability
	Green shoe option facility was introduced in IPOs.
	SEBI brought in the following new regulations: SEBI (Prohibition of Fraudulent and Unfair Trade Practices relating to Securities Market) Regulations, 2003 SEBI (Ombudsman) Regulations, 2003 SEBI (Central Listing Authority) Regulations, 2003 SEBI (Central Database for Market Participants) Regulations, 2003 SEBI (Self-Regulatory Organizations) Regulations, 2004 SEBI (Criteria For Fit and Proper Person) Regulations, 2004
2004-05	Allocation of shares to retail individual investors has been increased from 25 per cent to 35 per cent of the total issue of securities in case of book-built issues.
2005-06	Introduction of Optional Grading of IPO
	Minimum public shareholding of 25 per cent in case of all listed companies barring a few exceptions was provided.
	In case of a fixed price issue, a company is required to disclose the issue price or the price band in the offer document filed with SEBI.
2006-07	Issuer company was prohibited to go for any kind of publicity, prior to filing the draft offer document with SEBI, if the advertisement/publicity is not consistent with the past practices of the company.
	SEBI reconstituted two committees, namely, Primary Market Advisory Committee (PMAC) and SEBI Committee on Disclosures and Accounting Standards (SCODA).
2007-08	Amendments Pertaining to Issue Process: Quoting of PAN Mandatory in Issue Application Form Discount in Issue Price for Retail Investors / Retail Shareholders Definition of "Retail Individual Shareholder" for Listed Companies Monitoring of Issue Proceeds
2008-09	Applications Supported by Blocked Amount (ASBA) a new mode of payment in public issues through book building wherein the application money remains blocked in the bank account of the

	applicant till allotment is finalised.
	Issuers making an initial public offer were permitted to announce the floor price or price band at least two working days before the issue opening date subject to fulfillment of certain disclosure requirements.
	SEBI Issue of Capital and Disclosure Requirements (ICDR) Regulations 2009 were issued
2009-10	Introduction of Pure Auction Method in further Public Offerings by listed companies
	Rationalisation of Disclosure Requirements
	Smoothening the Payment/Refund Process in Issues
	Listing of Securities Issued through IPO on at least One Stock Exchange with Nationwide Trading Terminals
	Adoption of International Financial Reporting Standards (IFRS)

Source: Compiled from Annual Reports of SEBI, websites of BSE, NSE and other documents

All the above measures introduced in different years played a very crucial role in strengthening the primary as well as secondary market in India. Strict disclosure requirements with focus on corporate governance, investor protection, cost reduction and improving the issue process were some of the focus areas of the various measures taken by the regulatory agencies. In the past few years Securities and Exchange Board of India and the other regulatory authorities have been concentrating on investor protection and making the markets more competitive in the international environment.

One of the major regulatory issues has been the use of various pricing mechanisms that are used to issue the shares in primary market. The various pricing mechanisms that are used worldwide are (a) Fixed Pricing, (b) Book Building, and (c) Auction Pricing.

There have been three distinct regimes, with respect to regulatory framework, in the Indian primary market namely the immediate post-liberalization regime (1992-1995), the initial regulated regime (1996-2000), and the reformed regulated regime (2001 onwards).With the opening up of economy, there was a sudden increase in the demand for the shares which led to higher underpricing in shares.

This phenomenon is clear from the fact that total number of IPOs in the post-liberalisation regime was 2687 which accounts for 75.86 per cent of the total issues in the study. Table 2 shows the number of public issues offered to public and underpricing in IPOs through fixed pricing mechanism. Average underpricing has been decreasing for fixed priced issues through the various regimes. During the initial regulated regime, average underpricing for fixed priced IPOs was reduced to half, which further reduced during the reformed regulated.

Table-2: Fixed Priced IPOs During Different Regimes

Regime	No. of IPOs	Average under-pricing	Average Issue Size (Rs. Lakhs)
Post -Liberalisation	2687	69.12	550.29
Initial Regulated	484	39.80	1536.77
Reformed Regulated	71	37.58	4194.36
All	3242	64.05	777.37

Source: Author's Calculation

The number of IPO issues have also decreased drastically from 2687 in post-liberalisation regime to 484 in Initial regulated regime and further to 71 in reformed regulated regime for fixed priced issues. The reformed regulated regime saw an increase in the number of issues (293 IPOs) through book building process. Although the number of issues reduced, the average issue size increased from 555.29 lakhs in post-liberalisation regime to 4194.36 lakhs in reformed regulated regime. There are two possible reasons for this extraordinary increase in the issue size: (a) Increase in fund requirement of the companies due to increased cost and other requirements, and (b) The market became mature and the companies became more confident that they will be able to raise much more from the investors.

The regulation for issuing shares through book building process was passed in 1996 but first issue was offered through this process only in 1998. The trend has been found to be somewhat different for issues through book building process where during the initial regulated regime, the IPOs have been found to be averagely overpriced by 8.38 per cent (Table 3). Average underpricing has been found to be 24.83 per cent during the reformed regulated regime for book building issues which is comparatively less than the average underpricing (37.58 per cent) for fixed priced issues.

The average issue size was Rs. 10003.01 lakhs in initial regulated regime which rose by almost five times to Rs. 49848.01 lakhs in reformed regulated regime for book building issues. The average issue size for fixed pricing issues was only Rs. 777.37 lakhs whereas it was Rs. 48918.64 lakhs for book building issues which is almost 60 times more. The larger issues under book building also contributed to lower average underpricing (24.05 per cent) in comparison to fixed priced issues (64.05 per cent) as more number of investors will receive allotment from the company thereby reducing the subsequent demand for the shares in the secondary market. The results are also in conformity with past studies and it shows that strict regulation regarding the issue of IPOs has an adverse effect on the underpricing.

Table- 3: Book Building IPOs During Different Regimes

Regime	No. of Companies	Average under-pricing	Average Issue Size (Rs. Lakhs)
Post -Liberalisation	-	-	-
Initial Regulated	7	-8.38	10003.01
Reformed Regulated	293	24.83	49848.36
All	300	24.05	48918.64

Source: Author's Calculation
Negative value signifies overpricing

The effect of regulatory changes has also been studied keeping in view the two different pricing mechanisms. In one mechanism (fixed pricing) there is a strict control over the issue price and number of shares to be issued by the firm whereas in second mechanism (book building) the companies have more flexibility to price their IPOs, can offer variable pricing to the investors and also vary the final number of shares offered for sale to the investors.

One of the major changes in the regulatory frameworkof the primary market was to allow issue of shares through book building process. The notification for using this method was made in 1996 however it was first used in 1998 and only one company issued shares through book building process. It was only after 2000 that the companies actually started using this process extensively and by 2004 majority of the companies started issuing shares through book building process. Table 4 shows the total number of IPOs issued through fixed pricing mechanism and through book building process. More than 90 per cent of the shares have been issued through fixed pricing method from 1992 till 2010 but this is primarily due to the fact that issuing of shares through book building process was notified in 1996.The companies started issuing shares through this process in 2004.

Table-4: Issue Type And Underpricing

Issue Type	No. of Companies	Per cent	Average under-pricing	Std. Dev.	Max under-pricing	Min under-pricing
Fixed Price	3242	91.53	64.05	126.44	1620.50	-100.00
Book Building	300	8.47	24.05	43.53	230.26	-72.73
All	3542	100.00	60.66	122.13	1620.50	-100.00

Source: Author's Calculation
Negative value signifies overpricing

Average underpricing of all the issues through fixed pricing mechanism has been found to be 64.05 per cent whereas it is only 24.05 per cent in case of all the shares issued through book building process (Table 4). Standard deviation is 126.44 in case of shares issued through fixed price and it is only 43.53 in case of shares issued through book building process which shows that there is a large variation from the average in the underpricing of shares issued through fixed pricing method as compared to those issued through book building process. The results are in conformity with the literature that fixed price offer can lead to higher underpricing as compared to book building offer as the market perception and mood of the investors will be considered while fixing the final issue price.

No company issued shares through book building process in 1996 and 1997. From 1996 till 2003, only 12 companies have issued shares through book building process (Table 6). In 1998 only one company issued shares through book building process and the IPO was overpriced by 72.73 per cent (Table 6) whereas the average underpricing was 19.76 per cent in 1998 for the six fixed price IPOs (Table 5). The number of IPOs issued through fixed price mode started decreasing from 2004 onwards as compared to book building issues. The below market expectation performance and the loosing of money by investors in the only IPO through book building process resulted in some fear in the companies. A total of twenty three companies came up with IPO in 1999 but no company took the courage to use book building process for issuing shares.

Table-5: Year Wise Fixed Priced IPOs and Underpricing

Year of Issue	No. of Companies	Per cent of total (3452) issues	Average under-pricing	Std. Dev.	Max under-pricing	Min under-pricing / overpricing
1992	298	8.41	92.54	154.08	1175.00	-70.00
1993	510	14.40	81.36	152.49	1200.00	-93.00
1994	910	25.69	91.32	115.75	950.00	-90.00
1995	969	27.36	34.61	93.81	900.00	-97.50
1996	381	10.76	26.03	95.35	900.00	-95.00
1997	20	0.56	11.04	112.22	450.00	-93.00
1998	6	0.17	19.76	72.41	150.11	-40.00
1999	23	0.65	202.88	385.84	1620.50	-100.00
2000	54	1.52	80.41	187.57	777.50	-100.00
2001	9	0.25	-11.03	60.32	124.00	-86.80
2002	4	0.11	16.07	18.57	40.43	1.00
2003	4	0.11	38.57	23.87	62.50	13.67
2004	8	0.23	46.76	60.18	134.50	-20.56
2005	14	0.40	72.42	79.66	258.20	0.48
2006	16	0.45	28.77	49.68	163.03	-22.50
2007	12	0.34	54.03	97.75	286.25	-12.50
2008	3	0.08	-3.58	22.50	19.00	-26.00
2010	1	0.03	63.20	NA	63.20	63.20
ALL	3242	91.53	64.05	126.44	1620.50	-100.00

Source: Author's Calculation
Negative value signifies overpricing

The same trend was seen from 2000 till 2003, where majority of the companies preferred fixed price route to issue shares as compared to book building (refer table 5 and 6). It was only in 2004, almost eight years after introduction of book building process in India, that the companies realized the advantages of this method. From 2008 onwards very few companies have used fixed pricing method of issuing shares. In 2008 only three companies, in 2009 no company and in 2010 only one company had issued shares through fixed pricing method whereas 33, 20 and 54 companies followed book building method of issuing shares in 2008, 2009 and 2010 respectively. The issuers and intermediaries have more flexibility and are able to take care of the individual expectations. They are also able to make a distinction between the investors thereby establish a long term relation. Book building process is considered to be a better mechanism of issuing shares as compared to fixed pricing and auction method. In case of auction pricing method there is a possibility of occurrence of winner's curse to the investors as they will be uninformed about the fair price of the share whereas in case of fixed pricing the issuers will tend to price the share at a lower value to make the issue attractive and generate more demand for the shares.

By fixing a price range for the shares through book building process, the investors will be better informed and the company will also be able to fix a price of the share by judging the mood of the investors. The price range of the shares of competitive companies and estimated value on the basis of expectations of investors that the company will be able to fetch is kept in mind while fixing the price range. The average underpricing for the years 1998, 2000, 2002 and 2003 has been found to be 38.70 per cent (Table 5) for the fixed price offers against 0.45 per cent (Table 6) for book building issues during the same period and it was 43.60 per cent for a period of seven years from 2004 till 2010 and 26.26 per cent respectively for fixed priced issues and book building issues. 288 companies issued shares through book building process against 54 through fixed pricing mode from 2004 till 2010 which clearly shows that the companies and investors became more aware of the benefits associated with book building mechanism.A large variation has been found in the underpricing of IPOs in case of both the pricing mechanisms. Maximum underpricing has been 1620.50 per cent for fixed priced IPO in 1999 whereas in case of IPOs issued through book building process, the maximum underpricing has been found to be relatively very less at 230.26 per cent in 2006.

Table-6: Year Wise Book Buildingipos And Underpricing

Year of Issue	No. of Companies	Percent of total issues	Average under-pricing	Std. Dev.	Max under-pricing	Min under-pricing / overpricing
1998	1	0.03	-72.73	NA	-72.73	-72.73
2000	6	0.17	2.34	31.32	31.19	-56.67
2002	1	0.03	-1.89	NA	-1.89	-1.89
2003	4	0.11	74.09	57.60	148.33	25.89
2004	12	0.34	57.89	69.80	209.71	-2.33
2005	36	1.02	36.22	32.61	128.28	-14.81
2006	54	1.52	24.72	41.84	230.26	-33.21
2007	79	2.23	29.52	49.65	182.00	-42.17
2008	33	0.93	10.97	40.50	159.57	-39.45
2009	20	0.56	10.84	31.65	129.25	-29.07
2010	54	1.52	13.63	29.14	103.98	-37.21
ALL	300	8.47	24.05	43.53	230.26	-72.73

Source: Author's Calculation

Negative value signifies overpricing

The fact that book building method of issuing IPOs has gained importance in India is also clear from the fact that some of the biggest IPOs till date have been issued through this mechanism only (Table 7). All the top 10 IPOs after the introduction of book building method of issuing IPOs have been issued through this process only irrespective of the affiliation that whether the company is a government company, a company that is a part of Indian business group, a foreign company or a standalone company. The biggest IPO has been from Coal India Ltd., a state owned company, in 2010 which was oversubscribed to the extent of 15 times which clearly reflects the mood of the investors in the issue. All the top 10 IPO issues have been made from 2004 till 2010 i.e. within a gap of 7 years only Indian capital market has witnessed its biggest IPO issues so far.

Table-7: Top 10 IPOs in India (Issue Size)

Sr. No.	Company	Method of Issue (Fixed Price / Book Building)	Issue Year	Issue Size (Rs. Crores)	Underpricing / Overpricing
	Coal India Ltd.	Book building	2010	15199.44	39.73
	Reliance Power Ltd.	Book building	2008	10123.20	-17.22
	DLF Ltd.	Book building	2007	9187.50	8.58
	NHPC Ltd.	Book building	2009	6038.54	1.94
	Cairn India LTD.	Book building	2006	5788.79	-14.06
	Tata Consultancy Services Ltd.	Book building	2004	5420.49	16.18
	National Thermal Power Corp. Ltd.	Book building	2004	5368.14	21.85
	Adani Power Ltd.	Book building	2009	3016.52	0.05
	Power Grid Corp. of India Ltd.	Book building	2007	2984.45	93.56
	Oil India Ltd.	Book building	2009	2777.24	8.62

Source: Prime Database

Negative value signifies overpricing

The average underpricing in all these ten largest issues has been found to be 15.92 per cent only. The reform process initiated by SEBI and other regulatory authorities has been instrumental in generating faith and confidence among the companies, the intermediaries' as well as the individual investors.

Figure 3 shows the comparison of average underpricing for fixed priced issues and book building issues taking age of the firm as on date of issue as the base. The average underpricing is less for IPOs issued through book building process for all firms of different age at the time of issue in comparison to the fixed priced IPOs. Further for fixed prices issues, the underpricing is comparatively more in case of IPOs of younger firms whereas it is comparatively less in case of older firms with few exceptions. The same trend has been witnessed in the IPOs issued through book building method. There is less variation in the underpricing of younger firms as compared to relatively older firms where the variation is more for fixed priced issues. Overpricing has also been found more for fixed priced issues by older firms which show that the fixed pricing method of issuing IPO involves more uncertainty as it does not involve the investors directly in determining the issue price of the shares.

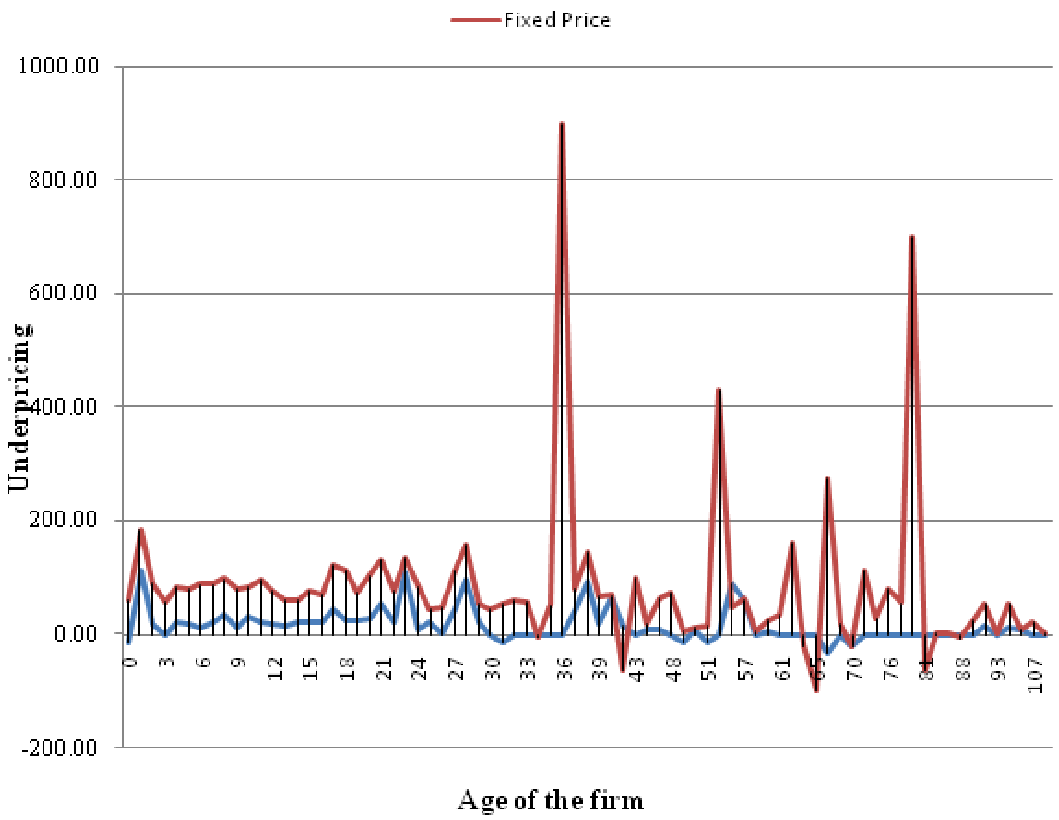

Fig-2: Age Wise Underpricing In IPOs – Fixed Pricing and Book Building Mechanism
Source: Author's calculation

The younger firms are showing more underpricing in case of both methods which clearly reveal that they are more prone to information asymmetry and the investors will be less informed about the true value of the company. Due to non-availability of proper information, all the investors who will not be able to get the shares from the company through IPO will tend to buy shares at a relatively higher price on the listing day with an expectation of early gains. This increase in demand will overestimate the price at which the investors should buy the shares. The wide gap between the demand and supply will lead to increase in the price of the shares on the listing day which will result in higher underpricing.

Figure 4 shows the average underpricing for fixed priced issues and book building issues for every industry classification. The average underpricing is less for all industries when the IPOs have been issued through book building process as compared to fixed priced issues. There is a wide gap in the average underpricing of fixed priced issues and book building issues in case of technology industry. The minimum variation has been found in oil and gas industry. The variation in average underpricing is more in different industries for fixed priced issues whereas it is comparatively less in case of book building issues.

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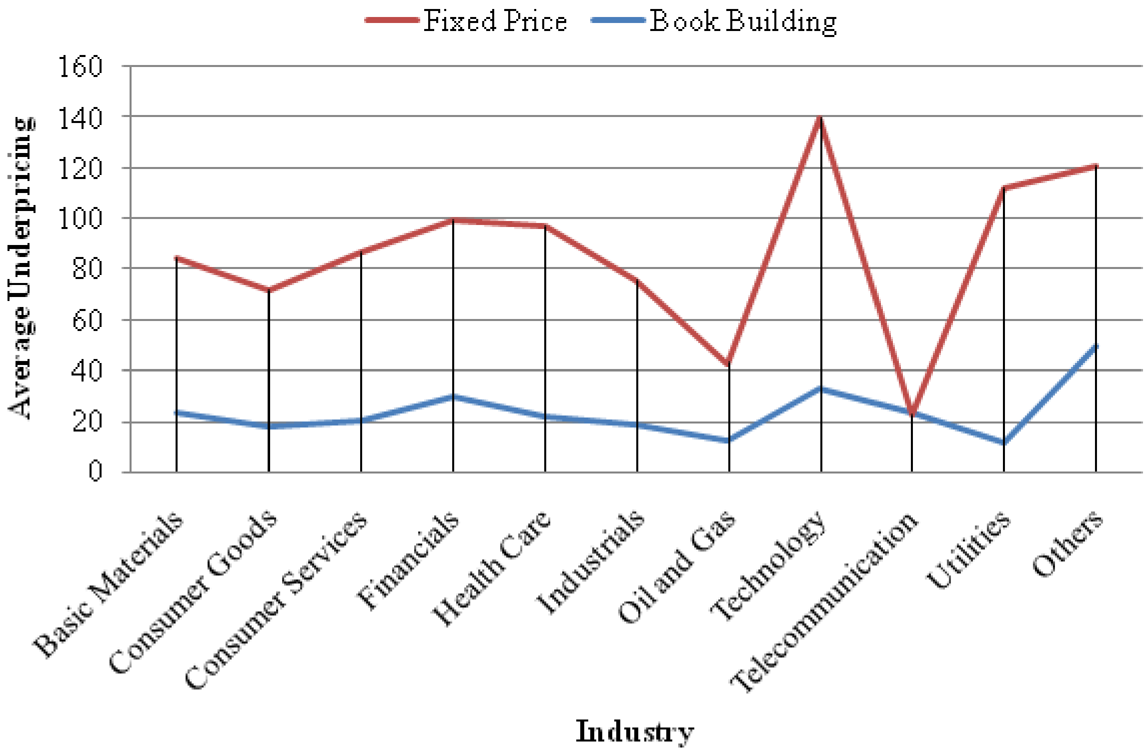

Fig-3: Industry Wise Average Underpricing – Fixed Pricing And Book Building Mechanism

Source: Author's calculation

The regulatory framework is one of the key factors that causes or reduces underpricing in IPOs. The strict and controlled regulatory regime will result in higher underpricing due to more intervention by the government whereas the reformed and free regulatory regime will help the issuers to price their IPOs in a much fair manner which will result in less underpricing.

The above analysis clearly shows that in India also underpricing has reduced over a period of time as the regulatory regime for securities market changed from post-liberalization to initial regulated and finally to reformed regulated one. Further the average underpricing is very less for IPOs issued through book building process in comparison to the IPOs issued through fixed pricing mechanism. This is the reason that more companies have started using book building as a preferred method of issuing IPOs since 2004 as more than 80 per cent of IPOs after 2001 have been issued through book building process.

CONCLUSION

Regulatory framework in a country plays a significant role in determining underpricing in the IPOs. A more reformed market provides better opportunities to the issuers, investors and intermediaries to take advantage of the market situations. The regulatory framework is instrumental in reducing information asymmetry thereby helps investors in taking a informed decision. The regulatory framework related to primary markets in India has undergone tremendous changes since 1992. The reforms process has helped the Indian primary market to grow and mature and compete with the other developed markets across globe. Regulatory framework in India changed with the abolition of CCI Act and formation of SEBI as the regulatory authority to govern primary and secondary markets.One of the major regulatory framework issues is the method of issuing IPOs. Three different mechanisms have been found to be used in different countries to issue shares i.e. Fixed Pricing, Book Building and Auctions. It has been found from the past studies that fixed pricing and book building are the most preferred methods of issuing IPOs in almost all the countries.

In India, book building method was introduced in 1996 but first IPO was offered through this method in 1998. Only 12 companies issued their shares through book building method from 1998 till 2003. With the reforms process taking place, book building method is becoming the most preferred method of issuing IPOs in India as is the case in other countries.

Auction method is rarely used for issuing IPOs although it is most suitable method of issuing IPO considering the expected value that an investor is ready to pay for buying shares of that company. The reason for this low popularity is the lack of availability of accurate information which creates situation of ‘winners curse’ for the investors.Out of total sample size of 3542 IPOs, 3242 IPOs (more than 90 per cent of total IPOs) were issued through fixed pricing method and 300 were issued through book building process during the period of study. Average underpricing has been found to be 64.05 per cent in IPOs issued through fixed price method whereas it is 24.05 per cent in IPOs issued through book building mechanism. The highest underpricing has been found to be 1620.50 per cent and 230.26 per cent for IPO issued through fixed price method and book building method respectively. The average issue size of fixed priced IPOs was Rs. 777.37 lakhs only whereas it increased manifold to Rs. 48918.64 lakhs for IPOs issued through book building mechanism. The larger issue size has contributed in decreasing the underpricing in IPOs.The regulatory framework in India has been classified into three different regimes i.e. (1) the immediate post-liberalization regime (1992-1995), (2) the initial regulated regime (1996-2000), and (3) the reformed regulated regime (2001 onwards). Maximum number of IPOs (2687) were issued during post liberalisation regime, 491 were issued in initial regulated regime and 364 IPOs were issued in reformed regulated regime.The 10 biggest IPOs have been issued through book building method which also supports the fact that the issuers prefer this process for issuing IPOs by getting the right price for their shares. All these IPOs were issued after 2004 and the average underpricing has been found to be only 15.92 per cent for all these issues. To take the benefit of higher investor’s confidence they offer more shares to the investors as with more flexibility in the book building method, the issuers and intermediaries are able to take care of individual expectations. The average underpricing is less for IPOs issued through book building method for all companies of different ages for every industry. Underpricing is more in younger firms as less information is available about these companies which results in information asymmetry as compared to older firms where more and accurate information will be available thereby reducing underpricing.

The relation between underpricing in Indian IPOs and other variables have been analysed and discussed in the present study. Underpricing in the IPOs is a universal phenomenon that is present in the financial system of every country. The financial system generally consists of four components – Financial Institutions, Financial Instruments, Financial Services and Financial Markets. The financial markets are classified as primary and secondary markets and further the primary market is divided into capital and money markets. Initial Public Offerings is an important component of the capital market. It provides the necessary impetus to the companies to start business operations and ultimately grow and perform better.

The primary market in India has become mature and had seen a precedent growth in the recent past. The growth process started with the replacement of Capital Control of India with Securities and Exchange Board of India (SEBI) as the main regulatory body to govern the primary and secondary markets in India and the initiation of liberalisation process in 1992. The main objectives of SEBI were to ensure the investor protection, to regulate the capital markets, and issue guidelines to bring efficiency in the market. The primary market saw a tremendous growth from 1992 till 1996. During this period more than 3000 companies came up with their IPOs. A large number of companies were formed without any constructive business and issued shares to take benefit of this boom in the market. Many of these companies are non-existent now and there is no trace of these companies. Many of the small investors lost their money in this process. This is the prime reason that there was a sharp decline in 1997 and 1998 with some recovery in 1999 and 2000, which was mainly led by companies from information technology sector and a period described as ‘internet bubble’. A large number of measures have been continuously taken by various regulatory authorities mainly by SEBI since its inception to protect the interest of the investors and to regulate the markets more effectively to make hem investor friendly.

A large number of studies have been done to find out the reasons for underpricing in IPOs. The empirical evidence is not uniform and does not provide any conclusive results. The results of the previous studies have been mixed to the extent that some studies have concluded that underpricing is a deliberate attempt by the issuing company in order to generate interest of the investors in the IPO. While another group of researchers have found that underpricing is dependent on certain factors like size of the issue, listing delay, age of the firm, subscription times etc. Some researchers have also found that the regulatory framework that governs the primary market also plays a significant role in determining underpricing in IPOs. Wherever the government has tried to exercise a very strict control over the primary market, it has resulted in more underpricing in the IPOs whereas the reformed and properly regulated markets have performed much better so far as pricing performance of the IPOs is concerned. The previous studies have supported a view that information asymmetry is one of the major reasons that cause underpricing and whatever factor helps in reducing these information asymmetries ultimately results in reducing underpricing also.

The above analysis clearly shows that underpricing is a universal phenomenon that exists in the IPOs in almost all the countries. There have been various factors that cause underpricing in IPOs. Various measures have been taken by SEBI and other regulatory bodies to reduce the underpricing in IPOs and some of the measures initiated have also yielded desired results. The right steps being taken by SEBI to restore and maintain investors' confidence and improve corporate governance practices among companies will be instrumental in future also in reducing underpricing in IPOs.

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