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Conflicts of Interest in IPOs: Case of Investment Banks
A Systematic Review

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Conflicts of Interest in IPOs: Case of Investment Banks
A Systematic Review

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ABSTRACT

Since the burst of the internet bubble there is a great deal of interest in the way investment bank prices and allocates initial public offerings (IPOs). The additional scrutiny and spotlight is also because of the dominance of bookbuilding mechanism, which gives complete discretion in terms of allocation and pricing to underwriters, and the huge amount of money left on the table by the issuers, especially during the internet bubble period. Numerous press stories and law suit by investors and issuers alleged conflicts of interest by investment banks at the expense of issuers and investors. On the basis of scoping study we identified five areas to examine conflicts of interest: laddering, spinning, relationship banking, profit sharing allocation and allocation to affiliated funds.

The findings of the systematic review show that very limited research has been done on the areas identified. Moreover, there is almost no evidence available to examine the behaviour of investment banks post internet bubble burst. Likewise, very limited evidence is available from countries other than United States. From whatever limited research has been done in these areas there does seem to be enough evidence to suggest that investment banks have been involved in activities that is in conflict with their responsibilities and duties. There is clear evidence of wrong doing by investment banks in US during the internet bubble period by being involved in spinning, laddering and profit sharing allocations. There is not much evidence available at the moment to charge the underwriters of exploiting issuers and investors through the use of affiliated banks, venture capitalists and mutual funds. There is a great need to examine the behaviour of investment banks not only for the sake of the stability of the financial markets but also for the financial intermediaries themselves as unnecessary regulations undermine the efficient operations of financial markets.

Keywords:

Initial Public Offerings, Conflict of Interest, Allocation, Relationship Banking

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Chapter One: Introduction

1.1 Introduction

One of the primary sources of funds for firms to grow and prosper is an Initial Public Offering (IPO). IPOs are also regarded as the primary determinant of venture capital financing which were instrumental in fostering the tremendous growth of firms such as Microsoft, Compaq, Oracle, and Sun Microsystems (Jeng and Wells, 2000). Black and Gilson (1998) state that the potential for exit through an IPO allows the entrepreneur and the venture capitalist to contract implicitly over control which is not easily possible through bank financing. On a more general note, IPOs helps to divert savings from consumption to long-term investment and when state-owned enterprises are converted into share-holding companies their management and operations become market-driven and market-responsive.

The initial public offering process is fairly complicated. It involves a complex inter-relationship between the advising, marketing, pricing, and trading functions (Ellis et al., 1999). There are three main players involved in the process: the issuer, the underwriter and the investor. The first time issuer, generally considered to be naïve in the process, leaves it to the underwriter to decide on the price and allocation of shares. In cases of firm commitment underwriting, the underwriter guarantees proceeds to the issuer and receives the gross spread (difference between the amount paid to issuer and the amount at which the issue is sold to the investors). The underwriter discretionally, as in bookbuilding, allocates shares to the investor once it decides on the price and the number of shares to be offered. Investors are classified as either institutional or retail. Figure 1 depicts a simplified IPO process. For an excellent explanation of the IPO process see Ellis et al., (1999).

The most discussed topic in IPOs, both in academics and in practice, is *underpricing*. Underpricing refers to the difference between the offer price and the price the stock fetches on the first day of trading. It reflects the amount of money left by the issuer on the table. There is extensive evidence of underpricing in almost all the markets and across time (Ritter, 2003). Coupled with this is the emergence of book building as the most popular share allocation mechanism throughout the world. Book building has been the most widely used mechanism in US for quite some time now and it is now

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becoming the dominant allocating mechanism in other countries. Bookbuilding gives underwriter complete discretion in determining the offer price and allocating shares to the investor.

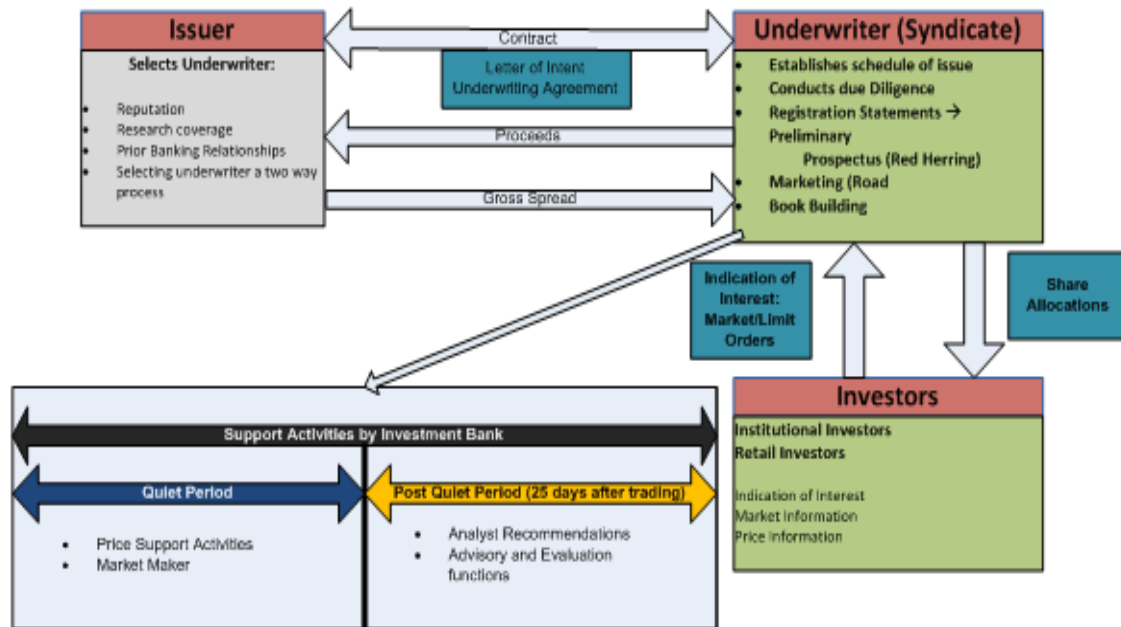


Figure 1: IPO Process

If the underwriter has no other sources of profits than gross spread it will make no sense for the underwriter to sub-optimize the offering price. This will lead the underwriter and issuer to work towards the same goal (Kojima, 2007). However, research has shown that underwriters do derive profits from underpricing, either directly or indirectly (Loughran and Ritter, 2002; Ritter and Zhang, 2007). Thus, the additional sources of profit for the underwriter creates potential for conflict of interest between the issuer and underwriter.

Conflicts of interest for the investment bank arise not only with the issuer but also with investors. These have led some academicians to refer IPO process as a web of conflicts (Dalton et al., 2003). It is not only the investment banks which are exposed to conflicts on interest in the IPO process; issuers are also exposed to and/or perpetuate conflicts of interest. There is some academic research which analyses conflicts of interest between managers (venture capital funds) of IPO firms and other shareholders. The objective of this systematic review, however, is to review the theoretical and empirical evidence of various manifestations of conflicts of interest and its impact on the IPO process that an investment bank is exposed to.

1.2 The Need to Investigate Conflicts of Interest

Conflicts of interest have generated tremendous interest among academicians and researchers in the aftermath of dot com crash and has further accentuated due to a number of high profile scandal and cases in the recent past notably the failure of Enron, Parmalat and WorldCom among others. In the context of this heightened interest in conflicts of interest, Mehran and Stulz, (2007) posit some very important and pertinent questions:

- Have the mechanisms that control conflict of interest in market economies fail to do so in financial institutions?
- If these mechanisms fail, does it mean that the conflicts of interest affect the prices at which securities trade?
- What is the efficiency of primary and capital markets?
- Is welfare of customers of financial institutions protected?
- Does diversification of activities within financial institutions make conflicts of interest worse or better?
- Have legal and regulatory attempts to affect the impact of conflicts of interest made the customers of financial institutions better or worse off?
- Do these efforts have unintended consequences that make capital markets less efficient and less competitive?

My investigation of Initial Public offerings is motivated by some of these questions. The role of investment banks has come under increased scrutiny in the aftermath of dotcom. The dotcom crash, which was preceded by unprecedented levels of underpricing, has firmly put the spotlight on the investment banks with allegation of exploitation of conflict of interest at the expense of issuers and investors. With global IPO activity again reaching pre dotcom crash levels and the huge surge of IPO volumes in markets other than US (as shown in fig 2), there can be no better time to investigate conflicts of interest in some other financial centres of the world.

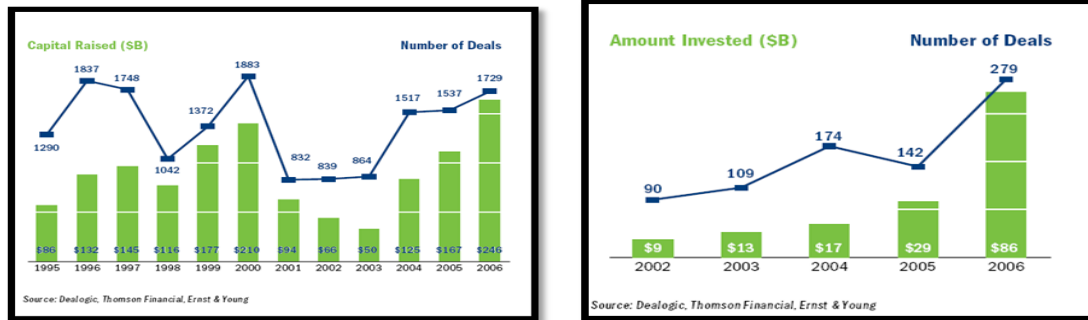


Figure 2: Global IPO Activity & IPO Activity in BRIC Countries

Investigation of conflicts of interest is important for issuers, investors, financial markets and not the least investment banks. With the development in technology and opening up of a number of new markets, such as the alternative investment market in London, more and more small investors and entrepreneurs are coming to the market like never before. This has contributed to the rise of retail investors and relatively young and small issuers in financial markets in the recent times. However, information asymmetries are magnified with retail investors/ small issuers as they do not possess the scale or economies to gather or collect information (Mehran and Stulz, 2007). It therefore becomes important to investigate the role of financial intermediaries in their relationships with these investors and issuers. Empirical evidences have shown that there are concerns that need to be addressed for the efficient and smooth functioning of financial markets (Ber et. al, 2001; Reuter, 2006; Ritter and Zhang, 2007).

The mere presence of conflict of interest entails significant costs to financial intermediaries likes investment banks. Rational investors discount the offer price when they believe conflicts of interest exist which imposes costs on financial institutions (Mehran and Stulz, 2007). If an institution is able to avoid conflicts of interest or establish that conflicts of interest will not affect its actions in a way that is costly to its customers, it will then be able to sell its products and services at a higher price (Mehran and Stulz, 2007). Reputational capital matters tremendously to financial intermediaries. An erosion of this capital will not only bring about negative consequences for the company, but for the overall economy as a whole. Thus, it becomes important to correctly analyse and evaluate the role financial intermediaries such as investment banks play to improve the operation of the financial markets.

The responsibility for the smooth operation of the financial markets falls on the regulators. One course of action that these regulators can take is to impose rules and regulations in the operation of the financial intermediaries to minimize or avoid conflicts of interest. In the US, NASD has published proposal for changing conflict of interest rules relating to underwriting of public offerings (Gittleman and Sacks, 2006). However, relying on rules and regulations rather than on the forces of free market can make financial markets less efficient in pricing securities and allocating capital and ultimately reducing economic growth (Mehran and Stulz, 2007). Therefore, I believe it is the responsibility of the researchers to present empirical evidence of ground reality so that regulators undertake (or not undertake) appropriate action which is neither detrimental to the issuers or investors nor interferes with the smooth functioning of the financial markets.

1.3 Review Objectives

Initial public offerings (IPOs) have been regarded as a web of conflicts of interest (Dalton et al., 2003). As such there are number aspects in IPOs that have been investigated by academicians to examine conflicts of interest. Some papers have looked in to conflict of interest between pre-IPO shareholders and the decision makers (Ljungqvist and Wilhelm, 2003). A large volume of literature analyses the conflict of interest as a result of sell-side analysis by analyst employed by underwriters (Michaely and Womack, 1999). It, therefore, will be impossible to look into all the areas in IPOs which has implications for conflicts of interest. The scoping study done earlier contributed to this and has helped in identifying the areas that I am interested in. I will focus only on those conflicts of interest which have the potential to be perpetuated/exploited by investments banks and which could occur from the beginning of the IPO process (after the underwriter is selected) until the end of the quiet period (the period after which underwriter is allowed to make stock recommendations). This will mean I will not look into conflict of interest that arises from analyst recommendations which occurs after the end of the quiet period or conflicts of interest between pre-IPO shareholders and the decision makers as they neither involve investment banks nor occur during the time period I have focussed on. Scoping study helped me identify activities of investment banks during an IPO which

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could lead to conflicts of interest and be within the framework discussed above. These activities have been listed below in table 1 with their brief description.

The specific objectives of the review are:

- What evidence is available of the various types of conflicts of interest perpetuated by investment banks in the initial public offering process?
- What is the impact of such conflicts of interest on the degree of underpricing and share allocations?
- What research tools/techniques, methodologies and proxies have been used to uncover such conflicts of interest?
- Is the nature of such conflicts of interests in different in different markets such as US and Europe and/or Developed and Emerging Markets?

Activities potentially leading to conflicts of interest	Description
Laddering	Underwriter allocates shares to those who are willing to buy more shares once it starts trading
Spinning	Underwriter allocates shares to issuing firm executives/ VC &/or to other investors to attract future underwriting business
Commission based Allocations	Underwriter allocates hot IPOs to those investors who direct IPO profits as commission back to underwriters.
Allocation to Affiliated Funds	Underwriter allocates either hot or cold IPOs to its affiliated funds to improve fund performance or improve/maintain underwriting business
Relationship banking	Using private information commercial banks who are underwriters allocate overpriced IPOs to investors

Table 1: Research areas identified from scoping study

The rest of the review paper is divided into four chapters. Chapter two introduces the relevant theoretical background from the initial public offer literature. Chapter three presents the methodology for conducting the review and includes search and quality appraisal criteria. Chapter four presents the findings from the systematic review process. Finally, chapter five concludes the review and identifies potential research directions.

2 Chapter Two: Theoretical Background

2.1 Conflict of Interest

The definition of conflict of interest itself has attracted a lot of academic rigour with argument and counter argument with respect to its scope. Some academicians have provided narrow and specific definitions while others have put forward all encompassing, comprehensive definitions.

According to Boatright (Boatright, 2000) conflict of interest exists *“when a personal or institutional interest interferes with the ability of an individual or institution to act in the interest of another party, when the individual or institution has an ethical or legal obligation to act in that other party’s interest”*.

(Carson, 1994) provides a comprehensive definition of conflict of interest:

“Conflict of interest exists in any situation in which an individual (I) has difficulty discharging the official (conventional/fiduciary) duties attaching to a position or office she holds because either: (i) there is (or I believes that there is) an actual or potential conflict between her own personal interests and the interests of the party (P) to whom she owes those duties, or (ii) I has a desire to promote (or thwart) the interests of (X) (where X is an entity which has interests) and there is (or I believes that there is) an actual or potential conflict between promoting (or thwarting) X’s interests and the interests of P.”

The key elements of the above definition of conflict of interest are:

- (a) It is not necessary that “I” fails in discharging his fiduciary duties; difficulty in discharging the duties would constitute conflict of interest.
- (b) There is no need for the actual conflict of interest to exist to create conflict of interest. If “I” believes the existence of conflict of interest it would tantamount to conflict of interest and it would hinder his performance of the duties of her position.
- (c) Conflict of interest arises when a person works for a client. There will be no conflict of interest if the person works for himself.

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For the purpose of this research I will use the following definition: “*conflict of interest as a situation in which a party to a transaction can potentially gain by taking actions that adversely affect its counterparty*” (Mehran and Stulz, 2007).

Boatright (1999) presents a comprehensive description of conflicts of interest: types of conflicts of interest, sources of conflicts of interest and strategies to manage conflicts of interest. He creates taxonomy of the different types of conflicts of interest with regards to the financial services firms. He distinguishes conflict of interest into three categories: (a) actual and potential conflict of interest, (b) personal and impersonal conflict of interest and (c) individual or organizational conflict of interest. Financial instruments, financial markets, advisory & management services, and organizational governance are considered as sources of the conflicts of interest. His strategies to manage conflicts include competition, disclosure, rules and policies, and structural changes.

Hayward and Boeker (1998), Boatright, J. R. (2000), Crockett et al., (2003), Walter (2004), Mehran and Stulz (2007) and, Palazzo and Rethel (2007) are some of the papers that provide interesting descriptions of conflicts of interest in the context of financial intermediaries such as investment banks.

2.2 Initial Public Offerings

There a huge volume of literature available on Initial Public Offerings (IPOs). Researchers over the years have examined a number of different issues surrounding IPOs. Both the theoretical and empirical IPO literature has become highly sophisticated. A discussion on any topic on IPOs should provide an introduction to the various theories of underpricing and long term performance, pricing and allocation at the very least. In this section we will present a discussion on the various theories that have relevance to the issue concerning conflicts of interest perpetuated by investment banks.

2.2.1 Theories on initial performance (underpricing) of IPOs

Underpricing of IPOs has been focus of numerous academic papers since it was first observed in the early 1970s. Stoll and Curley (1970), Reilly (1973), Logue (1973) and Ibbotson (1975) were the first to document underpricing in financial literature (Ritter and Welch, 2002). It is a ubiquitous phenomenon and has persisted across time and

countries. The degree of underpricing, however, has fluctuated over time prompting researchers and academicians to come up with different theories to explain it. Ritter and Welch, (2002), Ritter (2003) and Ljungqvist (2007) provide excellent reviews on underpricing theories. Figure 3 shows underpricing in a number of developed and

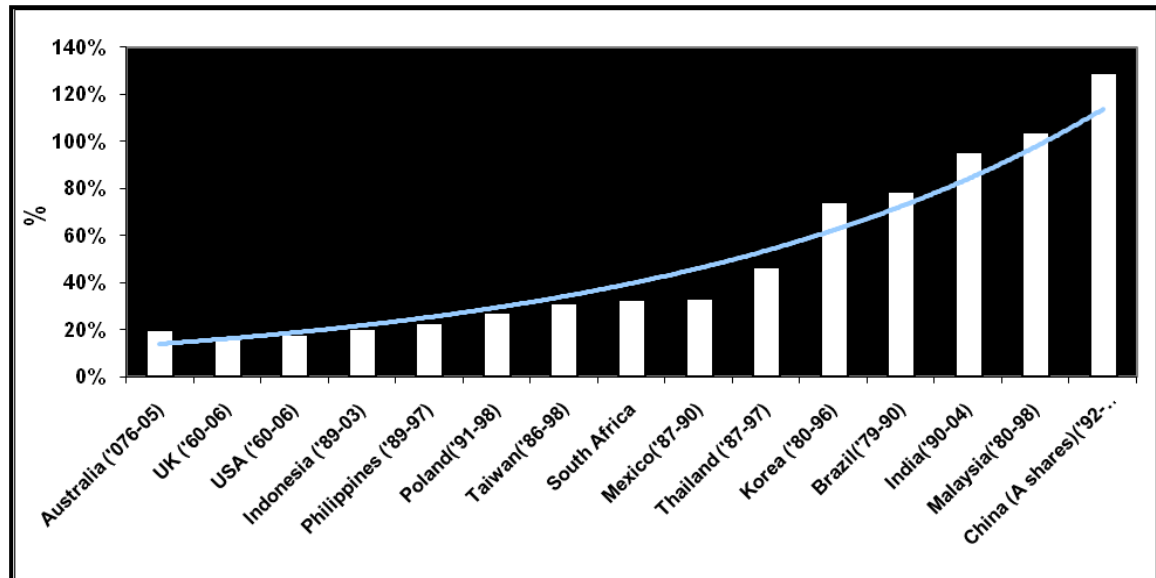


Figure 3: Underpricing in developed and emerging markets

emerging markets.

Theories on initial performance of IPOs can be grouped under two categories: those that assume information asymmetry between participants and those that do not assume information asymmetry (Ritter and Welch, 2002).

2.2.1.1 Underpricing theories based on Information asymmetry

There are three parties to an initial public offering: issuer, investment bank (underwriter) and the investor. Underpricing theories based on information asymmetry assume one of the parties to have superior information than the other parties. These theories regard underpricing a result of this information asymmetry. The most well known theory which *assumes investors to be more informed* than others is the one propounded by Rock (1986). The theory assumes that there are two groups of investors: informed and uninformed and that the continued participation of the uninformed group is essential for the successful completion of IPOs. Rock (1986) argues that underpricing is essential for the continued participation of uninformed investors. In absence of (expected) underpricing uninformed investor will not

participate because of winner's curse problem: informed investors will crowd out the uninformed investors in case of underpriced IPOs and 100% allocation in case of overpriced issues. Koh and Walter (1989) provide a direct test of the rock model in Singapore and find that informed investors just broke even. Support for Rock's theoretical argument was also found in UK by Levis (1990) and in Finland by Keloharju (1993). Michaely and Shaw (1994) argue and provide empirical evidence that with the reduction of heterogeneity in investors the need to underprice goes away. Presented first by Beatty and Ritter (1986) and empirically observed both through time and across countries is the link between ex ante uncertainty and degree of underpricing. It has been consistently shown that higher the ex ante uncertainty higher is the degree of underpricing. Most of the researchers explaining underpricing control for this uncertainty, the proxies of which fall in four groups: company characteristics, offering characteristics, prospectus disclosure and aftermarket variables (Ljungqvist, 2007). Beatty and Ritter's, (1986) claim that investment banks coerce issuers to underprice in order to attract the uninformed investors was empirically test by Nanda and Yun (1997) and Dunbar (2000). Nanda and Yun (1997) find that investment bank's market share is negatively affected by overpricing and Dunbar (2000) supports the argument by empirically finding evidence of decreasing market share of those investment banks who either underprice or overprice too much.

Since information asymmetry contributes to underpricing it was argued that underpricing can be reduced by taking measures to reduce information asymmetry. Hiring a reputable investment bank and/or auditor serves the purpose if reputation is valuable to the investment bank. Booth and Smith (1986), Carter and Manaster (1990) and Michaely and Shaw (1994) all examined the impact of a prestigious underwriter on the degree of underpricing. The relationship between the two variables has changed over time. While there was a negative relationship between prestigious underwriter and the degree of underpricing during the 1970s and 1980s, the sign has flipped during the 1990s. A number of explanations including the change in issuer objective (Loughran and Ritter, 2004), the lowering of the bank's criteria for selecting firms to bring to the market and endogeneity issues (Habib and Ljungqvist, 2001) among others have been advanced to explain the change in the sign.

Theories of underpricing which assume *issuers to be better informed than others* are also regarded as signalling theories because of the need of the issuers to signal the

quality of their firm. High quality firms need to distinguish themselves from low quality ones and underpricing becomes a very effective tool which the low quality firms cannot replicate. High quality issuers make sacrifice (underpricing) in the beginning and recoup their losses through better pricing when they come to the market for the second time. The major contributors to signalling theories are Allen and Faulhaber (1989), Grinblatt and Hwang (1989) and Welch (1989). The empirical evidence for signalling theories is relatively weak. Jegadeesh et al.,(1993) provide a direct test of the signalling model and find that aftermarket returns are as good predictors as the first day return for seasoned equity offerings (SEOs). Similarly, Michaely and Shaw (1994) find evidence which fails to link underpricing and the probability of SEOs.

Theories of underpricing in which the *investment banks are assumed to be better informed than others* are also referred to as the principal agent model. The principal agent model has caught the attention of researchers following the burst of internet bubble (Ljungqvist, 2007). This approach is increasingly used to explain IPO allocation and pricing behaviour exhibited by the investment banks, especially during the internet bubble period (Loughran and Ritter, 2004). Baron and Holmstrom (1980) and Baron (1982) were the first to explore principal agent models in IPO literature. They argue that investment banks underprice IPOs because of their superior information and in doing so spend less effort in marketing and selling the product. Inconsistent with the prediction of the principal agent model, Muscarella and Vetsuypens (1989) find that the underpricing of investment banks when they themselves go public is similar to those of other firms.

2.2.1.2 Underpricing theories on pricing and allocation of IPOs

Since I am interested in conflicts of interest perpetuated by investment banks which are primarily evident through pricing and allocation, it will be relevant to look at some of the IPO underpricing theories and empirical evidence which are based on pricing and allocation. Although some of the theories are based on information asymmetry, they are discussed here to underscore their importance to the topic I am interested in. The most important theory on IPO pricing and allocation is the one posited by Benveniste and Spindt (1989). Their model is based on the book building mechanism of IPO allocation and extends Rock's (1986) model of underpricing. They

argue that underpricing and more allocation is the reward to induce truthful revelation from its coalition of informed investors. Since the investment bank is a repeat player in the IPO market, it can exclude misleading investors while rewarding truthful investors. The reward for conveying favourable information to the investment bank is the preferential allocation of underpriced stocks. Thus underpricing is the equilibrium in which the true value of the firm is extracted from the informed investors. Since bookbuilding mechanism provides discretion to underwriters in terms of pricing and allocation, underwriters use it to extract favourable information from the investor which in turn reduces the average underpricing. Benveniste and Wilhelm (1990) and Spatt and Srivastava (1991) also contribute to the bookbuilding theory and posit that bookbuilding can be an effective tool to extract information from the investors. Sherman (2000), Sherman and Titman (2002) and Sherman (2005) strongly support the bookbuilding mechanism and treat underpricing as an equilibrium.

Arguments of the bookbuilding theory seem very plausible and appealing as long as underpricing is reasonable. There also has been some empirical evidence supporting the theory (Cornelli and Goldreich, 2001). However, it becomes less appealing and subject to criticism when underpricing reaches the levels as witnessed during 1999-2000 in US and most other countries. The bookbuilding is seen by many as a mechanism to extract rent by the investment banks. The alternative view builds on the work of Baron (1982). Loughran and Ritter (2002) propose the prospect theory as an alternative explanation for allocation and pricing of IPOs. They argue that entrepreneurs readily accept underpricing and fail to get upset with high underpricing because they tend to offset the wealth loss as a result of underpricing with the wealth gain on their shares as prices increase in the after-market.

Some papers have compared bookbuilding mechanism with other mechanism such as auction. Biais et al., (2002) and Biais and Faugeron-Crouzet (2002) present theoretical models which replicate the benefits of bookbuilding, namely information extractions, without the cost attributable to bookbuilding mechanism. Empirically, Derrien and Womack (2003) and Kaneko and Pettway (2003) have provided evidences showing underpricing lower for IPOs issued through auctions than those issued through bookbuilding.

Allocation between institutional and retail investors has been one of the issues that papers on allocation have investigated. Studies in both the US and UK have shown

that institutional investors are preferred over retail investors (Hanley and Wilhelm, 1995; Aggarwal et al., 2002; Cornelli and Goldreich, 2001). While Hanley and Wilhelm, (1995) find underwriters being strategic in allocation of IPOs with higher allocation to institutional investors in both hot and cold IPOs, Aggarwal et al., (2002) on the other hand find evidence of institutional investor getting a larger share of the allocation in case of hot IPOs and lower allocation in case of weak IPOs. They argue that the allocation to institutional investors is in excess of what is explained by the bookbuilding theories. Moreover, Boehmer et al., (2006) find evidence that almost 75% of the allocation in a particular IPO is made by the lead-underwriter.

2.2.1.3 Some other explanations of IPO underpricing¹

The IPO underpricing literature is huge and it would be practically impossible to discuss all the theories that have been proposed to explain it. This section will discuss some of the other well received explanations of IPO underpricing. One explanation for underpricing comes from the law suit avoidance theory which posits that underpricing reduces the risk of being sued by investors (Tinic, 1988 & Hughes and Thakor, 1992). However, there is not much empirical support for the theory as underpricing is evident even in those countries where the risk of being sued is not economically significant (Lee et al., 1996; Jenkinson, 1990). Ruud, (1993) posited that it is the after-market price stabilization activities of the underwriter that lead to underpricing being observed. Ellis et al., (2000) find evidence of the underwriter being the most dominant market maker following the IPO.

Some theories regard underpricing as a tool to retain control. Since underpriced IPOs are heavily subscribed, it allows the issuers/investment banks to allocate to a wide group of investors avoiding control by a large single investor (Brennan and Franks, 1997). Booth and Chua (1996) on the other hand argue that dispersed ownership helps in maintaining a liquid market for the stocks while Zingales (1995) argues that a more dispersed ownership helps the pre-IPO shareholders to easily sell their shares in the aftermarket. Some behavioural explanations are also offered to explain underpricing. Welch's (1992) information cascade, Ljungqvist et al., (2006) investor sentiment theory and Loughran and Ritter's (2002) prospect theory are examples of behavioural explanations to underpricing.

¹ See Ljungqvist (2007) for detailed description.

2.2.2 Theories on long-term performance of IPOs

Similar to initial underpricing, long-term performance of IPOs has also been researched heavily by the academicians.² In addition to a number of papers explaining the causes of long term performance, the literature on long-term performance has also discussed on the measurement issues which has plagued almost all discussion that relates to long term performance. Most of the studies have documented long term poor performance of IPOs over the three-five year period subsequent to the IPO (Keloharju, 1993; Ritter, 1991; Aggarwal and Rivoli, 1990; Aggarwal et al., 1993; Levis, 1995). One explanation of the long term poor performance of IPOs comes from those who attribute it to fads (Ritter, 1991 & Aggarwal and Rivoli, 1990). Over optimistic investors buy IPOs expecting high returns, driving the initial price high, but subsequently sell their holding when those expectations are not met. Another explanation of long term underperformance is provided by Schultz (2003) who argues that large number of IPOs follows successful IPOs. This group of IPOs which follows the large group and they do not perform as well as the successful IPOs as they tend to be overvalued by the investors. Since this group of IPOs normally occupies large portion of the sample, the IPOs in general show on average low returns in the long run.

Jain and Kini (1994) argue that the poor long-term performance of IPOs can be partly explained by the decreasing ownership of managers immediately after the flotation. The decrease in managerial shareholdings following the IPO potentially leads to a worsening of managerial incentives. Jain and Kini (1994) find a positive link between operating performance and the proportion of shares retained by managers after the IPO. Mikkelsen et al., (1997) record managerial ownership over the ten years following the IPO. Contrary to Jain and Kini (1994), they do not find any consistent relationship between performance and changes or levels of ownership at different points in time. Underwriter reputation has also been used to explain long term underperformance. Mikkelsen et al., (1997) find that underwriter reputation can explain the long term performance of IPOs and show that prestigious underwriter were associated with poor long term performance and vice-versa. Brav and Gompers

² See Ritter and Welch (2002) for a detailed discussion

(1997) show that IPOs backed by venture capital funds perform much better than those which are not.

2.2.3 Venture Capital backed IPOs

A significant number of IPOs which goes public is backed by venture capital funds. As a result of this a number of academic papers investigate the performance of venture backed IPOs. Venture capitalists not only provide financial and technical support to entrepreneurs. As venture capitalists are repeated players in the market they also provide certification and monitoring to IPOs which is valued highly by market participants. Early studies of venture backed IPOs were provided by Barry et al., (1990) and Megginson and Weiss (1991). Megginson and Weiss (1991) find the initial returns of venture backed IPOs lower than non-venture capital backed IPOs. They attribute the difference to the certification ability of venture capitalist in reducing information asymmetry. Furthermore, they also find evidence of long-term relationship between venture capitalists and underwriters which lead to lowering of issuing costs. They also find that venture capitalists retain a large fraction of shares even after the IPO. Barry et al (1990) on the other hand focus on the monitoring role of venture capitalist. They find a negative relationship between the degree of underpricing and ownership, length of board service and number of venture capitalist involved in the firm.

Gompers (1996) introduced the grandstanding hypothesis following an examination of young and mature venture capital funds. He finds that IPOs backed by young venture capital funds are younger at the time IPOs and are also more underpriced than those backed by mature venture capital funds. This is primarily because of the need of these young venture capital funds to establish reputation in the market and to seek funds to make further investments.

While earlier studies on venture capital backed IPOs showed a negative relationship between underpricing and venture capital backing, the sign of the relationship flipped in some later studies. Both Francis and Hasan (2001) and Loughran and Ritter (2004) find evidence of higher underpricing associated with venture capital backing in the context of US. Hamao et al., (2000) find similar relationship in the context of Japan and Bessler and Kurth (2007) in the context of Germany.

The evidence of the impact of venture capital on the long term performance of IPOs is mixed. Brav and Gompers (1997) find better long term performance of venture backed IPOs and relate it to the sound management structures set up by the venture capitalists. Krishnan et al., (2006) also find evidence of superior long term performance of venture backed IPOs. They also study the impact of venture capital reputation on the performance of IPOs by using some new measures of underwriter reputation. The study finds that the market share of venture backed IPOs dominates other measure of underwriter reputation in explaining the long term performance. Hamao et al (2000) find the long term performance of venture backed IPOs no different from the performance of other IPOs. Bessler and Kurth (2007) also find similar result in the context of Germany.

Lee and Wahal (2004) address the endogeneity issue associated with investigation of venture backed IPOs. They state that comparing venture backed IPOs and non-venture backed IPOs is not appropriate as venture capital funding is concentrated in a few industries and also in a few geographical areas. They also argue that the receipt of venture funding is an endogenous choice on the part of venture capitalist and the firm. After using measures to control for this endogeneity, the study finds higher initial returns for IPOs backed by venture capitalists and supports the grandstanding hypothesis.

2.3 Integration of commercial bank into Investment Banking

The integration of commercial banks with investment banks has been a contentious issue with policy makers in a number of countries (Kutsuna et al., 2007). The repeal of the Glass-Steagall act in the US in the late 1990s has also triggered additional interest in the issue. The proponents of universal banking point to the economies obtained in information production and therefore greater accessibility to capital markets. The opponents, however, argue that such integration gives great power to banks and that they are exposed to conflicts of interest. Such power could enable the banks to indulge in self-dealing and also gain bargaining power in client's investment banking services (Kutsuna et al., 2007) .

Banking relationship are very crucial to young budding firms. Without proper support from credit markets it is almost impossible for entrepreneurs to grow and develop. Moreover, such banking relationship also helps firms to be able to acquire funds

easily and at a lower cost. James and Wier, (1990) explains the relative benefits of banking relationship for firms considering an IPO. They find that the degree of underpricing is lower for firms with a bank lending relationship. Since IPOs are prone to asymmetry information, having banking relationship can help to ameliorate such asymmetry by providing certification.

There are two main conflicts of interests in the context of universal banking: bank lending/underwriting conflicts and sell side analysis/underwriting conflicts (Johnson and Marietta-Westberg, 2005).

2.3.1 Bank Lending/Underwriting Conflicts

The concern of banks being involved in underwriting business is expressed by Benston (1990) and Saunders (1985). Since these banks have superior information and prior financial claims on the assets of the company, the major concern of these authors was the possibility of commercial banks to monopolize and drive out investment banks (Puri, 1999). To address these issues a number of studies investigating conflicts of interest in bank lending/underwriting relationship have been carried out. Most of these studies investigate the underwriting of bonds by commercial banks and have utilized data of both pre and post Glass-Steagall era. Ang and Richardson (1994) Kroszner and Rajan (1994) and Puri (1994) provide evidence from the pre Glass-Steagall era and Gande et al., (1997) from the modern era. Kroszner and Rajan (1994) examine two hypotheses: *Naive Investor and Rational Discounting Hypothesis*. The former posits that the underwriter of an IPO in which it has an equity stake is able to take advantage of the unsuspecting buyers while the later posits that the investors or buyers correctly anticipate the conflict of interest in these situations and therefore demand greater discounts in offer price.

The paper didn't find any support for the naive investor hypothesis and all evidences supported the rational discounting hypothesis. They find the quality of issues underwritten by commercial banks higher and the long term performance better than those issues underwritten by investment banks. Further, suspecting the lemons discounts demanded for low quality issues, commercial banks avoided issues which were information sensitive and focused on older, larger and better known firms. Further, the paper finds that the default rates of bond underwritten by commercial banks to be much lower than those issued by investment banks. Ang and Richardson

(1994) and Puri (1994) also find similar evidence for debt underwritten by commercial banks in the pre-Steagall era.

Using post Glass-Steagall Puri (1996) and Gande et al., (1997) find similar evidence. Both the studies support the certification hypothesis and find that debt issues managed by commercial banks exhibits higher prices compared to debt managed by investment banks. Hebb and Fraser (2002) provide evidence from Canada after the removal of restrictions on chartered bank ownership of investment dealers. Using ex ante bond yield and equity price responses to bond issue as measures the paper finds no evidence supporting conflict of interest. In a highly cited paper Puri (1999) examines a number of issues when both commercial banks and investment banks underwrite issues. The paper finds that banks can be better certifiers than investment houses when banks lend to firms. However, if banks hold equity position their certification ability is hindered.

2.3.2 Sell side Analysis/Underwriting Conflicts

Michaely and Womack (1999) is one of the first papers that discuss conflicts on interest in the context of underwriter analyst recommendations. They investigate how underwriter analysts recommend stocks which were brought to the market by their firms. They find significant bias in the behaviour of underwriter analysts as stocks recommended by them perform poorly than buy recommendations by unaffiliated brokers prior to, at the time of, and subsequent to the recommendation date. Lin and McNichols (1998) use seasoned equity offerings (SEOs) to evaluate the recommendation of underwriter analysts. They find evidence similar to Michaely and Womack (1999) as underwriter analyst release more favourable earnings forecast and stock recommendations than non-affiliated analysts. Bradley et al., (2003) examine the underwriter analyst recommendations after the expiration of the quiet period. Using data during the period 1996-2000 they find that analyst coverage is initiated for 76% of the firms and mostly with a positive recommendation. Moreover, they find that firms with analyst coverage experience 4.1% abnormal return during the first 5 days after the expiry of quiet period compared to an abnormal return of 0.1% for firms without analyst coverage. Agrawal and Chen (2004) also find results consistent with conflict of interest. They find forecasts made by underwriter analysts to be more frequent but less accurate than independent analysts. Ljungqvist et al., (2006) find that

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while affiliated analyst do provide aggressive recommendations they do not influence the outcome of future investment bank business. Using comprehensive data from 1993-2002, the paper finds that the main determinant in choosing investment banks is the strength of prior underwriting and lending relationships.

3 Chapter Three: Methodology

This chapter presents the methodology for conducting the systematic review. Beginning with a rationale for conducting the systematic review and a list of members in the consultation group, the chapter then presents the systematic review protocol which includes the search strings, resources used, criteria for selecting studies and a quality appraisal tool.

3.1 Rationale for Systematic Review

Systematic review, which is extensively used in the field of medicine as an aid to evidence based decision making (Petticrew, 2001), is an extremely useful tool for analysing existing literature in a scientific way to identify key contributions and evidence on a particular issue. Petticrew (2001) dispels some of the myth surrounding the use of systematic reviews in areas other than randomised controlled trials. Systematic reviews are extremely useful in “identifying, appraising and summarizing the results of otherwise unmanageable quantities of research” (Mulrow, 1994). Systematic reviews involves rigour and is different from the traditional literature review in terms of transparency and reproducibility through explicit inclusion and exclusion criteria in selecting studies as well as clear quality appraisal criteria. Table 2 presents the systematic review process as presented in Tranfield et al., (2003). This chapter deals with stage 1 of the systematic review process. Phase 0 and Phase 1 of the first stage of the review process were dealt in an earlier paper presented as scoping study whereby I conducted a preliminary review of the conflicts of interest in IPOs perpetuated by investment banks and highlighted the need to conduct such a review. This part of the paper will deal with the development of a review protocol. Stage II and III is carried out in chapters four and five of this review.

As mentioned in the scoping study, the aims of the systematic review are as follows:

- What evidence is available of the various types of conflicts of interest perpetuated by investment banks in the initial public offering process?
- What is the impact of such conflicts of interest on the degree of underpricing and share allocations?
- What research tools/techniques, methodologies and proxies have been used to uncover such conflicts of interest?
- Is the nature of such conflicts of interests different in different markets such as US and Europe and/or Developed and Emerging Markets?

Stage 1: Planning the Review
<ul style="list-style-type: none">• Phase 0: Identification of the need for a review
<ul style="list-style-type: none">• Phase 1 - Preparation of a proposal for a systematic review
<ul style="list-style-type: none">• Phase 2 - Development of a review protocol
Stage II - Conducting the review
<ul style="list-style-type: none">• Phase 3 - Identification of research
<ul style="list-style-type: none">• Phase 4 - Selection of studies
<ul style="list-style-type: none">• Phase 5 - Study quality assessment
<ul style="list-style-type: none">• Phase 6 - Data extraction and monitoring progress
<ul style="list-style-type: none">• Phase 7 - Data synthesis
Stage III - Reporting and dissemination
<ul style="list-style-type: none">• Phase 8 - The report and recommendations
<ul style="list-style-type: none">• Phase 9 - Getting evidence into practice

Table 2: Stages of Systematic Review

3.2 Systematic review protocol

3.2.1 The Consultation Panel

Table 3 presents the consultation panel for my reviews. Since it is impossible to get access to all the literature by myself, I relied on the expertise of my consultation panel to make sure that I didn't miss out on some of the important papers that shape my field of study. The panel consists of a good mix of academicians and practitioners. This group will not only help me during the systematic review but throughout my PhD program. Professor Sunil Poshakwale has continuously encouraged and provided feedback throughout the systematic review process. Comments from other members of the panel have also been influential in shaping the systematic review. While Dr. David Denyer's classes on the systematic review process helped me understand the fundamental principles of the process, Ms Heather Woodfield's experience and guidance helped me to use and search journal databases in an effective and efficient manner.

Person	Title/Organization	Role
Prof. Sunil Poshakwale	Professor of Finance, Cranfield School of Management	Supervisor
Prof. Sudi Sudarsanam	Professor of Finance, Cranfield School of Management	Advisor & Member of Panel
Prof. Krishna Paudyal	Professor of Finance, Durham Business School, University of Durham	External Advisor
Dr. Bhaskar Das Gupta	Chairman and Managing Director, Strategy and Architecture, ABN Ambro Group	Practitioner & External Advisor
Dr. Vineet Agarwal	Research Fellow	Internal Advisor
Ms. Emma Parry	Research Fellow	Systematic review expert
Dr. Ranko Jelic	Reader, Birmingham University	External Advisor
Dr. Joakim Westerholm	Senior Lecturer, Faculty of Finance and Economics, University of Sydney, Australia	External Advisor
Dr Radha Shiwakoti	Lecturer in Accounting, Kent Business School, University of Kent	External Advisor
Heather Woodfield	Social Sciences Information Specialist	Literature Search Advisor

Table 3: Consultation Panel for Systematic Review

3.2.2 Search Strategy

In order to properly review an area of interest it is pertinent to develop a sound and robust search strategy. A sound search strategy helps in identifying and uncovering all the relevant and important literature. Such a strategy should include more than one mechanism so as to triangulate the results of a particular mechanism.

3.2.2.1 Keyword Search

Although conflict of interest is widespread in the IPO process and a number of academic papers have addressed it, the term “conflict of interest is not explicitly stated in a number of papers. In Hao’s (2007) article on Laddering, a conflict of interest theme which I am interested in, the term “conflict of interest” does appear even once throughout the paper. Therefore, it appears that simply combining the two terms, IPOs and conflicts of interest, will not yield the desired outcome. It becomes necessary to identify themes or construct synonymous to conflict of interest. Table 4 presents the keys words associated with the two themes of Initial Public Offerings and Conflict of Interest. The keywords were identified by an extensive search of the related literature and brainstorming with colleagues and faculties.

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Area	
Initial Public Offerings	Initial Public Offering*; IPO*, “Going Public”;
Conflicts of Interest	(Laddering); (Spinning); (“Affiliated Fund*”, Allocation*, Distribution*); (“Relationship Bank*”, “Universal Bank*”, “Banking Relationship*”, “Commercial Bank*”), (“Brokerage Commission*”, “Affiliate* Fund*”, “Mutual Fund*”)

Table 4: Key Words

Table 5 presents the search strings to locate studies that I am interested in. Wildcards such as “*” are used to take into account the various forms of the words. One search string is used for each of the theme identified. This includes the search words related to the theme and Initial Public offerings. The rationale for doing so is to make sure that search is able to locate all the studies related to the theme with the Initial Public offering at its context.

Area	Search String	Rationale
General	(“Conflict* of Interest*” OR Manipulation*) AND (“Initial Public Offering*” OR IPO* OR “Going Public”)	To identify if I have missed some other conflicts of Interest in the Initial Public Offerings related to Investment Banks
Laddering	Laddering AND (“Initial Public Offering*” OR IPO* OR “Going Public”)	To locate all the papers related to Laddering in IPOs
Spinning	Spinning AND (“Initial Public Offering*” OR IPO* OR “Going Public”)	To locate all the papers related to spinning in IPOs
Relationship Banking	(“Relationship Bank*” OR “Universal Bank*” OR “Bank* Relationship*” OR “Commercial* Bank*”) AND (“Initial Public Offering*” OR IPO* OR “Going Public”)	To locate all the papers related to relationship banking in IPOs
Profit Sharing Allocation	(Allocation* OR Distribution* OR Brokerage Commission*) AND (“Initial Public Offering*” OR IPO* OR “Going Public”)	To locate all the papers related to profit sharing allocation in IPOs
Allocations to Affiliated Funds	(“Affiliate* fund*” OR “Mutual fund*”) AND (“Initial Public Offering*” OR IPO* OR “Going Public”) AND (Allocation* OR Distribution*)	To locate all the papers related to allocations to affiliated funds in IPOs

Table 5: Search Strings

3.2.3 Resources

3.2.3.1 Databases

The database to search strings described above is presented in Table 6. Since these are very new themes for research I have include as many relevant databases as possible to locate relevant studies.

Database	Description
EBSCO Business Premier	The world's largest full text business database; full text for 2,950+ scholarly business journals; Comprehensive full text coverage for regional business publications (75+)
ABI/INFORM Global	Provides 1,000 premier worldwide business periodicals for wide range of information.
Science Direct	Over 1,700 journals from Elsevier Science; Over three million articles and over 59 million abstracts from all fields of science.
Scopus	15,000 peer reviewed journals from more than 4,000 publishers.
Emerald	Publish the world's widest range of management journals
Social Science Citation Index	Provide journal papers with cited reference and authors abstract (1981-) and proceedings (1990-)
Wiley Inter-Science Journals	Online content service delivering the full text of over 300 leading journals, plus major reference works, the full text of select Wiley print books.
Wiley Inter-Science Journals	Online content service delivering the full text of over 300 leading journals.

Table 6: Databases

3.2.3.2 Other Sources

Besides the databases described above I have also searched for papers in some other sources. Since this is an emerging area there might be a lot of work being currently done and as such a review of working papers, conference proceedings is extremely important to make sure that I have access to the current debates and empirical evidence of the issue that I am investigating.

Other sources include:

- *Social Science Research Network (SSRN eLibrary)*: The network lists working papers of academicians and has a separate Financial Economics network directed by Micheal C Jensen of Harvard Business school.

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- Google Scholar: Google scholar will also be used to locate studies. Results from Google Scholar are usually very large because of the lack of search filters. It will primarily be used to check if the databases have failed to locate some studies.
- Conference Proceedings: Papers from conferences related to IPOs will be reviewed as well. Although they might be less rigorous than journal papers, they do help to identify current work being carried out.
- Websites of Academicians/Experts: the webpage of Jay Ritter not only provides his latest working papers but also quite a huge collection of IPO data. I will therefore visit the webpages of prominent writers on IPOs to see their current working papers. A preliminary list of such academicians include Jay Ritter (University of Florida), Tim Jenkinson (Said Business School), François Derrien (Rotman), Alexander Ljungqvist (Stern Business School), Manju Puri (Fuqua Business School), etc.

3.2.4 Selection Criteria

The searches using the various search strings discussed above will, inevitably, produce a large number of papers. The task will then be to include relevant papers and exclude the irrelevant ones. The first stage of this process will include and exclude papers based on their abstract. Papers selected through abstract analysis will then be analysed further in much more detail to ascertain whether they should be excluded or included in the review.

3.2.4.1 Selection Criteria for Abstracts

Table 7 shows the inclusion criteria for papers' abstracts. It is important to develop sound criteria to make sure that all the relevant papers are included.

Criteria	Variables	Rationale
Topic	IPOs, Investment Bank, Conflicts of Interest	The aim of my review is to include papers that are related to conflicts of interest related to IPOs and perpetuated by Investment Banks. Therefore, conflict of interest perpetuated by other players of the IPO process will be excluded. Similarly, conflicts of interest that arise due to issuance of securities other than IPOs (for e.g. debt) will also be excluded.
Time Period	Until the end of Quiet Period	The review will include all those conflict of interest

		as explained by the above criteria which arises before the end of the quiet period of the IPO process. My review will therefore exclude conflicts of interest that arise from analyst recommendations.
Academic and Scholarly Journals	Peer reviewed Journal, working papers, conference proceedings	The review will include paper from peer reviewed journals, workings papers and conference proceedings. As highlighted above, the need to include working papers and conference proceedings, although they are not as rigorous as peer reviewed journals, arise from the fact that academic work on this area has begun only recently due to the paucity of data.
Working Papers	Old Working Papers	Old working papers, those prior to 2000, will be excluded from the review.
Geographic regions	All geographic regions	The review will include papers from all geographic regions as one of the aims of the review is to identify difference in the nature of conflicts of interest in different regions.
Approach	Empirical & Theoretical	The review will include both empirical and theoretical papers. Theoretical papers provide useful guidance as to where empirical evidence is lacking.

Table 7: Selection Criteria for Papers' Abstract

3.2.4.2 Selection criteria for full Papers

Once the papers are selected from abstract, a second selection criteria will be used to finally select papers for assessment of the quality (the next phase) and to be subsequently included in the review. The second selection criterion is presented in Table 8.

3.2.5 Quality Appraisal

Having selected papers using the selection criteria mentioned above the next task is to evaluate the quality of the papers. Papers which do meet these quality standards will then finally be included in the review. Based on a review of earlier systematic reviews I have identified the following criteria for evaluating the quality of the papers: Theoretical Background, Methodological rigour, Data Analysis, Contribution to Knowledge, Limitations

and potential for future research. Table 9 presents the Quality Appraisal tool for the selected full papers.

Theoretical/Conceptual Papers must contain:

- Discussion of the relevant theoretical background and the link of the model developed to these theories
- A clear statement of the assumptions used for developing the models
- Clear definitions and explanations of the variables, parameters and equations used in the model
- Explicit proofs of the most important results and theorems.
- A discussion about the limitations of the model
- Examples of real events or empirical evidence supporting the results of the model(s)

Empirical Papers must contain:

- Clear link of the empirical work with existing theories and/or previous empirical works
- Clear description of sample used in terms of time period, context, sector, etc and its validity for generating conclusions.
- Definitions and explanations of the variables used in the study
- Clear explanation of an appropriate methodology employed with an explanation of its advantages and limitations
- Results in line with the aims of the research; Clear presentation of results
- Clear statement of the contribution of the research to the current understanding of the field. Whether the study confirms current beliefs about the issue or does it uncover new paradigms
- Based on the findings of the study a statement on the potential areas for further research

Table 8: Selection Criteria for Full Papers

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Elements to Consider	Level			
	0-Low or Absence	1- Medium	2- High	Not Applicable
Theoretical Background	Very little or no description of theoretical background	Basic review of the theoretical foundations; summary of empirical papers;	Excellent review of the theoretical foundations; clear link of the theory with the research question; excellent summary of prior empirical work	NA
Methodological Rigour	Weak methodology applied or there is no explanation of the methodology applied	Justified research design; acceptable methodology to develop the papers idea	Clear link of the methodology applied to the research issue and theoretical argument; relevant proxies used;	NA
Data Analysis	Not enough information to assess this criteria	Appropriate data sample; results are relevant for understanding the aim of the paper	Adequate data sample, Use of highly relevant statistical tools and techniques;	NA
Contribution to Knowledge	Little or no theoretical or empirical contribution	Reasonable contribution to existing knowledge	Significant addition to the current understanding of the issue(s)	NA
Limitations and Potential for future research	Not enough information to assess this criteria	Limitations stated but does not explain its relevance to understand the results; future research areas not stated	Limitation of the study explicitly stated and clearly understood; provides areas for further research that can enhance understanding	NA

Table 9: Quality Assessment Tool for Full Papers

A paper will not be selected if it scores 0 in three or more categories.

3.2.6 Data Extraction

Table 10 shows the data extraction form that was used to extract data from the papers selected for the review.

Citation Information	
Author	
Title	
Publication	
Author/s Affiliation	
Date of Publication	
Volume	
Issue	
Page number	
Context	
Database	
Key Words	
Study Background	
Empirical or Theoretical	
Quantitative or Qualitative	
Model Employed	
Sample Size	
Data Frequency	
Year Range	
Data Description	
Theme Context	
Conflict of Interest Theme	Laddering or Spinning or Profit Sharing Allocations
Country	US; UK; France; Japan
Market (Developed/Emerging)	Developed; Emerging
Quality Assessment	
Theoretical Background	
Methodological Rigour	
Data Analysis	

Contribution to Knowledge	
Limitations and Potential for future research	
Thematic Information	
Abstract	
Key Findings	
Potential Research Areas	

Table 10: Data Extraction Sheet

3.2.7 Cross Referencing

One important source of relevant papers is through cross-referencing. The papers identified through the selection and quality appraisal criteria will also be used to identify relevant papers from its references. This is a very popular and effective source of locating studies. Since study of conflicts of interest perpetuated by investment banks have gained momentum in the recent years, a high quality recent paper will help to locate studies that might have been missed through the earlier described search criteria. The papers thus identified will go through the same selection and quality appraisal criteria described above.

3.2.8 Data Synthesis

The data extracted from the extraction form will then be used to produce a coherent synthesis. Extraction of data from the papers will mean nothing if they are not systematically and coherently organized and analysed so as to produce a meaningful summary of the papers identified and analysed. I will organize and summarize all the papers identified on the basis of the four themes that I have identified during the scoping study. This will not only help me to have a clear understanding of the theoretical debates and empirical findings but also will lend me an opportunity to identify research questions to be addressed during my PhD.

4 Chapter Four: Findings

This chapter presents the results of the systematic review process following the methodology elaborated in the earlier chapter. The first part of the chapter will present the results of the literature search and the papers selected for final review. The second part of the chapter will provide a detailed analysis of the papers selected for review which will be followed by a synthesis.

4.1 Description of the Findings

4.1.1 Search and Selection of Studies

The first step in the search and selection of studies was to obtain results from the journal database utilising the search strings developed. The results of those searches and the process through which the final reviewed papers are selected is presented in a summary format in Table 11. The final list of papers to be reviewed was selected through a very rigorous process. The results from the database search using the search strings were initially screened from the title of the paper. The list of papers thus selected were then subjected to the selection criteria as mentioned in 5.1 in the methodology section. Thorough examination of the abstract helped to identify the papers most relevant to the objective of this review.

There were some very interesting observations during the search process. Keywords did throw up a large number of studies. A closer examination of these papers, however, revealed that a large number of the papers didn't address the issues that I am interested in. The most remarkable result came from the searches related to spinning. While ABI and EBSCO did produce a large number of results none of the papers involved a discussion about the conflict of interest perpetuated by investment banks. A majority of the papers dealt with equity carve-out and spinning carried out by parent firms. The only two papers which addressed conflicts of interest came through cross referencing. The papers identified from the general theme were ignored as all of those papers were identified in one or the other conflict of interest themes.

Twenty three papers were selected from the abstract analysis process, which were then subjected to quality appraisal criteria as mentioned in section 5.2. The result of the process yielded twenty papers while three papers were discarded for not meeting the required quality standards. During the systematic review process a number of key papers were identified through cross references and SSRN searches. These papers, most of them working papers,

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Particulars	General				Laddering				Spinning				Relationship Banking				Profit Sharing Allocation				Allocation to Aff. Funds				TOTAL			
	Full Results	Academic only	Selected from title	Selected from Abstract	Full Results	Academic only	Selected from title	Selected from Abstract	Full Results	Academic only	Selected from title	Selected from Abstract	Full Results	Academic only	Selected from title	Selected from Abstract	Full Results	Academic only	Selected from title	Selected from Abstract	Full Results	Academic only	Selected from title	Selected from Abstract	Full Results	Academic only	Selected from title	Selected from Abstract
ABI/INFORM Global	386	31	13	1	1	1	0	0	337	4	4	0	532	24	12	8	2002	121	30	1	82	3	1	0	3340	184	60	10
EBSCO	110	32	12	3	26	3	3	2	86	3	3	0	753	76	31	8	1391	143	24	6	21	5	5	3	2387	262	78	22
Science Direct	4	4	1	0	2	2	0	0	4	4	4	0	4	4	2	2	2	2	2	1	1	0	0	17	17	9	4	
Scopus	10	10	0	0	2	2	0	0	1	1	0	0	14	14	0	0	17	17	5	1	2	2	0	0	46	46	5	1
Emerald	0	0	0	0	0	0	0	0	39	39	7	0	0	0	0	0	0	0	0	0	0	0	0	39	39	7	0	
Social Science Citation Index	111	111	3	1	5	5	3	2	0	0	0	0	8	8	2	2	111	111	8	0	4	4	1	0	239	239	17	5
Wiley Inter-Science Journals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Papers from Database	0				2				0				14				4				3				23			
Papers Selected after Quality Criteria	0				2				0				11				4				3				20			
From Cross Ref./SSRN/Websites/Google Scholar	0				1				2				1				2				1				7			
Total No. of Papers to be Reviewed	0				3				2				12				6				4				27			

Table 11: Summary of search and selection process

were in fact very key to get updated to the current debate concerning conflicts of interest in initial public offerings. There were seven additional papers obtained through this process which were then included to the final list of papers to be reviewed. Quality appraisal standards were also applied to these seven papers. Two of the papers were shared by two different areas.

4.1.2 Description of Papers selected for Review

This section presents description of the papers selected for final review. Table 12 shows the distribution of studies according to research categories. Most of the studies are empirical. Some of the empirical papers, however, do have theoretical models which are then tested with secondary data. One survey paper has also been included published in a high ranking finance journal. Table 13 shows the distribution of studies according to information sources. While most of the studies come from published journal articles, a number of key working papers have also been included to ensure that the current debates on the topic have not been ignored.

Theme/Research Category	Empirical		Theoretical		Survey		Total	
	Papers	%	Papers	%	Papers	%	Papers	%
Laddering	2	67%	1	33%	0	0%	3	100%
Spinning	2	100%	0	0%	0	0%	2	100%
Relationship Banking	11	92%	1	8%	0	0%	12	100%
Profit Sharing Allocation	5	71%	1	14%	1	14%	7	100%
Allocation to Affiliated funds	4	100%	0	0%	0	0%	4	100%
Total	24	86%	3	11%	1	4%	28	100%

Table 12: Distribution of studies according to research category

Theme/Research Category	Published Papers		Working Papers		Total	
	Papers	%	Papers	%	Papers	%
Laddering	2	67%	1	33%	3	100%
Spinning	1	50%	1	50%	2	100%
Relationship Banking	11	92%	1	8%	12	100%
Profit Sharing Allocation	6	86%	1	14%	7	100%
Allocation to Affiliated funds	3	75%	1	25%	4	100%
Total	23	82%	5	18%	28	100%

Table 13: Distribution of studies according to information sources

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Figure 4 shows the distribution of the selected papers over time. Most of the papers selected are quite recent reflecting the recent surge in interest on the topic. There are very few studies which have addresses the issues prior to 2004. Figure 5 shows the distribution of studies by geographic location where the empirical study was carried out. Most of the studies have been carried out in the United States with very few studies documenting conflicts of interest in Initial public offerings outside the US. There is literally no evidence from the emerging markets. There is only one paper that documents the conflict of interest in United Kingdom, which however dates back to 1999 using data of even prior period. The Israeli evidence comes from a single paper which examines both relationship banking and allocation to affiliated funds. Table 14 shows the distribution of published papers by journal. A large number of studies are selected from two of the most reputed journals in finance literature: Journal of Financial Economics and Journal of Finance. The two journals account for almost 40% of the papers selected.

While there is relatively a larger body of evidence on relationship banking, the other areas have been less chartered by academicians and researchers. The fact that about fifty percent of the papers selected have come from this field means that a great deal of work needs to be done before we have a clear understanding about the issue both in developed and emerging markets. A large number of paper selected in this review have been published only after 2004 which shows that the topic has certainly created an interest among researchers in recent times. In fact it was in 2007 when the largest number of papers were written and published on the themes that I have selected for the review.

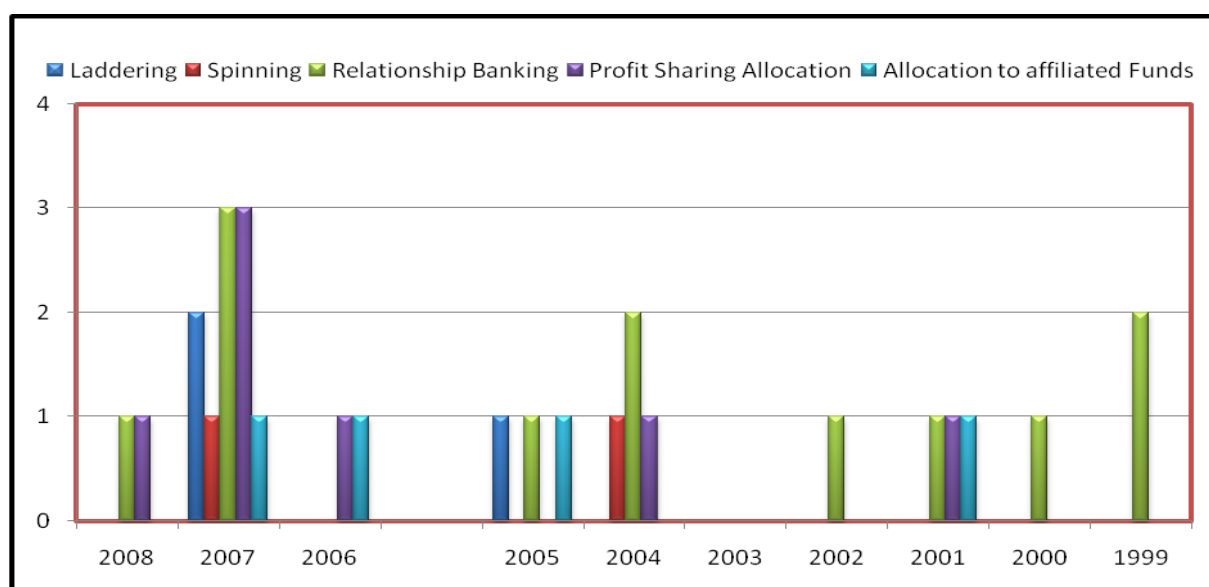


Figure 4: Distribution of studies by time

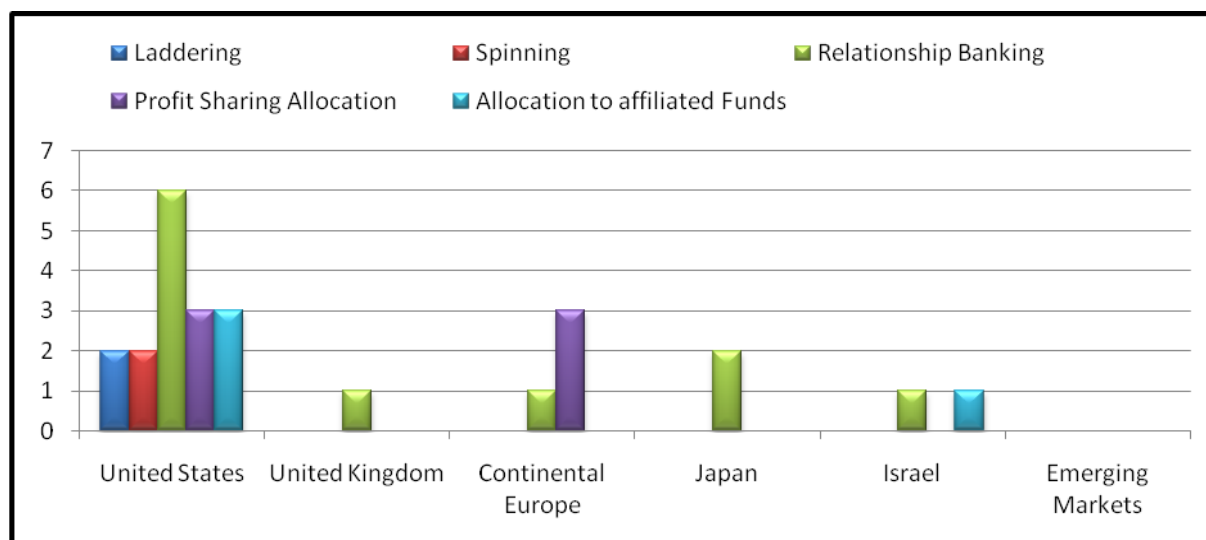


Figure 5: Distribution of Empirical Papers by country/region

Journals	Laddering	Spinning	Relationship Banking	Profit Sharing Allocation	Allocation to affiliated Funds	Total
Journal of Financial Economics	2			1	1	4
Journal of Finance			1	3	1	5
Review of Financial Studies				1		1
Journal of Money Credit and Banking			1			1
Financial Management		1				1
Journal of Banking & Finance			1			1
Journal of Monetary Economics			1		1	2
Journal of Law & Economics			1			1
Academy of Management Journal			1			1
Pacific basin finance journal			1			1
Venture Capital			1			1
Annals of Finance				1		1
European Journal of Finance			1			1
Applied Financial Economics			1			1
The Financial Review			1			1
Total	2	1	11	6	3	23

Table 14: Distribution of published papers by Journal

A number of interesting observations can be deduced from the descriptive analysis. First, there are relatively few number of studies documenting the conflicts of interest perpetuated by investment banks for the nature conflict which the review seek to explore. Second, apart from the United States, empirical evidence is almost non-existence even for developed

countries like United Kingdom which has a very active IPO market. Third, there are no papers which explore such issues in developing markets like India, China, and Russia which have been in the forefront of the IPO market for quite considerable time now.

4.2 Data Extraction and Synthesis

This section of the chapter will explore in detail the papers selected for the review. Each research category is examined separately in sub-sections. Each section is then concluded by a summary of the findings, debates and potential research gaps.

4.2.1 Laddering

One source of conflicts of interest for investment banks in laddering. Laddering refers to the effort of the investment banks to motivate clients to buy IPO shares in the first days of trade by promising preferential treatment in share allocation of the current IPO or future IPOs in order to make the IPO a bigger success (Rethal and Palazzo, 2007). Increased demand in the aftermarket increases the degree of underpricing and conveys the message of the IPO being a huge success leading to increased reputation of the underwriter(s) involved. The customers who enter into such agreements with the underwriter are called ladderers. A number of major investment bankers have settled cases with SEC in the United States in which laddering allegedly occurred³.

The number of research papers which have addressed laddering is relatively few. My search reveals that only two published papers have examined laddering and there is one unpublished working paper which examines laddering during the internet bubble period. A summary of these three papers is shown in Table 15.

Hao (2007) presents a theoretical model of laddering and its implications in initial returns, long term performance and allocations of IPOs among a number of other issues. The paper builds economic models related to laddering to derive empirical prediction and examines them in the light of empirical evidence. More specifically, it explores the driving forces behind laddering and the effect of laddering on IPO pricing. The paper posits that greater

³ J.P. Morgan, Morgan Stanley, and Goldman Sachs agreed to pay \$25 million, \$40 million, and \$40 million respectively, to settle accusations of laddering. J.P. Morgan also agreed to pay \$425 million to settle a class action lawsuit that alleged all of the major IPO underwriters engaged in laddering, profit sharing, and biased analyst coverage for more than 300 IPOs during 1998-2000 (Hao, 2007a).

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laddering is induced through higher expected intrinsic underpricing and information momentum. Laddering increases the offer price, the aftermarket price and the amount of

S.N	Study	C'try	Data Period	Evidence	Underpricing	Long term Performance
1	Hao (2007)	N/A	Theoretical Paper	Laddering used by underwriters to support themselves and investors. Although offer prices increases with laddering, negative correlation of the initial returns with long term stock performance. Underwriters benefits through aftermarket stock price support.	N/A	N/A
2	Griffen et, al. (2007)	United States	1997-2002	Laddering by bookrunner clients. Net 8.79% purchasing by book runner clients immediately after the IPO. No such trading seen through other members of the syndicate.	In case of underpriced IPOs, 50% of the increase in price on the first day attributed to laddering.	No significant impact of laddering on long term performance as suggested by Hao (2007)
3	Aggarwal et al., (2005)	United States	1998-2000	Tie-in agreements explains a significant portion of the variation seen the underpricing during the bubble period.	Underpricing of sued IPOs 7 times higher than those of non-sued IPOs. Trading volume 15 times higher. Continue to earn higher return five months after the IPO.	Significantly poor performance compared to non-sued IPOs. Comparatively poor performance seen during the lock up expiration period indicating cashing out by insiders.

Table 15: Summary of Papers on Laddering

money left in the table. However, the net increase in the underpricing is ambiguous as it depends in the relative increase in the offer price and the aftermarket price. As a result of the increase in short term returns, laddering contributes to a negative relationship between long term and short term performance. Finally, when the underwriters collude with the investors in rent seeking behaviour in underpriced IPOs, laddering provides additional value to the underwriters. The empirical implications as pointed out in this paper do signal that laddering involves conflicts of interest on the part of the underwriter. Although on some occasions laddering may lead to improved offer prices, there are several other issues that are harmful for the issuers, not least the negative correlation between initial and long term returns which could be very much detrimental to the issuer if it plans to come back to the capital market

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sometime in the future. All 21 IPOs with first day returns of more than 300% or more since 1980 have dropped by more than 90% from their first day close to their 3 year anniversary with only one exception.

While Hao (2007) presents theoretical framework for explaining laddering, **Griffin et al., (2007)** provide empirical support. The paper uses a sample of 1,294 IPOs listed on the Nasdaq during the period 1997-2002 and merges it with the Nasdaq clearing data for the first 21 days of trading for each IPO. The paper explores the net purchase trading behaviour of bookrunner's (lead underwriter) investor client immediately after the IPO. They find that during the period 1997-2002, book runner client bought an amount equal to 20.64% of the shares issued while they sold only 11.85% and thus creating a net buy imbalance of 8.79%. They propose four different hypothesis to explain such behaviour: (a) demand from long term investors (long-term shareholders); (b) superior execution quality of the bookrunner (execution quality), (c) clients of bookrunner have strong demand for IPO share (clientele), and (d) laddering by investors (laddering). The paper also investigates the impact of this trading behaviour on the IPO prices.

Both the univariate and multi-variate results favour laddering hypothesis over the others. Consistent with the laddering hypothesis, the paper finds strong purchase through bookrunner in case of cold IPOs just above the offer price. Moreover, net buy demand is much stronger to those investment banks which issue many IPOs. Large institutional selling over the four subsequent quarters by book runner buying clients goes against the long term shareholder hypothesis and indicates a desire to fulfil short term commitments. The execution quality of these trades (book runner trading) are in fact worse than those offered by other members of the syndicate. This signals rent seeking on the part of the investment banks. As evidence against the clientele hypothesis, investors are large net buyers when their brokerage house is the bookrunner but are small net sellers when the same brokerage house is just a member of the IPO syndicate. Most of the laddering activity occurs in the first 30 minutes of IPO trading. This trading behaviour accounts for almost 50% of the first day price increase in case of underpriced IPOs. However, the activity of bookrunner client does not have much impact on the price of IPOs that goes down on the first day of trading. The paper does not find any evidence linking the first day buying behaviour and the long term performance of IPOs. Although laddering does seem to benefit the issuers through increase in aftermarket prices (and therefore tolerate underpricing), the paper stress the need to better understand the quid pro quo relationship between the underwriter and its client.

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Using lawsuits as a proxy for tie-in-agreements between the underwriters and investor, **Aggarwal et al., (2005)** explore the impact of such agreements on underpricing, long-term performance and how underwriters seek benefit out of it. Their sample comprises of 904 IPOs during the period 1999-2000. Out of 904 IPOs, 144 were sued by regulators and 249 sued by the public (class action lawsuits). Sued firms accounts for 34% of the total proceeds raised by IPOs during the sample period. The paper uses suing as the proxy for tie in agreement between the underwriter and the investor. Results from the paper show that the degree of underpricing for sued IPOs is much higher than non-sued IPOs. In fact the initial underpricing of non-sued IPOs is comparable to pre-bubble periods (17.26%). Compared to non-sued IPOs, the mean IPO that is sued by the regulator has 7 times higher initial returns and has a first day trading volume which is 15 times higher. Moreover, the sued IPOs continue to earn higher returns compared to non-sued IPOs until the expiration of the lock up period. Post the lock-up expiration period the sued IPOs underperform compared to non-sued IPOs over the subsequent 2 years. Results show that such tie in agreements help insiders who cash out at the end of the lock up expiration period. While the sued IPOs perform much better than the non-sued IPOs during the build up to the lockup expiration period, the performance of these IPOs in the five day window surrounding the lock up expiration is -5.62% as compared to -1.66% for non-sued IPOs. This might be because of the huge selling on the part of the insiders at the first possible opportunity. The authors suggest that tie-in agreements explain most of the variation seen in underpricing during the internet bubble period.

One obvious problem that can be noted from the above two empirical papers is the availability of data. Both the papers have utilized proxies. And probably this could be one of the reason as to why there are so few studies documents laddering in IPOs. However, as Hao (2007) shows laddering does have a number of negative impact on the efficiency of the capital markets and/or on issuers and therefore has to be investigated and evidence brought to light. Whatever little evidence is available points to the fact that laddering might used by investment banks to their own benefit at the expense of issuers. This can at least be said of the US during the internet bubble period. However, a number of issues remain outstanding. While there remains no doubt of the impact of laddering on underpricing, the impact of laddering on long term performance can at best be considered ambiguous. Griffen et. al. (2007) find no impact of laddering on long term IPO performance while Aggarwal et al., (2005) show that IPOs with tie in agreements perform poorly compared to IPOs without tie in

agreements. As is the case with other research categories there is no research paper that documents laddering outside the US.

4.2.2 Spinning

Spinning refers to the practice of allocating hot IPOs by underwriters to managers and executives of the issuing firms or to other influential clients in order to get their future IPO deals. Spinning is done to influence the decision of the issuers in their choice of underwriters and/or the pricing of their initial public offerings (Liu and Ritter, 2007). Liu and Ritter (2007) regard it as a form of bribery paid by investment banks to the top executives of its clients. In financial literature there are only two paper which addresses spinning in great length.

The first use of spinning as an explanation for IPO underpricing was by **Loughran and Ritter (2004)**. Using comprehensive data from 1980-2003 comprising of 6,391 IPOs, the paper examines why underpricing changed over time and evaluates three non-mutually exclusive hypotheses: the changing risk composition, realignment of interest and changing issuer objective (incorporating the analyst lust and spinning hypothesis). In this very highly cited paper the authors introduce “spinning and analyst lust” hypothesis to explain the very high initial returns observed during the internet bubble period. The hypothesis predicts that IPOs underwritten by top-tier underwriters to be more underpriced because of the need of the issuers of having high ranked analyst and also because of the ability of these underwriters to allocate hot IPOs (spinning) to executive and decision makers of the issuing firms. Using reputation of the underwriter as a proxy for changing issuer objective hypothesis, the authors find that top-tier underwriters are associated with more underpricing, especially during the internet bubble period. The authors argue that this exhibits the desire of the decision makers of the issuing firms to put up with higher underpricing because of the side payments and the positive analyst coverage received.

While Loughran & Ritter (2004) provide indirect measure of spinning, **Liu and Ritter (2007)** provide first clear evidence of spinning by investment banks and its effect on the level of underpricing and on future investment banking mandates. Using actual spinning data of 56 IPOs brought to the market by three investment banks (Credit Suisse First Boston, Dutch Morgan Grenfell, and Salomon Smith Barney) during the period 1996-2000 the authors find initial returns of IPOs in which the executives were spun almost 18% higher than other IPOs. They also find that spinning to be negatively related to the probability of switching underwriters between the IPO and the first SEO. 31% of the issuers switched underwriters

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when there was no case of spinning, while only 5% of the issuers switched underwriters whose executives were being spun. These results bring to light the effect of spinning. It proved beneficial to the underwriters and the decision makers of the issuing firms. The original shareholders of the firm are, however, at loss because of lower IPO proceeds and dilution of the value of their holdings.

Spinning was banned in the US in April 2003 as part of the landmark \$1.4 billion global settlement with major Wall Street firms by the SEC. A number of court cases on spinning have resulted in the beneficiaries agreeing to disgorging large amount of money⁴. Spinning is clearly harmful to the integrity of the financial markets and harms the investors. Following the revelations of spinning in the US, the Financial Services Authority (FSA) carried out its own investigation in 2005 on spinning (and laddering) but didn't find any evidence⁵.

There is, however, no paper that deals with spinning from any other country. Because of increased scrutiny spinning is probably no more practiced. There is, however, a need to investigate both in the past and in other countries where the rules on spinning are not imposed.

4.2.3 Relationship Banking

The theoretical background in chapter two presented the debate in universal banking. It also explained the various hypothesis tested by researchers. My search shows that there are two types of relationship that are investigated in the context of IPOs. One strand of research looks at pre-IPO commercial banks affiliations with investment bank and the second strand explores the relationships of venture capital funds affiliated to investment banks. Both of the relationships are quite similar in the sense that these relationships can be exploited by the issuing investment banks to pursue its own objectives at the expense of the issuer. A summary of the papers selected for review for the banking relationship theme is presented in Table 16. The discussion will start with a theoretical paper and will be followed by discussion on universal banking focussing on commercial banks and venture capital funds separately.

⁴ For example Clark McLeod, the former Chairman and CEO of McLeodUSA, agreed to disgorge \$4.4 million (source: New York State Attorney General)

⁵ The Times, London, UK. Jan 26, 2005 page number 47

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	Study	Country	Data Period	Evidence of conflict	Underpricing	Long-term Performance
1	Kanatas and Qi, (1998)	Theoretical Paper	N/A		Under certain conditions having regulatory separation beneficial. Under certain conditions reputation can mitigate the need to regulations	
2	Ber et al., (2001)	Israel	1991-1994	No	Statistically insignificant results for any evidence of conflict of interest.	Long term operating performance provides evidence of certification hypothesis and a case for flow of information for better results.
3	Hebb, (2002)	United States	1995-1998	No	Underpricing lower in commercial bank IPOs--Certification hypothesis	N/A
4	Beneda and Kwon (2004)	United States	1995-1998	N/A	Underpricing reduced significantly after the entry of commercial banks in underwriting business. Does not tackle the issue of conflict of interest.	N/A
5	Schenone, (2004)	United States	1998-2000	No	Underpricing much lower for firms with pre-IPO banking relationship than firms without.	N/A
6	Kutsuna et al., (2007)	Japan	1995-1999	No	No significant difference between the two groups of IPOs. Total issue costs (direct + underpricing) again very comparable between 2 groups.	No significant difference between the two groups of IPOs.
7	Gompers and Lerner, (1999)	United States	1972-1992	Mixed	VC backed IPOs Underpriced higher (Rational Discounting). Market participants anticipate conflicts of interest and demand higher discounts on offer price.	VC backed IPOs perform no worse & may perform better than non-VC backed IPOs.
8	Espenlaub et al., (1999)	United Kingdom	1992-1995	No	Underpricing lower for VC backed IPOs affiliated with potential sponsor/UW. UP of IPOs VC backed IPOs affiliated to actual UW higher.	VC backed IPOs affiliated to UW perform much better than independent IPOs.
9	Hamao et al., (2000)	Japan	1989-1995	Mixed Evidence	Underpricing higher when VC firm is also the lead manager indicating conflict of interest and demanding a higher discount	Not significantly different from zero. Certification hypothesis which contrasts with the results of underpricing.
10	Bessler and Kurth (2007)	Germany	1998-2001	Mixed	Underpricing of underwriter affiliated venture capital backed IPOs much higher than non affiliated IPOs. Investor demand higher discounts anticipating conflict of interest.	No influence of conflict of interest on the long term performance of IPOs.
11	Li and Masulis (2004)	United States	1993-2000	No (Clear evidence of certification hypothesis)	Reduced underpricing when shareholding UW is the lead or non-lead underwriter. Shareholding underwriter charges lower underwriting fees.	The relationship between shareholding UW and either the delisting or the Tobin Q measure is no statistically significant.
12	Arthurs et al.,(2008)	United States	1990-1994	Yes	Previous tie of the VC of an IPOs with the underwriter leads to higher underpricing. Internal boards members better than external board members (VC) for monitoring purposes.	N/A

Table 16: Summary of the Papers selected for Relationship Banking

4.2.3.1 Pre-IPO Commercial Bank Relationships

Using a theoretical model **Kanatas and Qi (1998)** examines if a mandated separation of banking and underwriting function is economically useful taking the informational scope economies and conflict of interest into consideration. The authors argue that while there are savings in information production by having the same financial intermediary as the lender and underwriter, it also entails significant conflict of interest as the intermediary could issue shares of a poor firm to repay outstanding loans. They show that under certain conditions, which increase social cost, it is beneficial to have a regulatory separation of lending and underwriting business. Such conditions include firm's investment in poor quality projects which may lead to greater likelihood of runs on banks with greater asset risk or possibly to the opportunity cost of not funding productive investments. The paper also interacts with the reputation variable to examine whether it leads the universal banks to mitigate conflicts of interest. The authors show that regulation will not be necessary and that the financial intermediaries will mitigate the conflict of interest through reputation formation when three conditions are met: large scope economies, significant costs in underinvestment and a small discount factor. Using unique Israeli IPO data, **Ber et al. (2001)** utilizes both short term underpricing and long run operating performance measures to investigate conflicts of interest. A robust analysis using long-run operating performance (net profit and some other measures) shows that there is no conflict of interest in universal banking. In fact post-IPO accounting profitability suggests that the combination of bank lending and underwriting yields better informed underwriting. The post IPO stock performance, however, is quite different. IPOs of firm with a bank underwriter exhibit negative first day returns and negative excess one year return and are different from the returns of IPOs without bank underwriter. Thus, to conclude whether conflict of interest exists depends on the definition of performance. Using accounting numbers does not indicate conflict of interest while using stock returns does.

Hebb (2002) examines the initial performance of 431 industrial IPOs issued in the US during the period Jan 1995-Dec 1998. The sample consists of 222 IPOs issued by commercial banks and 209 by independent investment banks. The main objective of the paper is to examine whether commercial bank underwritten IPOs have lower underpricing compared to investment bank underwritten ones. Results show that IPOs

in which one of the underwriters had a previous banking relationship with the firm have significantly less underpricing supporting the certification hypothesis. Results are similar when only commercial bank lead underwriters are used providing further support to the hypothesis. The authors argue that the relaxation of the firewalls seem to have been interpreted by the market as allowing more information flow from the commercial bank to its underwriting subsidiary and therefore beneficial to the investors, contrary to the conflict of interest hypothesis. However, most of the IPOs which are issued by investment banks have refinancing/repaying bank loans as the major uses of funds. It could be that firms intending to use the funds to replace a bank loan wished to avoid the perception of a conflict of interest and chose an investment bank underwriter to issue it IPOs. This may well undermine the conclusions derived from the results.

Beneda and Kwon (2004) do not investigate conflict of interest. Rather they examine the impact of commercial bank's entry in to the underwriting business on the degree of underpricing and underwriting fees. Using a sample of 1085 IPOs issued in the US over the period 1995-1998, the study shows that the degree of underpricing decreased significantly (from 23% to 17.4%) after commercial bank's entry in to the underwriting business lending further support to universal banking. However, there is no change in the underwriting fees charged by the investment banks. The authors state that a possible reason for the decrease in the underpricing may be due to pro-competitive impact whereby the entry of commercial banks might have forced other underwriters to issue at higher prices. Increased competition means that underwriters will have to accommodate the interests of the issuers above their own therefore mitigating conflicts of interest.

Using US data over the period 1998-2000 **Schenone, (2004)** examines the impact of pre-IPO banking relationship on underpricing. The study also distinguishes between lending (*lending relationship*) and underwriting (*underwriting relationship*) prior banking relationship. These is because the lending bank lends it money to the firm (*and therefore generate more information*) which is not in the case of underwriting bank. Moreover, prior banking relationships are separated into two groups: prior banks which *could have managed* it or *not*. The '*could have managed*' group was further divided into two groups: banks *which did manage* and *which didn't manage*. In univariate results the mean underpricing for firms that went public with another firm, although they had relationship with a potential underwriter, is 32.91 % lower than mean underpricing of

firm that didn't have a choice of going public with their relationship bank. Similarly, the mean underpricing is 37.08% lower when the firms went public with their relationship bank than those who didn't have a choice to go public with their relationship bank. Multivariate results show that underpricing is lower by 17% for those IPOs which had a prior banking relationship with a potential underwriter. Moreover, underpricing is lower by about 16-17% when the prior banking relationship is lending relationship while the impact is much lower in the context of prior underwriting relationship.

The author proposes two hypotheses to explain the observed differences in underpricing between the two groups of underwriters. Since lending underwriters have a stake in the firms they continuously monitor the firms operations and performance which is not the case in an underwriting relationship. Such monitoring leads to greater information production which is then revealed to the market at the time of IPO. Availability of greater information to market participants leads to lower underpricing. Data from the study also show that prior underwriting relationships are able to lock-in their clients more than prior lending relationships. The author suggests that if underwriter extracts some part of its rent through underpriced shares (quid pro quo relationships with investors) it will underprice more. This could be one of the reason why underpricing is more in case of a prior underwriting relationship compared to prior lending relationship.

Kutsuna et al., (2007) provide evidence from Japan. Using IPO data during the period of financial stress (1995-1999) and using 321 IPOs the paper explores conflicts of interest in the universal banking framework by examining factors such as total issue costs, underpricing, aftermarket performance and use of proceeds. On all accounts they paper does not find any evidence of conflict of interest. Issues costs of both groups of IPOs are similar, no evidence of self dealing on the part of the commercial banks. Since larger issuers are able to switch to non-related investment banks, the degree of underpricing again is very similar. Relationship banking in fact proved to very good for the small issuers as they find greater access to equity capital markets.

Most of the papers that have explored universal banking in the context of pre-IPO banking relationship do find evidence of conflict of interest mirroring the results of studies of debt underwriting (Puri, 1996, Kronzer and Rajan, 1994). The conclusion is derived primarily from lower underpricing observed in IPOs which are managed by

commercial bank underwriters. Some of the papers have also used other measures such as accounting returns and issuance costs. The support is for the certification hypothesis which posits that information asymmetry decreases as commercial banks certify the issues.

4.2.3.2 Venture Capital Relationships

In a very highly cited paper **Gompers and Lerner (1999)** replicate the universal banking debate setting in the context of venture capital backed IPOs where the venture capital fund is affiliated to the underwriter (lead or co-manager). Since venture capital funds will have similar information to those possessed by lenders to firms, the paper investigates whether rational discounting or naive investor hypothesis holds true in such cases. It also investigates whether the market anticipates such conflicts of interest by observing market reactions. The sample consists of 856 IPOs which are backed by an venture capital fund over the period 1972-1992. Venture capital funds in 386 out of the 856 IPOs are affiliated to an investment bank and 127 of them are actually brought to the market by the affiliated lead or co-manager.

Results show that IPOs in which underwriter hold prior venture investments perform no worse and may actually perform better (with some performance measures) in the long run than other IPOs. This means that actual or potential conflicts of interest do not have any impact on the long run performance of IPOs. Initial returns (underpricing) support the rational discounting hypothesis as the degree of underpricing for such IPOs were much higher compared to IPOs which didn't have underwriter affiliated venture capital funds. The authors refer to this result to argue for universal banking as market participants understand potential problem and adjust accordingly. Results also that investment banks are sensitive to potential conflicts of interest as IPOs by firms in which underwriters are also venture investor appear to be more common for firms in which asymmetric information is less of a problem. Reputation of VC is positively related to performance, although the results are marginally significant. More important is the underwriter reputation: firms taken public with higher quality underwriter perform better in the long run. Higher quality underwriter appears to be concerned about the negative consequences to their reputation of overpriced issues. This lends support to the certification hypothesis.

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Using UK data over the period 1992-1995 **Espenlaub et al. (1999)** conduct a similar study. The study examines whether there is conflict of interest or certification where investment houses are affiliated to VC backed IPOs. Their interpretation of underpricing is different from Gompers and Lerner (1999). While Gompers and Lerner (1999) interpret lower underpricing as evidence of 'naive investor hypothesis', Espenlaub et al. (1999) interpret it as evidence of certification hypothesis. In terms of long term performance, the result of the study is similar to that of Gompers and Lerner (1999) as no evidence of conflict of interest is found. Long term performance of VC IPOs where the VC is affiliated to an investment house is much better than the performance of IPOs backed by independent VCs. Moreover, long term performance is also positively related to the reputation of the venture capital backers. Again similar to the results of Gompers and Lerner (1999), initial returns of IPOs backed by underwriter affiliated VC is much higher than the IPOs backed by independent VCs. This can also be interpreted as investors requiring greater discount in the light of potential conflict of interest. The interpretation is further supported by the result that the degree of underpricing is not as high for those IPOs where the affiliated investment bank didn't actually bring the issue to the market.

Hamao et al. (2000) present evidence from Japan of both long term and initial returns of investment bank affiliated venture capital backed IPOs. Using a sample of 355 IPOs during the period 1989-1994 the paper presents evidence very similar to that of Gompers and Lerner (1999). The performance of underwriter affiliated venture capital backed IPOs do not performance differently from the IPO backed by an independent venture capital. Thus, potential conflicts of interest do not have any impact on the long term performance of IPOs. The initial returns of affiliated IPOs are, however, significantly higher than independent IPOs suggesting that the market demands great discount anticipant potential conflicts of interest.

Bessler and Kurth (2007) provide evidence from Germany using a sample of 307 IPOs during the period 1998-2001 from the Neuer market. Results here also mirror those of Gompers and Lerner (1999). Initial returns of IPOs for both bank affiliated venture capital backed IPOs and underwriter affiliated venture backed IPOs are significantly higher than those IPOs which are backed by independent venture capital funds. No difference in long term performance is found between the two groups of IPOs.

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A working paper by **Li and Masulis (2004)** using data during the period 1993-2000 find somewhat different results to those presented by Gompers and Lerner (1999). Using a sample of 1480 venture capital back IPOs they examine three different hypotheses in a situation where the VC is also the underwriter of the issuing firm: certification hypothesis, alignment hypothesis and investor conflict of interest hypothesis. Moreover they distinguish IPOs in which the VC is either a lead underwriter or a non-lead underwriter and also where IPOs have high or low information asymmetry. The three hypotheses are examined in terms of the relationship between underwriter shareholdings and revisions in IPO offer price and underwriter shareholdings and underwriting fees (gross spread). The hypotheses are also investigated using three and five year long run performance of IPOs using delisting as a measure of performance and also using market to book ratios. The underwriter's shareholding in IPOs significantly reduces underpricing and the evidence is stronger when the underwriter is the lead underwriter. The authors argue this as a support for the certification and alignment hypothesis. Moreover, results show that the reduction in underpricing is higher when there is more information asymmetry. When shareholding underwriter is the lead, and to a lesser degree a non-lead underwriter, the offer price revisions are smaller from the midpoints and so are the absolute values of these revisions. This is again consistent with the certification hypothesis. In terms of underwriting fees, the lead shareholding underwriter charges lower fees and is concentrated in high information asymmetry IPOs consistent with the certification hypothesis. The lack of significant relationship between shareholding underwriter and either the delisting or the book to market value ratios leads to a rejection of the conflict of interest hypothesis.

Finally, **Arthurs et al. (2008)** present a wonderful discussion of multiple agency problems as seen in the context of IPOs. The paper utilizes the multiple agency theory to explain underpricing in IPOs. They stress particular importance on the time horizon of the agents (rather than the risk propensity) and the existence of transcending relationships. In addition to a number of discussions relating to multiple agency theory, the paper examines if prior relationship of a venture capital firm with a potential underwriter has an impact on the degree of underpricing. Results show that previous tie of the VC of an IPO with the underwriter leads to higher underpricing (conflict of

interest). They advocate having internal board member instead of outside member, for e.g. from a venture capital firm. Results show lower underpricing when there is greater number of internal board members. Their argument is internal members provided monitoring protection against other agents with short term orientation (such a board member from a VC fund), who might appropriate value from long-term principals. The paper suggests that having outside directors could be detrimental to IPO firms unless the outsiders have substantial equity and are not tied or influenced by the VCs.

The results from the second strand of research on universal banking present a somewhat different picture. There is overriding consensus on the part of the authors that conflict of interest does exist in a setting where venture capital funds are affiliated to underwriters. There is also some unanimity that markets are able to anticipate such conflicts and therefore exercise caution in the prices that are offered on such issues. The high degree of underpricing was regarded as evidence of conflict of interest anticipated by the market and reflected the discount for adverse selection. Evidence from US, UK, Japan and Germany were almost similar. While the degree of underpricing and long term performance are again the principal measures to examine conflict of interest, their interpretation differed among authors. While some authors regarded low underpricing as an evidence of certification hypothesis, others regarded it as evidence of conflict of interest (naive investor hypothesis). In general, conflict of interest is found to have profound impact on the degree of underpricing while no such impact is found on the long term returns. Most of the papers also have reputation as a key explanatory variable. Reputation of both underwriters as well as venture capitalist has a big impact on the performance of IPOs, especially in the long term. IPOs which have prestigious underwriters/venture capitalist perform much better than those without such affiliations in the long term.

4.2.4 Profit Sharing Allocation

Allocation of IPOs refers to the distribution of IPOs to institutional and retail investors. With the popularity and widespread use of bookbuilding as an allocating mechanism coupled with large amount of money left on the table allocation of IPOs has become one of the most discussed and talked about topic in financial research. Ritter and Welch (2002) note that IPO share allocation is one of the most promising areas of research.

There have been relatively very few studies that investigate the way shares are allocated. Most allocation studies in the past have focussed on the distribution of shares among institutional and retail investors. The empirical evidence in this context, where the allocating mechanism has primarily been bookbuilding, is one where institutional investors have received preferential treatment compared to retail investors (How et al., 2007).

Theories on IPO allocations can be broadly grouped under three different categories. The academic view, pitchbook view and the profit sharing view (Nimalendran et al., 2007). These theories primarily explain why investment banks allocate shares in a particular way. In other words, these theories explain who and why some investors are given preferential treatment and therefore receive larger allocation of IPOs than others. The academic view is the one posited by Benveniste and Spindt (1989) described in detail earlier. The pitchbook view of IPO allocation states that shares are allocated to those investors who are long term holders of the stock and do not engage in flipping activities. This view is expounded by investment banks when they make presentations to prospective issuers (Nimalendran et al., 2007). The profit sharing hypothesis states that IPO allocations are made in such a way that the investment banks share in profits made by investors who are allocated highly underpriced IPOs.

One of the obvious problems associated with this kind of research is the paucity of allocation data as remarked by a number of authors. As such there is no such paper which explores huge allocation data covering a considerable time period and involving substantial number of underwriters. Research papers which have been included here either examines the proprietary allocation data of a particular investment bank (Cornelli and Goldreich, 2001 & Jenkinson & Jones, 2004 for example) or uses proxies to identify share allocations (Reuter, 2006 & Goldstein et al, 2007 for example). Table 17 presents a chronological summary of the papers which have been selected for the review.

Cornelli and Goldreich (2001) paper is the first which brought to light evidence on how investment banks allocate IPOs to investors. The paper explores the driving forces for allocation without exploring quid pro quo relationship between the underwriter and investors. The primary reason for including this paper in the review is to include evidence on one of the hypothesis on the conflicts of interest in profit sharing allocation.

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The paper uses a sample of 39 international equity issues brought to the market between 1995 and 1997. These 39 issues are from 20 countries and bidders are from 60 countries. All the issues are managed by a leading European bank. 23 out of the 39 issues are IPOs while the remaining are secondary equity issues. Overall, the paper supports the Benveniste and Spindt (1989) model of information extraction as the criteria for allocation of IPOs. Bids which are submitted early, price limited, and revised during the bookbuilding are given preferential treatment in terms of allocation. All these features of IPO bids are considered to be informative for the underwriter to gauge the demand in the market and therefore decide on an appropriate offer price. While regular investors are given preferential treatment compared to non-regular investors, they, however, do not earn significantly superior returns. The allocation pattern also reveals that the issuers/underwriters do not care much about liquidity and control as larger bids are favoured against smaller bids. Domestic investors are favoured against international investors. Moreover, the underwriter allocates shares to those investors who place bids through the lead underwriter rather than through other members of the syndicate. Although the paper do not examine quid pro quo arrangements, bias towards investors who bid with the lead underwriter does provide enough ground for suspicion of the possibility of quid pro quo arrangements between the lead underwriter and investors.

A second paper exploring actual IPO allocation was published in 2004 by **Jenkinson and Jones (2004)**. Using bid and allocation data from 27 European IPOs, the paper tests two alternative hypothesis: are IPOs allocated to reward investors revealing private information or are IPOs allocated to long term buy and hold investors. The 27 IPOs are issued during the period 1996-2001 in Belgium, France, Germany, Italy, Spain and UK by a single European investment bank. Although the period of this study and that of Cornelli and Goldreich (2001) are quite similar, the results are not. In fact, the paper finds evidence of underwriters having a preference for long term buyers for IPO allocation. Using a unique tool to identify long term buy and hold buyers, the paper finds that long term investors (high quality) are favoured positively in heavily subscribed IPOs and who therefore enjoy significantly higher out-turn profits. These results contrast quite sharply with those of Cornelli and Goldreich (2001). While the main results are different, there are some similarities. Large bids, regular investors and bids those submitted directly to the bookrunners get better allocations. Finally, the paper

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S.N	Paper	Country	Data Period	Tools Utilized	Evidence	Underpricing
1	Cornelli and Goldreich (2001)	Europe & International	1995-1997	Actual allocation data for a set of international IPOs	Quid pro quo arrangements not particularly looked into. Allocation patterns confirm information extraction hypothesis.	N/A
2	Jenkinson & Jones (2004)	Europe	1996-2001	Actual allocation data for European IPOs.	Evidence of favouring long term buy and hold investor; Larger and regular investors preferred	Long term investors preferred over flippers both in hot and cold IPOs. Larger bids and bid made to bookrunner given preferences in hot IPOs
3	Reuter (2006)	United States	1996-1999	Brokerage commission, mutual funds holdings	Strong evidence of Conflict of Interest	Strong positive relationship between brokerage commissions paid to underwriters and investors access to underpriced IPOs. Stronger in case of non-negative first day returns IPOs.
4	Kojima, (2007)	Theoretical Model	N/A	Larger spreads will lead to lower underpricing and vice-versa; larger underpricing in universal banking;		
5	Nimalendran et. Al (2007)	United States	1993-2001	Trading Volume	Conflict of interest No significant increase in trading volume immediately prior to issue. Suggests low frequency commissions or high commissions per trade.	
6	Goldstein et, al (2007)	United States	1999-2002	Institutional trading data; net sales by institutions in proxied for allocations	Incremental brokerage commissions leading to preferential allocations.	N/A
7	Jenkinson & Jones (2008)	Europe	1995-1997	Survey of mutual fund managers who regularly participate in IPOs	Brokering relationship the most important determinant for IPO allocation; being a long term stockholder also beneficial; only one half of the II create valuation models;	

Table 17: Summary of the papers on Profit Sharing Allocation

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also finds evidence of lower allocations to home investors in case of well subscribed IPOs are greater allocation in case of less well subscribed IPOs.

While both the above papers look into allocations without exploring profit sharing between underwriter and investors, **Reuter (2006)** provides evidence of quid pro quo relationships between the two parties. The paper uses brokerage and IPO data during the period of 1996-1999 involving 142 unique investment banks, 1868 IPOs and 21,912 N-SAR reports. Combining brokerage commission data with holdings of mutual funds, the paper finds strong correlation between brokerage commission paid and the holding of IPOs by mutual funds. Moreover, the relationship is strong in case of non-negative IPO returns and the strongest when the first reported holding of the mutual fund is closer to the IPO allocation, when the reported holding best reflects the IPO allocations minimizing the noise introduced by flipping. Results also show that the mutual funds are the greater beneficiaries of underpricing as the paper estimates that as much as 20.9 billion out of the 50.4 billion left on the table during the four years was received by the mutual funds. The paper also notes that while such quid pro quo arrangements benefit the investors and investment banks at the expense of issuers, there is no evidence available as to how much the issuer is harmed by such behaviour by investment banks.

Similar observations were echoed from the results of a paper by **Jenkinson and Jones, (2007)**. Since its publication the paper has been highly cited by researchers. The paper uses survey method to identify the role of investors in the underwriting process. There are 57 respondents from 49 investing firms, 42 mutual fund manager, 8 chief investment officers, 5 analysts, and 2 dealers. All but 10 of the respondents are based in UK. Thus the paper more or less reflects the investor's attitude in the UK. The most interesting finding of this paper is the huge importance given by the investor community to the brokering relationship with the underwriter for allocation of hot IPOs. Feedback from the investor community suggest that only about one half of the institutional investors create their own valuation model for valuing a particular IPO while others rely on analyst reports and the like which indicates that the investor are not too keen on information production. Bidding characteristics of the investors also differ according to the subscription level of the IPO. For cold IPOs investors typically make limit bids while price sensitive and strike bids are employed in the case of hot IPOs. Limits bids made by the investors are usually below their valuation levels and

this difference increases if the investor feels that the issue will not be well subscribed. This casts doubt as to whether the lead underwriter is able to infer market demand and the true value of the IPO from the information revealed through bidding of informed investors and therefore a question mark over the Benveniste and Spindt (1989) model. Moreover, being regular and long term investors are also thought to be important by the investor for being allocated IPOs.

Kojima (2007) presents some empirical implications from her theoretical model. The paper observes the potential conflict of interest faced by an underwriter in a bookbuilding mechanism. With discretion in allocation the underwriter is always faced with an option of siding with the investors to the detriment of the issuers. The paper therefore suggest that the reduction of the underwriting spread is not in the interest of the issuer as it will force the underwriter to side with the investors and seek rents through excessive underpricing. The paper also makes a number of empirical predictions: larger spreads will lead to small underpricing (negative relationship); underwriter with more affiliates or a bigger asset management division will lead to higher underpricing (universal banking); underpricing more significant in small IPOs than large ones; firms with lower uncertainty rely more on spread to compensate underwriters whereas firms with higher uncertainty should compensate underwriters through large underpricing.

Assuming the existence of conflict of interest (referring to Reuter, 2006) and that investors enter into quid pro quo relationships with underwriters, **Nimalendran et al., (2007)** investigate how such payments are made. Specifically, they examine whether it is through high frequency trading activity near the IPO date or systematic payments over a period of time. The paper refers to such trading as “*IPO related trading*, and determines it by examining the trading volume of the 50 most actively traded liquid stocks 20 days prior to an IPO. Their sample consists of 3,499 IPOs over the 1993-2001 period. Moreover, they partition their sample into three sub-periods: pre-internet bubble, internet bubble period and post internet bubble period. Results shows that explicit profit sharing agreements is not done on an ex-post basis since the money left on the table on the day before the current day has no significant impact on the trading volume of the current day. Results show that for each additional \$1 billion in IPO profitability there is an additional \$656,410 in commissions generated (assuming \$0.10 commission per share). During the internet bubble the trading volumes of the

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50 most liquid stocks increased by 2.04% per day over the 6 days prior to the IPO. Since these stocks account for about 25% of the total volume, money left on the table accounts for only about 0.5% increase in trading volume. Although the increase in trading volume in other sub-periods are also positive they are, however, statistically insignificant. Since the increase in trading volume is negligible, the authors suggest that the flow of payback to underwriters may have occurred over a longer period of time or through higher commission per trade and not through increase in trading volume.

The final paper to be reviewed in this section is a working paper by **Goldstein et al., (2007)**. The paper presents some interesting empirical evidence on IPO allocation and brokerage commissions. Their sample consists of 769 IPOs during the 1999-2001 period and carried out over an 812 trading day period. It sets up an interaction between short term and long term investors in terms of IPO allocation and the factors that determines allocation among these two groups of investors. The paper also examines the modes of brokerage payments made to underwriters by investors to get preferential allocation of IPOs. The major data for the paper comes from the Abel/Nooser database which provides institutional trading data of a total of 609 different institutional investors. Lacking actual allocation data, the paper utilizes the net sales data immediately after the IPO as a proxy for allocations.

Set during the hot IPOs market of late 1990s, the paper finds empirical evidence of incremental brokerage payments in the case of hot IPOs. The paper estimates that approximately \$1.7 million of additional commission per IPO was received by the lead underwriter in the 10 days period immediately preceding the most profitable IPOs (IPOs in the 4th quartile in terms of profitability). The payment of this additional brokerage commissions is, however, negatively related to the concentration of underwriter's client base i.e. the larger the long term investors of the underwriter the lower is the incremental commission received by the underwriter and vice-versa. Test conducted by the authors does not seem to reveal any particular preferences on the part of the investors to direct commission to underwriters. The authors suggest that investors might be using a combination of incremental commission per trade, trade size and number of trades to compensate the underwriters. Results also indicate that the long term and short term investors interact differently with the lead underwriter to receive allocations of hot IPOs. While the long term investors use their

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consistent payment of brokerage commissions over a period of time as the tool for IPO allocations, short term investors direct incremental commissions prior to IPO allocation to receive preferential treatment. Results also show that significant part of the money left on the table from underpriced IPOs is captured by investors, both long term as well as short term investors. \$1 of abnormal commission revenue sent by short-term institutions to the lead underwriter generates \$4.28 in IPO profits from allocated shares. Finally, the authors suggest that favouring the short term investors might have been a one off event during the internet bubble period and argue that in more normal conditions allocation of IPOs would normally be determined by the length of the relationship that investors have with the investment banks.

Review of the papers above does provide enough ground for suspicion that investment banks might be involved in quid pro quo relationships with the investors. Reuter (2006) and Goldstein et al. (2007) provide evidence of the same. However, it must be noted that both the studies utilized proxies rather than actual allocation data. Through the use of survey, Jenkinson and Jones (2007) show that it could be a global phenomenon and not just exclusive to the US. Apart from this survey there is no evidence of profit sharing allocation from United Kingdom, continental Europe or emerging markets. Emerging markets such as China, India and Russia have not only been at the centre of hectic IPO activity but also witnessed some of the highly underpriced issues in recent times which serve as a catalyst to forge unholy alliances with investors at the expense of issuers.

Another point worth noting is the data period of these studies. The studies have utilized data until the end of the bubble period and there is no evidence on the behaviour of the investment banks post 2000. It would be interesting to observe whether the banks changed their behaviour or maintained the status quo in light of a number of laws and rules that were forced as a consequence of the burst of the internet bubble. Although IPO activity post internet bubble declined significantly, it has certainly picked up since 2004.⁶ There is also ambiguity as to how investment banks derive rent from the investors. The studies have not been able to show clearly how and through what mechanisms investment banks take their share of profits from highly underpriced IPOs. Finally, none of the papers have systematically examined the effects of quid pro quo relationship on the issuers. While underpricing is definitely

⁶ Source: Dealogic, Thomson Financial, Ernst & Young

not beneficial to the issuers a more thorough analysis is required to isolate the damage the relationship brings to the issuer.

4.2.5 Allocations to Affiliated Funds

A potential source of conflict of interest for investment bankers arises when they allocate IPOs to affiliated funds. Numerous investment banking groups operate mutual funds. These mutual funds, in turn, are investors of IPOs which are managed by their investment banking arm. In the US during the period 1990-2001, 60 out of the 361 investments who were lead underwriters had affiliated mutual funds (Ritter and Zhang, 2007). With large amount of money left on the table coupled with the reputation of the investment bank at stake, managers of affiliated mutual funds could be under pressure to buy IPOs written by their investment banking arm. Dietz and Henkoff (2004) report that mutual funds affiliated with large investment banks, including Citigroup, Credit Suisse First Boston, Goldman Sachs, Merrill Lynch, and Morgan Stanley, invested heavily in their client stocks while other institutional investors were reducing holdings on these stocks amid performance concerns.

When faced with such a scenario, the investment banking group has three factors to consider (Ritter and Zhang, 2007):

- (a) The underwriting spread: the underwriting fee would lead the investment bank to allocate shares of weak IPO to its affiliated funds
- (b) Commission paybacks: In case of hot/underpriced IPOs, allocating them to unaffiliated funds would result in profit sharing through directed commissions (as discussed above)
- (c) Fund performance: Investment banks can improve the performance of affiliated mutual funds by allocating them hot IPOs and therefore attract money in those funds.

The first two factors will generally lead the investment bank to allocate only cold IPOs to affiliated funds while the third factor makes the investment bank act otherwise. It is the balance between and interplay of these three factors that ultimately decides the allocation of IPOs to affiliated funds. Ritter and Zhang (2007) present two alternative hypotheses explaining the allocation of IPOs to affiliated funds:

- (a) *Nepotism hypothesis*: It refers to the situation whereby underpriced IPOs are allocated to affiliated funds. The purpose is to improve the performance of the funds, attract money inflows and subsequently earn higher management fees.

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- (b) *Dumping hypothesis*: it refers to the situation whereby investment banks allocate cold IPOs to their affiliated mutual funds in order to support weak aftermarket demand so as to maintain and enhance their underwriting business.

It is not necessary that a particular investment bank always follows a particular course of action; one hypothesis might be preferred at a particular time, while at some other time a different course of action might be undertaken. The course of action will be influenced by the market condition. In cold IPO markets dumping hypothesis and in hot IPO markets nepotism hypothesis markets might be more prevalent. Ritter and Zhang (2007) paraphrase Karceski (2002) “*underwriter would allocate more hot IPOs to its affiliated funds when the overall expected first day return of IPOs is high and attracting money inflows for the affiliated funds is most important, because of the greater performance-funds flow sensitivity that exists in bull markets.*”

Table 18 presents a summary of the paper selected for review under affiliated allocation.

The first paper to systematically explore allocations by investment banks to affiliated funds is **Ber et al., (2001)**. Using a sample of 120 Israeli IPOs issued during 1991-1994 the paper addresses potential conflicts of interest when investment bank group also manage mutual funds. The study utilizes both the short term underpricing and long run operating performance measures to examine conflicts of interest. On the basis of post issue accounting returns, the paper presents no evidence of any conflict of interest when there is an affiliation between mutual funds to which the issue is allocated by managing underwriter. Results show that there are potential for conflict of interest when the lending, underwriting and mutual fund management all fall under one roof. Although the number of IPOs in this group is fairly small (only seven IPOs in this case), IPOs of firms which are managed by a lending underwriter and which are allocated to affiliated mutual funds exhibit highly negative and significant excess returns during the first year (-32.3%) as well as negative first day returns. In other words mutual funds managed by the investment bank pay high price for the IPOs managed by the affiliated investment bank at the expense of mutual fund investor.

Ritter and Zhang (2007) present empirical evidence of allocation of IPOs by investment banks to affiliated mutual funds. Their sample consists of 2,257 IPOs issued during the period 1990-2001 by investment banks which had affiliated mutual funds. Out of the 2,257 IPOs, 283 of them were allocated to affiliated mutual funds.

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	Study	Country	Data Period	Dumping/ Nepotism	Underpricing	Long-term Performance
1	Ber et al., (2001)	Israel	1991-1994	Dumping	IPOs firm perform poorly in first day when they are underwritten by lender bank and which are allocated to affiliated mutual funds.	IPOs firm perform poorly one year after the issue when they are underwritten by lender bank and which are allocated to affiliated mutual funds.
2	Reuter, (2006)	United States	1996-1999	None	Neither dumping nor nepotism hypothesis. Inconclusive evidence.	N/A
3	Ritter and Zhang, (2007)	United States	1990-2001	Mixed Evidence	1999-2000-evidence of nepotism; 1990-1994 & 1995-1996 mild evidence of dumping hypothesis	No difference in performance
4	Johnson and Marietta-Westberg, (2005)	United States	1993-1998	Mixed Evidence	Use of purchases and sales to examine conflict of interest. Purchases does indicate quid pro quo hypothesis. However, higher returns also signal exploitation of informational advantage.	Performance indicates underwriters use institutional funds to improve underwriting business (quid pro quo hypothesis). However, performance of such institutional funds better than non-underwriters indicating superior information flow.

Table 18: Summary of Papers of Allocations to Affiliated Funds

The paper addresses the growing scepticism on the part of investors and regulators on the activities of underwriters especially after the burst of the dot come bubble. This paper also addresses concerns over the one-stop banking services, now allowed in the US after the repeal of the Glass-Steagal act of 1933. The primary issue that the paper tackles is whether affiliated mutual funds are used by investment banks as a place to dump cold IPOs (at the expense of the large number of mutual funds shareholders) or are they allocated hot IPOs so as to boost fund performance and thereby extract larger management fees. The paper notes a steady increase in the allocation of IPOs to affiliated mutual funds. While less than 10% IPOs were allocated to affiliated mutual funds during 1990-1996, approximately 30% of the IPOs were allocated to affiliated funds in 1999-2001. However, on average only 0.6% of the shares issued are held by affiliated mutual funds at the first reporting date.

In univariate results, the average initial returns of IPOs which are allocated to affiliated mutual funds is 54.4%, almost 29% above the average initial return of 25.8% of other IPOs from those underwriters which have affiliated mutual funds but didn't allocate IPOs to them. The result is consistent when the total sample period is

divided into segments to account for hot and cold markets. Except for the sub-period 2001, initial returns of IPOs which are allocated to affiliated mutual funds are higher than those which are not allocated (1990-1994, 1995-1996, 1997-1998, 1999-2000). Thus the univariate comparisons seem to support the nepotism hypothesis. In multivariate results, the nepotism hypothesis is not so convincing. Only for the period 1999-2000 is the initial returns of IPOs allocated to affiliated funds statistically higher than of IPOs which are not allocated. For all other sub-periods the results are statistically insignificant. Results are similar when the paper utilizes price adjustment, a measure of expected underpricing, as the dependent variable instead of actual underpricing to account for any endogeneity problems. The paper finds some evidence (mild) of dumping hypothesis when analysing only IPOs which were involved in large allocations to affiliated mutual funds. Initial returns are 12% lower when a large allocation is made to affiliated mutual funds during the period 1995-1996. Similarly, during 1990-1994 initial returns are 10% lower for IPOs which have a large allocation to affiliated mutual funds. In terms of long term performance there is no difference between the two groups of IPOs.

Reuter's (2006) paper which has already been introduced in the profit sharing allocation section also address the issue of allocation to affiliated mutual funds. In his statistical test the coefficient on the affiliated mutual funds dummy is not significantly different from zero indicating such funds neither received disproportionately larger or fewer IPO allocation compared to other funds. With respect to brokerage commission and IPO allocation, the coefficient on the affiliated mutual fund is negative and statistically significant which means that the affiliated funds earn slightly lower first day returns on IPOs than the level of their brokerage commission payments to the affiliated underwriter would predict. This would mean that underwriter neither dump nor favour affiliated mutual funds.

Using aftermarket sales and purchases by institutional funds, either affiliated to underwriter or not, **Johnson and Marietta-Westberg, (2005)** examine the conflict of interest in a setting which includes investment banking and asset management. The paper, however, does not use underpricing to examine conflicts of interest. The paper tests two hypotheses: the quid-pro Quo (dumping) and the superior information hypothesis (nepotism). The former posits that underwriters will use their affiliated institutional funds to improve underwriting business, while the later posits that

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superior information will be passed on to the affiliated funds to earn higher returns. Using a time frame of 8 quarters after an IPO, the study finds that stock holding of IPOs by affiliated funds is statistically higher than holdings of IPOs by unaffiliated institutions (1.2% vs 0.9% of shares outstanding). In univariate results the study also finds that non-underwriter institutional holders are on average momentum traders while underwriters are not. Non-underwriter institutions purchase stocks when they have gone up by 3.4% in the previous quarter while underwriters purchase their own IPOs after a statistically insignificant previous quarterly return of 0.9%. This evidence lends support to the quid-pro quo hypothesis. A further evidence of the first hypothesis is the selling behaviour of underwriters who sell their holdings in the quarter in which they have initiated analyst coverage or have underwritten firm's SEO. Such behaviour is not seen with non-underwriters. Moreover, IPO underwriters also differ in their behavior from non underwriters in case of SEOs. While all types of investors are involved in purchasing stocks prior to a SEO, it is only the underwriter firm which liquidates SEO again consistent with quid pro quo hypothesis. In multivariate analysis using probit regression the paper presents evidence of selling stocks by underwriters (affiliated) once they initiate a service like analyst coverage. Such behaviour is not present in non-underwriters.

In order to find the link between the behaviour described above and the benefits to underwriter, the paper utilizes probit model. They find that higher initiating analyst coverage and holding higher levels of stock subsequent to the IPO are rewarded by future business with the firm in the form of SEO underwriting. Regression analysis using future quarterly excess returns shows that underwriter is able to earn a statistically significant return of 7.7% higher than non-underwriter over 8 quarters after an IPO. Furthermore, underwriters without analyst coverage have a statistically significant return of 1.78% after underwriter large purchases. However, when there is analyst coverage, the underwriter does not make any significant returns. SEO underwriters, however, are not able to make significant returns on their purchases. On the basis of the results the authors conclude that while underwriters do make use of institutional funds to improve their investment banking business, they are also able to generate higher returns for their investors because of their informational advantage.

With the repeal of the Glass-Steagal act of 1933, the debate over universal banking has intensified. With investment banks becoming even more powerful coupled with

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huge funds available to mutual funds and other institutional investors, the regulators and the investor community is interested to see whether the interest of the small investors are protected by these large, powerful players in the financial markets. As such a few important papers, reviewed above, examined the role of investment banks in allocating IPO to their affiliated funds. The evidence at the moment cannot be considered as conclusive. Ber et al. (2001) and Reuter (2006) find no evidence of either favouring or dumping affiliated mutual funds by investment banks while Ritter and Zhang (2007) find some evidence of nepotism during the internet bubble period. Johnson and Marietta-Westberg, (2005) on the other hand find evidence of both. Again all the three studies have used data only until the internet bubble period which was characterised by very high initial returns prompting either nepotism or dumping behaviour on the part of the investment bank. There is a great need to not only have more evidence on this universal banking debate post the internet bubble period but also from countries other than US. Moreover, in terms of affiliated institution the some evidence is available on for mutual funds. Hedge funds are also very powerful institutional investors to whom IPOs are allocated. An examination of the influence they make in IPO allocations could be very interesting.

5 Chapter Five: Conclusion

5.1 Summary

Financial intermediaries are special businesses. They are pivotal for the efficient functioning of the financial markets. However, problems in financial intermediation can trigger external costs evident from the recent credit crises. The crises can spill over to other segments and therefore paralyzing the economy. Financial markets across the world are integrated as never before and financial crisis in one country has the potential to influence the global economy. Moreover, in recent times financial intermediaries have undergone massive changes and have become much more complicated. The complication has also doubled with a large range of financial securities and services available. In light of this, it becomes very important to closely examine how financial intermediaries function not only to protect the investor community but also to avoid large scale financial crises. Such examinations will also be helpful to the financial intermediaries themselves as it will instil confidence in investor and regulators.

This particular review was aimed at exploring conflicts of interest in initial public offerings (IPOs) perpetuated by investment banks. Since the burst of the internet bubble, which witnessed incredible levels of underpricing, there has been great interest in the way investment banks conduct themselves in the IPO process particularly with respect to allocations. With bookbuilding mechanism pricing and allocations have become completely discretionary in the hands of the investment banks. Bookbuilding has now become the most dominant form of IPO allocation mechanism all over the world. Through the scoping study we identified five different themes on conflicts of interest in which investment banks could further their own interest at the expense of investors and/or issuers: *laddering, spinning, relationship banking, profit sharing allocations and affiliated allocations*. These themes were identified with the framework specified in the review objectives.

Results presented in chapter 4 show that there is not a great deal of literature exploring the themes that we identified. Except for relationship banking, evidence on all other themes can be regarded as very limited. One obvious problem with research related in

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this area has been the lack of publicly available data. Except for relationship banking, all other themes have examined conflict of interest using proxies.

Papers included under profit sharing allocation, laddering, affiliated allocation and spinning all provide evidence of conflicts of interest by investment bank. These problems were found to be acute during the interest bubble period when there was a lot of financial stake. In fact a large majority of the papers focus their study during this internet bubble period. Although there was speculation that investors and investment banks had quid pro quo relationship over IPO allocation, it was not until Reuter (2006) that we had any substantial evidence to prove it. Reuter's (2006) robust analysis provides quite convincing evidence that links 'IPO related trading' commissions to IPO allocations. This evidence was further corroborated by Goldstein et, al (2007) whereby they provided evidence of incremental brokerage commission influencing allocation of IPOs by investment banks.

In terms of allocation to affiliated funds (mainly mutual funds), there is no clear evidence at the moment. While Reuter (2006) didn't find any evidence supporting either dumping or nepotism hypothesis, Ritter & Zhang (2007) did find nepotism at least in the internet bubble period. Johnson & Marietta-Westberg's (2005) paper has some mixed evidence. While the purchasing and sales pattern of affiliated mutual funds do point towards quid pro quo relationships, performance of affiliated mutual funds over time also indicates that the close association was used to generate better results for mutual funds.

Evidence from papers under laddering and spinning, however, clearly suggests that investment bank do enter into relationship with investors for their own benefit and at the expense of the issuers. Evidence from papers under the relationship banking theme has mixed results. There seems to be support for certification hypothesis when underwriters affiliated to commercial banks issue IPOs. Lower underpricing seen in these IPOs is taken as evidence for reduction in information asymmetry with the involvement of commercial banks. Papers which have explored the affiliation of investment banks and venture capital funds, however, conclude differently. Most of the papers in this strand conclude that such relationship have the potential to exploit investors which is anticipated by the market. Reputation of both the underwriters and venture capitalist does seem to influence both short term and long term performance.

5.2 Discussions and Research Directions

5.2.1 Discussions

In spite of a very well developed volume of literature, review of the papers indicate that there is still great scope to research on IPOs especially with respect to pricing and allocation. Continued interest partially stems from the lack of publicly available data and therefore calls for ingenuity and skill on the part of the researchers to uncover truths. Although the level of IPO activity dipped following the burst of the internet bubble, it has regained very high activity levels since 2004. There are certain observations that demand attention from the academic community. First, there is almost no evidence on the issues discussed post internet bubble period. Since conflicts of interest was assumed to be very high during the internet bubble period most of the studies cover that particular period. However, it is also equally important to see how things have changed after the crises and the impact of new legislations on the behaviour of investment banks.

Second, almost all of the papers have exclusively focussed on United States. Barring a few papers on relationship banking there is practically no evidence available from United Kingdom, Continental Europe or Emerging Markets. While US has been the centre of hectic IPO activity over a long period of time, IPOs in other parts of the world have increased tremendously. One of the factors that lead to conflicts of interest was the huge amount of money (high underpricing) left on the table during the internet bubble period. The degree of underpricing in emerging markets is much higher than US. Evidence of conflicts of interest in US begs us to explore how investment banks price and allocate IPOs in other countries. Any evidence in these areas will definitely enrich the IPO literature.

Third, Papers on affiliated allocations and profit sharing allocations do provide evidence of quid pro quo relationships between investment banks and investors. These relationships have shown to benefit both investment banks and investors. However, no systematic evidence is available on the impact of such relationships on issuers. While a high degree of underpricing might not be in the interest of the issuers, the extent to which such relationships harm the issuers remain to be explored (Reuter, 2006).

Fourth, most of the studies have examined conflict of interest by measuring the initial and long term stock performance returns. Some have used issue costs, changes in the filing range, actual allocation data, data on brokerage commission, data on purchases and sales by lead underwriter clients. It is important to identify proper measures and even more important to interpret them properly to arrive at appropriate conclusions. Interpretation of initial return (underpricing) has been subject to variation. Since the interpretation of initial returns is ambiguous it is necessary to supplement it with some other measures to convincingly put forward the argument. This could be done by the use of other financial and/or accounting data.

5.2.2 Research Directions

My research agenda follows from the discussion above. The lack of evidence outside of US has prompted me to examine conflict of interest in countries other than US. The aim is to acquire some evidence from a mix of developed and emerging markets. In the context of UK, for example, there are only three papers which have dealt with the issues that I am interested in UK. Espenlaub et al. (1999) paper on relationship banking was published way back in 1999 using even prior data. Jenkinson and Jones (2004) provide some evidence on allocation of European companies without investigating quid pro quo relationships. Jenkinson and Jones (2007) survey paper further highlights the need to examine allocations as brokering relationship was identified as one of the most important factor in determining allocation of IPOs. There is no evidence available in UK on profit sharing allocation, allocation to affiliated funds, laddering, spinning and relationship banking (commercial bank affiliated underwriters). Same is the case with emerging markets like China and India.

Secondly, my research will focus on examining the behaviour of investment banks post internet bubble. Increased media coverage and scrutiny from the regulators have been witnessed in the recent past seeking additional regulations on financial intermediaries. Regulations are not always effective and efficient and sometimes undermine the efficiency of the capital markets. The Financial and Services Authority (FSA) regulates the IPO in UK. In wake of the spinning and laddering scandals in the US, FSA conducted its own investigation and didn't find any evidence. A consultation paper titled "Conflicts of Interest: Investment Research and Issues of Securities" was

published by the FSA in October 2003. Examining post internet bubble data I will attempt to identify the effectiveness of introduced regulations and/or the need to have further regulations as advocated by Kanatas and Qi (1998).

The recent success of Alternative Investment Market (AIM) in United Kingdom has caught the attention of everyone by establishing itself as the world's leading stock market for young companies. At a time when major stock exchanges have witnessed decline in listing, AIM (UK), Growth Enterprise Market (Hong Kong), Market of Alternative Investment, MAI (Thailand) and a number of other smaller stock exchanges have been successful in attractive new issues. A report commissioned by the London Stock Exchange and conducted by Geoffrey Owen, Julia Black and Sridhar Arcot finds that AIM has been successful in attracting both British and Foreign companies⁷. Among other things the paper finds distinctive regulation, broad market profile and strong after-market performance as the key to its success. Most of the issuers in these smaller exchanges are small and growing companies and are attracted to it because of its less stringent listing requirements.

The discussions earlier in the findings did bring to light the influence of underwriter and venture capital reputation in mitigating conflicts of interest. It would be very interesting to examine the impact of reputation in a smaller investment market like AIM. Have investors demanded greater discount on IPOs on AIM or has the reputation of underwriter and/or venture capitalists provided certification so as to reduce information asymmetry? Answers to issues like these could contribute significantly to understanding of IPOs issued in smaller platforms like AIM.

As mentioned earlier, there is a dearth of publicly available data on these issues. The challenge will be to identify proxies and make appropriate use of them. It should also be borne in mind that the IPO process in Europe and Emerging markets is different to that in the US. This will invariably lead to number of variables and factors to take account of. This will be next steps in the PhD process.

⁷ Study Entitled: *"From Local to Global – The rise of AIM as a stock market for growing companies"*. Available at <http://www.lse.ac.uk/collections/pressAndInformationOffice/newsAndEvents/archives/2007/AIMStudy.htm>

5.3 Limitations and Learning Experience

With its rigour, transparency, comprehensiveness, and auditability the systematic review goes a long way in conducting a robust and scientific review of studies in a particular area of research. It also provides a great deal of confidence to the researcher as the whole process is very scientific. The use of protocol limits the biases of the researchers and helps in presenting a more objective research. Furthermore, it also brings to the knowledge of the researcher the potential areas where s/he uses own subjectivity and the need to be cautious. In spite of the checks in place systematic review does have some limitations which need to be discussed.

The first limitation comes from the way the search strategy was built. It was not possible to include all the journal databases and the focus was more in financial literature. There could have been some discussion on the topics of interest in some other literature such as law which were ignored. From the vast list of results, studies were initially screened from their titles. This also has the potential to miss out some studies which might be related to the research themes as titles sometimes do not reflect the nature of the contents.

The researcher's bias very much comes into play during the use of quality appraisal criteria. While quality appraisal criteria were set up through a comprehensive discussion with supervisor and other panel members, application of those criteria is purely subjective at the disposal of the researcher. While this can be a problem for even a seasoned researcher it becomes an even bigger problem for a novice researcher like us. Since we do not possess a great deal of knowledge such subjective bias can definitely undermine the conclusions of the paper.

Conflicts of interest in IPOs have caught the attention of researchers recently and therefore the body of literature is not very comprehensive. This has led me to include some papers which were not of a very good quality in terms of methodology and analysis in order to reflect the range of discussions currently going on. Similar in the case when working papers are included in the review. While including them does have the advantage of getting up to date with the debates it does have its own limitations in terms of quality.

On the whole the systematic review has been one incredible journey. It has exposed me to the rigours of research and nicely set up for what will be a very exciting and

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challenging PhD program. Interactions with my supervisor, members of the consultation panel and with peers provided great impetus during the whole process. The Systematic review has also provided me with additional confidence to go ahead with my research interests as there are a number of outstanding issues that needs to be addressed by the academic community. It has also helped me to position my research properly by locating gaps in the literature.

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