

Corporate Governance, Monitoring and the Ownership Structure of the Firm: an Overview

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Abstract

This paper provides an overview of the most recent attempts by the literature to explain the relationship between Corporate Control considerations, monitoring costs and the ownership structure resulting from a public offering. The empirical evidence currently available is analyzed. Two main theoretical paradigmas are identified and described. The “normative” approach tries to specify the market mechanism by which a previously privately held company becomes public as the device to cope with heterogeneity of investors, market-segmentation and the relationship between informed and uninformed trading, departing from the more general competitive Walrasian-type offering process. The “monitoring” approach, while maintaining the more traditional competitive structure for the capital markets, faces more explicitly the issue of corporate control, and the trade-off between monitoring, liquidity and risk-sharing as the main determinant of a large investor’s decision about whether to “raid” a company or not. The main results of the literature are explored and directions for future research are suggested.

1. Introduction

A wave of privatizations in Western and Eastern Europe in the last few years stimulated a new and intense effort in Finance and Economics in the attempt to enhance the understanding of the mechanisms and the dynamics by which entrepreneurs, venture capitalists, mature firms and governmental institutions and companies become public.

Does the seller maximize his/her revenues? Does the selected market mechanism and ownership structure maximize the ex-ante value of the firm? Is the resulting amount of monitoring exercised over management traditionally not fully aligned with the interests of the existing shareholders of

the firm sufficient to reduce or eliminate the social and individual loss deriving from sub-optimal decision making and perquisites' consumption?

The most recent literature on the relationship between Corporate Governance considerations and the process by which a corporation, a division or sub-unit of it, eventually goes public tries to answer these and other compelling questions arising from the still scarce and sometimes anecdotal empirical evidence on public and private placements.

This paper represents an attempt to identify a unified framework to evaluate the main contributions to our knowledge of these phenomena, to describe common pillars and contrasting assumptions, and to suggest potential extensions to the current research mainstream.

The following section describes the most significant empirical facts available on public offerings and private placements of privately held firms. Section 4 extends the analysis to the major theoretical constructs originating from the pioneering works of Grossman and Hart (1980) and Kyle and Vila (1991). The last section summarizes the findings and suggests several directions for future research.

2. The empirical facts

The initial public offering (IPO) is usually the largest equity issue a company ever makes. Every year IPOs account for about one-third of all the funds raised in the marketplace through common equity. The process of going public is also one of the channels through which an entrepreneur or venture capitalist cashes in the rewards for his/her initial efforts in setting the enterprise and making it successful.

As a consequence, until the beginning of the 1980's, the decision to "go public" was almost unanimously considered a stage of the more complex evolutionary process of a corporation. The financial shakeouts that followed made this interpretation no longer sustainable. By the end of 1989, the U.S share in the world market capitalization shrank from 53.3 % to 29.9 %¹. The country had experienced a major wave of public, often large and mature firms going private, despite a growing economy and a long bull market.

¹ Zingales (1995).

Why companies chose and still choose to go public, why they may revert back to private ownership and whether their initial decision is temporary or permanent is one of the puzzles the literature of the recent years tried to explain and rationalize².

According to Kaplan (1991), most of the neo-private companies are neither short lived nor permanent. He estimates that only 50 % of large leveraged buy-outs (LBO) become public again within seven years after the LBO transaction took place. Moreover, 7 % of the companies in his sample that went through a public offering went back private again later.

Corporate control appears as an important, although previously almost unexplored, aspect of the problem. Pagano, Panetta and Zingales (1994) observe that usually, in the three years following an IPO, turnover in control tends to happen twice more frequently than in the case of similar yet privately held companies. The effect seems to be even stronger for IPOs of wholly owned subsidiaries of publicly traded companies (the so-called *equity carve outs*).

These facts suggest that the decision to take a company public (and to maximize the revenues that follow for the initial entrepreneur) should be addressed by taking into proper consideration the issue of corporate control afterwards. If the desire to maximize the proceeds deriving from the sale of control is an important motivation underlying an IPO, then a high turnover in control should be observed in the years following the initial public offering. Rydqvist and Hogholm (1994)³ document this phenomenon for Sweden. They report that control changes hands in 36 % of IPOs within five years after the equity sale, while 34 % of U.K. IPOs are taken over within five years of listing. Pagano, Panetta and Zingales (1994) compare control turnover after an IPO

² Most of the literature initially focused on modeling and pondering some aspects of the traditional trade-off between the costs and benefits of going public. On the cost side, authors considered the registration and underwriting costs (on average 14 % of the funds raised through a public equity offering, according to Ritter (1987)), the underpricing costs (on average 15 %, Ritter (1987)), the annual disclosure costs and the more general agency costs generated by a separation between ownership and control (Jensen and Meckling (1976)). Among the benefits explored by the literature, were list diversification, the possibility of equity financing beyond the limited budget constraints of the entrepreneur, a less costly access to capital markets, increased liquidity of the company's outstanding shares and outside monitoring. As we will see later, underpricing, informational asymmetries and monitoring costs, closely interconnected through the issue of corporate control, play a very important role in the more recent literature on "going public".

³ Rydqvist K. and Hockholm K., *Going public in the 1980's. Evidence from Sweden*, mimeo, Stockholm School of Economics, 1994.

with the normal turnover in control occurring in the same years among privately held firms in Italy. They find that the former is twice as large as the latter. Although these figures suggest a high turnover in control, they do not clearly prove that control turnover is abnormally high in Europe after an IPO. The U.S. evidence is, if possible, even less conclusive: Mikkelson and Shah (1994)⁴ report a 29 % turnover in control in the five years following the IPO for established firms, defined as firms with more than five years of sales history, while turnover is only 13 % for IPOs of young startups. Even though these figures do not include transfers of control blocks, they would suggest that for younger companies financial considerations were prevailing in the decision of going public, while control considerations seem to be more relevant in the older group of companies.

There is a particular group of IPOs where consideration of issues like risk-aversion and limited wealth should play a lesser role: the equity carve-outs. The existing evidence for carve-outs seems to support the importance of control considerations. Carve-outs appear to be almost always followed by either a parent reacquisition of the subsidiary's outstanding shares or a disposal of the parent company's remaining interest⁵. As a result, control considerations tend to play a more significant role in the most recent literature on public offerings⁶.

The market for dispersed shareholdings is distinct from the market for potentially influential blocks. Hanley and Wilhelm (1995)⁷ provide evidence that the market for shares is segmented. Is it possible to ignore the heterogeneity among investors and design a sale mechanism that

⁴ Mikkelson W. and Shah K., *Performance of companies around Initial Public Offerings*, mimeo, University of Oregon, 1994.

⁵ Klein A., Beranek W. and Rosenfeld J., *The two stages of an Equity Carve-out and the Price Response of parent and subsidiary stock*, *Managerial and Decision Economics*, 1991, 12, pp. 449-460. The authors use a carve-out sample from 1963 to December 1988 and find that, by that date, 48 % of the carved-out subsidiaries had been re-acquired, 37 % sold off and only 15 % still remained publicly traded. Other empirical evidence seems to support the conclusion that these transactions were not motivated by financing needs.

⁶ Recent examples in which flotation has been proposed as the first stage of a complete ownership transfer are Agfa, currently owned by Bayer, Suburban Propane, a U.S. subsidiary of Hanson, the U.K. industrial conglomerate, and Thermo King, the transport refrigeration unit of Westinghouse (see the *Financial Times*, 11/08/95, 12/21/95 and the *New York Times* 11/14/96).

⁷ Hanley K. and Wilhelm W., *Evidence on the strategic allocation of initial public offerings*, *Journal of Financial Economics*, 1995, 37, pp. 239-257.

uniformly addresses the needs of all buyers? If not, how should this heterogeneity shape the firm's strategy for selling shares?

The empirical evidence presented here shows that often the decision to go public cannot simply be explained by the growth experienced by the firm and that the initial owners rarely disperse controlling blocks at the IPO. Brennan and Franks (1995)⁸ provide evidence that firms manage the sale of shares with the purpose of discriminating between passive investors and applicants for large blocks. As a consequence, the timing of the sale of large blocks is carefully chosen: most blocks remain intact during the IPO, but almost one-half of the offering company's shares are sold subsequently. The strategy of going public followed by a transfer of control seems to be more frequent than it might appear at first, and the control turnover evidence quoted above well documents this phenomenon.

Heterogeneity does affect not just the market participants and the mechanisms companies may adopt to favor changes in their ownership structure but also the institutional context in which they operate.

Recent empirical evidence shows relatively little variation in the capital structure of small firms across nations. The literature⁹ tends to attribute this phenomenon to private benefits of control often outweighing the financial returns of loss of control by the founder-manager. The resulting financial structure of small firms resembles in some ways a debt or venture-capital type contract, preserving the owner-manager's autonomy, as long as the firm is performing satisfactorily.

The evidence is quite different for large firms: the ownership structure of USA and UK-based corporations seems to be on average more dispersed than in the case of German¹⁰, French or Japanese companies.

In analyzing similar empirical findings, it has often been argued¹¹ that alternative ownership structures may have been beneficial (or not) in favoring the economic development of a country.

⁸ Brennan F. and Franks J., *Underpricing, ownership and control in the initial public offerings of equity securities in the U.K.*, 1995, working paper # 12-95, University of California, Los Angeles.

⁹ For a review of the empirical evidence available, see Oliver Hart, *Firms, Contracts, and Financial Structure*, Oxford University Press, Oxford, 1995.

¹⁰ In Germany, the three largest banks control 36% of the voting shares of the 100 largest public companies.

¹¹ See for example Michael E. Porter, *Capital Choices: changing the way America invests in Industry*, Washington Council on Competitiveness and Harvard Business School, 1992.

In other terms, most of the available literature tended to answer to a “normative” question: which of the available ownership structures is the most desirable, i.e. which of them leads to a social Pareto optimum? A different question can also be posed: which of the potential ownership structures a newly public company may embrace maximizes the ex-ante revenues of the entrepreneur-venture capitalist who decides to make his/her company public?

3. The theoretical effort

The recent literature attempts to answer some of the questions arising from the empirical evidence presented in the previous paragraph follows two apparently distinguished but often interrelated approaches. The first one, that we will here call “market-normative”, tries to identify the market mechanism by which a previously privately held company becomes public as the device to cope with heterogeneity of investors, market-segmentation and the relationship between informed and uninformed trading, departing from the more general competitive Walrasian-type offering process. The second one, while maintaining the more traditional competitive structure for the capital markets, faces more explicitly the issue of corporate control, and the trade-off between monitoring, liquidity and risk-sharing as the main determinant of a large investor’s decision about whether to “raid” a company or not.

We will refer to the latter as the “monitoring” literature.

Both approaches rely heavily on two early contributions by Grossman and Hart (1980) and Kyle and Vila (1991) on the issue of free-riding, noise trading and the likelihood of a takeover to take place for a publicly held corporation.

Grossman and Hart, in their breakthrough paper, are faced with the common belief that a widely held corporation that is not being run in the best interest of its existing shareholders will be vulnerable to a takeover bid. This argument, very popular but by then unproven, originates from the existence of an “original” free-riding problem associated with the “delegation of power from many to few”. No individual has a large enough incentive to devote time and resources to ensuring that his/her representatives are acting in the best interest of the principals. The agents serve a Public Good, the well-being of the corporation, whose benefits are enjoyed by the vast collectivity of shareholders. As apparently none of them can be excluded from that Public Good, the social benefit of the monitoring activity and the cost that is usually attached to it frequently outweigh the private benefit to any of the individual principals in exerting such an activity. In

other terms, the benefits of monitoring the managers' activity are a Public Good in a market economy and each individual shareholder has a strong incentive to free-ride in its production.

The use of a takeover bid mechanism seems to solve the resulting market failure. A situation in which the management of a corporation is not acting in the shareholders' interests but each single shareholder is too small to be able to profitably monitor the agents' activities will not persist: in fact, an entrepreneur, a "raider", possibly endowed with insider's information about the value of the firm if better managed, can make a takeover bid, buy the company at a low price, manage it well and then sell it at a high price. Grossman and Hart show that this argument ignores the existence of a "derived" free-riding problem. Suppose that a raider launches his bid at a specified tender price and that each shareholder is so small not to be pivotal, i.e. so small that he does not expect his tender decision to affect the outcome of the raider's attempt. Then, if that shareholder believes the takeover attempt will be successful, that the raider will manage the firm and improve its business prospects, he also anticipates a price appreciation for his shares, thus will retain them, unless the tender price fully reflects the expected price increase. But if that was the case, there would not be any profit left for the raider, i.e. a takeover would be possible just if unprofitable for the raider. Small shareholders realize the benefits of the monitoring activities exercised by large shareholders without incurring in any of the costs related to it. The resulting, inefficient amount of monitoring represents a social loss, as there will be many raids which should take place, but that will never do, because it is not profitable for the raider to execute them, takeover the company, impose a new management and improve the probability distribution of the payoffs generated by the firm¹².

The dissipative nature of the benefits associated with the monitoring activity over a company's management is at the heart of most of the recent attempts by the literature to explain why, at the IPO stage of a game between entrepreneur and potential shareholders, the creation of a large

¹² Shareholders can overcome this free-rider problem by allowing a voluntary dilution of their property rights. Specifically, as suggested by Grossman and Hart (1980), they can write a constitution for the firm which permits the raider to exclude minority shareholders, i.e. the ones who eventually rejected the tender offer, from sharing in all the improvements in the firm brought about by the raider monitoring activity. This solution suggests that public offerings distinguishing between voting rights and cash-flow rights may be effective in rewarding a potential large shareholder for his future monitoring activity (Zingales (1995)). Security design literature efforts can significantly improve some of the IPOs' puzzle we are still facing.

controlling block, able to exert profitably control over managers' decisions, may be ex-ante optimal, insofar as it maximizes the ex-ante value of the firm, hence the revenues the venture capitalist obtains for giving up his/her property rights.

Kyle and Vila propose a typical micro-market structure approach as a solution to the inefficient amount of monitoring resulting from the free-riding by small shareholders. Noise trading can provide camouflage that makes it possible for a large corporate outsider or a big corporate insider willing to acquire a controlling block to takeover the company at profitable terms, monitor over managers' activities and eventually attenuate the market failure described above.

Noise trading tends to encourage costly but socially desirable takeovers that would not otherwise occur at the cost of discouraging cheap and equally beneficial takeovers that would otherwise occur. Noise trading originates from liquidity or life-cycle motives; when noise trading is more intense, the market for a firm's shares tends to be deeper, since the market attributes changes in the quantity of shares supplied to changes in noise trading, and not necessarily to changes in the behavior of a large trader with private information about takeover prospects. The enhanced depth of the equity market provides enough camouflage to the raider so to make his takeover attempts profitable, even without dilution provisions in the corporate charters. In fact, in equilibrium the depth of the market adjusts so that all information about the probability of takeovers and noise trading is fully discounted into the stock prices. As a result, the raider makes profits at the expense of the real noise trader, forced to trade in the marketplace by a liquidity shock. These losses can be interpreted as a payment for the liquidity services provided by the market through the buying activity of the large informed trader. In the Grossman and Hart's model, because of the absence of any liquidity shock, small shareholders soon realize that a value-enhancing takeover is going to occur. Hence, they have no incentive to sell their shares for less than they would obtain after the takeover has taken place. In Kyle and Vila when noise traders are heavy sellers, the large informed trader notices an opportunity to buy a large stake at a favorable prices, and does so. Having become a large shareholder, he has now an incentive to declare a takeover, by making a tender offer for all outstanding shares.

Bolton and Von Thadden (1998) integrate the free-riding phenomenon described by Grossman and Hart and the noise-trading feature of Kyle and Vila with an additional device, the presence of a large incumbent shareholder. When one of the insiders is large, i.e. when a blockholder exists, the prospect of increasing the value of shares he already owns provides him with an

additional incentive, together with the depth of the market originated by liquidity shocks, to engage in takeovers and other value-enhancing activities, monitoring in particular, even though the other shareholders, without suffering any informational asymmetry, receive a free-ride.

As long as any monitoring activity increases the expected value of the firm by attenuated some of the agency costs described by Jensen and Meckling (1976) in the interaction between shareholders and managers of a firm, the higher the ex-ante probability of a takeover and subsequent monitoring activity¹³ is, the higher the ex-ante value of the firm, i.e. the higher the revenues for an entrepreneur/venture capitalist making his creature public will be.

This implies for an entrepreneur the necessity of choosing, ex-ante, between two stylized ownership structures for his/her firm, Ownership Concentration (i.e. the existence of large and persistent controlling blocks monitoring the management continuously or anytime it is needed) and Ownership Dispersion (widely dispersed share ownership). In the second case, it is secondary market trading that (hopefully) creates concentration whenever necessary for intervention in the managerial decision process. When the demand for market liquidity is higher, and the free-rider phenomenon bites more effectively, ownership dispersion is more likely to emerge as a result of a revenues-maximization decision process by the original owner of the firm. More relevant agency costs, more need of corporate control and more market liquidity available make concentration the most likely ownership structure selected by the original entrepreneur. This trade-off between Concentration and Liquidity arises from the assumption that setting up a controlling block reduces the number of shareholders who can participate in the trading of the firm's stock, if a significant number of market participants needs to be involved in noise trading, thus reducing the "effective" market capitalization, the liquidity of the stock and, hence, the ex-ante value of the firm, if liquidity shocks are more "likely".

As a result, both Concentrated and Dispersed ownership may be optimal, depending on the characteristics of the firm and the institutional environment in which it operates¹⁴. Single shares

¹³ This literature fails to consider class actions led by small shareholders as effective means of exercising control over the management of a publicly held corporation.

¹⁴ Higher liquidity demand by investors, lower costs of controlling management, higher potential benefits from intervention in the managerial decision process and higher transaction costs tend to favor ownership dispersion, in terms of the Bolton-Von Thadden model. Viceversa, for concentration. The model seems to be very powerful in examining some of the institutional features potentially explaining why in some countries dispersed ownership

and blocks, when traded, must reflect the anticipated costs of corporate control and the benefits of monitoring equally, by arbitrage argument. Thus, the lack of compensation for holding the block in the future, as a result of the free-riding phenomenon and no dilution provisions, induces the block-purchaser to demand a discount at the issue stage.

Ernst Maug (1998) disputes the conventional wisdom that large shareholders have less incentive to monitor because they can dispose of their shares easily in a liquid market. Even though this is true, the author argues, a liquid market also makes it less costly to hold larger stakes and easier to purchase additional shares. If monitoring is costly, and this is most frequently the case, market liquidity mitigates the free-riding activity of small shareholders on the efforts of the large shareholder, hence making corporate governance eventually more effective. As in Kyle and Vila, liquid stock markets have two opposing effects on corporate governance. On the one hand, the emergence of large shareholders to correct managerial failure is facilitated. At the same time, however, liquid markets also facilitate a rapid disposal of a block ahead of the expected fall in stock prices related to bad management of the firm's business activities by the existing and not-monitored management. Liquidity can unambiguously incentive corporate governance, insofar as it allows a large shareholder to purchase the additional shares required to exercise an effective control over the management at a price that does not reflect the improvements resulting from the enhanced monitoring activity by the large shareholder himself. This happens because liquidity can attenuate the free-rider problem: trading in a more liquid market helps the large shareholder to pass on part of the restructuring costs to uninformed shareholders, who effectively subsidize the intervention by the blockholder.

Admati, Pfleiderer and Zechner (1994) add a new dimension to the entrepreneur's problem of maximizing his revenues when "getting public": the trade-off between risk-sharing and concentrated ownership. Individual investors are risk-averse, i.e. tend to favor diversified structures of their asset-portfolios, and more diffuse patterns of ownership usually facilitates the construction of market portfolios for individuals otherwise stuck with a large block of a single company's shares. Naturally the benefits of risk-sharing have to be traded against the reduced monitoring activities encouraged by concentrated ownership structures. The market does not

seems to be preferred to concentration. The attempt by the author of this review to apply the theoretical analysis of the paper to the Italian privatization process suggests potential applications to country-case studies.

properly account for the social costs and benefits of alternative ownership structures: its failures, when agents do not fully realize the benefits or do not fully share the costs of the selected ownership structure, prevents the achievement of the social optimum, i.e. a circumstance in which the agents optimally diversify their holdings but the optimal quantity of monitoring is implemented¹⁵.

Admati *et al.* introduce the possibility of the size of the large shareholder to be endogenous¹⁶ and, more significantly, the fundamental assumption that the market for the shares of the stylized company does not exhaust its functions after the first round of trading.

The results of their model suggest that the structure itself of the market, the rounds of trading, the admissibility of price-discrimination are as important as the selected ownership structure in determining whether the entrepreneur is able to maximize the revenues when he decides to go public.

When a firm goes public, the large volume of new shares sold, as well as the large volume of existing shares transferred to the new owners, lastingly shapes the firm's ownership structure and therefore influences the firms' value. The lesson the "monitoring" literature teaches us is that, to

¹⁵ The social and individual optimum is achieved when the large shareholder can commit himself to a specific level of monitoring before trading, when the large shareholder himself cannot be committed to a last round of trading, i.e. trades until he reaches his individual risk-sharing optimum. In the resulting equilibrium, the large shareholder would perform the level of monitoring corresponding to a complete control over the firm, while holding a share of the company corresponding to his risk-tolerance.

¹⁶ A large shareholder can be seen as an institutional investor. A larger size saves in transaction costs, because reduces the need of trading to achieve control, but leads to excessive monitoring and higher monitoring costs. Thus, individual small shareholders prefer not to be part of the large institutional shareholder but simply to free-ride on its control activity, i.e. avoiding sharing the extra-costs of monitoring but enjoying the benefits of it in terms of stock-price appreciation. Kahn and Winton (1998) consider speculation as a defensive tool the institutional investor may adopt against the free-riding problem. An institution can use inside information to intervene and monitor the management or simply speculate on the effects of bad management over the stock-price by shorting the shares of the firm, depending on the relative payoffs of both alternatives. The choice between speculation and intervention will depend on the net benefits from intervention: direct impact from value-enhancement monitoring activities and trading profits from superior inside information relative to other uninformed market participants. As a result, intervention seems to be more likely for companies that are perceived as poor performers, because the speculative sell-and-run strategy is less profitable, and/or companies where the barriers for gathering information are higher (e.g. small firms).

maximize the revenue raised from the shares sold in the public offering, it is important to design the sale of new shares with the final ownership structure in mind. Most investors will remain relatively small and passive holders of the firm's shares, while others are prepared and have the resources and means to actively monitor the company's management or to substitute the existing one and propose an alternative business strategy. As a result, the market for new shares is clearly segmented: the market for dispersed shareholdings is distinct from the market for potentially influential blocks.

Mello and Parsons (1998) argue that going public is a complex and extended process. Given the heterogeneity among investors and some optimal ownership structure arising from institutional considerations and corporate control issues, the optimal strategy for getting (totally or partially) public involves a staged process of financing beginning with an IPO for small investors, then selling a controlling block¹⁷, and concluding with a contingent sale of additional shares.

The IPO seems to be particularly suited for the sale of dispersed shareholdings to small and passive investors but not for selling control. Because an active investor with a controlling block can benefit all shareholders and the free-riding effect bytes part of the rents originating from the monitoring activity, price discrimination among different categories of investors would optimally allocate the controlling block. If securities regulators prohibit price discrimination, Mello and Parsons show that the revenue-maximizing selling strategy involves disposing of the controlling block subsequently to the IPO. Price discrimination in favor of the active investor would theoretically benefit all the market participants, as a offering the controlling block at a discount assures that an efficient ownership structure emerges, that the needed monitoring is implemented, that the resulting improvements in the management's activity benefits all the shareholders, small and big, that eventually the market value of the firm is increased. On the other hand, as long as the active investor can use the block to extract private benefits¹⁸, the seller can raise the price at which the controlling block is offered. Consequently, whether the block is offered at a discount or at a premium depends upon the relative significance of the public and private benefits associated with the corporate control achieved through a block.

¹⁷At a discount, because of the free-riding effect described above on any future value-enhancing activity implemented by the blockholder.

¹⁸ Inside information for speculation purposes or perquisites consumption, as described by Jensen and Meckling (1976).

Active shareholders seeking controlling blocks are put into competition with small, passive investors seeking the same shares in dispersed allotments through the sale of the block at a price that reflects, at least in part, the equilibrium price achieved in the first IPO stage. Mello and Parsons' model considers the issuance of shares as a "process incorporating transactions over time, instead of a single event independent of the firm's plans for subsequent financing". This may explain why some privately held firms go public instead of selling control exclusively to a subset of large private investors, despite the apparent loss in value generated by the free-rider considerations presented above.

Hence, the design of the sale may affect the value of the firm for the original entrepreneur, as long as firms may desire to manage the sale of their shares with the purpose of discriminating between small investors and potential active shareholders and extract additional revenues through a "clientele" effect. Mello and Parsons emphasize the observation that the capital market by itself does not establish an optimal ownership structure for the firm. The process of going public "cannot be left to the capital market to achieve an efficient outcome": it is crucial that the method of sale promotes the participation of potential large shareholders and at the same time make their allocations and payments contingent on the demands of small investors. This is necessary because in many instances the large shareholder will be unable to assemble a controlling block later in the secondary market, due to the free-rider problem. But an active secondary market also prevents the seller from extracting too higher payments that would make investors more attracted by this market than by the original sale of shares in the IPO stage.

Legal arrangements and security design features may also improve the final result of a multi-stage sale of shares through the capital market. Discriminating clauses, voting arrangements, freeze-out clauses (typical in the IPO business) facilitate efficient transfers and allocations of shares among different categories of investors¹⁹.

Zingales (1995) also suggests that the sale of a company should proceed in stages, insofar as, in deciding whether to undertake an IPO and what fraction of ownership to retain, the initial owner has to balance two factors. By selling to dispersed shareholders, he maximizes his proceeds from the sale of cash-flow rights. However, by directly bargaining with a potential blockholder, he

¹⁹ For a complete and exhaustive treatment of legal arrangements as a potential way out from anti-price-discriminatory regulations in the capital markets, see Bebchuk L. and Zingales L., *Private versus social optimality*, Discussion Paper series, Harvard Law School, Cambridge, MA, 1995.

maximizes his proceeds from the sale of control rights. As a consequence, a multistage IPO would permit to maximize the total revenues from the sale, through an optimization of the structure of ownership of his company. As we said before, cash-flow rights are very different in nature from private benefits of control. Cash-flow rights are enjoyed by all shareholders in proportion to the size of their equity stake in the firm. Private benefits are captured only by the controlling shareholders. It naturally follows that the nature of the markets for these two “assets” is very different: the market for cash-flow rights tends to be very competitive, as it is populated by a large number of small investors. By contrast, the market for control rights is not fully competitive. As in the case of Mello and Parsons, Zingales argues that these two components are better sold through two separate mechanisms so to allow the entrepreneur to extract the maximum surplus from both categories of market participants. However, two caveats apply.

First, the value of cash flows is affected by whoever holds the control stake. Second, the combination of cash-flow rights and control rights might be limited by the law. If the stripping of cash-flow rights from voting rights is restricted and the potential buyer is expected to increase the future value of cash-flow rights, either the entrepreneur retains control and fails to extract all the increase in the value of the cash-flow rights, or, in order to extract that entire increase, he has to relinquish his majority control. By contrast, when the potential buyer is expected to reduce the value of cash-flow rights, then the dispersion of small shareholders makes those rights less effective in extracting the buyer’s surplus. In such a case, Zingales argues that keeping the company private and bargaining over its entirety with the potential buyer, and not undertaking an IPO, is the value-maximizing way of divesting the company itself²⁰.

Zingales’ model provides a unified framework to analyze the choice among different corporate divestiture strategies. Direct sell-offs to a third party are preferable when the buyer is expected to reduce the value of cash-flow rights. Spin-offs, i.e. distribution of equity claims in a subsidiary directly to its shareholders, should be preferred when the potential buyer’s private benefits of control are minimal or nil. Carve-outs, i.e. sale of an equity stake in a subsidiary to the public,

²⁰ Actually, by the terms of Zingales’ model, when the potential buyer is expected to reduce the value of cash-flow rights, even publicly traded companies should be taken private, and that is more likely to occur after a decline in the company’s stock price.

should be chosen in all other circumstances, but not in all of them, although disinvestments through carve-outs are generally more profitable than direct sell-offs²¹.

Moreover, the value of cash-flow rights is likely to be more sensitive to aggregate fluctuations in the stock market than the value of private benefits of control, i.e. the voting rights. For example, a reduction in the aggregate risk premium will increase the present value of cash-flow rights, both under the entrepreneur and under the potential buyer's control. However, it does not necessarily affect the value of either parties' private benefits of control²². Therefore, when the level of stock market prices is high, private benefits are a relatively less significant component of a company's total value. This also implies that more companies will want to go public: as a result, as supported by some empirical evidence²³, the IPO activity should rise in a bull market. Viceversa, when stock prices are low or decreasing, the average value of cash-flow rights is low and then private benefits of control are relatively more important. This explains why going private transactions should increase in a bearish market.

Finally, Stoughton and Zechner (1998) focus on some aspects of the IPO process as rational responses by the issuer/entrepreneur to the existence of agency problems resulting from large institutions being the only investors capable to profitably monitor the firm (while small shareholders free ride on these activities), and of regulatory constraints in public capital markets.

²¹ This might be more likely if the potential acquirer can easily siphon out some profits after gaining control of the unit or subsidiary. For instance, when a subsidiary is a small sub-unit of an integrated production process, it may be difficult to assess its profitability independently from the profitability of the acquirer. This leaves a majority shareholder with more discretion in increasing the non-verifiable component of income, and the amount of consumed perquisites, at the expense of the verifiable one, hence leaving the dispersed shareholders worse off. In these cases, a direct sell-off is the most profitable divestiture strategy.

²² Zingales tests the validity of his assertions by looking at the correlation between the average premium attached to voting rights in the U.S., as a measure of the relative size of private benefits of control with respect to cash-flow rights, and the S&P 500 index. The resulting analysis shows a negative and statistically significant correlation between the two proxies, supporting the idea that private benefits of control are less sensitive than cash-flow rights to market fluctuations. For a more extensive investigation of these issues, we refer to Zingales L., *What determines the value of corporate votes?*, CRSP Working Paper 368, University of Chicago, 1994.

²³ See Zingales (1995), for a more exhaustive analysis of the empirical evidence confirming the conclusions and implications of his model, especially pp. 443-445.

Abstracting from the more general game-interaction between a venture capitalist and the investors, usually small and large, the authors introduce a fourth active player, the investment banker, who, acting in the interests of the issuer, optimally rations the allotment of shares to small investors in order to capture the benefits associated with better monitoring by institutions.

Stoughton and Zechner explain IPO underpricing not in terms of adverse selection but of moral hazard, in the context of asymmetric information. The basic philosophy behind adverse selection models is that underpricing is a cost to the issuer, although necessary to incentive a potential blockholder to retain control and monitor, i.e. a reduction of surplus motivated by the need of identifying investors' segmentation or signaling value to outsiders.

As long as the ownership structure of the firm affects the efficiency of corporate governance and thus the intrinsic ex-ante value of the firms (and the revenues the issuer can extract from its sale to the public), moral hazard makes underpricing and rationing (i.e. the oversubscription phenomenon) rational responses from the viewpoint of the entrepreneur. Rationing provides a mechanism by which different classes of investors may be treated differentially, although price-discrimination is restricted and they all purchase securities at a common price. Stoughton and Zechner agree with the conclusion, already present in the literature, that without the possibility of treating different classes of investors differently the offering price and the resulting revenues for the issuer would be reduced. Their original solution to this problem relies in the activity of the investment banker. In their model, he plays two key roles, related to the continuing nature of the relationship between underwriters and institutions and to the non-negotiable nature of the ex-ante optimal amount of monitoring²⁴: (1) identifying investor classes and enforcing differential treatment; and (2) transferring value from the investors to the issuer.

The walrasian mechanism, where there is no last round of trading, large and small shareholders are price-takers and all investors participate under identical terms by purchasing at a single fixed price, is unable to provide the entrepreneur with the possibility of extracting any of the benefits associated with control, because of the positive externality of it over small investors' holdings.

As in Admati, Pfleiderer and Zechner, if the entrepreneur does not utilize the investment banking services of an underwriter, the price-taking process only allows the achievement of risk-sharing

²⁴ That represented a potential solution to the problem, as posed by Admati, Pfleiderer and Zechner, of sub-optimal monitoring in the market equilibrium, i.e. to the social loss of free-riding.

individually optimal allocations. However, when monitoring is a value-enhancing activity, strict risk-sharing conflicts with the need to favor institutional shareholders in order to give them the necessary incentive to exercise corporate control over the management.

When price-discrimination is restricted by the legislative context, the presence of an underwriter who has a long-term relationship with the large investor (and may possibly exclude him from future distributions if he liquidates rapidly the holdings obtained through the IPO process) permits to achieve the optimal level of monitoring. The authors consider a mechanism involving rationing as an efficient way of raising revenues for the entrepreneur. The practical use of “book-building” and other similar procedures by the underwriter imply that there is an observed relationship between the large investor and the investment banker. Hence, the latter can offer a “take-it-or-leave-it” IPO price and share allocation to the potential blockholder. However, regulations also require that an identical price be offered to all small shareholders. Thus, the underwriter provide a linear demand schedule of IPO prices and share allocations to the large investor and allows him to select their optimal share allocation (and price) from the schedule. At the selected price, the small shareholders will be rationed, as in equilibrium they would like to purchase more shares at the unit price dictated by the large shareholder. Underpricing is explained as a feature of this process. Insofar as, in an empirical sense, underpricing is observed by comparing the offering price to the price in secondary trading, the shadow-price of the small investors, i.e. the price at which they would demand exactly the quantity of shares eventually offered to them by the underwriter, hence lower than the effective IPO price because of the resulting rationing, represents the price that would emerge once trading opens, provided the opening of trading is not influenced by the initial ownership position taken by the large investors (the no sell-off rule).

4. A conclusion

The major conclusion of the literature surveyed in this paper is that the value of a firm’s IPO or divestiture of a division is determined mainly by the ownership structure resulting from the offering mechanism. Corporate governance considerations and costly monitoring, in a context of informational asymmetry and agency problems originated by the relationship between managers and shareholders, explain why the ex-ante value of the company may be enhanced by an ownership structure that is more likely to exercise effective control when a problem arises.

Insofar as control generates a positive externality over the holdings of all investors, small and large, independently from their individual efforts in monitoring the management and from the degree of involvement in the business activities of the firm, i.e. as long as the benefits of control are a Public Good, the walrasian market mechanism seems unable to generate holdings allocations leading to the socially optimal and private revenue-maximizing quantity of monitoring.

Different degrees of noise trading and liquidity needs, risk-aversion and transaction costs seem to explain why, when the regulatory environment imposes a walrasian mechanism for the capital markets, different forms of ownership structures may emerge.

Nonetheless, the market mechanism can be altered, even in the context of legal restrictions to unfair competition among market participants.

The awareness of the importance of monitoring and the heterogeneity of investors in their ability and interest to effectively control management of newly public firms represents the basic premise of this argument. Large investors have a clear advantage because of the establishment of institutional mechanisms facilitating control activities and long-term relationships with firms and brokers. However, the non-contractability of monitoring activities and the free-rider issue creates a trade-off between risk-sharing, liquidity and control, i.e. a tension between potential blockholders, entrepreneurs and small shareholders, resulting in sub-optimal revenues and monitoring.

Hence, the optimal offering process will be the one that, to the extent the regulations allow, discriminates between “fundamental” and “noise” trading, and ultimately gives favored treatment to the large investors class.

Some limitations to sale techniques may eventually determine the selected ownership structure, given the revenue-maximizing purposes of the entrepreneur and the needs of monitoring, at the cost of social and individual losses.

Considering the most appropriate (and legal!) form of institutional mechanisms allowing effectively discriminatory treatment of the different categories of investors that segment the capital markets together with a more precise modeling of the monitoring needs of a corporation and the informational advantages of insiders/large shareholders and fully homogeneous empirical

testing²⁵ seems to be an important, if not yet fully exploited objective of future research in the Corporate Governance literature. The recent privatization processes in Italy and France and in Easter Europe provide interesting examples of integration of corporate control issues with the simultaneous design of new features for the existing capital market structures.

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²⁵ For instance, through case-studies for countries or groups of deals.