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2013

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Topics in corporate governance have been around in the literature almost for a century, most of the theoretical and empirical work has focused on the large and public company. While this research has improved our understanding of how large corporations are governed, corporate governance in small and medium sized enterprises and in particular in entrepreneurial and newly listed firms has rarely been studied. This essay offers a reflective overview of corporate governance mechanisms in entrepreneurial and newly listed companies and of why and how governance mechanisms differ from those in large and publicly traded corporations. In contrast to the traditional approach in corporate governance, we do not rely on the agency perspective as a work-horse to analyze governance problems. Instead we focus on either market or institutional based mechanisms in corporate governance. This opens the view on governance problems in newly listed companies outside the narrow view of either an agency or free-market perspective. Instead, the following study tries to bridge the different perspectives on corporate governance. From the broad set of mechanisms in corporate governance discussed in the literature, we focus only on a small subset which is prevalent in newly listed companies like the product and capital market, the market for corporate control, boards of directors and capital structures.

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Corporate governance in newly listed companies

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Abstract

Topics in corporate governance have been around in the literature almost for a century, most of the theoretical and empirical work has focused on the large and public company. While this research has improved our understanding of how large corporations are governed, corporate governance in small and medium sized enterprises and in particular in entrepreneurial and newly listed firms has rarely been studied. This essay offers a reflective overview of corporate governance mechanisms in entrepreneurial and newly listed companies and of why and how governance mechanisms differ from those in large and publicly traded corporations. In contrast to the traditional approach in corporate governance, we do not rely on the agency perspective as a work-horse to analyze governance problems. Instead we focus on either market or institutional based mechanisms in corporate governance. This opens the view on governance problems in newly listed companies outside the narrow view of either an agency or free-market perspective. Instead, the following study tries to bridge the different perspectives on corporate governance. From the broad set of mechanisms in corporate governance discussed in the literature, we focus only on a small subset which is prevalent in newly listed companies like the product and capital market, the market for corporate control, boards of directors and capital structures.

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1. Introduction

Ever since the famous Berle and Means (1932) appraisal on the performance of large corporations, the term “corporate governance” is used to describe questions of how to govern a firm or a company and is nowadays on everyone’s lips and labels every organization. One of the most influential academic papers on corporate governance is the Jensen and Meckling (1976) approach. In this paper, the authors draw on the Berle and Means (1932) finding that corporations which are governed by managers instead of large shareholders, are underperforming. Jensen and Meckling (1976) put this finding in the context of the emerging literature on perfect contracts. Corporate governance is since then described as a contractual problem at the top of a firm to solve market imperfections. Oliver Hart (1995, p. 678) mentioned that:

“Corporate governance issues arise in organizations whenever two conditions are present. First, there is an agency problem, or conflict of interest, involving members of the organization – these might be owners, managers, workers or consumers. Second, transaction costs are such that this agency problem cannot be dealt with through a contract”.

Within the past decades, a rich and fruitful literature, both theoretically and empirically emerged, analyzing corporate governance problems in firms, in particular large and established listed companies (see Shleifer/Vishney, 1997; Lehmann/Weigand, 2000; Denis, 2001; Gugler, 2001; Becht et al. 2003). The starting point in this literature is that markets are incomplete, leading to externalities and unforeseen contingencies and thus gives managers a leeway for opportunistic behavior. While the agency or perfect contract approach may help to internalize and weaken the costs of opportunistic behavior, unforeseen contingencies as a cause of governance problems could not be sufficiently solved by contracts. While

externalities –opportunistic behavior of the management team at the cost of stakeholders – are seen as the predominant problem in corporate governance in large and established companies (Shleifer/Vishney, 1997), this may not necessarily hold for entrepreneurial and newly listed companies. These firms are mainly concerned with uncertainty, highly risky projects, lack of routines and networks, and, most important, a lack of diversified projects to lower the risk of the firm (Audretsch/Lehmann, 2005; Audretsch et al. 2009). Instead of opportunistic behavior of the top management team, we argue that unforeseen contingencies could be named as the main source of corporate governance problems in entrepreneurial and newly listed firms, without neglecting the other problems.

Newly listed companies differ in relevant aspects from large and established companies in governing a firm. They are seldom managed by external managers without equity stakes in the firm but by owner-founders. Also employees are more linked to the firm's assets and become increasingly critical to the success of the firm (see Audretsch et al., 2006a,b). Without sufficient protection of their interests they tend to underinvest at a firm's costs. Contracts are not sufficiently perfect as to guarantee their investments and thus corporate governance concepts should also consider their interests besides those of the shareholders. This leads to the broader concept of stakeholder value and alters the aim of the top management team of the firm: To identify the relevant stakeholders and to pursue their interests, albeit their interests are still conflicting (Zingales, 1998).

The event of initial public offerings (IPO) thus is one of the most important one of a firm, often associated with a sharp change of its existing governance structure (Audretsch/Lehmann, 2005). The event of an IPO is associated with an allocation of ownership rights and thus shapes directly the property rights and the residual rights of control (Jensen/Meckling, 1976). Going public is the final stage of entrepreneurial firms in attracting equity. In the first stage, equity is often held by the entrepreneur or the entrepreneurial team.

In a second stage, they may raise equity from some investors like venture capitalists or angel investors, with going public as the final stage. After being listed on the stock market, secondary or seasoned public offerings allow these firms to get access to additional equity to finance their growth in further stages (Gompers/Lerner, 2011).

During the past decades, with the fall of the iron curtain, a new era has emerged, shifting the paradigm from the governed to the entrepreneurial firm (Audretsch/Thurik, 2001). Accompanied by technological changes like improvements in communications and computer technology and institutional changes like deregulations, these powerful forces changed the nature of the firm in two ways: they increased the importance of human capital relative to inanimate assets and secondly have led to a break-up of the vertically integrated firms, in particular in the US (Rajan/Zingales, 2000, Audretsch/Thurik, 2001). The paradigm shift from the modern corporation to the entrepreneurial society is best described by Audretsch (2007) in terms of innovative activity being more important in generating economic growth than productive efficiency. This leads to a new type of entrepreneurial firms, the so called high-impact entrepreneurship as described by Acs (2011). The availability of financing, in particular private equity provided by venture capitalists has made specialized human capital much more important and thus much more mobile (Gompers/Lerner, 2011).

With the increase in the importance of human capital, power has moved away from the top and is much more widely dispersed through the firm. The growing number of entrepreneurial firms where physical assets are less important than human capital and intangible assets also shifts the perspective in corporate governance away from the owners of the physical assets – the shareholders – toward the owners of the human capital and intangible assets (Audretsch/Lehmann, 2006; Acs, 2011). Control over intangible and mobile assets becomes a greater source of power than control over physical assets since almost none of the control rights over can be allocated through contracts. Linking human capital and intangible assets as

complementary assets to physical assets now generates the surplus and identifies the entrepreneur as one of the key persons in an entrepreneurial IPO firm.

Thus, corporate governance should then refer to the design of institutions and mechanisms to make entrepreneurs and managers internalize the welfare of relevant stakeholders in the firm (Tirole, 2001). While traditional views of corporate governance mainly focus on the interests of shareholders as the only relevant stakeholders and thus principals, more recently a broader definition of corporate governance is gaining ground, integrating the interests of other stakeholders: Stakeholders, whose firm specific investments lead to a hold up problem and thus make them reluctant to make firm-specific investment (Rajan/Zingales, 2000; Lehmann, 2006). While the result of the agency problem is that investors will be reluctant to supply funds, the same holds for all stakeholders which make firm specific investments that cannot be governed by a perfect contract (Hart, 1995; Zingales, 1999). Since the outcome of such investments cannot be -perfectly- anticipated and fixed, entrepreneurs and managers could always act in their own interests at the costs of stakeholders. In addition to investors and financiers, we accordingly have to widen our scope of corporate governance to consider all stakeholders with firm-specific investments and, without loss of generality, could define corporate governance as the set of arrangements, either more market or hierarchically oriented, to ensure that investors – either suppliers of firm specific financial or human capital - get a return on their investments.

In the following we will provide a short overview of corporate governance mechanisms in newly listed companies. Although such firms differ in large from the archetypical “Berle-Means-Corporation” (Roe, 1994, p. 93) in the corporate governance literature, our overview is also aligned to some extent to the framework provided by Shleifer and Vishney (1997). By this, we are able to highlight how newly listed companies differ from their counterparts, the large and established companies. Our approach differs from this traditional view in several

ways. First, we distinguish between market mechanisms and hierarchical mechanisms. Secondly, we abstract from pure neoclassical theory in that market and their imperfections as the starting point analyzing the existence of firms. Markets and hierarchies are two mechanisms to coordinate trade and exchange activities and the boundaries of the firm (the boundary between hierarchies and markets) and thus the governance structure is shaped by the cost and benefits of each of them.

The rest of the chapter is organized as follow. In the next section we provide a brief overview of governance in entrepreneurial and newly listed companies, starting with the separation of ownership and control and the resulting problems of moral hazard and adverse selection. The third section discusses mechanisms in corporate governance in entrepreneurial and newly listed companies.

2. Governance Problems in IPO Firms

2.1 The separation of ownership and control

Starting with the entrepreneur as the owner-manager of the firm, Jensen and Meckling's (1976) work on the separation of ownership and control is the work-horse and starting point in nearly every study on corporate governance.³ They first formalize the consequences if an owner-manager, who holds the entire assets of a firm, requires external financing for growth. They assume that the owner-manager receives benefits from consumption on the job as the manager of the firm. Selling equity shares - or residual cash-flow rights - to external investors leads to a separation of ownership and control with the consequence that the costs of consumption on the job could be externalized to external investors and outside shareholders. This, however, lowers firm value and thus the market price of the shares. The possibility to

³ See Audretsch/Lehmann (2011) for a discussion and collection of papers on this topic.

externalize the costs of consumption of the job increases with the amount of shares offered to outside investors. The consequence is underinvestment of investors. Thus, capital markets should react at the time of the IPO according their beliefs and views about the costs of consumption of the job externalized by the top management team. Most prominent anecdotal evidence is provided by the Facebook IPO with a sharp decline in post IPO performance on the stock market. The initial/long-run abnormal return phenomenon is extensively discussed in the theoretical and empirical literature, finding mixed evidence (see Ritter, 1991; Loughran/Ritter, 1995; 2002, 2004; Bonardo et al. 2010; Vismara et al. 2012)

The Jensen-Meckling approach has several implications which makes this paper to one of the most cited in business and economics: Both parties – investors and the owner-manager – can make investments, called agency costs, which lead to a better solution for both parties as long as the agency costs are lower than the gains from this investments. The standard approach is to view corporate governance as helping to overcome incentive problems between the manager and outside financiers (Vives, 2000, p. 4). This constitutes the basic problem as a principle agent problem between a principal – investor, financiers or, more generally, stakeholder – and the entrepreneur or manager as the agent due to the presence of moral hazard and adverse selection. Literature focuses on several ways in which managers may not act in the firm's – or its owners' – best interests (for surveys see Denis, 2001, Shleifer and Vishney, 1997; Gompers/Lerner, 2011). In the absence of perfect contracts between the relevant principal(s) and the entrepreneur or manager, the contract leaves the latter a lot of discretion since they have the power, the ability and the knowledge to run the firm. The consequence is managerial misbehavior, in that they may engage in all kinds of behavior that are detrimental to the firm.

Thus, the narrow view of corporate governance is how to ensure that managers follow the interests of shareholders. This view fits into the principal-agent paradigm that shareholders as

the principal(s) have to solve two problems: The adverse selection problem of selecting good managers and the moral hazard problem by checking that the managers put forth appropriate effort and make their decisions in alignment with the interests of the principal(s) (Vives, 2000, p. 1).

2.1 Moral hazard and fraud in entrepreneurial IPO firms

While modern corporations are predominantly associated with problems of moral hazard behavior, entrepreneurial firms are characterized more by adverse selection problems. The artificial separation in the literature that moral hazard behavior is due to private information about actions (hidden action) and adverse selection about hidden characteristics may serve as a work-horse for the analysis. Adverse selection and moral hazard are associated with different costs. While insufficient effort, extravagant investments or entrenchment strategies are not easy to discover in large firms, moral hazard behavior in entrepreneurial firms seldom attracts the attention of the broad public and thus still remains in the dark.

What we have in mind when we talk about corporate governance are more or less the scandals presented in the mass media, like excessive bonus payments, insider-trading and self-dealing. While excessive bonus payments are more prevalent in large and publicly-held companies, and such misbehavior is frequently disseminated by the media press, owners of entrepreneurial firms are also accused of fraud and self-dealing activities (Audretsch/Lehmann, 2004). Both, owner-managers in entrepreneurial IPO firms as well as managers in large publicly traded corporations, have incentives for moral hazard behavior if the expected utility exceeds the costs. They become criminal or engage in misbehavior not because their basic motivation differs from that of other persons, but because their benefits and cost differ (see Becker 1968, p. 176). Moral hazard behavior constitutes the predominant problem in corporate governance, endogenously given by the opportunities, the incentives and

the expected trade-off between the costs and benefits of managerial misbehavior. *Entrepreneurial and newly listed companies* differ from large public companies with respect to the expected benefits from moral hazard behavior in several aspects:

- *Insufficient effort*: The problem in entrepreneurial firms is not that the entrepreneur or owner-manager wastes time for different tasks, but under-investments in relationship specific investments due to the double-sided moral hazard problem.
- *Extravagant investments*: Entrepreneurial firms are organized around one idea, thus they are less diversified and firm size as a signal of power and prestige may be relevant in later stages of the firms life cycle.
- *Entrenchment strategies*: Entrepreneurial firms are invested in future or high technology industries, being taken over is one of the most favorable strategies for entrepreneurial firms and thus resisting takeovers to secure long term positions by investments in antitakeover mechanisms like excessive investments in complex cross-ownership and holding structures does not occur.
- *Self-dealing*: The importance of human capital and intangible assets relative to physical assets lowers the possibilities for self-dealing activities. Entrepreneurial firms are often far away from generating high cash flows or have to serve their financier and thus self-dealing is limited.

Although the big scandals in the past years are linked to firms like ENRON, WorldCom or Parmalat, accounting scandals and fraud are more widespread in entrepreneurial firms. They may often use creative accounting techniques up to fraud to increase their personnel wealth, in particular if quoted on the stock market. Beuselinck and Manigart (2007) study reporting quality in entrepreneurial and equity backed firms. They find that reporting quality in such firms is the outcome of monitoring and governance by private equity investors and their ownership stakes in the firm. Their results show that financial reporting quality is a substitute

for high ownership stakes. For a sample of all quoted firms in Germany from 1997 until 2006, Audretsch and Lehmann (2009) found that about 20% are accused of having committed fraud within the first three years after IPO. Most interestingly, the CEOs of those firms are paid by stock-options instead of owning large ownership shares and the accused firms came all from industries with a low patenting intensity, like media and life sciences.

2.2 Adverse Selection problems in entrepreneurial firms

The problem of adverse selection is associated with private information about characteristics like the ability of the entrepreneur or manager to run a firm. Those characteristics are more or less exogenously given, and literature suggests that adverse selection problems could be solved by self-enforcing contracts, incentive schemes, reputation, and signals like guarantees. Adverse selection also occurs in large and public firms, in particular with respect to finding and selecting good managers. However, managers are selected as CEOs either because they climbed the job ladder within the firm, they showed abnormal performance on the market for managers or are selected by specialized headhunters, known by social networks or personal contacts. Thus, private information about their quality in running and leading a company may be negligible relative to private information about the actions after the manager has been hired. Instead of by adverse selection problems, the turnover of managers could better be explained by a mismatch between the principle and the hired manager (see Jovanovich, 1979).

The problem of adverse selection in entrepreneurial firms arises if mechanisms are designed in a way so that only bad qualities are selected⁴. Hellman (2007a, p. 83) points out that the entrepreneur's problem is how to assemble resources. If a plenty of entrepreneurs compete for scarce resources like highly skilled employees or financial assets, the entrepreneur's challenge is to convince the resource providers to commit their resources to a new venture. Most of the

⁴ This follows directly from the well-known Akerlof analysis of the Lemon's market in used cars (Akerlof, 1970).

entrepreneurs are rather unknown to their counterparts, employees, investors, financiers, or key supplier and clients are involved in a “chicken and egg problem” (Hellman, 2007a, p. 82), where the entrepreneurial firm needs to have credibility to get commitments from the providers of scarce resources (key innovators, venture capitalists, alliance partners) but also needs to have commitments from partners to get credibility (see also Birley/Norburn, 1985). This opens the door for adverse selection problems, in particular if entrepreneurs are overconfident about their skills, their abilities, overestimating future benefits and underestimating risk and costs. Then, financial resources are provided to the “wrong” firms and key inventors leave their companies to get hired by entrepreneurial firms, lured by large ownership stakes and stock options.

3. Mechanisms in Corporate Governance

Taking all these definitions and concepts together, interpreting the shareholder as one, but nonetheless relevant, stakeholder, we can define corporate governance as a set of mechanisms and institutional designs to ensure that relevant investors (of either financial capital, human capital, or other assets) get a return on their investments. The main question is how to coordinate and motivate managers to behave accordingly. While free-market economists rely on the markets to motivate and coordinate people’s (and firms’) activities, others argued for the contractual and property rights approach and call for the emergence of institutions to coordinate and motivate people by internalization the costs and benefits of their decisions. Zingales (1998, p. 497) claims that the word “governance” is synonymous with the exercise of authority, direction and control and thus its use seems somewhat strange in the context of a free-market economy. Consequently, for free-market economists corporate governance problems could be solved by fostering market forces. If markets tend toward the perfect

market model, then other mechanisms, like governmental interventions, are obsolete or counterproductive by destroying incentives. Otherwise, the neoclassical approach assumes that in the equilibrium, there are no profits, no entries and exits, and thus no opportunities and thus incentives for entrepreneurs (see Alvarez et al. 2011 for such a discussion, Buenstdorf, 2007). Also financial economists rely on the efficiency of market mechanisms, in particular in disseminating relevant information. If markets are sufficient efficient in disseminating relevant information, then, there would be no room left for opportunistic behavior of the management team.

Following the microeconomic foundation of the firm these mechanisms could and should thus be separated into “market mechanisms” and “authority” or institutional or hierarchical mechanisms. Like transactions could take place either via exchanges on an anonymous market (Coase, 1937), or under the control of an authority, the set of mechanisms and institutional arrangements should also be spanned between these two extremes. Like markets did not exist without a minimum of institutional mechanisms, like computer-based trading, there exists no hierarchy without at least some market based mechanisms. The most interesting question, not only in corporate governance of firms, is the optimal amount and mixture of market based and institutional or hierarchical mechanisms. And this amount is endogenously given by the cost and benefits of both, markets and hierarchies. Endogenously, because these costs vary and are shaped by technological developments, like the computer technology, learning by individuals and changes in social and political systems.

3.1 Market mechanisms and the role of competition

It has long been argued that product and stock market competition act as a (perfect) mechanism in corporate governance (Scharfstein, 1988). Competition increases the probability of liquidation and thus managers work hard to avoid this (Schmidt, 1997). Badly

performing firms will not survive and the market will be taken over by efficient firms and at least, the managers lose their jobs (Nalebuff/Stiglitz, 1983; Nickel, 1996). If managers waste resources in ways such that a firm's products are of lower qualities as compared to similar products of competing firms or are produced at higher costs, then *product market competition* or "the economic grim reaper" (Baker/Kennedy, 2002) swamps those firms out of the market.

Entrepreneurial and newly listed companies are faced with the "economic grim reaper": They are less diversified, too small to collude with others, victims of large incumbents in their strategic behavior in protecting market shares and reducing competition and often too small to operate on a minimum efficient level (see Koppl/Minniti, 2011). Entrepreneurial and newly listed companies often survive a short time only and firm exit is not ostensibly caused by managerial misbehavior and an opportunistic misallocation of the scarce resources of the firm but driven by bad luck, hazard, and a lack of managerial skills (see Audretsch, 1995; Caves, 1998; Jovanovic, 1982; Baker/Kennedy, 2002; Audretsch/Lehmann, 2005, 2008).

Providing access to equity capital for high-growth firms is only one side of the medal of stock markets as an economic institution (Vismara et al. 2012). The other side of the medal is that stock markets also serve as an institution to reallocate productive resources from non-surviving firms to surviving firms. Schumpeter used the famous metaphor of "creative destruction" describing that sustained equilibrium is not tolerated by innovative entrepreneurs, but also that entrepreneurial firms are the victims of market forces. Stock markets such as the NASDAQ in the US or the *Neuer Markt* in Germany could then be interpreted as the main institution in a capitalist system to create and destroy existing structures (Audretsch/Lehmann, 2008). While large companies often are too-big-to-fail - like recently General Motors - entrepreneurial and newly listed companies are often faced with the problem of being delisted or of leading a life as a penny stock at the stock market, unable to raise further capital for future investments. The process by which firms disappear from the stock market is not well

understood. Baker and Kennedy (2002) provide a framework analyzing firm characteristics among surviving and non-surviving firms traded on the New York and American Stock Exchanges. They find that the “economic grim reaper” (p. 324) kills at least underperforming firms. Fama and French (2001) use IPO data from the NASDAQ and find that new lists are delisted for poor performance at much higher rates than are all firms, and that only about one out of three new lists survived for ten years. Audretsch and Lehmann (2005, 2008) show that delisting of entrepreneurial firms from the stock market are significantly shaped by the human capital of board members, lower innovation capacity and firm age. Survival on the stock market and thus the ability to raise capital for further growth options is positively shaped by the number of patents owned by the firm and the owner-manager, and by the share of board members having an academic degree.

If firms are not able to signal valuable gains in the future, investors sell their shares and stock market prices decline down to zero. Capital markets, in particular when entrepreneurial and newly listed firms are far away from serving the market with marketable products, serve as a substitute for the missing competition on the product market. If newly listed firms – due to bad luck, the wrong idea, mismanagement or insufficient management skills - are not able to spend their scarce resources optimally, the capital market serves as a complementary mechanism to the product market competition which speeds up the “economic grim reaper”.

3.1.2 The Market for Corporate Control in Entrepreneurial Firms⁵

The market for corporate control is of great importance in the corporate governance literature. If financial markets are sufficiently liquid in that large equity stakes could be traded, the market for corporate control can be the superior mechanism in disciplining management (Manne, 1965). If managers waste firm resources, share prices decline at the stock market and

⁵ This section is mainly based on Audretsch/Lehmann (2007) and Lehmann et al. (2012).

it could be profitable for investors to buy the firm and replace the management. The fear of losing their jobs and their amenities would discipline managers to allocate scarce resources in the interest of the shareholders and owners of the firm.

While the market for corporate control may serve as a mechanism to discipline managers in large and publicly traded companies, this does not necessarily hold for newly listed companies. Quite contrary, the market for corporate control offers the possibility to grow or survive in the market, either by the newly listed company being the target firm acquired by a larger incumbent or by acquiring other firms. Both can allow for access to resources that are critical for exploiting opportunities for further growth if takeovers are the only means by which this access can be accomplished. Thus, the market for corporate control not only serves as a mechanisms to discipline poorly working managers, but also as a mechanism to lower transaction costs and costs of asymmetric information across target firms and acquirers.

There exists an emerging literature focusing on the interdependence between the IPO Market and the market for corporate control (Bonardo et al. 2010). IPOs can be part of a larger process of transferring control rights from the owner-manager of a privately held firm to another firm. IPOs may mitigate inefficiencies in the M&A markets for privately held targets (Ang/Kohers, 2001). Especially in cases involving young firms with significant holdings in intangible assets the value of which has not yet been signaled these information asymmetries often seem to be prohibitively high (Shen/Reuer, 2005). Taking the firm public prior to its eventual sale therefore can significantly increase returns to its initial owners by reducing information asymmetries and with that reducing corresponding bid price discounts. Stock markets demand for standardized information disclosure, and stock prices as the aggregated information of several investors (Ellingsen/Rydqvist, 1997) reflect the market's evaluation of a firm's performance. Additionally, as Shen and Reuer (2005) argue, the presence of a resale market for a firm's shares reduces a potential investor's downside risk. M&A transactions

generally involve information asymmetries between targets and acquirers which are associated with adverse selection costs. Literature suggests several ways of coping with asymmetric information involved in corporate acquisitions, such as stock payments as opposed to cash (Eckbo et al., 1990) or an extended negotiation period allowing for a closer evaluation of the target (Coff, 1999).

Empirical research widely seems to support this important role the IPO plays in reducing information asymmetries connected with corporate mergers and acquisitions (Palepu, 1986; Lian/Wang, 2007). In addition to the signaling mechanism of discriminating high from low quality firms (Zingales, 1995) IPOs are a focal point for potential acquirers since entrepreneurial firms are often difficult to locate as potential targets (Palepu, 1986; Lian/Wang 2007). Brau, Francis and Kohers (2003) analyze firm owner's choice between an IPO and a takeover by a public acquirer. Their results show that the high-tech status of the private firm and the percentage of insider ownership, among others, positively influence the probability of a firm conducting an IPO. These findings are in line with the general assumption that young firms with large holdings of intangible assets such as technologies or patents need to signal their values as especially their acquisitions involve serious adverse selection risks.

There exists an emerging literature, both theoretical and empirical, pointing out that the market for corporate control serves as a matching mechanism between large and entrepreneurial firms (Hall, 1990, Bloningen/Taylor, 2000, Jones et al, 2001; Grimpe/Hussinger, 2008, Norbäck/Persson, 2009; Braun et al. 2011). Entrepreneurial firms are assumed to be more likely to create breakthroughs but are not always able to bring the innovations to the market (Wright et al., 2004). In contrast, established and large firms have the financial resources but often provide only incremental innovations. Since start up and entrepreneurial innovation is more radical than that of incumbents, Granstrand and Sjolander

(1990) suggest a division of scientific labor between entrepreneurial firms and established firms that implicitly defines their roles as targets and acquirers. Accordingly, taking over the entrepreneurial firm may lead to a win-win situation for both parties (Gans/Stern, 2000). Thus, being taken over is not necessarily the nightmare of an entrepreneur and owner-manager but the most promising way to sell his shares (DeTienne/Cardon, 2010). Then, the market for corporate control does not act as a mechanism that disciplines bad managers but in contrast that rewards entrepreneurial teams for their outstanding effort and quality. As Henkel et al. (2010) show, entrepreneurial firms may enter a contest with the winner being taken over by an incumbent firm. By choosing high risk levels of their R&D approaches they provide a signal to an incumbent firm – and thus are the winner of the beauty contest. Recent academic research focuses on this division of scientific labor and its impact on firm acquisitions (Colombo et al., 2010a,b, Bonardo et al., 2011; Lehmann et al. 2012) and most of this literature points out that entrepreneurial firms are preferred acquisition targets because of their internally available technological capabilities, often measured by numbers of patents as a predictor for takeover probability (see also Powell, 1997; 2004).

Although acquisitions of entrepreneurial and newly listed companies are of great popularity in the academic literature, there exists only limited evidence on the performance of such acquisitions. Using event study methodology, Braun et al. (2011) find statistically significant abnormal returns for targets and bidders within a five day window before the acquisition is made public. If the time window of the event study is enlarged, only shareholders of the target firms earn significant abnormal returns. Most other studies show dismal results in that a large number of acquired inventors leave the company after the acquisition and those that remain exhibit poor innovation outcome (see eg. Paruchuri et al., 2006, Kapoor/Lim, 2007).

Some studies tried to explain why these acquisitions often fail and have placed attention on whether the acquired firm is kept as a separate entity or integrated into the acquirer's

organization (Puranam/Srikanth, 2007, Kapoor/Lim, 2007) or how post-deal decision autonomy is granted to the individual acquired key inventor. Colombo et al (2010) conclude that, while structural aspects of the post-merger deal reorganization are still important, one needs to go a step further to understand the dismissal empirical findings.

Lehmann et al. (2012) go this step forward and contribute to this literature analyzing how the likelihood of entrepreneurial firms of being takeover targets is shaped by the specific role of the owner-manager of an entrepreneurial firm as the key inventor. This study differs thus from earlier work in that it explicitly distinguishes between the manager-owner as the owner of the intangible assets and the entrepreneurial firm as the legal entity. Like Grimpe and Hussinger (2008) or Bonardo et al. (2010) they include the number of patents as a proxy for firm specific knowledge and capabilities to create innovations and thus give incentives to an incumbent firm to select an entrepreneurial firm as a takeover target. They distinguish whether the patents are owned by the owner-manager of the entrepreneurial firm or by the entrepreneurial firm as a legal entity and find compelling evidence that the likelihood of being a takeover target significantly decreases with the patents owned by the owner-manager.

Bonardo et al. (2010a) analyze a sample of European science-based entrepreneurial firms and conclude that the market for corporate control is active since most of the sampled firms are acquired after their Initial Public Offerings (IPO), usually by companies operating within the same industries as their targets. This finding undermines that the market for corporate control does not primarily serve as a mechanism to discipline poorly performing management teams but to reallocate critical resources such as human capital and knowledge within industries.

The market for corporate control thus does not necessarily serve as a mechanism to discipline poorly working managers in newly listed companies but to reward entrepreneurs and entrepreneurial teams for past effort. If only successful entrepreneurial and newly listed

companies are taken over, then the market for corporate control also mitigates adverse selection problems.

3.1.3 The Market for Managers in Entrepreneurial firms

Following Fama (1980), the market for managers disciplines managers and prevents them from opportunistic behavior. If markets are sufficiently efficient, the shareholder value reflects the unobservable quality and effort of the managers. Competition in the market for managers is twofold: external and internal. While the external market values the manager's effort and quality by observing the shareholders' (or a firm's) value and the manager competes with other managers for remuneration and contracts, the internal market is based on competition within a given top management team of the respective firm. The competition on both markets will prevent the manager from opportunistic behavior and thus induce them to invest the firm's resources and their effort in the best way to increase firm value. While the arguments put forth by Fama (1980) are intensively analyzed and discussed for large public companies, in particular in the context of takeover decisions⁶, empirical studies in the context of entrepreneurial and newly listed Companies are scarce. One reason for this is that this kind of competition in entrepreneurial firms differs in several ways.

Firstly, managers in entrepreneurial firms are often linked to their firms via family ties or they are the founders of their firms so that their replacement against their will is often impossible. Secondly, entrepreneurial firms are often closely linked to the firm specific human capital of the owner-manager, although s/he might lack of general skills like management, marketing and finance.

⁶ Empirical studies highlight the turnover of managers in poorly performing firms and the replacement by insiders (Holmstrom/Kaplan, 2001) and outsiders (Denis/Denis, 1995, Weisbach, 1995, Parrino, 1997) in large corporations.

Recent research in this understudied field (DeTienne, 2010, p. 5) is more concerned with the strong link between managers and owners and firm performance in the short and long run and with entrepreneurial exit in general. Van Praag (2003) shows that firm survival and success are linked to the owners of the firm. She presumes that the person (“the man”) makes the difference in firm performance, and not only firm specific determinants or industry specific circumstances. The owner sets the conditions, the boundaries, the characteristics and creates the value of the firm. Her results show that business hazard varies with person-specific determinants like age and past experience but mostly with the motivation and enthusiasm with which a business venture is started. If such a business venture survives and grows, the problem of succession arises. Instead of replacing poorly performing managers, the major problem in privately held and entrepreneurial firms is the succession process and the selection of successor managers. Since replacement of managers in entrepreneurial firms is rather costly, more accuracy is put on the selection process of managers. Managers could either be selected from outside the firm and the family or internally recruited. Both strategies are associated with costs and benefits: While agency costs are assumed to be higher when selecting external managers, the internal recruiting strategy is limited by a smaller pool of relevant managers.

Another strand of the literature analyzes the exit strategies of founders and owner-managers in entrepreneurial firms (DeTienne/Cardon, 2010). While in large and publicly-held corporations managerial replacement is often exogenously determined by the board of directors (Adams et al. 2010), entrepreneurial exit is an endogenous decision by the entrepreneur and owner-manager: they remove themselves (DeTienne, 2010, p. 5). Birley and Westhead (1993) propose that entrepreneurs exit through five different paths: the sale to an independent party, management buyouts, sale to another business, and IPO or liquidation. Since entrepreneurial firms are strongly linked to the specific human capital of the founder and owner-manager,

they may also step back from the active management of the firm and take a role on the board of directors. DeTienne and Cardon (2010) show that entrepreneurial exit paths are shaped by the specific human capital and prior experience of entrepreneurs. Their results confirm work on the life cycle theory of the firm that different board members are needed on the board in different stages (Lynall et al., 2003). Board composition change and entrepreneurial exit reflect the firm's life cycle. If an entrepreneurial firm grows and acquires more resources, the initial human capital of the founder becomes diffused and has less impact on firm outcomes (DeTienne/Cardon, 2010).

While exits as described by Birley and Westhead (1993), DeTienne (2010) or DeTienne and Cardon (2010) are more or less voluntary exit decisions by the entrepreneur, there is one strand of literature analyzing the involuntary replacement of entrepreneurs: the venture capital literature. Although entrepreneurs have large ownership-stakes in their firms, venture capitalists can force them to exit the firm involuntarily. In contrast to banks, venture capital firms as the main financiers of entrepreneurial firms possess the technical expertise and manpower which enables them to replace the original founder of the entrepreneurial firms with a new and more appropriate CEO (see Gorman/Sahlman, 1989, Hellmann/Puri, 2002; Ueda, 2004 and Gompers/Lerner, 2011).

3.2 Authority and Institutional Mechanisms

3.2.1 Exit and Voice

Institutional mechanisms are arrangements that point out that transaction cost of market mechanisms are prohibitively high so that the coordination of transactions occurs in alternative forms, like hierarchies. The existence of institutional mechanisms in corporate

governance simply reveals that markets are imperfect and associated with high transaction costs. Institutional mechanisms could be summarized as mechanisms that help lowering the costs of monitoring and controlling firms and come along in two basic forms, “exit” and “voice”.

Hirschman (1970) introduced the basic distinction between exit and voice in order to contrast the behavior of organization members who “either vote with their feet when discontented with the evolution of their organizations or stay and try to improve things” (Tirole, 2006, p. 334). Exit, or passive control, aims at better measuring the manager’s decisions and performance. While market mechanisms mainly focus on the market value of firms, passive control aims at measuring the manager’s performance. The basic idea is that better information for the shareholders reduces the agency problem by reducing the incentive costs or the compensation for performance. If managers receive performance based remuneration like direct ownership or stock options, their personnel wealth depends directly on the underlying value of the firm in the stock market. If shareholders, in particular large shareholders like institutional shareholders, pension funds, or other block holders, receive additional informative signals, either from the markets, insiders of the firm or important share- and stakeholders, they may decide to disinvest when performance is poor or if expected future returns are lower than expected. This “exit” option thus lowers the value of the shares and thus the recent and future earnings of the managers.

Passive control via exit plays an important role in the recent corporate governance debate in large and publicly quoted companies. In particular institutional investors and pension funds are seen as the key players in governing managers in such companies, but also at its costs. In particular their degrees of activism, their own value maximizing strategies and investment managers potentially being short-term oriented and making biased decisions casts doubts on

their role in governing companies at the best of all shareholders (Vives, 2000, Gompers/Metrick, 2001).

3.2.2 Boards of directors in entrepreneurial and newly listed firms

The question of why firms are governed by boards of directors throughout the world is often answered by referring to legal requirements. However, also legal requirements are endogenous, and if boards of directors are associated with additional costs to a firm, firms without boards of directors should *ceteris paribus* have lower costs and thus outperform those with boards of directors. Even today, the media regularly chide boards for being insufficiently vigilant guardians of investors' money and of being too poorly performing in disciplining managers – as the accounting scandals in the DotCom Era and the last financial crisis seem to prove. If boards were so bad, why the market hasn't caused them to improve, or even replaced the corporate form with less problematic forms of organization, Hermalin and Weisbach (2003) ask in their survey. They argue that boards are the second-best-efficient solution to the various agency problems confronting any organization with a potentially large divergence in interests among its members.

Thus, corporate governance problems do not only arise in firms with potentially divergent interests among managers and shareholders but also in all other organizations. Their survey highlights the costs and benefits of boards of directors, board characteristics, and how characteristics, like size and composition, shape board activities, like CEO selection, CEO remuneration, and CEO replacement and turnover. They not only summarize existing theoretical and empirical evidence, but also provide an excellent framework for analyzing the board of directors within the corporate governance debate (see Adams et al., 2010). However, their survey mainly draws on large and publicly traded companies and agency problems

inherent in these. In particular, the board of directors in this discussion is mainly an economic institution to mitigate agency problems by selecting and monitoring managers. Thus, academic research focuses on the different goals of executives and shareholders, on that they face different risks and that they differ in their incentives. Such agency problems are prone in entrepreneurial firms as well. Dominant shareholders like venture capitalists are interested in protecting their investments and have a strong interest in monitoring entrepreneurial teams by controlling expenses and strategic decisions. Other stakeholders like universities as technology providers may wish to monitor entrepreneurial spin-offs in how their technology is commercialized (see Clarysse et al., 2007).

A major interest in academic research on the role of boards of directors in mitigating agency problems is in analyzing board composition (Zahra/Pierce, 1989). In Anglo-Saxon countries, board composition with respect to the fractions of insiders and outsiders is endogenous and is shaped by the CEOs bargaining power (Adams et al. 2010). Although empirical results are rather mixed, it is widely assumed that outsiders have a stronger incentive to monitor the top management team than insiders (see Deutsch/Ross, 2003). Thus, board composition is taken as an endogenous variable, analyzing the factors that shape the ratio of insiders in the board, like past performance of the CEO which increases his bargaining power (Jain/Tabak, 2008).

Board composition is also considered as an exogenous variable, explaining top management selection, remuneration or dismissal. However, empirical evidence is rather mixed – since board composition and size are associated with costs and benefits (Huse, 1990, 2000), often expressed by an inverted U-shaped relation between board characteristics and efficiency or performance (Daily/Dalton, 1993, Randoy/Goel, 2003).

Board compositions in entrepreneurial firms differ from those in large organizations but also from those in small and medium sized firms, which are often dominated by family members on the board (Huse, 1990; 2000). In entrepreneurial firms, agency problems are assumed to be

less pronounced and the role of the board of directors is not only reduced to the monitoring function but also entails the role of an active adviser (see Forbes/Milliken, 1999). Management and founding teams in entrepreneurial firms are less subject to concern themselves with issues of monitoring, but rather of mentoring. If entrepreneurial firms and their management teams are striving for growth, the use of external advisers on the board may be an opportunity to supplement the human capital of the management team with complementary experiences and skills. While it is also widely assumed that CEOs in small and medium sized firms tend to adopt inappropriate governance structures, like lower fractions of outsiders, Dalton and Daily (1992) find the opposite for the fastest-growing entrepreneurial firms in their dataset. They interpret their findings in that CEOs of the most successful entrepreneurial firms recognize the need for professionalizing the firm by the use of outside experts, a strategy which affords outside resources and expertise without sacrificing effective control of the firm. Clarysse et al. (2007) show that large stakeholders like venture capitalists or universities are more likely to develop boards with complementary skills. Audretsch et al. (2009) point to the strategic advantage of complementary skills of board members and show that those entrepreneurial firms outperform in abnormal returns and stock market survival (Audretsch/Lehmann, 2005). Brunninge et al. (2007) analyze the effects of board ownership and board composition on strategic change. They confirm that closely held firms exhibit less strategic change than do SMEs relying on more widespread ownership structures and recommend that closely held firms could overcome this weakness by utilizing outside directors on the board or by extending the size of the top management team. The importance of the advisory role of boards of directors is also highlighted by Minichilli and Hansen (2007). They examine which effects a board of directors' involvement in the advice to management has in crisis. They point out that board member diversity becomes particularly important during crises as it provides the CEO with access to a more diverse pool of competencies and experiences.

An emerging literature investigates the dynamics of board composition in entrepreneurial firms and newly listed companies (Baker/Gompers, 2003). This research focuses on boards as a means by which entrepreneurial firms can manage external dependency and incorporate social exchange, on social networks and on resource dependence and other theories to improve our understanding of corporate governance in entrepreneurial firms (Uhlener et al., 2007). In this context, board formation and evolution of board composition in academic spin-offs reached the attention of academics (Björnali/Gulbrandson, 2010, Voharo et al., 2004). Boards in academic spin-offs as entrepreneurial firms in transition are particularly interesting to study since these new ventures go through a number of stages of activity and need to develop resources and capabilities to enable their transition from a non-commercial environment to the market (Björnali/Gulbrandson, 2010, Filatotchev et al., 2006).

In contrast to large and publicly traded corporations, board composition in entrepreneurial firms attaches great importance to obtaining additional resources from outside the firm (Audretsch et al., 2009, Clarysse et al., 2007) instead of to monitoring the management team. As Björnali and Gulbrandson (2010, p. 93) point out, finding appropriate board members is a challenge for entrepreneurial firms in science-based industries with networks limited to peers within academia (Mosey/Wright, 2007, Hülsbeck/Lehmann, 2012). Audretsch and Stephan (1996) were amongst the first to point out that in science-based and high-technology industries board members access and absorb external knowledge and therefore need a very different endowment of characteristics and qualifications.

Another distinction to large and publicly traded corporations lies in a firm's life cycle and its consequences on board composition. While most of the established firms have reached the "maturity" levels within their life cycles (Lynall et al., 2003), entrepreneurial firms are, if at all, in their "adolescence" phase of their life cycle. To move entrepreneurial firms forward to the next steps in the life cycle, new configurations of resources and capabilities must be

obtained by attracting new external directors providing access to new resources (Björnali/Gulbrandson, 2010). Different board members are needed within shorter periods of time as compared to large and publicly traded firms in different stages (Vanaelst et al., 2006, Vohora et al., 2004). Board composition thus reflects changes in a firm's life cycle and the need for additional resources to exploit strategic advantage over rivals (Audretsch et al., 2009). Another step in the life cycle of entrepreneurial firms is the point, when shareholders of the firm, e.g. owners or venture capitalists, decide to sell the company to a competitor in order to secure financial gains out of the entrepreneurial firm. While mergers and acquisitions are often a synonym for an unfriendly takeover in the case of large and middle-sized companies, entrepreneurial firms, especially high-technology start-ups, chose this way to get remunerated for their effort. In this case, board composition could be a synonym for firm-value.

3.2.2 The presence of large Shareholders

Small shareholders have little incentive to monitor management (Hart, 1995, p. 683). The cost of gathering information exceeds by far the benefits of an increased value of their shares. Beyond that, small or minority shareholders are far away from exerting power to control the management, and they often lack the specific human capital to evaluate managers' actions and strategies. Concentrated ownership by large shareholders improves the control of managers by overcoming and mitigating the free riding problem in corporate governance (Grossman/Hart, 1980; Hart 1995) but creates also private benefits at the cost of minority shareholders like tunneling, adverse incentive effects (Rajan, 1992), the trade-off between liquidity and control (Bolton/Von Tadden, 1988) or risk-taking incentives biased toward too much risk.

While large share- and block-holders are well analyzed for large and publicly traded companies, their role and impact in entrepreneurial firms are rather understudied. Several large shareholders are identified and analyzed in the academic literature, like banks and large creditors, families or other firms, with mixed evidence (Lehmann/Weigand, 2000; Gugler, 2001 see Audretsch/Lehmann, 2011).

Empirical studies analyzing the influence of large stakeholders mostly follow the same framework: A dummy variable indicates the type of shareholder, either a venture capital firm, commercial bank or the owner manager, among others, while the equity shares is expressed either by the percentage of equity hold by the respective type of shareholder or some measures of power within the group of all shareholders by using the Herfindahl-Index. The endogenous variable measures the performance of the firm (where a plenty of different performance measures are used).

3.2.2.1 Financial structure of entrepreneurial and newly listed firms

Hart (1995) highlights the corporate financial structure as an important source of discipline managers. Following the famous Modigliani-Miller Theorem, entrepreneurial firms could either be financed via debt or equity. The conditions are best described by the Arrow-Debreu equilibrium model of frictionless markets which are perfectly competitive, without transaction costs, taxes, and most importantly, asymmetric information. In this Arrow-Debreu world, we have little or nothing to say about entrepreneurial financing choices. However, an implicit assumption of Modigliani and Miller (1958) is that markets are unhampered by taxes⁷ and incentive problems. Abstracting from taxes, it is widely recognized that the decision to seek external financing and the type of financing are related to incentive problems caused by

⁷ As mentioned by Hart (2001), if taxes are the main factors influencing the debt-equity ratio, we should see much higher debt-equity ratios than we actually do.

information asymmetries between the entrepreneur and the financier. Entrepreneurs have information about their character, capabilities and the quality of their project or firm that investors do not have. This leads to adverse selection effects and moral hazard behavior resulting in a pecking order of finance (Myers/Majluf, 1984). Equity and debt are associated with different costs for the firm which thus favors one kind of financing over the other. According to this pecking order theory, firms prefer to finance new projects with internal cash flows first and thus aim at signaling high project quality. They thereafter seek for external debt and finally for external equity capital. Financial resources or a firm's capital structure reflect adverse selection effects and thus serve as a signal for market participants. Equity financing and thus the dilution of ownership stakes is, given unused debt capacity, indicative for a low quality firm:

Banks and Debt holders

There are several aspects in that debt limits inefficient management (Hart, 1995, p. 685). Debt serves as a bonding or commitment device making it credible that the top management team will not expand its empire too much. In newly listed companies, debt may be put in place by the initial owner before the IPO or by active shareholders at a later stage. As providers of debt in entrepreneurial and newly listed companies, the role of banks is twofold: First, banks are seen as delegated monitors who exhibit specific human capital and expertise in monitoring and controlling managers. Secondly, banks act as large debt holders and are tough on managers after default (Dewatripont/Tirole, 1994). Although there is overwhelming evidence that banks as financial intermediaries play a major role in the reduction of information asymmetries and agency costs (Diamond, 1984), they may fail in providing debt when the degree of asymmetric information is too high. In this case, a profit maximizing bank cannot capture the expected costs of debt by the interest rates of the loan (Stiglitz/Weiss, 1981). Entrepreneurial firms, operating in high tech industries, are associated with high expected

returns but are also associated with higher risk. According to the famous Stiglitz and Weiss approach (1981), they are faced with a higher moral hazard risk for the bank and with adverse selection effects. Banks cover their risks with interest rates. Unfortunately, probability of bankruptcy increases not only with firm risk but also with increases in interest rates. This might lead to moral hazard behavior like gambling for resurrection and adverse selection effects of high-risk entrepreneurial firms. Thus, under asymmetric information, banks would choose an equilibrium interest rate which leads to credit rationing for firms which operate in industries or choose projects which are associated with a higher risk as the one corresponding to the equilibrium interest rate. Thus, entrepreneurial firms are more or less restrained from receiving bank loans or debt.

Empirical evidence shows that entrepreneurial firms in science-based and high-tech industries suffer from insufficient funding (Kortum/Lerner, 2000). In particular the lack of collaterals and reputation constrains the borrowing capacity of entrepreneurial firms (Lehmann/Neuberger, 2001; Lehmann et al. 2004). While ample literature has identified the importance of lending relationships for small and new firms as a mechanism compensating for their lack of credit history (Berger/Udell, 1990, 1998, Harhoff/Körting, 1998, Lehmann/Neuberger, 2001, or Degryse/van Cayseele, 2000)⁸, this does not hold for entrepreneurial firms largely based on intangible and non-physical assets, such as human capital, ideas, and intellectual properties (Fabel, 2004, Rajan/Zingales, 2000).

Typically, banks are almost always extensively represented on the supervisory boards of such companies. However, evidence on the effects of banks in monitoring firms is mixed. On the one hand, banks can act as delegated monitors and use their experience and know how to carefully monitor and control a firm. Additionally, according to the free cash flow theory,

⁸ For an excellent reader see Degryse et al. (2009).

debt increases the probability of default which managers work hard to avoid. On the other hand, banks follow their own interests at the firm's costs (Audretsch and Elston, 1997).

Debt is another instrument to discipline managers and reduce agency costs since it implies the transfer of control over the firms' assets from the manager to the creditor (Hart, 2001). Debt makes it credible that managers will not expand their empires too much. According to the free-cash flow hypotheses (Jensen, 1986) debt increases the probability of default and managers work hard to avoid it. Similar effects hold for leveraged buy outs (LBO) where managers purchase firms which they finance with debt. There is ample evidence that debt disciplines managers in large and public corporations up to the point where debt overhang forces managers to invest in too risky projects and excessive risk taking (see Hart, 2001). However, debt only plays a minor role as a governance mechanism in entrepreneurial firms. Debt as governance mechanism requires that managers return the free cash flows to debt holders to avoid default. Since entrepreneurial firms are often far away from positive cash flows, debt holders and large creditors only play a minor role in entrepreneurial firms.

Venture Capitalists

Some authors cast some doubt on the Stiglitz and Weiss (1981) approach and in particular the assumption of mean preserving spreads of risk which results in credit rationing. De Meza and Webb (2000) among others, argue that banks may not be ill informed relative to the entrepreneurial team and thus equity finance could also serve as an indicator for high quality projects. Lel and Udell (2002) suggest that the amount of debt held by an entrepreneur signals both her capability and personal guarantees and venture capitalists may interpret debt as a quality signal solving the adverse selection problem and thus be less reluctant and more willing to invest in such entrepreneurial firms (Gompers/Lerner, 1991; 2011). Venture capitalists specialize in highly risky projects and play a crucial role in governing

entrepreneurial firms. Profits are generated via a portfolio of firms where most of the ventures fail but some of the selected firms make spectacular profits, like Apple, Google, Intel or Microsoft, which initially received venture capital.

As mentioned above, entrepreneurial firms are characterized by high risk of their projects and significant information asymmetries. This very nature of entrepreneurial firms prevents them from writing perfect contracts with investors or financiers in which obligations are specified in all relevant conceivable future contingencies (Hart/Moore, 1998) and thus the traditional principal-agency approach fails to govern entrepreneurial firms.

Like banks, venture capitalists are engaged in monitoring their firms. However, they differ from banks in controlling and monitoring firms in several important aspects. First, they take concentrated equity positions in the companies they finance associated with seats on the boards and thus actively monitor and control the management team. Secondly, they bring expertise and industry contacts and thus directly shapes firm performance (see Lehmann, 2004). Thirdly, funds are provided at several stages and at each stage the firm is given just enough cash to reach the next stage. At each stage, the venture capitalist decides whether to stop funding without justification or to provide further funds for the next stage. Staging investments reduces agency costs and verifiability problems (Gompers, 1995; Bergemann/Hege, 1998). They also use the right to control future financing with preemptive rights to participate in new financing. Finally, they decide over the exit strategies: Selling parts or all of their shares in an IPO to other investors like pension funds or individual investors or allowing that the entrepreneurial firm is purchased by a larger company (Cumming/MacIntosh, 2003).

The active role venture capitalists play in governing entrepreneurial firms is documented by the high rate of managerial displacement. Venture capitalists often have the right to demote or fire the top managers or CEOs if some key investment objective is not met, although the fired

CEO is the initial founder of the start-up with high ownership stakes in the firm. While active monitoring should lead to above average performance and positive externalities to other shareholders, it comes at its costs. Venture capitalists, in contrast to banks, contribute technological expertise which allows them to identify projects but also to undertake the projects without the founder or initial entrepreneur (Ueda, 2004; Bottazzi et al. 2008). This creates the double-sided moral hazard problem: entrepreneurs may underinvest in firm specific investments after receiving the necessary financial resources in the first stages. Also the venture capitalist has an incentive to replace the entrepreneur. As Aghion and Bolton (1992) show, the double-sided moral hazard problem in financing entrepreneurship is particularly exacerbated in high-technology and science based industries. As the relationship between the venture capitalist and the entrepreneurial firm develops over time, eventualities arise that could not easily have been foreseen or spelled out in an initial contract. Thus, neither the entrepreneur nor the venture capitalist undertakes first-best actions in order to enhance the expected outcome of the entrepreneurial firm or project (Kaplan/Strömberg, 2003, 2004).

The role as active monitors in governing entrepreneurial firms played by venture capitalists is not only associated with benefits but also with costs. Thus, empirical evidence on the performance of venture backed firms is mixed and differs across countries and across different tax systems (Keuschnigg/Nielson, 2002; 2004). Black and Gilson (1997) point out the importance of an active stock market for the development of venture capital and thus the possibility to provide equity to entrepreneurial firms. Thus, performance of venture backed entrepreneurial firms varies between countries with bank based systems – like continental Europe – and those with more specialized markets. An active and specialized stock market thus may be a necessary condition for exit strategies but is by no means sufficient in explaining performance differences (Becker/Hellmann, 2003). In bank-based countries, like

Germany, public-private venture capitalists, with large private and public or state-owned banks as the major shareholders of venture capital firms are the dominant form of venture capitalists. As Bascha and Waltz (2002) show, they often underperform as compared to private partnerships. Bottazzi and Da Rin (2002) analyze the role of venture capital in several European countries and find evidence suggesting that venture capital-backed entrepreneurial firms do not grow faster than those that are not backed by venture capital, while Lehmann (2004) confirms higher growth rates.

Universities and Research Institutes

Since the end of the 1990's, spin-offs from universities and public research have received growing interest from policy-makers, altering the role of universities and research institutes from public institutes to private shareholders (see Mustar et al. 2006). Within this trend, a rich literature emerged highlighting the creation of academic spin-offs and start-ups (see Rothaermel et al., 2007, Wright et al. 2004). At the same time a plenty of empirical studies analyzed the impact of universities spillovers on entrepreneurial firms' location and performance (Audretsch et al. 2004, Audretsch/Lehmann, 2005; Colombo et al. 2010a,b). But only a few studies focus directly on the role of universities as major shareholders, finding, if at all, mixed empirical evidence.

Following the findings from corporate governance research, each type of shareholder is associated with specific costs and benefits. Unfortunately, these costs and benefits could hardly be separated in empirical studies and thus most studies fail to find compelling evidence either for a positive or a negative impact on firm performance. As a result, most studies conclude that "shareholder X has no statistically significant impact on firm performance".⁹

⁹ There exists compelling arguments why ownership structure could not shape firm performance. Demsetz (1983) argues, that if ownership structure is chosen optimally, there could neither be a positive or negative effect

Costs and benefits should also be observed by universities or research institutes as large shareholders, in particular for university spin-offs and academic start-ups. The value-adding benefits of university or research institutes affiliation are access to intangible sources of knowledge and human capital and physical assets and resources such as laboratories. Universities and research institutes as large shareholders also provide access to emerging and future technologies reduce the costs of developing new capabilities, to promote information sharing of tacit knowledge and important network connections. Strong academic support can also enhance the confidence and valuation of other stakeholders, like venture capitalists (Wright et al. 2007). Thus, science based entrepreneurial firms with universities and research institutes as large shareholder should outperform entrepreneurial firms with other types of large shareholders.

Nevertheless, universities and research institutes as large shareholders may also have its downside. Foremost, academics as founders or members in the board of directors as representatives of the university may not have enough business and commercial experience to properly exploit innovations (Zahra et al. 2007). Representatives of universities or research institutes involved in governing and controlling university-spin off may not solely be motivated by pursuing a profit maximizing strategy of the venture. Although there are well known examples of the superior performance of universities as large shareholders, like Harvard, Berkeley, or the MIT for the US, there are only few studies analyzing the performance of university based entrepreneurial firms (see Bonardo et al. 2011).

Most of these studies implicitly assume that universities are the main large shareholders. Colombo et al. (2010) examine the effects of a series of characteristics of local universities, like scientific quality, on growth rates of academic start-ups and non-academic entrepreneurial firms and start-ups. They found compelling evidence that scientific quality,

from ownership structure on firm performance. However, this argument, or Demsetz-Hypothesis, is based on (nearly) perfect market mechanisms which forces firms to choose the optimal governance structure or to fail.

the “type” of shareholder, matters for academic start-ups but not for the control group. One exception is Bonardo et al. (2011). They directly value university-based entrepreneurial firms and compare them to several control groups. Based on a dataset of 499 high-tech and entrepreneurial firms from European country, they found compelling evidence that affiliation with a university enhances valuation, in particular when academics are present in the top management team. For firms who publicize the fact that they are university based and have chosen to go public, the affiliation with a university is recognized as beneficial by investors. However, on the long run, university based entrepreneurial firms underperform independent firms – revealing that the “costs” of having a university or research institute as a large shareholder outweigh the benefits in the long run.

3.2.3 Legal Regulations and tools

It is often argued from free-market economists and pure financial theorists that a market economy can achieve efficient corporate governance without government intervention. In such a free market economy, the entrepreneur has an incentive to choose an efficient corporate governance structure that maximizes the aggregate returns to all stakeholders at the time of IPO. Thus, an entrepreneur has an incentive to choose selection procedures for the selection of the best members of the board of directors, disclosure rules and other governance rules that maximize total surplus (Hart, 1995, p. 686). Bottazzi, DaRin and Hellman (2009) develop a theoretical approach and empirical test of how the legal system affects the relationship between venture capitalists and entrepreneurs. They rely on the double moral hazard framework and show how optimal contracts and investor actions depend on the quality of the legal system. Their empirical evidence, based on a sample of European venture capital deals, shows that with better legal protection, investors give more non-contractible support and demand more downside protection. They also find that the investor's legal system is more

important than that of the company in determining investor behavior (see also Cumming et al. 2010).

However, not only the dotcom crisis in 2003 and later on the financial crisis in 2007 revealed the opposite, the need for statutory corporate governance rules. In the absence of perfect markets, and thus the existence of externalities and unforeseen contingencies, corporate governance problems arise that cannot be sufficiently solved without regulation. There is ample empirical evidence that “law” matters in corporate governance all over the world (see LaPorta et al, 1998). In particular, countries differ in investor protection, insider trading legislation, financial regulation as well as law enforcement (Cromme, 2005). Statutory corporate governance rules differ not only across countries but also within countries – in particular between listed and public companies on the one and private companies on the other hand. This leads to a “one-size-fits-it-all” mentality of law makers all over the world for listed and public companies (Arcot/Bruno, 2006;). This lumps together entrepreneurial and newly listed companies with large and established corporations, although they differ in their causes and consequences of governance problems.

4. Summary, concluding remarks and suggestions for future research

In this survey we tried to summarize past and recent research on corporate governance and link them to entrepreneurial and newly listed companies. While corporate governance of large and public companies is an established field in business, management, finance and economics, corporate governance mechanisms in newly listed companies are rather underestimated and lack theoretical end empirical evidence. Separating the corporate governance mechanisms in

market based mechanisms on the one and institutional or hierarchical mechanisms on the other hand may help as a work-horse for analyzing and studying corporate governance problems in companies. Since agency and transaction costs differ across firm characteristics like, size, age, production technology and whether they are start-up firms, newly listed companies or large and established firms, the costs of corporate governance differ accordingly. Market mechanisms and institutional mechanisms in corporate governance are also associated with costs and benefits. Thus, there is no “one-size-fits-it-all” mechanism in corporate governance which solves all the corporate governance problems. While some of the mechanisms attracted increasing interest by academic research in the past decade, like the board of directors or the role of venture capitalists in governing entrepreneurial firms, other mechanisms, like the market for managers, the product market or large shareholders like universities received less attention. In addition, some of the mechanisms are complementary – like the market for corporate control and the market for managers, others like debt or investments in monitoring by directors are substitutes. Academic research is far away from providing sufficient solutions about the pros and cons of the different mechanisms in corporate governance, and how these mechanisms differ across newly listed companies and large and established firms.

With this survey we try to motivate and stimulate future research, both theoretically and empirically, to increase our understanding on the governance of entrepreneurial and newly listed firms and how and why governance mechanisms differ across different types of firms. While we assume that moral hazard is more prevalent in large and established firms and entrepreneurial firms suffer from adverse selection problems, future research could put this as a starting point – confirming the assumption or finding contrary evidence.

Further research is also required that examines the role of universities and research institutes as large shareholders of entrepreneurial firms, how their costs and benefits differ and how

they are represented within the board of entrepreneurial firms. In this context, the role of technology transfer offices could be examined as an intermediary between the university and research institution on the one and the academic spin-off on the other side. There remains also a paucity of evidence regarding the impact of universities and research institutions on the failure of entrepreneurial firm but also the performance. There is need for research that examines the rationales of the different large stakeholders and their interrelationship in governing entrepreneurial firms.

Finally, and perhaps the most important and promising but also the most difficult approach should be linking simultaneously the different mechanisms as described above into one theoretical and or empirical framework. Existing empirical and theoretical studies often analyze how one isolated mechanism – like the composition of the total management board – shapes firm performance. Mechanisms in corporate governance are endogenous and also interrelated either in a complementary or substitutive way. Understanding these interrelated effects, together with empirical problems like endogenous problem in datasets offers this field of research a promising future for academics to provide helpful insights for both policy makers and the most important person in an economy: the entrepreneur!

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