

Chapter 3

Corporate Governance as an Institution to Overcome Social Dilemmas

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Introduction

While many governments and companies struggle with the aftermaths of the current financial crisis, commentators in the media and in the academic community are trying to understand how the distortions in the financial system could have gone so far. Based on allocated housing loans, financial experts designed complicated financial instruments that were sold to investors. These financial instruments were often repackaged several times, which made it difficult for investors to estimate the actual value of their investments. A considerable information asymmetry developed between the designers of financial instruments and the ultimate investors. The dangers of this information asymmetry were hardly noticeable as long as the market

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for these financial instruments was very liquid due to a long period of rising housing prices. This changed dramatically in summer 2007. A combination of rising interest rates and falling housing prices made the market for these financial instruments collapse. A number of banks saw themselves forced to keep large amounts of these assets in their books although they had intended to resell them. Moreover, a vast number of investors noticed that they had invested in “toxic” assets with very uncertain value. It became clear that part of these financial instruments were based on mortgage loans that had been offered to people with very low or no income. Once the housing prices began falling, many of these mortgage loans became distressed.

A number of observers are wondering why banks with solid reputations allocated hazardous housing loans to people with very low creditworthiness. It is widely believed that some bankers abused their informational advantage in order to make short-term gains. In more general terms, the current financial crisis is partly attributed to opportunistic behavior, a culture of “greed”, and failures in corporate governance. These attributions are quite surprising since the major focus of recent corporate governance regulations was actually the containment of greed and opportunistic behavior. In the wake of the Enron scandal, legislators all over the world debated on measures to reduce managerial opportunism and to align the interests of managers and shareholders.

Why did the widespread adoption of the dominant corporate governance paradigm fail to reach its primary objective, namely the containment of opportunism? We argue that the dominant paradigm has an important shortcoming: it assumes managerial self-interest and potential opportunism as an axiom. However, the new and fast-growing field of psychological economics has offered much evidence that self-interest and opportunistic behavior are not given characteristics of people. Individuals vary systematically in their inclination toward self-interested behavior. To a great degree, self-interested behavior can be influenced by institutions.

In this chapter, we apply insights from psychological economics to corporate governance. In our analysis, we present different perspectives on corporate governance and their shortcomings. Then we suggest our view that corporate governance can be seen as an institution to overcome the possibilities of free riding or, in other words, social dilemmas. In today’s companies, which are characterized by more and more knowledge work, the traditional mechanisms of behavior and outcome control (cf. Ouchi 1978) become less and less effective (cf. Osterloh 2006). Therefore, social dilemmas need to be overcome by means of voluntary self-control. Taking account of psychological economic insights, we suggest that voluntary self-control is not just wishful thinking but indeed possible. The key to voluntary self-control are institutions fostering prosocial preferences. When viewing corporate governance as an institution that fosters prosocial preferences, our analysis leads to suggestions that clash with conventional wisdom. We suggest that the following measures help to overcome social dilemmas: board representation of knowledge workers who invest in firm-specific human capital, attenuation of variable pay-for-performance, selection of directors and managers with prosocial preferences, and employee participation in decision-making and control.

This article proceeds as follows. In the section “Corporate Governance Based on Self-Interest as an Axiom”, we present the dominant agency paradigm in the corporate governance literature and the theory of incomplete contracts, which are both based on self-interest as an axiom. While both theories have their shortcomings, the theory of incomplete contracts serves as a basis for newer corporate governance approaches based on psychological economics. In the section “The Financial Crisis and Corporate Governance”, a brief analysis of the current financial crisis is provided, followed by important implications concerning the theory of corporate governance. In the section “Corporate Governance Based on Psychological Economics”, we first explain the team production theory of corporate governance as an alternative to the dominant paradigm. Then, we contrast this team production perspective with our own approach of corporate governance as an institution to overcome social dilemmas. Both approaches are partly based on the same psychological foundations, however, there are important differences as well. Based on empirical findings in the field of psychological economics, we explain our recommendations concerning the design of corporate governance institutions. In the last section, we conclude.

Corporate Governance Based on Self-Interest as an Axiom

Corporate governance can be defined as “the determination of the broad uses to which organizational resources will be deployed and the resolution of conflicts among the myriad participants in organizations” (Daily et al. 2003, p. 371). This definition raises two major questions (cf., e.g., Steinmann 1969; Steinmann and Gerum 1992). *First*, whose interests should guide the companies’ strategies and policies (question of legitimacy)? *Second*, how should formal decision-making procedures be designed in order to serve these interests (question of organization)?

The dominant paradigm in the corporate governance literature is based on institutional economics, in particular property rights and agency theory (cf., e.g., Jensen and Meckling 1976). This paradigm considers the first question as resolved. Companies are viewed as a “nexus of contracts” between different resource owners who cooperate in order to generate quasi-rents. Quasi-rents are the difference between the value of a resource used in combination with other resources and its value in a market transaction (cf., e.g., Zingales 1998). Except for shareholders, all other parties are assumed to protect their claims *ex ante* by means of clearly defined contracts. Shareholders, however, are considered as residual claimants. They specialize in monitoring the other cooperation partners (cf. Alchian and Demsetz 1972) and in diversifying their risks (cf. Jensen and Meckling 1976). In return, they receive a claim on the residual surplus of the company after all contractual obligations with other stakeholders have been fulfilled. Since all contracts are clear and complete, there are no conflicts of interest between shareholders and other stakeholders. The only conflicts of interest remain between shareholders and self-interested managers. These conflicts of interest become particularly salient when ownership is separated from control (cf. Berle and Means 1932) in companies with widely dispersed share

ownership. In this perspective, the legitimate guiding interest of a company's strategy and policies is shareholder value. The question is merely how to incentivize a company's management to focus on the maximization of shareholder wealth.

The question of organization arises from the principal-agent-relationship between shareholders and managers. While shareholders are the principals, managers fill the role of agents who have no or little residual claims. Because of information asymmetries, managers have the possibility to expropriate outside investors. Therefore, corporate governance institutions need to be designed in a way that protects outside investors against expropriation.

Based on the assumption of self-interest as an axiom, a number of disciplining institutions are suggested to protect shareholders against expropriation. These institutions are both inside and outside the firm, such as the board of directors, the market for corporate control, the market for managers, and the audit firm (cf., e.g., Kräkel 1999; Witt 2003). The board of directors is proposed to represent the interests of shareholders, thereby reducing the problem of rational apathy by minority shareholders (cf. Berle and Means 1932) who have an incentive to free-ride rather than control the management's activities. The control of management is considered to be particularly effective if the directors on the board are independent of management. Both the pay of board members and the pay of managers are suggested to be tied to the company's performance in order to ensure an alignment of their interests and the interests of shareholders.

These suggestions have largely been followed in practice. The Sarbanes-Oxley Act, for example, is founded on the ideas of agency theory. It reinforces monitoring and sanctioning of management and can be described as "corporate governance for crooks" (Osterloh and Frey 2004). Agency theory has had a particularly strong influence on management compensation. Two decades ago, the high proportion of fixed compensation for managers, which resembled the salaries of bureaucrats (cf. Jensen and Murphy 1990), was deplored. Only a few years later, the fixed compensation for US managers amounted to just 25% of their total income (cf. Murphy 1999), largely due to stock options. At the same time, the difference between the average incomes of employees and top managers in S&P 500 companies has risen sharply (cf. Klinger et al. 2002). However, these developments did not lead to a strong relationship between managerial pay and companies' performance (cf., e.g., Barkema and Gomez-Mejia 1998; Bebchuk and Fried 2004) that can be attributed to above-average managerial performance (cf. Hall and Murphy 2003). Less than 5% of managerial income can be explained by performance factors (cf. Tosi et al. 2000). Not only is the impact of variable managerial pay on companies' performance ambiguous, but variable pay may also cause distortions. Among the companies that were convicted for fraud by the Security and Exchange Commission (SEC), the median value of variable income related to shares and stock options was twice as high as in non-fraud companies (cf. Johnson et al. 2009). Moreover, the number of restatements of US corporations is highly correlated with the proportion of stock options relative to the total income of top managers.

Many empirical studies have illustrated that top managers are able to manipulate the performance criteria according to which they are measured (cf. Bebchuk

et al. 2001; Becht et al. 2002). An example for these manipulations is “earnings management”, that is, influencing the company’s profits by means of accrual and amortization (cf. Healy and Wahlen 1999) or manipulating reference groups that are chosen to compare managerial income (cf. Benz et al. 2002; Bertrand and Mullainathan 2001). These developments were reinforced by the use of compensation consultants and the disclosure of top management’s income that was required by the SEC (cf. Bizjak et al. 2008; Schiltknecht 2004). Even in agency theory, it has been acknowledged that variable pay has led to considerable abuse (cf., e.g., Bebchuk and Fried 2004; Fuller and Jensen 2002; Hall and Murphy 2003; Hall 2003; Schiltknecht 2004). However, it is believed that the system of variable managerial pay can be improved to eliminate negative side-effects.

There are also other suggestions derived from the principal-agent approach that do not find convincing empirical corroboration. Ambiguous relationships have been found between stock-based compensation of board members and companies’ performance (cf. Dalton et al. 2003) and between the proportion of independent board members and companies’ performance (cf. Dalton et al. 1998; Hermalin and Weisbach 2003). Other studies have examined the market for corporate control. Management is assumed to be controlled efficiently if there are no obstacles to takeovers. Protections against takeovers, such as poison pills or staggered boards, are seen as detrimental since they allow inefficient management teams to stay in office. However, it has been shown in the US that poison pills did not systematically deter takeovers or cause a demise of the market for corporate control (cf. Comment and Schwert 1995). In sum, while the principal-agent approach is very popular in theoretical debate and in practical application, it has not been an empirical success story (cf. Daily et al. 2003). Therefore, it makes sense to consider alternative theoretical perspectives.

Many alternative theoretical perspectives question the assumption that, except for shareholders, all other stakeholders are able to protect their claims *ex ante*. A particularly influential alternative perspective is the theory of incomplete contracts. The theory of incomplete contracts (cf., e.g., Tirole 2001; Zingales 1998) submits that not all future circumstances can be specified in contracts. Some stakeholders, in particular employees, carry out firm-specific investments in human capital that generate quasi-rents. These quasi-rents are lost when the cooperative relationship with other stakeholders is terminated. As a consequence of their firm-specific investments, the employees’ outside opportunities are worsened (cf. Zingales 1998). Unless they are offered control rights after the conclusion of the contract, they are in a weak bargaining position and may face the risk of hold up. Employees anticipate this risk and therefore prefer to invest in general rather than firm-specific human capital. A lack of investment in firm-specific human capital has negative consequences for the company. As the knowledge-based theory of the firm emphasizes, one of the most relevant assets for a company’s sustained competitive advantage is firm-specific human capital, which needs to be generated, accumulated, transferred, and protected (cf., e.g., Penrose 1959; Rumelt 1984; Mahoney and Pandian 1992; Grant 1996; Kogut and Zander 1996; Spender 1996; Teece et al. 1997; Foss and Foss 2000; Grandori and Kogut 2002).

The theory of incomplete contracts does not offer a universal suggestion concerning the distribution of control rights. While offering control rights to stakeholders induces their firm-specific investments, it may also raise coordination costs due to the heterogeneous interests of different stakeholders (cf. Hansmann 1996; Tirole 2001). Corporate governance is proposed to be designed in a way that maximizes quasi-rents while minimizing the costs of inefficient ex post bargaining (cf. Frick et al. 1999). Under certain circumstances, it might still be most efficient to offer the right of controlling a company to one single stakeholder group, such as shareholders. Although multiple stakeholders may have legitimate interests in guiding a company's strategy and policies, this does not necessarily mean that these stakeholders should be involved in formal decision-making procedures.

While the theory of incomplete contracts has generated valuable insights, it still shares the axiomatic assumptions of the dominant paradigm concerning the self-interest of directors, managers, and employees. We suggest that a theory of corporate governance needs to be based on more refined motivational foundations. The new and fast-growing field of psychological economics (cf., e.g., Fehr and Falk 2002; Frey and Benz 2004; Rabin 1998) is able to provide corporate governance theory with empirically founded psychological insights. Moreover, it contributes to bridging the gap between institutional economics and research on organizational behavior.

It may be argued that the simplistic institutional economic model of human psychology can still generate robust predictions and be scientifically valid (cf. Friedman 1953). While this argument has been criticized at the epistemological level (cf., e.g., Donaldson 1990), a brief analysis of the current financial crisis illustrates that a too simplistic model of human psychology carries the risk of suggesting control measures that produce self-interest as a self-fulfilling prophecy (cf. Frey and Osterloh 2002; Ghoshal and Moran 1996).

The Financial Crisis and Corporate Governance

We refer again to the financial crisis, this time with a specific focus on the implications for corporate governance. Hertig (2009) provides a recent analysis of corporate governance deficiencies preceding the current financial crisis, with a particular emphasis on the failures in risk management. Many firms were not prepared to handle the shocks arising from the financial crisis, in part due to overly simplistic or optimistic scenarios in their "stress testing". This negligence has become particularly visible in the financial sector. However, numerous firms in non-financial sectors were concerned as well. Several factors had caused this negligence in risk management. *First*, the board of directors was under pressure to adopt ill-fated strategies that were favored by investors or executives with short-term preferences. These pressures were enhanced by top management compensation that was often oriented toward short-term performance and, hence, led to excessive risk-taking. *Second*, it was often difficult for sensitive information to reach the board of directors. In many firms, the directors were neither aware of the increase in credit risks nor did

they understand the consequences of these risks for the management of the firm's liquidity. *Third*, as Hertig (2009) posits, the focus of corporate governance reforms was not on improving the board's effectiveness, but rather on reducing the board's discretion by means of disclosure and other requirements.¹ *Fourth*, whistle-blowing was not effective. On the one hand, employees had few incentives to blow the whistle because they were often fired, quit under pressure or shifted their duties (cf. Dyck et al. 2007). On the other hand, it was easier to blow the whistle on obvious offences, such as corporate fraud, than on deficiencies in risk management. However, sustainable monitoring by a controlling constituency, such as a strong shareholder, depends on a loyal relationship with managers and employees (cf. Hirschman 1970), which also entails whistle-blowing.

These deficiencies, which preceded the financial crisis, lead to several important conclusions for our subsequent analysis. *First*, series of corporate governance reforms that were inspired by the economic model of self-interested individuals were not able to constrain opportunism. They may even have fostered opportunistic tendencies as a self-fulfilling prophecy. *Second*, incentives do not suffice to align the interests of shareholders, directors, managers, and employees. Rather, corporate governance needs to create the preconditions for a loyal relationship between these constituencies. *Third*, it is important that employees who have informational advantages over directors are willing to contribute to collective goods, such as the firm's reputation and survival. Therefore, a new theory of corporate governance need not be confined to the board of directors as a benevolent ruling body, but rather address cooperative behavior at all levels of the hierarchy.

Corporate Governance Based on Psychological Economics

One of the most salient features of the standard principal-agent approach is that it axiomatically assumes individuals to be self-interested. This assumption is criticized in psychological economics. The field of psychological economics² has emerged from criticism at the assumptions of homo economicus, the standard economic model of human behavior.³ Psychological economics investigates deviations from homo economicus in three main directions (cf., e.g., Frey and Benz 2004). *First*, individuals are boundedly rational. Due to cognitive and emotional constraints, people are often not able to maximize their expected utility rationally. *Second*, individuals are boundedly self-interested. Depending on the circumstances, many persons are not only driven by their own utility but also by prosocial preferences.

¹ Hertig's (2009) proposal calls for an outsider representing the equity-oriented interests of managers and employees who collectively hold more than five percent of their firm's equity.

² Psychological economics is often referred to as behavioral economics. However, behavioral economics may be mistaken for the behaviorist approach in psychology, which only investigates observable stimulus-response relationships (cf. Watson 1913; Skinner 1965) and neglects psychological cognitive and motivational processes.

³ See Rabin (1998) and Camerer et al. (2004) for reviews.

These preferences play an important role in overcoming social dilemmas when markets fail. *Third*, the utility concept of homo economicus is bounded. Psychological economics investigates happiness or subjective well-being as a measure for utility that goes beyond financial income. In our analysis, we focus on the aspect of bounded self-interest, since this is arguably the most contested aspect of the agency paradigm in corporate governance.

Psychological economics has rarely made its way into corporate governance theory. A prominent approach to corporate governance, which incorporates some insights from psychological economics, is the team production theory of corporate governance (Blair and Stout 1999, 2001; Stout 2003a). We present this theoretical approach and its shortcomings. Then we contrast it with our own approach of viewing corporate governance as an institution to overcome social dilemmas.

Team Production Theory of Corporate Governance

The team production theory of corporate governance can be seen as a further development of the theory of incomplete contracts described above. It is based on the assumption that multiple stakeholders are not able to protect their firm-specific investments *ex ante* because of the incompleteness of contracts. In order to induce firm-specific investments by these stakeholders, there is a need for corporate governance mechanisms that protect the interests of these stakeholders. The various stakeholders who provide firm-specific investments can include shareholders, employees, suppliers, customers, and even the local community. They are characterized as members of a “corporate team”.

The view of team members forming a corporation is based on the institutional economic team production theory (cf. Alchian and Demsetz 1972). In this theory, team production is defined as the joint production of several actors, in which the output exceeds the sum of the individual contributions and cannot be attributed to individual team members. In other words, the team produces quasi-rents (cf. Klein et al. 1978) or synergies (cf. Foss and Iversen 1997). Since the success of a team production is not attributable to individual team members, there exist incentives to free-ride within the team. The suggested solution is that one team member is appointed as a principal with the task to monitor, pay and direct the other team members. In turn, the principal receives a claim on the residual surplus. All other team members, however, have their claims specified *ex ante* in their contracts. This solution requires that there are no information asymmetries between the principal and the team members. Therefore, the principal needs to be able to observe and attribute all individual contributions. The team members are assumed to provide undifferentiated inputs that can be traded in atomized markets. Therefore, differential power of the contracting parties is not an issue. The team production is not based on co-specialized inputs or long-term team-specific investments. In assuming that team members are interchangeable and undertake no firm-specific investments, the classical team production theory reformulates the team production problem as a vertical principal-agent problem (cf. Blair and Stout 1999).

The assumed absence of team-specific investments is debatable. Team-specific investments are among the most important sources of quasi-rents, which represent the actual reason for the existence of firms (cf., e.g., Zingales 1998). These investments also make team members interdependent and less interchangeable. Team members are only able to materialize their team-specific investments when the production output has been marketed. Therefore, in addition to shareholders, also other resource providers are exposed to the residual risk arising from firm-specific investments. This is particularly the case for employees (cf. Blair 1995, 1998). Empirical evidence (cf. Topel 1991) has shown that employees who lose their jobs without their fault lose around 15% of their income in their new job. For employees with a firm tenure of more than 21 years, this loss amounts to 44%. This example indicates that employees carry a substantial residual risk. Unless their interests are protected, they will be unwilling to undertake investments in firm-specific human capital. In this perspective, there are several claimants on the residual surplus of the firm. The company is not considered to be a nexus of individual contracts, but rather a nexus of firm-specific investments with various conflicting residual claimants.

The acknowledgement of several residual claimants leads to conflicts of interest. These conflicts are accentuated because the bargaining power of a team member is weakened after carrying out firm-specific investments. Based on refined models of team production (cf. Holmstrom 1982; Rajan and Zingales 1998), the solution for these conflicts is suggested to be a neutral third party that mediates between different conflicting interests (cf. Blair and Stout 1999). This third party, called the “mediating hierarch”, undertakes no firm-specific investments and has no residual claim. Team members are argued to submit to this hierarchy for their own benefit. In handing over control rights to the mediating hierarch, team members are assumed to save themselves from their own opportunistic instincts that would prevent team-specific investments. The mediating hierarch controls the team members’ firm-specific inputs and the distribution of the output. Its primary function is to maximize the joint welfare of the team as a whole. In corporations, this mediating hierarch is proposed to be the board of directors, since this body has authority over the use of corporate assets and enjoys an independence from individual team members that is protected by law (cf. *ibid.*).

The mediating hierarchy model is suggested to be supported by the design of American corporate law, which requires an independent board of directors for public corporations (cf. *ibid.*). Furthermore, some empirical evidence is argued to strengthen the mediating hierarchy model. In the 1970s and 1980s for example, the threat of hostile tender offers induced corporate boards to establish poison pills, staggered boards, and other protective devices without being impeded by judges and corporate regulators (cf. Stout 2003a). More recently, a study comparing IPO firms (initial public offerings) with and without takeover defenses illustrates that the performance of firms with takeover defenses tends to be better in the first 3 years following the IPO (cf. Field and Karpoff 2002). According to the mediating hierarchy model, these findings can be explained by the benefits that shareholders reap if they tie their own hands and ensure a neutral board of directors.

To strengthen the neutrality of the board, the board members are suggested to refrain from undertaking firm-specific investments and receiving stock-based compensation (cf. Stout 2003b). Rather, they need to receive a fixed compensation like judges and referees. Similar to CEOs of a nonprofit organization, they need to submit to a “non-distribution constraint” (cf. Hansmann 1980). The willingness to donate would dry up if the management of a nonprofit organization became profit-maximizing. Similarly, the willingness of team members to carry out team-specific investments would fade if they suspected the board’s neutrality to be hampered by its compensation structure. Therefore, the board members’ incentives need to be primarily non-monetary. Their motivation is proposed to be based on their reputation and their fulfillment of an obligation. In the mediating hierarchy model, board members do not correspond to the view of rational, self-interested individuals, which is usually assumed in institutional economics.

The demanded neutrality of the board does not mean that all stakeholders need to have the right to elect board members (cf. Blair and Stout 1999). Rather, it is argued that the mediating hierarchy model is compatible with shareholder voting rights for the following reasons. *First*, if voting rights were distributed among stakeholders with heterogeneous interests, voting pathologies may arise (cf. Hansmann 1996). *Second*, the objective of shareholders to maximize the value of a firm’s stock can sometimes be an indicator of the total value of rents that are beneficial to other stakeholders as well. *Third*, shareholders are particularly vulnerable since they are not involved in the company’s day-to-day activities and therefore rarely have the opportunity to access information and to negotiate directly with the firm’s management. *Fourth*, due to their large number and relatively small stakes in widely held firms, shareholders face substantial obstacles to coordinate among themselves. Although shareholders ultimately elect the board members, it is suggested that the board of directors can fulfill its mediating function without submitting to shareholders due to practical and legal protections.

The mediating hierarchy model leaves two issues unanswered. *First*, tensions may arise between the board’s mediating function and the functions of monitoring and advice. If the board is supposed to monitor and advise efficiently, board members need to invest in firm-specific human capital to reduce their information asymmetries compared to the company’s management. However, they would lose their neutrality (cf. Rajan and Zingales 1998). A loss of neutrality is not necessarily a disadvantage. A meta-analysis has shown no relationship between the number of independent board members and the financial performance of US corporations (cf. Dalton et al. 1998). The mediating hierarchy model therefore underestimates the board’s function as a provider of resources, such as knowledge and network resources (cf. Hillman and Dalziel 2003). *Second*, the non-distribution constraint is only claimed for the board of directors as the mediating hierarch of a “corporate team”, but the problem of underinvestment in team-specific resources also exists at lower levels of the hierarchy. Modern organizations are characterized by a wealth of teams with possibilities to free-ride. Team leaders are often not able to attribute contributions to individual team members and therefore rely on their voluntary investments in team-specific resources. This problem is particularly pronounced

in companies that produce knowledge-intensive products and services (cf. Osterloh and Frost 2002). According to the knowledge-based theory of the firm, firm-specific knowledge is among the most important sources of a sustained competitive advantage (cf., e.g., Grant 1996; Kogut and Zander 1996; Spender 1996). However, knowledge work largely depends on voluntary contributions of team members that cannot be observed and attributed individually (cf. Osterloh and Frey 2000).

Corporate Governance as an Institution to Overcome Social Dilemmas

Our view of corporate governance combines the institutional economic approach with the psychological economic theory of human behavior. In accordance with the team production theory of corporate governance, we consider the firm as a nexus of firm-specific investments rather than a nexus of contracts. Therefore, our approach takes account of stakeholders who undertake firm-specific investments that cannot be protected *ex ante* through contractual agreements. However, our approach departs from the team production theory of corporate governance in several respects. *First*, we suggest that the board of directors should not only be elected by shareholders but also by knowledge workers (employees) who carry out investments in firm-specific human capital. The representation of shareholders and knowledge workers should be proportional to the investments in financial capital and firm-specific human capital.⁴ *Second*, we propose that the board should not only fulfill a mediating function but also the functions of monitoring and advice. Therefore, board members need to undertake investments in firm-specific human capital. Since these investments attenuate their neutrality, there is a need for board members with high integrity and loyalty. *Third*, we consider the mediating and advice function not as a singular feature of the board but rather as a feature of team leaders at all levels of the hierarchy. *Fourth*, we argue that the design of corporate governance institutions has a substantial impact on the extent to which the model of a self-interested homo economicus is fostered or hampered within the firm.

Our approach rests upon the understanding that firms are distinguished from markets in that they incorporate highly interdependent activities (cf. Thompson 1967; Grandori 2001; Frese 2000; Langlois 2002). While highly interdependent activities make it difficult to measure separate contributions of individuals, they are the sources of synergies that make it advantageous to organize employees instead of relying on market transactions (cf. Simon 1991). The difficulty of observing and measuring contributions opens up possibilities of free-riding, both concerning the joint production and the investment in firm-specific resources.

The possibilities to free-ride cause a social dilemma. Social dilemmas arise when rational, self-interested behavior does not lead to collectively desirable results (cf., e.g., Dawes 1980). Therefore, markets that are constituted on the behavior of homo

⁴ See Osterloh and Frey (2006) for a detailed explanation of this arrangement.

economicus are not systematically suited to solve social dilemmas. At the societal level, it has been argued that state power can solve social dilemmas (cf., e.g., Hardin 1968). At the firm level, hierarchical authority is commonly proposed as a solution (cf. Alchian and Demsetz 1972; Vining 2003). However, firms have a much more comprehensive repertoire of mechanisms to solve social dilemmas (cf. Frost 2003).

Social dilemmas manifest themselves in firms at two levels. The *first* level concerns the contributions of individuals to firm-specific collective goods, such as the contribution to firm-specific knowledge. Even employees who do not contribute to firm-specific knowledge benefit from it. This kind of social dilemma is addressed by team production theory and leads to the suggestion that the interests of knowledge workers need to be protected by a mediating board. The *second* level concerns the maintenance of rules of cooperation. This kind of social dilemma is not addressed by team production theory. Because of information asymmetries, these rules of cooperation cannot be monitored sufficiently by regulators, boards or supervisors. Rather, they depend on the voluntary commitment of employees. Many scandals in recent years have illustrated that employees were aware of fraud even at the lowest levels of hierarchy (cf., e.g., Spector 2003). However, only a few whistleblowers were willing to draw attention to the deficiencies. The reason is that whistle-blowing not only causes psychological costs but also may lead to dismissal. The detection of deficiencies represents a second order public good that is beneficial also to those individuals who do not contribute to it. While punishment is costly to the punisher, the benefits from punishment are diffusely distributed over all employees (cf. Elster 1989).

To solve social dilemmas, hierarchical authority becomes ineffective when knowledge asymmetries between supervisors and employees are substantial. This is particularly the case when knowledge work is important and when companies are divisionalized and distributed geographically (cf. Child and Rodrigues 2003). In these cases, both hierarchical control and output control fail (cf. Ouchi 1978), no matter whether the supervisor is the board of directors or a team leader. Hierarchical control needs to be substituted by voluntary self-control.

The effectiveness of voluntary self-control has been demonstrated in numerous empirical studies (cf., e.g., Ostrom 1999; Weibel 2004). These empirical findings are commonly founded on the following reasoning: Social dilemmas, such as the prisoners' dilemma (cf., e.g., Kollock 1998), need to be transformed into coordination games, in which free-riding is no more the only equilibrium (cf. Sen 1974). This transformation is based on the precondition that prosocial needs are embedded in the individuals' preferences (cf. Weibel 2004).

As we will show below, firms can create the institutional conditions for the selection of individuals with prosocial preferences and for the reinforcement of these preferences (or the prevention of their crowding-out). Corporate governance is an essential part of these institutional mechanisms.

Psychological Foundations of Both Approaches

Both the team production theory of corporate governance and our approach are based on psychological foundations that differ from the view of homo economicus, which is commonly used in institutional economics. In this section, we detail these psychological foundations in order to substantiate the suggested institutions of our approach.

In the mediating hierarchy model, the board of directors has the function to maximize the joint welfare of the team as a whole (cf. Blair and Stout 1999). The board receives control rights from various stakeholders in order to protect them against their own opportunistic instincts. These stakeholders are assumed to be potentially shirking and rent-seeking. Therefore, “they realize that it is in their own self-interest to create a higher authority – a hierarch – that can limit shirking and deter rent-seeking behavior among team members” (ibid., p. 274). In other words, with respect to stakeholders, the mediating hierarchy model sticks to the institutional economic notion of rational, self-interested human behavior. However, the directors of the board are assumed to act in the interest of the “corporate team” as a whole.

How do these diverging assumptions about human behavior fit into the same model? Three main reasons are put forward (cf. ibid.). *First*, directors are compensated for their work and may be interested in keeping their position and serving on additional boards. Therefore, they may benefit from preventing a breakup of the “corporate team” and from establishing a reputation as good directors. This argument is completely rational and does not depend on insights from psychological economics. *Second*, US corporate law severely limits self-dealing by the board of directors. This “non-distribution constraint” (cf. Hansmann 1980) may induce trust by stakeholders who undertake firm-specific investments, because these stakeholders need not fear that the directors will expropriate them for their own monetary benefit. However, this constraint does not explain why directors should be benevolent and act in the interest of all stakeholders. Therefore, there is a *third* argument. Directors may serve their “corporate team” due to corporate cultural norms of fairness and trust. These social norms are proposed to reinforce reputational considerations of directors. However, the directors’ desire to protect their reputations is not based on rational self-interest, because they are suggested to be trustworthy even when the costs of being honest and fair outweigh the benefits. The key to such behavior is the “careful selection of trustworthy individuals who are supported by appropriate social norms” (Blair and Stout 1999, p. 319). Similar to nonprofit organizations (cf. Hansmann 1980), the position as a director is expected to attract people who value their reputation and aim at behaving in a way that is viewed as socially appropriate.

In our approach, we share the view that board members need to be selected carefully and supported by appropriate social norms. In particular, we emphasize that they need to have prosocial preferences in order to transform social dilemmas into coordination games. However, rather than confining these features to the directors of the board, we suggest that corporate governance institutions can foster prosocial preferences among all team leaders within the firm. Before the eruption of the

current financial crisis, many potentially disastrous decisions were not taken at the board level but rather at lower levels of the hierarchy. In banks, for example, there existed substantial knowledge asymmetries between the board of directors and individual managers. Many arguably trustworthy directors were not able to perceive the dangers that were building up and threatening their company.

To avoid these kinds of dangers, we argue that the view of a self-interested, utility maximizing homo economicus should be revised not only for the board of directors but also for managers and employees. Hence, the question is how to design institutions that foster prosocial preferences at all levels of the hierarchy. Since there are no direct findings on the impact of corporate governance institutions on prosocial preferences, we present empirical findings from other fields that can be applied to corporate governance.

Institutions that Foster Prosocial Preferences

Prosocial preferences form a part of intrinsic motivation. Intrinsic motivation is directed toward activities that are done for their own sake (cf. Deci and Ryan 1985; Frey 1997; Frey and Meier 2004; Osterloh and Frey 1997; Osterloh and Frey 2000; Lindenberg 2001). In contrast, extrinsic motivation is instrumentally directed toward activities that are done for an expected reward. Intrinsic motivation can be divided into hedonic preferences, which serve the individuals' own enjoyment, and prosocial preferences, which serve social norms for their own sake. To overcome social dilemmas in boards and teams, prosocial preferences are essential. The mentioned types of motivation overlap in reality and may be seen as parts of a continuum (cf., e.g., Deci and Ryan 2000). However, institutional economic approaches, such as the principal-agent approach, only consider extrinsic motivation.

The existence of intrinsic motivation has been corroborated in many laboratory and field experiments (cf., e.g., Frey and Jegen 2001; Ledyard 1995; Ostrom 1998; Rabin 1998; Sally 1995). These experiments show that a large percentage of individuals are willing to contribute to collective goods voluntarily and to punish people who diverge from social norms. They also illustrate that this percentage is influenced by economic and social factors (cf., e.g., Bowles 1998; Frey 1997; Henrich et al. 2001). For theoretical analysis, the relationship between extrinsic and intrinsic motivation has primarily been analyzed within the theory of self-determination.⁵ Based on this theory, the extent to which intrinsic motivation is reinforced or crowded out especially depends on three factors: autonomy, experience of competence, and social relatedness. The empirical findings shall be structured according to these criteria.

⁵ See Deci and Ryan (2000) for a review.

Autonomy

Perceived autonomy is an essential precondition for intrinsic motivation. Autonomy is reduced when a voluntary activity is rewarded or punished. The individual no more attributes the activity to herself. In other words, her perceived locus of causality shifts from internal to external. Moreover, her attention shifts from the activity itself to the expected reward or punishment. While the activity loses importance, the person's intrinsic motivation is crowded out. However, this *crowding-out effect* only occurs if a prior intrinsic motivation existed. If there was no intrinsic motivation in the first place, external rewards and sanctions enhance the person's motivation. This effect is shown in an empirical study on the performance of employees who install windshields. In the context of this simple other-directed task, the introduction of a piece rate system enhances worker productivity by 20–36% (cf. Lazear 1999). However, if a task is partly perceived as an exchange of voluntary contributions or a “gift exchange” (cf. Akerlof 1982), variable pay reduces employee motivation. Conversely, autonomy and voluntariness lead to a *crowding-in effect*. A couple of examples shall illustrate these relationships.

Variable pay: A laboratory experiment has shown that voluntariness is important even in gainful employment (cf. Irlenbusch and Sliwka 2005). In a first setting, principals were asked to offer a fixed salary and agents were able to choose their work effort. In a second setting, principals could choose between offering a fixed salary and a piece rate. Agents chose a higher work effort when they were offered a fixed salary. Moreover, they referred less to the welfare of the principal in this situation. The social norm of reciprocity is crowded out in the piece rate situation. In the fixed salary situation, however, it is crowded in.⁶

Punishment: Punishments can cause a crowding-out effect. This effect is shown in a field experiment in a kindergarten (cf. Gneezy and Rustichini 2000). Parents who picked up their children too late at the kindergarten received a fine. This fine caused a substantially reduced punctuality, since the parents conceived that they were paying for their delay. After the fine was abolished, the punctuality did not improve. Apparently the social norm of being considerate was undermined by the fine. Laboratory experiments show, however, that punishments can cause differential effects depending on the perception of the punishers as being self-interested or prosocially motivated (cf. Fehr and Rockenbach 2003). This finding needs to be considered when designing institutions that create sanctions to overcome second order social dilemmas, such as whistle-blowing.

Volunteering: Volunteer work for charity is primarily exercised when there is little external pressure (cf. Frey and Goette 1999; Stukas et al. 1999). In a field experiment, the behavior of children who collected money for charity was analyzed. While one group received no monetary compensation, a control group received a bonus of 1% of the collected sum. This control group collected 36% less money than the first group. When the bonus of the control group was raised to 10%, the children collected substantially more money, however, their performance remained below the performance of the first group.

⁶ See also Fehr and Gächter (2002).

Competence

Perceived competence arises when individuals understand what they are doing, when they receive positive feedback, and when they feel responsible for the result of their work (cf. Hackman and Oldham 1976). While feedback is important for any type of motivation, intrinsic motivation is only activated when the person's self-determination is not constrained (cf. Deci and Ryan 2000). Therefore, it is important that feedback is perceived as supportive rather than controlling. Supportive feedback and perceived competence enhance the individual's perceived self-efficacy. Empirical findings illustrate that self-efficacy has a positive impact on the contribution to collective goods (cf. Kollock 1998). Hence, rewards that are perceived as a supportive feedback actually crowd-in intrinsic motivation and prosocial behavior. This mechanism explains why unexpected, symbolic rewards can enhance intrinsic motivation (cf. Heckhausen 1989) and why very little proportions of variable pay may enhance performance, while high proportions of variable pay do not cause an additional increase in work performance (cf. Bucklin and Dickinson 2001). Moreover, supportive feedback can crowd in intrinsic motivation when it does not just address the achieved output but also contributes to understanding the processes that have led to the output. This effect has been shown in a comparative study in the airline industry (cf. Gittell 2001). Pure output controls with little communication lead to the result that each team member is anxious to deny any responsibility for mistakes. However, competent process-accompanying feedback and supportive relationships cause individuals to assume responsibility for the output of the team as a whole (cf. Weibel 2004).

Social Relatedness

Social relatedness enhances identification with the group and the willingness to contribute to collective goods (cf. Kollock 1998). The following measures shall illustrate how social relatedness and prosocial preferences can be strengthened.

Instructions about socially appropriate behavior: People contribute more to collective goods when they are instructed about the kinds of behavior that are socially appropriate (cf. Sally 1995). In a laboratory experiment, individuals contributed much more to a collective good when the experiment was labeled as "community game" rather than "wallstreet game" (cf. Liberman et al. 2004). Such differential instructions about socially expected behavior can also result from fines that signal a "new game". This effect has been shown in the kindergarten experiment described above (cf. Gneezy and Rustichini 2000). Such a signaling effect is also evident in another laboratory experiment (cf. Tenbrunsel and Messick 1999). It shows that a threat of punishment for environmental torts changes the way a situation is perceived. This threat makes a majority of individuals believe that their decision is not about a contribution to the collective good of a clean environment. Rather, they conceive their decision as a commercial one.

Procedural fairness: Various empirical studies (cf. Tyler and Blader 2000; Tyler and Lind 1992) have illustrated the importance of perceived procedural fairness.⁷ Procedural fairness can lead to the acceptance of decisions, even if they involve negative consequences for the individual. Therefore, procedural fairness is particularly important in situations of conflict, such as restructurings (cf. Cascio 2005). The perceived procedural fairness depends on the possibility to participate in decisions, the neutrality of decision-makers in judging conflicts, and a respectful treatment of the individuals. For the purpose of neutrality, politicians, judges, and bureaucrats receive fixed salaries. Those individuals who determine the rules of the game should have no incentive to bias these rules for their own benefit (cf. Benz and Frey 2007). The fixed salaries also help to prevent self-serving biases. Empirical evidence has demonstrated that even honest people are unconsciously prone to self-serving biases. Their judgment is biased for their own benefit, especially in highly ambiguous situations. In contrast to corruption, such unconscious biases cannot be reduced through punishments (cf. Babcock and Loewenstein 1997; Bazerman et al. 2002). These biases can only be attenuated if the incentives to focus on one's own interests are reduced. With respect to directors and managers, however, the opposite is happening. The creation of variable incentives runs the risk of enhancing self-serving biases and even deliberate manipulations of the performance criteria. Under such circumstances, no neutrality can be expected. If employees do not consider directors and managers to be neutral, they will perceive less procedural fairness and will lose willingness to contribute to collective goods.

Conditional cooperation: Individuals generally contribute more to a collective good if they expect others to contribute as well (cf. Fehr and Fischbacher 2003; Fischbacher et al. 2001; Levi 1988; Ostrom 2000). Conversely, if too many people free-ride, the inclination to behave prosocially is reduced. The honesty of employees deteriorates when they recognize that their supervisors enrich themselves in unjustified ways. They are no longer willing to contribute to collective goods or to criticize colleagues who behave illegally. In Enron, for example, the management team was aware of illegal activities. Moreover, large parts of the workforce were informed as well (cf. Salter 2003). Finally, an empirical study has shown that criminal offenses are substantially lower in companies with a general profit-sharing scheme than in companies with a profit-sharing scheme that is confined to top managers (cf. Schnatterly 2003).

Personal contacts: Measures that reduce social distance enhance contributions to collective goods (cf. Dawes et al. 1988; Ledyard 1995; Frey and Bohnet 1995). Experiments have shown that a few minutes of conversation raise the mutual commitment to contribute to common collective goods (cf. Fischbacher et al. 2001; Frey and Meier 2004). Furthermore, communication offers the opportunity to ask other individuals for their contribution to collective goods. A personal contact increases the willingness to volunteer substantially. These effects have led to an increasing importance of "communities of practice" (cf. Orr 1996; Lave and Wenger 1991).

⁷ See Frey et al. (2004) for an overview.

These communities not only enhance creativity but also the identification with the group.

These findings show that numerous crowding-in and crowding-out effects can be influenced by institutions. We propose that corporate governance institutions are particularly important in influencing intrinsic motivation and prosocial preferences.

Design of Corporate Governance Institutions

Viewing corporate governance as an institution to overcome social dilemmas has far-reaching implications for the design of the relationships between shareholders, directors, managers, and the workforce. In light of the previous reasoning about firm-specific human capital and prosocial preferences, we suggest that the following institutions are beneficial to a company as a whole.

Voluntary Representation of Knowledge Workers at the Board Level

Our proposal implies that companies should introduce employee representation at the board level voluntarily. Therefore, our approach does not equate to co-determination laws as they exist in many European countries. Empirical studies on the impact of co-determination on performance have shown mixed results (cf., e.g., Addison et al. 2004). The fact that most companies do not introduce co-determination rules voluntarily does not mean that such rules are inefficient, since the market for property rights is far from being efficient (e.g., because of external effects, differential bargaining power, and information asymmetries). Therefore, it has been argued that state intervention may be necessary to avoid a prisoners' dilemma (cf. Freeman and Lazear 1995; Frick et al. 1999; Sadowski 2002).

In our view, companies should introduce employee representation voluntarily for efficiency purposes. Shareholders should approve this proposal in their own long-term interest. Practitioners have readily accepted the notion of “core competencies”, however, it should be noted that core competencies and sustained competitive advantages primarily rely on investments in firm-specific human capital. Therefore, corporate governance arrangements should provide sufficient incentives for employees to invest in firm-specific human capital.

Attenuation of Variable Pay-for-Performance

We propose that fixed salaries that are able to compete with market wages offer a number of substantial advantages (cf. Frey and Osterloh 2005). *First*, the directors and members of the management team receive a signal that their behavior is expected to address the collective interests of the company. Moreover, competitive wages make it clear that a strong overall performance is expected. In contrast, variable pay-for-performance signals that an exceptional performance is only considered socially appropriate if it is compensated financially. Variable pay signals a “wallstreet game” rather than a “community game” and causes a self-fulfilling prophecy. *Second*, intrinsic motivation and in particular prosocial preferences are

not crowded out. It is of utmost importance that directors and managers have prosocial preferences in order to induce employees to invest in firm-specific human capital. *Third*, the incentive to manipulate performance criteria is reduced. “Earning management” becomes less attractive. *Fourth*, the non-distribution constraint is upheld. Such a self-restriction of directors and managers is essential to encourage voluntary, non-observable contributions to collective goods. *Fifth*, unconscious self-serving biases are constrained. These biases are particularly important in the relationship between managers and directors. Members of the board of directors should not be compensated according to the same criteria like managers, since self-serving biases cause the danger of suppressing incentives to monitor the managerial team effectively. *Sixth*, fixed salaries cause a self-selection effect. As a consequence, more intrinsically motivated individuals are attracted by the company as an employer.

Selection of Directors and Managers with Prosocial Preferences

To foster conditional cooperation among employees, the behavior of directors and managers needs to make clear that also the individuals at the highest levels of the hierarchy contribute to collective goods. Therefore, prosocial preferences need to complement functional competence as selection criteria. The psychological repertoire for diagnostic analysis (cf., e.g., Funke and Schuler 2002) offers a variety of instruments that help to select suitable directors and managers with prosocial preferences.

Employee Participation in Decision-Making and Control

Participation in decision-making and control is a central precondition for perceived procedural fairness and social relatedness. Participation strengthens the willingness to behave prosocially in two ways. On the one hand, team members raise their contributions of non-observable team-specific investments. On the other hand, they are more willing to identify and reprimand free-riders that can only be detected within the team. Although sanctions generally run the risk of crowding-out intrinsic motivation, these rebukes do not crowd-out intrinsic motivation because the punisher is perceived to be prosocially motivated. Mutual control among team members is the more important the more a company relies on decentralized knowledge work.

Conclusions

The question concerning the legitimate interests that should guide a company’s strategies and policies can be answered in different ways, depending on the adopted theoretical perspective. The dominant paradigm in corporate governance focuses on the interests of shareholders as the only residual claimants. However, the theory of incomplete contracts, the team production theory of corporate governance, and our approach of corporate governance as an institution to overcome social dilemmas

lead to the conclusion that also other stakeholders' interests need to be considered. All these approaches are based on efficiency considerations. In other words, the importance of different stakeholders is not derived from a normative social responsibility of the corporation, but rather from the insight that their firm-specific investments are crucial for the company's sustained competitive advantage.

Even though all these approaches take account of stakeholders' interests, they vary considerably with respect to their psychological assumptions about these stakeholders. The theory of incomplete contracts sticks to the view of self-interested, utility-maximizing individuals. The team production theory of corporate governance partially applies insights from psychological economics. However, these insights are only applied to the board of directors as the mediating hierarch. This approach neglects the need to foster prosocial preferences at lower levels of the hierarchy. Considering the corporate governance failures that preceded the current financial crisis, we suggest that findings from psychological economics can help to design institutions that foster prosocial preferences at all levels of the hierarchy. With this aim, we have developed our own approach of corporate governance as an institution to overcome social dilemmas. We have used insights from institutional economics, psychological economics, and the knowledge-based theory of the firm in order to suggest four measures that help to overcome social dilemmas at the firm level: board representation of knowledge workers who invest in firm-specific human capital, attenuation of variable pay-for-performance, selection of directors and managers with prosocial preferences, and employee participation in decision-making and control.

In sum, the consideration of psychological economics leads to recommendations that clash with conventional wisdom based on the institutional economic approach. At the same time, this synthesis of different theoretical perspectives intensifies the dialogue between institutional economics and research on organizational behavior.

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