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## THE IMPACT OF FINANCIAL AND SOCIAL CAPITAL ON PERFORMANCE

by

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# **The impact of financial and social capital on performance**

by

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## **Abstract**

In the present study it is shown that in a situation with an external crisis signal, such as a drop in stock prices, firms with a decision-competent executive team (a socially integrated team) take longer to recover than do firms with information-competent executive teams (socially differentiated teams). The hypothesis is that the decision-competent team has a social network that effectively resists changes such as takeovers and changes in controlling shareholders. Hence, resisting changes buys the team time to look over the activities in the firms. However, management in the entrepreneurial-owned firm has no such option to buy time. Takeovers and changes in the controlling shareholders are efficient ways of restructuring businesses that also affect the performance, measured as performance on the stock exchange. The statistical analysis is based on data from 29 Swedish public companies and their executive team members.

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## THE IMPACT OF FINANCIAL AND SOCIAL CAPITAL ON PERFORMANCE

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### Introduction

The executive team of a public firm, when confronted with a crisis signal, would want to mobilize the available resources to turn a bad situation around to a good one. In such a situation it is proposed that the executive team has two main types of resources at its disposal: financial capital (the access to cash flow) and social capital (social networks).

Direct access of financial capital differs among firms according to ownership structure. The entrepreneurial-owned<sup>1</sup> firm's executive team members have direct access to the financial capital, through what I have shown to exist, the CEO's partnership with the entrepreneur. The executive team in the investor-owned<sup>2</sup> firm has restricted access to financial capital since a partnership with the many investors is difficult to establish (Meyerson 1991a). Furthermore, the establishment of social capital is contingent upon the opportunity structure of individuals. For instance, members of an integrated executive team developed an external network with a different type of structure, as compared to members in a differentiated team. The integrated team tends to develop an external network that is instrumental to mobilizing financial capital. The external network of a differentiated executive team, on the other hand, facilitates information accrual (Meyerson 1991b).

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<sup>1</sup>The entrepreneur dominates the ownership of a firm often having a large portion of personal assets in the firm. The concept of the entrepreneur is given a variation of meanings in the research literature of economics and organization theory. In present context the concept of the entrepreneur is understood as a capitalist, i.e., a risk bearer, with an overall decision-making capacity, and who has the belief that he can exploit an opportunity which he is also able to monitor. An owner with dominant share in a corporation is most likely to hold an undiversified portfolio (Bergström and Rydqvist 1990).

<sup>2</sup>The investor is an owner with a comparatively small shareholding who diversifies his portfolio in order to reduce his risk exposure (Demsetz and Lehn 1985). The investor, with the Hirschman's (1970) vocabulary, exit the firm as soon as they are dissatisfied and take their wealth elsewhere. Hence, investors tend to be less stable owners compared to entrepreneurs who stand by the firm.

Even though differences in firms' performance is obviously a complex phenomenon, I reduce the line of reasoning in the present paper by raising the following question: What type of leadership organization is the more efficient to recover from a crisis situation? Is it the differentiated executive team for its access to an entrepreneur and its external network oriented on information accrual or is it the integrated executive team found in the investor-owned firm for its external network oriented on mobilization?

Efficient recovery from a crisis situation can have different meanings for the owners and for the executive team members. Though there are many ways the team members can act in response to a crisis signal, it may sometimes be in their interest to act contrary to the interest of the shareholders. A new controlling owner or a new ownership structure may infer changes or uncertainties, or even the threat of being dismissed, hence the team members would want to control for such undesired events. Takeovers and other control devices that can improve the stockholders return may be prevented by team members.

The difference in the social and financial capital among the two types of executive teams is suggested to affect the response to a crisis signal on the stock market in two direct ways. First, the structure of the team's social capital affects the ability to fend off a takeover attempts. A team with a mobilizing external network is more effective in resisting takeover attempts than is the other type of team. Team members with a mobilizing-oriented social capital are equally effective in resisting turnover of management. Both turnovers and shifts in control can be beneficial to the stock holders wealth, i.e., to a rapid recovery from a crisis situation.

Second, it is suggested that the team that has a social capital conducive to receiving novel information and that has access to an entrepreneur reacts more quickly to a crisis signal than does the other type of executive team. This is because the design of leadership contains both the information accrual talent (through the differentiated team, information-oriented external network) and the executive team's access to the decision-making unit (the supra team i.e., the partnership between the CEO and the owner).

An explorative analysis is performed in order to detect relationships between social capital, financial capital and performance. Traditional economic variables such as ownership structure, shift of controlling owners and financial performance measures are combined with sociological variables such as turnover of management and structural aspects of networks.

### **Organization of the paper**

Social capital's impact on performance is discussed in the first section. The impact of the access to financial on performance is discussed in the second section. The results from the empirical testing are presented in the third section. Finally, some conclusions are derived.

### **The effect of social capital on performance**

Meyerson 1991b found that the relational structure of social capital is contingent on the strategic situation. The social capital of an executive team contains a network (social arrangement of relationships) based on weak nonredundant ties <sup>3</sup> when the objective of the team is to accrue novel information. When, on the other hand, the objective of the team is to mobilize others to act in an instrumental way, the network is more often based on strong redundant ties that are conducive to the mobilization of the external environment.

The CEO in the investor-owned firm who lacks the access to an entrepreneur and thus access to easily mobilized financial capital, has to rely on his social capital. The CEO in this type of firms is suggested to develop a strategy to influence those who possess valuable resources by composing an integrated executive team. This team was shown to have a social capital that is structured so as to mobilize its environment. In the entrepreneurial-owned firm the CEO composes a differentiated team that has a social capital that

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<sup>3</sup>A nonredundant tie is a tie that connect the individual to others that otherwise would not have been reached. It was shown by Meyerson(1991b) that these ties tend to be weak, i.e., the individuals did not share common values and did not socialize with each other.

serves to accrue novel information (see Meyerson 1991b for a more elaborate discussion).

Our explorative endeavor is to test if the team with access to novel information is more efficient in finding means to respond to a crisis signal than is the decision-talented type of team. It is plausible to argue that the decision-talented team is able to act decisively for a quick recovery from a crisis situation. The team can come to a consensus on how to renew strategies, and can mobilize all team members to work in the agreed upon direction. To be able to reach consensus is the comparative advantage of the decision-talented team. However, to be able to renew ideas and strategies, novel information is essential in giving impulses to guide the way out of a difficult situation. In other words, team members need to be able to think in non-routine ways and to promote new opportunities and possibilities. In short, they need to be able to welcome changes. In order to promote new opportunities, members need to believe that they will gain, not lose from possible changes. Hence, the fact that the integrated team wants to protect the team, and that the differentiated team does not have the same tendency (although each member is for his welfare) affects the variation of response to changes in the two types of teams.

The rationale for the suggestion that the differentiated team will respond more quickly lies partly in the conjecture that the integrated team has an external network that is strategic in influencing and controlling its environment. Integrated team members will not necessarily act to serve the shareholders' interests, but may resist changes beneficial to the owners in order to protect themselves. Their lack of direct access to financial capital forces them to mobilize their external network in order to control undesired events.

It is difficult to sort out the two effects: the benefits from information-accrual talent from the cost to the shareholders of having an executive team with high discretion to act (or not to act) through mobilizing its external network. Hence, our first explorative step in the analysis is to investigate whether the executive team's structure of the social capital matters for the

speed of responding to a crisis signal. Hence, the first hypothesis to be tested is,

H1: The executive team with a mobilizing-oriented external network is slower in responding to a crisis signal than is the team with an information-accrual oriented network.

In order to isolate the effect of the social capital on performance, other factors have to be considered. For instance it is known from the literature on corporate control that events such as takeovers and takeover attempts, controlling stockholder shifts and management shakeups affect firm performance.<sup>4</sup> However, as argued above, events such as takeovers and turnovers of management are not necessarily independent of the team's social capital. The team's ability to resist takeovers and affect turnover are considered in the analysis of variation of performance between firms.

### **The effect of financial capital on performance**

A market for corporate control is crucial for the efficient allocation of a firm's resources. Whatever the label; be it the labor market for management or a market for competing owners, takeovers, mergers, and/or the removal of poor performing managers are control devices decisive for a healthy business community (SOU 1988:38). The control of an efficient allocation of a public firm's resources is dependent on the functioning of the market for corporate control. Below is a discussion of the different aspects of the market for corporate control.

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<sup>4</sup>Corporate control is a mechanism to ensure maximization of shareholders value. The market for corporate control consists of both internal and external control mechanisms. They both work to encourage, monitor, and if necessary, replace managers (Jensen and Ruback 1983). The internal control is typified by ownership structure, the composition of the board of directors and competition among management. The external control mechanism is the availability of outside bidders and dissidents. Whenever the internal control mechanism fails to solve problems, the external control mechanism is supposed to come into play (Weston, Chung and Hoag 1990).



### **Ownership structure and performance**

According to the previous results from investigations on the effects of ownership on performance,<sup>5</sup> it seems that the market gives higher value to individual shareholdings than to corporate ones, even though there are no differences in performance.<sup>6</sup> Although, the ownership structure can, of course, have a direct effect on an efficient allocation of a firm's resources, especially in recovering and responding to a crisis. In short, does it matter how the financial capital is structured? How important is the character and dispersion of ownership? The conclusions derived from the empirical testing of the question above give a somewhat complex picture of the relationship between the ownership structure and performance.

One aspect of ownership structure, the degree of ownership concentration, and its effect on performance has been empirically tested by Holderness and Sheehan (1988). No statistical differences were found in investment expenditures, frequency of control changes and Tobin's q among

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<sup>5</sup>There is a research literature on the ownership of management and its effects on performance. This aspect of management, their share holdings in the firm and its effect on performance is not discussed in the present study. Two competing hypotheses are found in this research literature, the convergence of interest hypothesis versus the entrenchment hypothesis.

When managers' share in ownership increases, their interest is better aligned with the shareholders' interests and thus deviation from value maximization will decline (Jensen and Meckling 1976). However, a high degree of managerial ownership and their control of voting rights gives managers enough power to guarantee their employment with the firm and pursue self interest at the expense of shareholders wealth (Weston, Chung and Hoag 1990).

Empirical tests of the two hypotheses have been performed. For instance Morck, Schleifer and Vishny (1988a) investigate the relationship between the performance measure Tobin's q and the managers' share holdings in 371 firms from Fortunes listed 500 firms in 1980 (Morck, Schleifer and Vishny 1988a). Morck, Schleifer and Vishny, conclude that the initial rise in Tobin's q as ownership rises among management reflects the incentive effect of rising ownership stakes of managers. Beyond the 5% ownership level, managerial ownership increases are associated with other conditions conducive to the entrenchment effect. Some form of entrenchment effect explains the declining value of assets as managerial ownership rises from 5% to 25%. In this range, the incentive effect is dominated by the entrenchment effect. Management with stakes larger than 25% is not significantly more entrenched than those with 25% ownership.

<sup>6</sup>On the other hand Sorensen (1974) found no difference in performance by ownership structure. However, owner controlled firms tended to grow faster than management-controlled firms whether growth was measured by sales or net worth. (Sorensen defines a management-controlled firm when no owner owned more than 5% and a concentration of 20% or more was required for a firm to be identified as owner contract (Sorensen 1974, 14)).

firms with minority ownership, investor-owned firms and majority-shareholder, entrepreneurial-owned firms.<sup>7</sup> However, they found evidence that individual majority shareholder firms underperform in comparison to firms with minority-owned shareholders in terms of performance measures such as Tobin's q ratio and accounting rates of return. Corporate majority shareholder firms do not underperform, compared to firms with a diffuse corporate shareholding (Holderness and Sheehan 1988).<sup>8</sup> The reported findings on ownership structure effects on performance indicate that ownership structure should be considered when analyzing performance. In the empirical analysis below the degree of ownership concentration is accounted for.

It is plausible to suggest that entrepreneurs are more accessible than investors. If there exists a partnership, a supra team, in the entrepreneurial-owned firm, the CEO has access to the financial capital through the interdependent relationship with the entrepreneur. Consequently, in a crisis situation the economic capital is more accessible and hence easier to mobilize for the CEO and his team in the entrepreneurial-owned firm. The CEO and the executive team in the investor-owned firm, on the other hand, are left to try to mobilize their social capital, and for this to succeed the social capital has to be structured in accordance with the team's aim to influence its strategic environment.

Consequently, apart from the effect of the social capital structure on performance, the relative easy access to the financial capital affects the response to and recovery from a crisis signal. Hence,

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<sup>7</sup>The Tobin's q is defined by Holderness and Sheehan (1988, 343) as the ratio of market value to the replacement cost of plants and inventory. Accounting rates of return is defined as income available for shareholders divided by the book value of total equity.

<sup>8</sup>In Holderness and Sheehan's (1988) analysis of NYSE (New York Stock Exchange) or AMEX (American Exchange) listed firms, majority shareholder is defined as individuals or entities owning at least 50% of all of the common stock. In the sample, the majority shareholders are approximately equally divided between individual (46%) and corporations (50%). Firms with individual share holdings are typically smaller and corporate majority shareholdings are larger than the typical NYSE and AMEX listed firms. (Holderness and Sheehan 1988, 323). Furthermore, they report that 90% of the individual majority shareholders, and representatives of 94% of the corporate firms are either directors or officers of their firm.

H2: The relative accessibility of financial capital increases the firm's speed of response to a crisis signal.

### **Shift of controlling shareholders and performance**

Takeovers can be divided into several classes. Two main classes are the disciplinary takeover and the synergistic takeover (Morck, Schleifer and Vishny 1988c). The purpose of the first is to correct the non value-maximizing practices of managers of the target firms.<sup>9</sup> The change of controlling shareholders is a way of changing the target's operating strategy. The second class of takeover is called synergistic since the motive behind them is to combine the businesses of two firms. Synergy gains can come from the increases in market power from combining the businesses of two firms such as *"...offsetting the profits of one firm with the tax loss carry forward of the other, from combining R&D labs or marketing networks or from simply eliminating functions that are common to two firms"* (Morck, Schleifer and Vishny 1988c, 126-127).

Most empirical studies have found that target firms exhibit a statistically significant positive price response to the announcement of a takeover attempt. The bid per se is good economic news for the target (Roll 1988).<sup>10</sup> When an unsuccessful tender offer is followed by another offer within a few years, the original price increase around the first bid is maintained permanently. However, when the original unsuccessful offer is not followed by a successful offer within five years the entire market price

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<sup>9</sup>The managers may be engaged in excessive growth and diversification, overpayment to employees and suppliers or debt avoidance in order to secure a quiet life. Disciplinary takeover is a way to address the problem of separation between ownership and control discussed by Berle and Means (1932), (also see Williamson 1964; Jensen 1986).

<sup>10</sup>Roll states that most of the studies performed find a large price increase in the few days surrounding the original bid announcement and that this announcement effect is much larger per unit of time than observed price movements either before or after. *This result points to the essentially passive role played by the target firm which is an important contrast to the active role of the bidding firms*" (Roll 1988, 242).

increase associated with the original bid is reversed (see Roll 1988; Jensen and Ruback 1983).

Holderness and Sheehan (1988) analyzed stock price reactions to 31 announcements of majority block trades to study the effect of firm value and changing shareholders. They found that on average stock prices increase from the day before announcement to the announcement day by an abnormal 7.3%, and over the 30-day period around the announcement by an abnormal 12.8%. Furthermore, their results indicate that on average a firm's value increases more when both the buyer and the seller are individuals rather than corporations.

Morck, Schleifer and Vishny (1988c) report that the characteristics of management have an effect on the determination of the form of control change. The presence of a founding family on the top management reduces the probability of both a hostile takeover and a management shake-up. Furthermore, high officer ownership was the most important attribute predicting friendly acquisitions. Morck, Schleifer and Vishny further report that a large stake of equity held by the top executive reduces the likelihood of hostile takeovers and increases the likelihood of a friendly acquisition. Firms with an insider ownership of over 30% (compatible with degree of ownership concentration) are rarely acquired in hostile takeovers. The friendly targets were smaller and younger but had Tobin q values and growth rates comparable with Fortune 500 listed corporations.<sup>11</sup>

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<sup>11</sup>Roll (1988) presents a number of distinct hypotheses that have been advanced to explain the motives of takeover activities. Motives to takeover activities are not mutually exclusive: different motives can explain different individual takeovers and more than one could be present in any particular case. Roll further claims that most takeover hypotheses are based on the natural presumption that economic benefits will flow from the corporate combination. Roll mentions that potential sources of gains include monopoly, information, synergy, elimination of inferior management of the target firm, financial motivation. The hypothesis about a takeover motivation that does not involve gains for shareholders are management self-interest, the hubris where the bidders overvalue their targets and pay too much, thus "*the takeover is merely a wealth transfer from bidder to target*" (Roll 1988, 243). Furthermore, Roll argue that the motive for a takeover can have a large influence on its mood. For instance disciplinary takeovers are likely to be hostile whereas synergistic takeovers are likely to be friendly. A hostile takeover is to be understood as a public purchase of shares against the will of the incumbent management. Typically a friendly acquisition is a firm with considerable intangible assets, such as growing customer base to which the purchaser can add management skills or access to capital.

The form of the control change seems to be dependent on who is in control of the management processes. Analogous to the above findings it is plausible to suggest that the control of the management situation differs between the team that has an information-accrual network and the team that has a mobilization oriented network. Given an efficient market for corporate control, takeover events are likely to be one of the many important devices that turn a poor situation into a good one. However, an executive team with a mobilizing-oriented external network may resist such an event.

As argued in previous chapters, a cohesive network puts pressure on its members through the emerging norms to both act and refrain from action. Therefore, team members belonging to a business community group and engaged in joint ventures, such as a cross ownership with another firm, put pressure on the parties involved.<sup>12</sup> For instance, when members of an executive team dislike a potential constellation of owners they can engage in negotiations with colleagues in other firms for intervention. A cross or circular ownership structure can be negotiated. An efficient mobilizing network may decrease management control and decrease the external control devices. It is plausible to suggest that a team with a mobilizing external network is more efficient in resisting an unfriendly takeover than is the team that has an entrepreneur in charge.

The former type of team has the ability to influence its strategic environment in order to prevent an undesired takeover. The executive team that has strategically positioned external ties can organize a joint venture with other colleagues in the business community to control undesired events. For instance, one efficient way for managers to restrict the external control of the market for corporate control is to organize a circular or cross ownership (SOU 1988:38). Compared to the integrated team, the differentiated team does not

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<sup>12</sup>The business community's different clusters consists of interdependent members. The existence of trust is important in this context. Arrow argues that if trust were not there, no trading or interaction would take place (Arrow 1974, 23). To be kicked out of the business clusters creates new investment cost. The investment costs are associated with the cost to enter into a new cluster. (The managers are assumed to be risk averse and chose to stay as managers not as owners.)

have the discretion to act in an opportunistic way vis-à-vis the entrepreneur. The differentiated team is dependent on the entrepreneur's actions and desires, however, the entrepreneur is dependent on the information he receives from the executive team members.

The possibility for the integrated team to mobilize its external network to control its strategic environment is a survival mechanism for the team. Changes are not always desired by managers even though shareholders would benefit from them. Changes in controlling shareholders, for instance, can be associated with changes in fundamentals such as the firm's strategy or a management shake-up. Consequently, there is a reason for the integrated team members to want to control potential threats and try to prevent them. Furthermore, the integrated team has a tool for this purpose: its mobilizing-oriented external network. Consequently,

H3: Executive teams with access to a mobilizing oriented external network resist takeover attempts more effectively than do other teams.

### **Turnover effects on performance**

The performance of a firm affects turnover, which in turn can affect performance. Poor performance by a firm increases the likelihood of top management replacement. However, the empirical findings present some difficult interpretations since there is no straightforward relationship between turnover and performance (see note 12) (Puffer and Weintrop 1991; Morck, Schleifer and Vishny 1988b; Wagner, Pfeffer and O'Reilly 1984; Pfeffer and Salancik 1977; Lieberman and O'Conner 1972).

According to some research (Morck, Schleifer and Vishny 1988b), performance affects turnover. Owners or the board of representatives are not always effective in recognizing the problems of the firm and standing up to top officers, especially when tough decisions are necessary to solve the problem (Jensen 1986). External control in the form of a hostile takeover for example,

is brought in because of the failure of the board according to this view.<sup>13</sup> The results of Morck, Schleifer and Vishny (1988b, 1988c) can be summarized as follows: Firms experiencing a complete management turnover are characterized by their poor performance relative to the industry's and not by poor industry performance. When a whole industry is poorly performing, the external control, or takeover comes into play and takes the place of the board of directors in replacing the executive team.<sup>14</sup> <sup>15</sup> However, when the firm is performing poorly relative to other firms in the same industry, it is more likely that a new management team is appointed.

That turnover affects performance is a more controversial statement.<sup>16</sup> Beatty and Zajac (1987) support Grusky (1960) on his thesis with empirical

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<sup>13</sup>Competition of ownership is important for an efficient allocation a firm's resources. In the Swedish Owner Investigation (SOU 1988:38) it is concluded that it is difficult to stipulate the best ownership structure for an effective allocation of the firm's recourse. Yet the investigators note that a certain degree of concentration is an important condition for monitor management (SOU 1988:38, 317). However, a shift of the controlling owner must be secured. The evaluation of the firm's resource allocation via the stock market is an important control device. Thus, crosswise and circular ownership worsen the conditions for the growth and renewal of the industry (SOU 1988:38).

<sup>14</sup>Weston, Chung and Hoag (1990) argue when discussing the Morck et al. findings that when the company underperforms its relatively healthy industry, it is easier for the board to assess blame and fire the top management. They further assess that the board's problem is much harder when the whole industry is performing badly. In the latter case, it is difficult to judge whether the management is making mistakes and even when it is, "... *the board may be reluctant to force the Managers to take painful measure, often required in mature or declining industries. Therefore, under theses circumstances an external challenge to shake up the management and the board may be necessary to enforce shareholder wealth maximization*" (Weston, Chung and Hoag 1990, 461).

<sup>15</sup>In the research on American corporations it is not always obvious whether management is the board of directors or if it is the operating management in the firm such as the CEO, COO, or secretary of treasury.

<sup>16</sup>Pfeffer and Davis-Blake (1986) report that the consequences of successions are likely to vary dramatically, depending on the conditions surrounding them. Nevertheless, the effects of succession are not clear and are still controversial. For instance, some find that succession lowers organization performance. Others claim that succession improves organizational performance. A third group of scholars argues that succession does not affect the performance of organizations (see an overview of the research in Worell and Davidson 1987).

results that shows succession is disruptive with negative organizational consequences. The announcement of a new CEO reduces the market value of the firm. However, it is the stock market agents' perception of the information sent out from the firm that seems to matter (Pfeffer 1977).

### **The indirect effect of ownership structure on turnover**

The organization of the leadership is different in entrepreneurial-owned firms compared to investor-owned firms. The hypothesized and suggested "supra team" in firms with entrepreneurs consists of the controlling owner and the CEO and takes on the decision-making and the controlling function. In these firms the executive team is suggested to take on an information giving and receiving function. The executive team in investor-owned firms works more independently vis-à-vis the owners and takes on the decision-making function. Entrepreneurs (majority shareholders or their representatives) are argued to monitor management teams more carefully than the investors do in investor-owned firms (minority share holdings). The first type of owner is more actively involved in management compared to the latter. The fact that the majority shareholder plays a central role in management is consistent with the findings on management and board turnover following majority block trading. In most of consummated cases in the sample (actual block trading) in Holderness and Sheehan (1988) new directors and officers were appointed after the trades. However, the existence of a founder family in the top management reduces the probability for a complete management turnover. Even a large equity stake held by the top executive reduces the likelihood of complete turnover (Morck, Schleifer and Vishny 1988c).

In the present study I suggest that if top leadership organizations are compared, a complete management shake-up is more likely to take place in the entrepreneurial-owned firm than in the investor-owned firm. The reason is that the integrated team has a mobilizing external network and can resist takeovers and other changes that would increase uncertainty for team members. The team members in the entrepreneurial-owned firm are



dependent on the one owner who is in control of the firm's economic assets. Consequently,

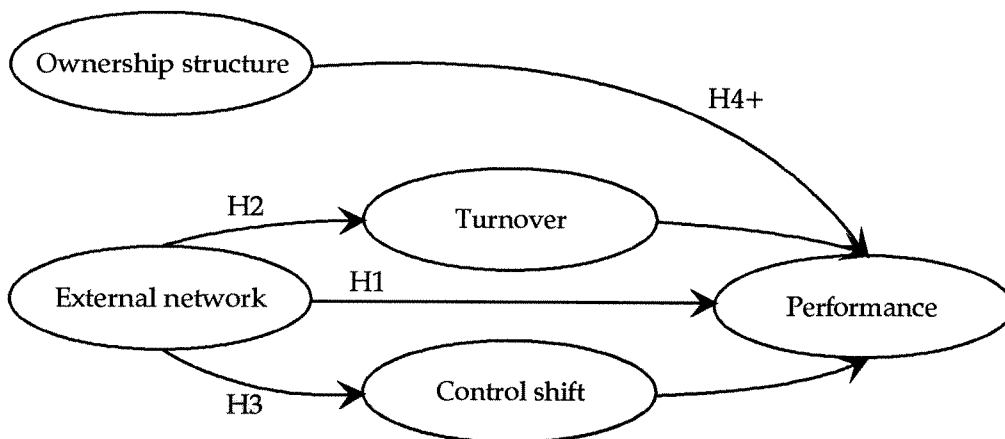
H4: The executive teams that has a mobilizing external network is less likely to experience a management shake-up than the team that has an information-accrual facilitating social capital.

### Results from the empirical investigation

The empirical investigation is mainly an exploratory study of the relationship between the structure of an executive team's external network and a firm's performance.

The strategy for testing the hypothesis is to confront the simple statistical descriptions of data with the respective hypothesis, and look for outcomes that are consistent with the formulated hypothesis. Empirical evidence is received, although with no measurable precision (see univariate description for all variables in Appendix 1 and the correlations matrix Appendix 5). The model to be tested in the empirical section is pictured in Figure 1.

Figure 1. Four hypothesis on ownership structure and network structure effects on performance



**A performance measure in a crisis situation**

The concept of performance is very little discussed and hence, not very well defined. What do we mean by performance? A certain type of action or behavior can have a positive effect in one situation, and a negative effect in another. In crisis situations both the talent to make decisions, and the ability to accrue information ought to be of importance. (In times of stability one or the other may have a greater impact on stockholders evaluation.) I therefore narrow the scope of the study by focusing on performance in a specific situation: when firms are confronted with a crisis signal. The main concern is the capacity of the firm to recover effectively from a crisis situation. The definition I use for a crisis signal and for the evaluation of the recovery is taken from the shareholder's point of view, and this will be shown to affect the choice of measures and approaches.

Two factors were taken into account when selecting a crisis criterion. First, the management should be unable to manipulate directly the measures applied as a selection criterion. Second, the crisis signal should be relevant to the managers concerned in that it restricts their discretion, e.g., restricts their access to financial capital. The stock market is therefore chosen as the agent defining a crisis situation for a firm.

The stock market is chosen to be the external agent defining a crisis situation for a specific firm and signalling a crisis signal because the actors on the stock market evaluate the firms daily, and new information about a firm is immediately reflected in the stock price. One stock market measure of the performance of a firm is the "abnormal return" (AR). The abnormal return is the difference between the investors' expectation of a firm's return on their stock holdings and the actual return. A negative abnormal return means that the firm has failed to live up to the investors' expectations; the return on investment is not as high as expected. The expectation of the return on the share is a function of previous performance. Hence, in comparison to other investment alternatives the firm's shares are less attractive than other investment objects. Any firm, well or poorly managed, may experience a crisis signal due to causes outside the managers control such as an ownership

struggle, a takeover event, a financial crisis or an external shock, for example, when the prices on the international market dive.

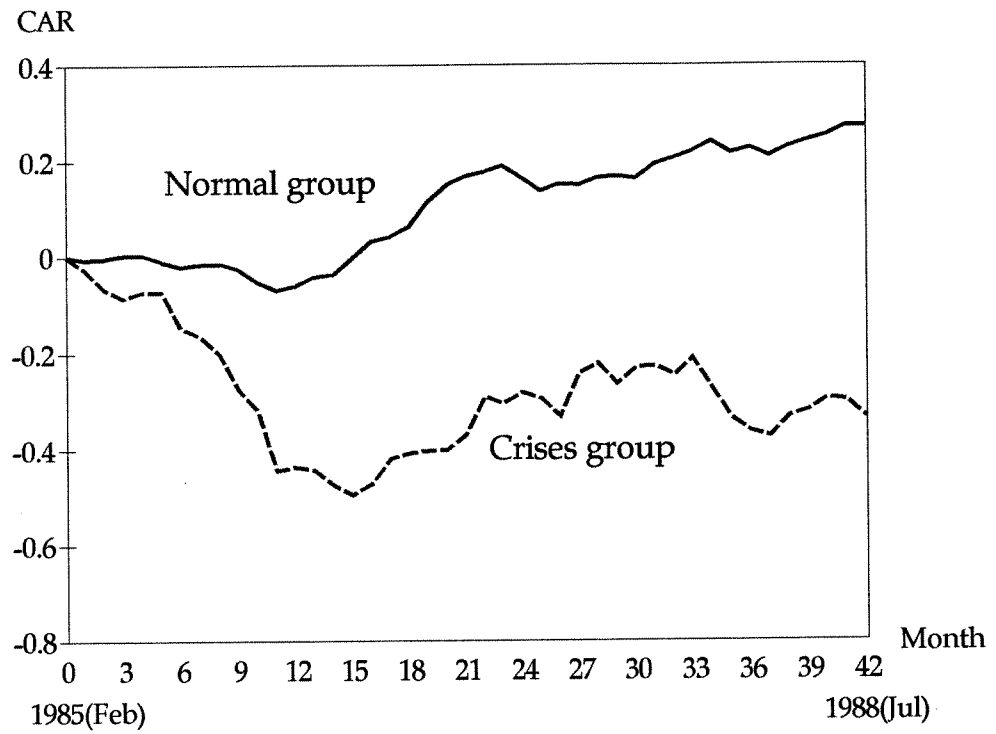
The criterion for selecting firms for the sample of firms confronting a crisis signal is expressed by the strength of the signal. A strong signal means that the stock market actors have gained new information and have reacted to this new information. (For the assumption of the efficient market where the market prices reflect all relevant information see Appendix 2. Abnormal return). The firm may have many crisis signals due to one major cause, however, we assume here that a strong abnormal return in any direction means that new information has come. If the abnormal return is negative a new crisis has arisen.

To secure that the sample selected represented a group of firms in a crisis situation, the accumulated monthly AR for the sample from the first of February 1985 to the first of July 1988 was compared to the population of firms from which the sample was drawn. The result, depicted in Figure 2, shows that the sample was more of a crisis group than the "normal" group.

[Figure 2.]

The choice of a performance measure for firms confronted with a crisis signal is guided by the decision to value firm performance from the shareholders' perspective. Others may look at growth or profit and other perfectly valid measures, however with no indication of the shareholders' appreciation of them. Profit may be low due to heavy investment. While this strategy can benefit the managers' ambition to expand, it may not benefit the shareholders' interest. The measure of performance, given that a firm has confronted a crisis signal at the stock market, is defined as the stock market agents' definition of recovery from a crisis situation. (For a discussion of the performance measure see Appendix 3. The performance measure.) A stock market evaluation of the firm's performance avoids the problem of cause and effect. Lieberman and O'Conner (1972) address the problem of relating performance in a specific time period to the incumbent CEO, that the

**Figure 2.** Comparing CAR for the crises group with the normal group





performance may be a function of an earlier CEO's doing. The stock market evaluates, in every instance, information about the firm, including what is known about the potential of a firm's leadership, and materializes this in the stock price system.

The criterion chosen to measure performance is the time taken for the abnormal return to recover from a negative value to a zero or positive value. The justification for choosing this measure of performance is as follows: The definition of a crisis signal as a strong and therefore well-defined crisis signal over time, is measured as a negative abnormal return. In this situation the market expectation of the firm's speed of recovery is assumed to be based on the average recovery speed for a typical firm, given that the efficient market assumption is valid. However, my point to be highlighted here is that there are factors not revealed on the market that can affect the recovery speed. The composition of the team, and its talent to deal with a crisis could be a valuable type of information, but since it is invisible, it is not taken into consideration when the market actors form their expectations about firm performance. The firm can surprise the market by recovering more rapidly than expected. Alternatively the opposite may happen: the firm may disappoint the market. My point is that the team composition has a potential to explain the two possible paths, the positive and the negative firm behavior. Consequently, the performance measure is computed as the time it takes for a firm's abnormal return to return to zero. The variation of speed in recovery is then explained by the effect of the social arrangement of the team, its access to owners (financial capital) and its access to social capital.

### **The selected sample**

A population of public firms in existence both in 1980 and in 1985 were ranked by their most negative abnormal return for any month during 1985. The list with the ranked firms contains only those firms with a negative abnormal return greater than one standard deviation from the mean (0) of the sample (see the characteristics of the univariate distribution in Appendix 1).

From the ranking list the 32 firms with the lowest abnormal return

were selected. Three of the 32 teams refrained from participation; hence, only 29 firms are analyzed. For reasons of confidentiality the names of the firms cannot be published. I do provide information about size, market value and employment, during the measurement period to the extent it does not reveal the identity of the firm (see Appendix 1).

The statistical analysis is based on aggregated team member data and firm data. The data collected about team members is rather unique. Seldom is one allowed to investigate manager respondents about their relationships with their colleagues and about their social network.

In order to capture the team's connection to an external resource network, i.e., their social capital, information about each member's most important external ties was collected. Each team member was asked about his ties to resource persons outside the firm and the executive team.<sup>17</sup> Information was collected about these persons as to their age, their profession, and whether the member and these persons socialized and/or confided in each other. Furthermore, the members were asked if, to the best of his knowledge, these persons had ties among each other.

Most team members mentioned between three to 13.5 contacts as their main resource persons: nine was the mean number of external ties per team member. 57% had less than 30% external ties with whom they mutually confided. For 54% of the team members, the crossover between having external ties and socializing with these external ties was less than 40%. However, team members seem to be more inclined to socialize with their external ties than with their own colleagues (see Appendix 3, compare Table A3:1 with Table A3:6). Furthermore, for 56% of the team members, the

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<sup>17</sup>When respondents are asked about their resource persons outside the firm it is likely that they mention those individuals the respondents have most frequent contact with, like the best or socialize and confide in. Those that they may have as a resource person but do not socialize and confide in may not be mentioned as readily. Hence, there may be a selection bias of the mentioned external ties i.e., the external networks for all the team members may be systematically biased towards strong ties. However, results from comparing different executive team's structure of external network is not affected by this bias since the tendency of members answering in the same "biased" way is assumed to be the same for all members.

incidence of external ties with whom they both socialized and confided was less than 20%.

Finally, 48.2% of the team member had an external network with less than 40% ties who were acquainted with each other. 37% of the team members had more than 60% of their external ties acquainted with each other. (See the univariate distribution Appendix 1.)

### **Control variables**

The variables ownership structure, the tendency to leave the firm (turnover of management), and a shift in the controlling stockholder may each have an effect of its own on performance.<sup>18</sup> Even the size of the firm may affect the performance in a crisis situation. It is plausible that a large firm takes longer to turn a bad situation around than does a smaller one. Hence, these variables ought to be considered in the statistical analysis.

Unfortunately, it is difficult to control for each variable considered in the descriptive statistical analysis. The sample is small, the variables several and the investigated relationships complex. However, by dividing the sample into two groups: the quick responders to a crisis signal and the slow responders, a description of the variation between the two groups for the control variables is performed. The partition criterion used is the number of months it takes for a firm's negative abnormal return to return to a positive return,  $AR_t$ , (see Appendix 3 for a discussion of the choice of a performance variable and Appendix 2 for a technical discussion of the financial measure abnormal return).

Turnover is measured by the indicator percentage of members still on the team 1988 (PERCREMA). A shift (or a no-shift) in the controlling shareholder is measured by the indicator shift in the controlling stock holder

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<sup>18</sup>No consideration is given to type of industry. The reason for this is that industries in Sweden are heterogeneous. Sweden is a small country with too small a number of dissimilar firms to make it meaningful to group the firms. Also, firms are difficult to group since they often belong to more than one type of industry. Firms may engaged in both financial activities and the production of newspaper and housing, for example.



(CSHIFT). The size of the firm is measured by the market value in 1985. Ownership structure is measured by the degree of concentration (CR, see chapter I).

Furthermore, the division between the quick responders and slow responders makes it possible to compute each group's mean value for the variables considered. The difference between the two groups is statistically tested with a t-test in order to check whether the difference is significantly separated from zero (p) see Table 1. (The mean  $AR_t$  for the sample is 21.34.)<sup>19</sup>

Table 1. Difference in ownership structure, control shift, market value and turnover between two groups, the quick responders and the slow responders

Variables	Group 1. $AR_t < 21.34$ quick recovery	Group 2. $AR_t > 21.34$ slow recovery	Significance
	N = 13 group mean = 11 Mean	N = 10 group mean = 31 Mean	
Market value(MV)	726.94	1529.10	(.15) not significant
Ownership concentration(CR)	46.06	39.79	(.16) not significant
Turnover (PERCREMA)	63.46	79.64	.08 significant on one sided test
Control shift share holder(CSHIFT)	.23	.70	.01 significant on one sided test

The respective size of the two groups are 13 (short recovery) and 10 (long recovery). The two groups show significant differences for the variables turnover and shift of controlling stock holder. The quick responders have more turnover than the slow responders. The quick responders have fewer control shifts than the slow responders. Ownership structure and the size of the firm (MV) show no significant difference between the groups.

<sup>19</sup>Out of a sample of 29 firms, 6 firms were taken out of the sample due to their exit from the stock market during the measurement period. The mean  $ar_t$  is 21.34 month for the sample with 23 observations.

### Test of hypothesis 1

The first hypothesis to test is that the executive team that has a mobilizing-oriented external network is slower to respond to a crisis signal than is the team with an information-accrual facilitating network.

The explanatory variable is measured by two indicators for the structure of the social network. The first is measured by the degree of overlap in the team members external network (KONTAND), i.e., the degree to which each team member's external ties are connected to any of the other team member's external ties. The second variable measures the degree of overlap in the team's external network, the number of unique external ties that are connected to each team member is also computed (OVERLAP) (see Appendix 1. Definition of variables).

The endogenous variable, performance ( $AR_t$ ), is measured by the amount of time taken for recovery from a negative abnormal return to a zero or a positive abnormal return, with the condition that the abnormal return is stabilized for 4 months.

The sample is divided into the two groups: the quick recovery group and the slow recovery group. The criterion for division is the sample's mean  $AR_t$  value of 21 months for the time taken to recover from a negative abnormal return to a zero or a positive one (see note 14). The mean values for each group are shown in Table 2, as well as the p value for the t-test.

Table 2. Difference in network structure for the two performance groups

Variables	Group 1. $AR_t < 21$ quick response N = 13 mean	Group 2 $AR_t > 21$ slow response N = 10 mean	Significance
Degree of overlap in team member's external network (KONTAND)	.50	.61	.09 one sided test
Overlap in the team's external network (OVERLAP)	.08	.07	(.55) not significant

Table 2 shows that the quick recovery teams have members with information-accrual facilitating external networks (mean equals .50 and .61 for each

group). The slow recovery teams have a more mobilizing-oriented external network. However, the result from measuring the network structure on the individual level is that there is no significant effect of the aggregate measure of the team's access to mobilizing networks on the time for recovery (mean equals .08 and .07 for each group).

As mentioned previously, the ownership structure may affect the speed of recovery. Since ownership structure also affects, if only indirectly, the social structure of a team's external network, the ownership structure ought to be controlled for in the analysis. Hence, the partial regression coefficient between the structure of the team's external network and the time taken for recovery is computed. The ownership structure is controlled for.<sup>20</sup>

The partial correlation coefficient, .25, indicates that, controlling for ownership structure, the degree of mobilization capability of a team's external network varies positively with length of recovery. Hence, a team's network structure has a direct effect on the time needed for recovery. Furthermore, the size of the firm ought to be controlled for. The partial correlation coefficient for the effects of social capital on recovery time, when controlling for size of the firm (the indicator for firm size is market value), is .32.

### **Test of hypothesis 2**

The second hypothesis to be tested is that accessibility to financial capital increases the firm's speed of response to a crisis signal.

As shown in Table 1 it seems as if ownership structure has no effect on the recovery time. If the partial correlation<sup>21</sup> between the ownership structure and the recovery time is computed controlling for the structure of

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<sup>20</sup> The partial correlation coefficient measures the relationship between any two variables, when other variables connected with those two are kept constant (Merril and Fox 1970). The formula used is:

$$r_{12.3} = \frac{r_{12} - (r_{13})(r_{23})}{\sqrt{(1-r_{13}^2)(1-r_{23}^2)}}$$

<sup>21</sup>The partial correlation coefficient is computed, see note 20.

the social capital, the results are consistent with the above findings. The effect of ownership structure on recovery time is small -.09.

### The test of hypothesis 3

The third hypothesis to be tested is that executive teams with access to a mobilization oriented external network resist takeover attempts more effectively than other teams.

The explanatory variable is measured by the indicators: the degree of overlap in the team members' external network (KONTAND) and the degree of overlap in the team's external network (OVERLAP<sup>22</sup>). The explained variable is the event of a takeover (regardless of whether it is friendly or hostile). The variable is measured by a shift in the controlling shareholder during the test period 1985-1988 (CSHIFT).

The firm sample is divided into two groups: one with and one without shifts in controlling shareholders.

Table 3. The difference in network structure between the firms with and without a control shift

Variables	Group 1. CSHIFT few N = 13 Mean	Group 2 CSHIFT many N = 10 Mean	Significance
Overlap in members' external network (KONTAND)	.58	.50	(.19) not significant )
Overlap in team's external network (OVERLAP).	.09	.04	.06

A high degree of overlap in the team's external network is associated with fewer shifts in the controlling stockholder. A high mobilization capacity, both in the team's and the team members' external networks, is positively associated with less control shift; however, the latter variable's effect on control shift is not significant.

<sup>22</sup>For a definition of the Degree of Overlap, measured by the degree of non unique ties, see Appendix 1.

#### Test of hypothesis 4

The fourth hypothesis to be tested is that the executive team that has a mobilizing external network is less likely to experience a management shake-up than is the team that has an information-accrual facilitating social capital.

The explanatory variable is the degree of overlap in a team member's external network (KONTAND). The explained variable is the percentage of members still on the team in 1988 (PERCREMA). The results of the test of the suggested relationship are shown in Table 4.

Table 4. The differences in network structure between the teams with high turnover and low turnover

Group 1. High turnover few still on the team less than 70%(PERCREMA) N = 13 Group mean = 44%		Group 2. Low turnover many still on the team larger than 70%(PERCREMA) N = 16 Group mean = 90%	
Variables	Mean	Mean	Significance
Overlap in team member's external network (KONTAND)	.502	.573	not sig, (.15)
Overlap in external ties (OVERLAP)	.444	.357	not sig., (.35)

The team with a high turnover (Group 1) has a low degree of overlap in each team member's external network. The team with a mobilization network has less turnover. However, when external network is measured by the executive teams total external network effects are the opposite. Nevertheless, the results show that the difference between the two groups, the high turnover and the low turnover, is not significant (.15 respectively .35).

#### Conclusion

The analysis of the impact of financial and social capital on firm performance is a simplified look at a complex issue. Other factors that may play an important role explaining performance omitted in the presented study are special industry characteristics, the board of directors, and their composition and social capital, a firm's market structure (types of clients and the number

of clients) and the manager's shareholdings in the firm. Finally, one of the more important factors omitted that may affect performance is the cause of the crisis.

Nevertheless, in an explorative study, such as the present one, the opening of an investigation into simple relationships can shed some light on the intriguing and controversial issue of causes for variations in firm performance.

The analysis suggests that the accessibility of financial capital, as materialized in the ownership structure of a firm, exhibits an indirect effect on firm performance through the establishment of leadership organizations and the consequent structure of the team's social capital. The social capital exhibits a direct effect on the variations in performance through the team's establishment of instrumental external ties, i.e., through the establishment of an external network conducive to serving the team members' interest.

The empirical findings suggest that the team with an information-accrual facilitating external network is likely to recover quicker from a crisis signal than is the team with a mobilizing-oriented external network. (Hypothesis 1 renders support from data.) When the structure of social capital is controlled for, ownership structure explains very little of the variation in performance. (Hypothesis 2 is not supported by data.) Integrated teams with mobilizing networks resist takeovers and changes in the controlling shareholders more effectively than the differentiated teams. (Hypothesis 3 is supported by data.) However, the team that has a mobilizing external network does not necessarily resist a management shake-up more efficiently than the team with the information-accrual network. (Hypothesis 4 is not significantly confirmed by data.)

The empirical results support the idea that an executive team's social capital affects a firm's recovery from a situation with an external crisis signal. The findings suggest that due to the division of labor between the decision-making unit (the supra team) and the information-accrual unit (the executive team) in the differentiated team, the team performs better, i.e., they perform more in accordance with the shareholder's interest. The division of labor

between the tasks of information-accrual and decision-making, a resolution of the leadership paradox, enables the differentiated team to respond quicker to a crisis signal. In contrast, the integrated team is efficient in resisting changes that may threaten the team members' own position, even though the changes could benefit the shareholders. Hence, the latter type of team recovers slower from a crisis situation than does the differentiated team.

The findings are only valid for firms that confront a crisis signal at the stock market. If the differentiated teams always performed better than the integrated teams, undoubtedly there would be no surviving integrated executive teams in public firms. Obviously, the integrated teams do exist and survive. One way of interpreting the findings is that integrated teams are working better than differentiated teams in certain circumstances, for instance in periods of growth and expansion (larger firms are often investor-owned and therefore are more likely to have an integrated team).

The findings that entrepreneurial-owned firms have a leadership organization that does better in a crisis situation sheds some light on the contradictory findings of Holderness and Sheehan (1988) that imply that individual-majority-shareholder firms underperform comparable firms with diffuse-stock ownership when specific performance measures are used. If the composition of the team is accounted for, a more subtle picture appears.

The findings also shed some light on the Shleifer and Vishny (1988) discussion of entrenchment versus convergence. It is unfortunate that data is not collected on the team members' stock options or private stock portfolio. Still, the integrated team exhibits behavior patterns reflecting the hypothesized entrenchment behavior, resisting takeover and turnover, even when resisting turnover renders no significant results.

Worth noting is that although there is a negative correlation between the degree of ownership concentration and the size of the firm, the size of the firm shows no significant effect on the recovery from a crisis signal. However, size may have an indirect effect, not detected in the present analysis.

APPENDIX 1. Definition of variables, their transformation and the characteristics of the univariates

The selection criterion of a public firm confronting a crisis signal from the stock market was a strong negative abnormal return. The 106 public firms on the stock market both in 1980 and in 1988 were ranked according to their strongest negative abnormal return any month during 1985. From that list 32 firms were selected. The characteristics of the univariate distribution of the 106 firms and 32 firms are shown in Table A1:1.

Since no assumption is made about the variable being normally distributed, a complement to the mean (Mean) and the standard deviation (Sd) is given by the median (Md), the skewness (Skew) Kurtosis (Kurtos) and the minimum (MIN) and maximum (MAX) values.<sup>23</sup>

Table A1:1. Characteristics of the univariate distribution for the variables negative abnormal return for 106 firms and negative abnormal return for 32 firm

	Mean	Sd	Md	Skew	Kurtos	MIN	MAX
Negative abnormal return (population of 106 firms)	-.12	.09	-.11	-2.61	12.61	-.68	.0.12
Negative abnormal return (Sample of 32 firms)	-.22	.10	-.19	-3.16	12.51	-.69	-.15

The *ownership concentration* is measured by the concentration ratio (CR) which is the largest shareholder's percentage of votes (this information is collected from Sundqvist 1985, 1986, 1987, 1988). The univariate description of ownership concentration for the sample is shown in Table A1:2.

Table A1:2. Univariates of the variable ownership concentration

N=29	Mean	Sd	Md	Skew	Kurtos	MIN	MAX
Ownership concentration(CR)	44.25	16.55	45.6	.14	-.54	15.6	82.2

<sup>23</sup>Under the normal distribution assumption skewness is equal to 0 and kurtosis is equal to 0 (see definition and computation of kurtosis in SAS Elementary Statistics Procedure p. 11 from SAS Procedures Guide. Release 6.03 Edition).



The distribution of CR shows similar traits with a normal distribution. The distribution is more flat than the normal distribution which is natural since a public company cannot be owned by one single owner to 100%. The distribution is almost symmetric, although slightly skewed to the right (skewness of .14 compared to the normal distribution of 0). This is also natural, since even a public company has to be owned by someone.

Table A1:3. Univariates of the variable ownership concentration for sample size of 23 firms

N=23	Mean	Sd	Md	Skew	Kurtos	MIN	MAX
Ownership concentration(CR)	43.33	17.33	45.6	.24	-.42	15.6	82.2

Two indicators of *firm size* are computed. The first is the market value of the firm (MV) and the second is the number of employees (EMPLOY) in the firm (total figure irrespective of location).

Table A1:4. Characteristics for the univariate distribution for the control variables

N = 29	Mean	Sd	Md	Skew	Kurtos	MIN	MAX
Number of Employees	6090	13763.99	2157	4.663	23.419	10	74320
Market <sup>24</sup> value (MSEK)	990.29	1469.50	504	3.039	10.424	15.00	7052

The size of the firm, whether measured by the number of employees or by the market value, varies considerably.

The indicator *team size* is the number of individuals in the executive team (TEAM).

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<sup>24</sup> The figures of a firm's market value are divided by 100 000 in the statistical analysis.

Table A1:5. Characteristics of the univariate distribution of team size

	Mean	Sd	Md	Skew	Kurtos	MIN	MAX
Size of team	5.00	2.26	4	.63	-.77	2	9

Table A1:5 shows a relatively large variation in the size of the executive team, and a mean not very different from the median. The distribution implies that the size of the team is more often large than small.

*Firm performance* is defined as the time it takes for a negative abnormal return to return to zero or become positive and remain stable on that level for a 4-month period. A firm with a 2-month recovery and with 4 months of consecutive stability is given a  $AR_t$  value of 2 months. The characteristics of the univariate distribution is captured in Table A1:6. The number of firms exited in the analysis of performance is 23 since 6 of the firms exit the stock market during the measurement period.

Table A1:6. Characteristics of the univariate distribution of Time for recovery

N = 23	Mean	Sd	Md	Skew	Kurtos	MIN	MAX
Time for recovery ( $AR_t$ )	21.34	13.95	16	.26	-1.46	4	41

*A shift in the controlling share holder* is defined as a shift in the controlling stock holder (CSHIFT) during the period January 1985 to July 1988. The values take on 0 or 1 depending on if there was a shift, irrespective of how many shifts there were during the measurement period.

Table A1:7. Characteristics of the univariate distribution of control shift

N = 23	Mean	Sd	Md	Skew	Kurtos	MIN	MAX
Control shift	.44	.50	0	.28	-2.11	0	1

Indicators of team cohesion

*Degree of integration* is measured by three indicators:

1. *mutual values* (GV),
2. *personal confiding* (GP)
3. *socializing privately* (GS)

The questions posed to each team member were: With whom on the team do you (1) socialize with (family-wise)? (2) discuss private and personal matters? (3) share common values about business and life? (See Questionnaire in Supplement 1, questions No. C1-5.)

A relation matrix is constructed showing each team member's relationship to all the other team members using all three dimensions of integration. From the matrix a cohesion index is constructed for each aspect of integration. The index  $G$  divides the number of mutual choices in a binary matrix of direct ties by the maximum possible number of such choices (Knoke and Kuklinski 1983, 50). Only the symmetric ties are counted, that is, only when both the respondents claim they relate to each other in a certain integration aspect is the tie counted.

The cohesion index is measured by

$$G = \frac{\sum_{i=1}^N \sum_{j=i+1}^N (z_{ij}z_{ji})}{(N^2+N)/2} \quad \text{where } i \neq j \quad (1)$$

and where the term  $(z_{ij}z_{ji})$  takes the value of 1 if both elements are 1s, and 0 if either of the elements take on the value of 0. The cohesion index ranges from 0 to 1. A large value indicates that a greater proportion of network relations are reciprocated. A small value indicates that a greater proportion of the network relations are not reciprocated (Knoke and Kuklinski 1983, 50). The cohesion index transforms the binomial indicator into an interval-scaled indicator (at least it is treated as if it were possible to assume interval scale

here). The cohesion index for socializing (GS), the cohesion index for sharing values (GV), the cohesion index for personal confiding (GP), and the cohesion index for spending time outside work at sports or other hobbies (GH) are all indicators of integration. For illustrative purposes, an index containing all the cohesion indicators is constructed and labelled INTEGR. INTEGR is computed by summing all the cohesion values for each team, except that for spending time outside work that is not used in the analysis. A univariate description for degree of integration indicators GS, GV, and GP is shown in Table A1:11.

Table A1:8. A univariate description of integration indicators

	Mean	Sd	Md	Skew	Kurtos	Min	Max
GV	0.47	0.28	0.46	0.12	-0.16	0	1
GP	0.32	0.33	0.26	0.95	-0.29	0	1
GS	0.25	0.27	0.16	1.45	1.87	0	1
INTEGR	1.05	.76	.83	1.01	1.13	0	3
INTEGR2 (GS,GP)	.57	.56	.37	1.28	1.09	0	2

Table A1:9 A univariate description of the indicator socializing for sample size equal to 23 (used in chapter IV)

N=23	Mean	Sd	Md	Skew	Kurtos	Min	Max
GS	0.28	0.29	0.14	1.57	2.17	0	1

### Indicators of external network structure and size

*Total number of weak ties per team* is measured by summing the ties where the parties claim that they neither mutual confide nor socialize with each other. (A strong tie is defined as a tie between two who claim that they either confide in or socialize with each other privately.)

*Stanweak* is the standardized version for weak ties.

*Unique ties* connect a contact outside the team and firm to only one of the team members and are also known as nonredundant ties (NONRED).

The *standardized version of unique ties* is the number of unique ties divided by the team size (standex).

The *size of a team's external network* is the number of ties per team member (TOTEXT). The standardized version of size of external ties is the size of the team's external network divided by team size (EXT).

The degree of overlap in each team's external network is computed by a comparison of each team members's ties. The proportion of ties that are the same for the members is labelled the degree of overlap of a team's external network (OVERLAP).

The *degree of overlap* in each team member's external network is computed by asking the member whether the external ties mentioned are acquainted with each other or not to his knowledge (KONTAND).

Table A1:10. Some characteristics of the univariate distribution of the indicators for number of weak ties number of nonredundant ties and size of external network

N = 29	Mean	Sd	Md	Skew	Kurtos	Min	Max
Size of the external network(TOTEXT)	41.86	16.10	40	.09	-0.42	9	74
Size of the external network per team member(EXT)	8.88	2.62	9	-.26	-.18	3	13.5
Number of weak ties (WEAK)	21.72	11.90	21	.13	-1.15	1	42
Number of weak ties per team member (STANWEAK)	4.56	2.35	4.12	.54	.10	.33	10.5
Number of nonredundant ties (NRT)	38.44	14.71	38	.08	-.21	8	70
Number of nonredundant ties per team member(STANNRT)	8.21	2.59	8	-.14	-.05	2.66	12.66
Degree of overlap in team member's external network (KONTAND)	.54	.50	.21	.64	-.15	.24	1.00
Degree of overlap in the team's external network (OVERLAP)	.08	.07	.06	1.06	.80	0	.26

The min and max values show a large variation in the size of the external networks. The values of Kurtosis and Skewness indicate no large deviation from a normal distributed variable.

*Turnover* is measured by the indicator percentage still on the executive team or at and measured as the percentage of members still on the team (PERCREMA).

The univariate distribution for the variables KONTAND, PERCREMA, CSHIFT, CR and MV was computed for the sample size of 23.

Table A1:11 Characteristics of the univariate distribution with a sample size of 23 firms

N = 23							
	Mean	Md	Sd	Skew	Curt	Max	Min
(KONTAND) Degree of overlap in the team members external network	.55	.53	.20	.60	.02	1.0	.24
(CSHIFT) Shift in controlling share holder	.44	0	.50	.28	-2.11	1.0	0
(PERCREMA) Per cent still on the team	70.49	75.00	28.32	-.93	.38	100	0
(ART) Time (number of months) for recovery from a negative abnormal return	21.35	16.0	13.94	.26	-1.46	41.0	1.0
(CR) Ownership concentration	43.34	45.60	17.33	.25	-.43	82.20	15.6
(MV) Market value of firm	1075.709	391.735	1633.885	2.709	7.998	7052.981	15.008

## APPENDIX 2. Abnormal return

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Abnormal return (AR) is a measure taken from the field of financial theory. It is postulated that individuals make consistent and rational decisions, and that all expectations are realized since no one acts on the wrong premises (Hansson and Högfeldt 1988, 636). Financial theory analyzes the economic effects of both time and risk on resource allocation and gives a rational economic explanation for seemingly random changes in stock prices using stochastic theory. Three major ideas are incorporated in financial theory: information efficiency, diversification and arbitrage principles. The idea of information efficiency is of relevance in our study.

From Hansson and Högfeldt (1988) the following description on the information efficiency assumption is drawn: When new information enters the market, investors evaluate it and change their portfolio to exploit potential profits from the new knowledge. The new equilibrium prices therefore contain the information. Prices are an efficient information bearer and price changes reflect the market's joint evaluation and response to new information. This implies that investors base their decisions only on the information that has already been exploited by the market. This intuition is called the market efficiency hypothesis; market prices reflect all relevant information. The analysis testing the hypothesis shows that the Swedish market is at least semi information-efficient.

It is assumed that the investors not only base their actions on historical information (weak information efficiency), but also on economic information that is accessible to the public. For example, announcements made revealing a firm's specific information are easily and quickly processed by the actors, and the stock market prices reflect this process. However, empirical analysis shows that insider information is not reflected in the stock prices. Trading with insider information may give abnormal returns. In general, previous studies have been interpreted to support the information efficiency hypothesis because insider information cannot give an ongoing abnormal return for long,

since other investors will discover the abnormal returns and try to exploit them.

The expected rate of return is given by the CAPM approach, Capital Asset Pricing Model (Sharpe 1964) or the more general model of APT, the Arbitrage Pricing Theory (Copeland and Weston 1983). The CAPM predicts that security rates of return will be linearly related to a single common factor, the asset's systematic risk. The APT is based on similar intuition but it is more general. CAPM can be viewed as a special case of the APT when the market rate of return is assumed to be the single relevant factor.

Investors put together portfolios by evaluating the stock's expected rate of return and its risk. Risk is defined as the volatility in the returns. A share with high variability is classified as a share with high risk and vice versa. Because the variability of risk for different shares are not perfectly correlated, investors may reduce risk by diversifying their portfolio. Risk may be divided into unsystematic (or firm-specific) risk and systematic risk (variation due to the market return). The latter is compensated for by investors diversifying their portfolio (Hansson and Högfeldt 1988).

Even though there is a theory behind the CAPM, and not behind the market model, the latter is chosen. The market model is easier to compute (DeRidder 1988, 16). Furthermore, a data set of firms on the stock market during the period of 1980 - 1985 already exists, as well as does a program for computing abnormal return values based on the market model. Also there is evidence that the output from the two models, the market model and the CAPM yield the same results (DeRidder 1988).

Abnormal return for a particular share is defined as the difference between the actual and the expected return. A share's expected return is given by the CAPM as:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \epsilon_{i,t}$$

where

$R_{i,t}$  = the share  $i$ 's return in period  $t$

$R_{m,t}$  = return of the market portfolio,  $R_m$ , at the period  $t$



$\alpha_i, \beta_i$  = the share specific parameters

$\epsilon_i$  = error term with the expected value of zero

The expected rate of return given by model is determined by the unsystematic risk, alpha, and the product of  $\beta_i R_{m,t}$  determined by the market. The market factor beta indicates how much a share's return is expected to change given a certain change in the market portfolio (approximated by Affärsvärldens "general index"). Given the use of the model the abnormal return is expressed by

$$ar_{i,t} = R_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i R_{m,t})$$

where  $\hat{\alpha}_i$  and  $\hat{\beta}_i$  is estimates of the share specific parameters.  $\hat{\beta}_i$  is defined as the covariance between  $R_i$  and  $R_m$  divided by the variance of the market portfolio

$$\beta_i = \text{Cov}(R_i, R_m) / \text{var}(R_m)$$

Summing all the single observations of AR and dividing by the total gives us an average abnormal return  $AR_t$ .

Some shortcomings of the selected measures and computation are a) abnormal return and information efficient markets, b) the problem of estimating betas, and c) the problem of thin trading. (DeRidder 1988; Hansson and Högfeldt 1988; Claesson 1989; Berglund et al. 1989) The problem with adjusting betas is especially worth noting. A crisis signal as defined here, as some radical new information appearing, which of course could change the risk of the firm's share, i.e., the true beta. However, this is not taken into account in our estimation, which is a drawback.

### APPENDIX 3. The performance measure

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The choice of a measure for performance is directed by the objective of the empirical investigation and the characteristics of the available measures. The main objective of the empirical investigation is to compare how the composition of executive teams affect firm performances. The assumption behind the objective is that the composition of the team may affect the ability to respond to a crisis signal through the structure and size of its external network.

There are various ways to evaluate the performance of a firm (Bertmar, Engshagen and Widhem 1983; Brealey and Myers 1984). Bertmar et al. divides the flora of measures into two categories: company rate of return and market rate of return. Economic information that causes sudden changes in market values is not immediately and fully reflected in accounting measures. Although, in the long run, company rates of return and capital markets rates of return tend to tell the same story. Thus, company rates of return can be used as a long-run proxy for capital market measures.<sup>1</sup>

Company rates of return can be viewed as a measure that focus to a greater extent than does investors' return, on factors over which management is supposed to exercise some influence, such as, the when, where and what concerning investment, production, pricing distribution, etc. This leaves the measure unaffected by factors like short-run changes in expectations or in required rates of return that influence the market rate of return (see Bertmar, Engshagen and Widhem 1979, 8-9).

The signal "Reactions by agents to the stock market" is an external approximation of the value of a firm's performance. The stock market signal

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<sup>1</sup> A typical company rate of return is ROC, return on fixed capital: before and after taxes, ROC return on all capital employed fixed and net monetary assets, including real holding gains/losses: before and after taxes (W). REGM, Return on equity; including real holding gains losses on fixed capital, inflation losses on net monetary assets and inflation gains on debts after taxes. EQ/W Equity ration owners equity as a percentage of all capital employed both factors at current costs (Bertmar, Engshagen and Widhem 1983, 22).

is an aggregate of investors' perception of future performance and may be a satisfactory surrogate for actual performance (Beatty and Zajac 1987). Furthermore, a stock market signal such as an abnormal return is a standardized measure, i.e., it reveals the relative performance of a specific firm and permits a comparison of different firms on the stock market.

There are at least three aspects of the properties of the selected measure that are of importance: neutrality from management discretion, risk control and the possibility to compare firms.

Given the objective of the investigation, it is important to choose a measure that is neutral to management discretion. Managers are selective in giving away information and may even manipulate accounting figures. This is crucial to take into account. Therefore, reactions on the stock market are chosen as an external approximate reflection of the value of a firm's performance. The second aspect of a measure is that the value of one firm should be able to be compared against the value of other firms. Therefore the measure has to be normalized. The third aspect is that the value of a firm's stock has a unique and systematic relationship to the market portfolio. Therefore, a measure is needed that is standardized or corrected from differences in systematic risk. One measure that meets the above mentioned requirements is the average abnormal return (AR).

There are different ways of using the concept of abnormal return when measuring performance. A common measure is CAR, often used in event studies of mergers (Auerbach 1988). However, using CAR places stiffer rules on the firm's performance. It asks for total recovery from a crisis situation in that it expects earlier losses to be recovered as well. Few firms may live up to that in the short time interval found in the present study.

Another method for using abnormal return as a performance measure is to count the time it takes for a negative abnormal return to become zero or positive. This is a more lenient expectation on performance. When AR returns to zero, the actual share's return is equal to the expected rate of return.

In detecting abnormal returns, the control return is defined as

$$c_{it} = \alpha_i + \beta_i R_{mt}$$

where  $R_{mt}$  is the return on the market portfolio,  $R$ , at the period  $t$ .

Alpha and beta coefficients can be computed according to different models (Auerbach 1988; DeRidder 1988; Copeland and Weston 1983). The model used here is the market model (see Appendix 2 abnormal return, the market model). Hence, alpha and beta are estimated by regressing  $r_{it}$  on  $R_{mt}$  for the 60 month period. The abnormal return is then detected through the discrepancy between the observed return on a share at a specific time and the control return in the same time period.

The performance measure is computed as the time it takes in months for a firm's abnormal return to recover from a negative abnormal return to a zero or a positive abnormal return and remain stable at that level for 4 months.

Hence, the description of the suggested performance measure is: The time it takes for the actual rate of return to equal the expected rate of return, where the expected rate of return is a function of the past behavior of the share in relation to the stock market. As mentioned in Appendix 2 (abnormal return), with the market model, sudden changes of the beta risk are not reflected in the AR immediately.

## APPENDIX 4. Frequency tables for the analyzed variables

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Definition and codings of the variables are presented in Appendix 1.

Table A4:1. Share of socializing relations of total within the team

%	Frequency	%
0 - 9	54	34.6
10 - 19	12	7.7
20 - 29	23	14.7
30 - 39	18	11.5
40 - 49	9	5.8
50 - 59	13	8.3
> 50	27	17.3

Table A4:2. Share of confiding relationship in total relationship

%	Frequency	%
0 - 9	37	23.7
10 - 19	6	3.8
20 - 29	23	14.7
30 - 39	12	7.7
40 - 49	15	9.6
50 - 59	17	10.9
> 50	46	29.5

Table A4:3. Share of relationships that shared values

%	Frequency	%
0 - 9	10	6.4
10 - 19	1	0.6
20 - 29	10	6.4
30 - 39	17	10.9
40 - 49	11	7.1
50 - 59	20	12.8
60 - 69	19	12.2
70 - 79	17	10.9
80 - 89	11	7.1
90 - 99	1	0.6
10 -	39	25.0

Table A4:4. Percent of team members sharing a hobby or a sport activity

%	Frequency	%
0 - 9	45	28.8
10 - 19	8	5.1
20 - 29	21	13.5
30 - 39	24	15.4
40 - 49	12	7.7
50 - 59	12	7.7
60 - 69	11	7.1
70 - 79	5	3.2
80 - 89	4	2.6
10 -	14	9.0

Table A4:5. Size of external network per team member

	Frequency	%
0 - 5	41	28.22
6 - 10	60	41.1
11 - 16	45	30.7

Table A4:6. Share of a team's external ties socializing

Percentage of ties that socialize	Frequency	%
0 - 9	28	19.6
10 - 19	9	6.3
20 - 29	17	11.9
30 - 39	9	6.3
40 - 49	15	10.5
50 - 59	23	16.1
60 - 69	11	7.7
70 - 79	10	7.0
80 - 89	13	9.1
90 - 99	1	0.7
100 -	7	4.9

Table A4:7. Share of a team's external ties and confiding

Percentage of ties that confide	Frequency	%
0 - 9	43	30.1
10 - 19	10	7.0
20 - 29	16	11.2
30 - 39	13	9.1
40 - 49	15	10.5
50 - 59	17	11.9
60 - 69	10	7.0
70 - 79	5	3.5
80 - 89	4	2.8
90 - 99	1	0.7
100	9	6.3

Table A4:8. Share of both socializing and confiding external relationships for a team

	Frequency	%
0 - 9	45	31.5
10 - 19	16	11.2
20 - 29	20	14.0
30 - 39	14	9.8
40 - 49	16	11.2
50 - 59	15	10.5
60 - 69	6	4.2
70 - 79	3	2.1
80 - 89	2	1.4
90 - 99	1	0.7
100 -	5	3.5

Table A4:9. Degree of team member's external ties that are acquainted

Degree of overlap in team member's external network	Frequency	%
0 - 10	17	12.4
11 - 30	27	19.7
31 - 50	42	30.7
51 - 70	21	15.4
> 71	20	18.3

APPENDIX 5. Two correlation matrices: One for all variables and a second for the dichotomized variables

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CORRELATION ANALYSIS

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 29

	CR	EMPLOY	MV	GS	GV	GP
CR	1.00000 0.0	-0.06239 0.7478	-0.35598 0.0581	0.10356 0.5929	-0.16607 0.3893	0.00690 0.9717
EMPLOY	-0.06239 0.7478	1.00000 0.0	0.79200 0.0001	0.02210 0.9094	-0.03063 0.8747	-0.08098 0.6763
MV	-0.35598 0.0581	0.79200 0.0001	1.00000 0.0	-0.02237 0.9083	-0.14682 0.4472	-0.18341 0.3409
GS	0.10356 0.5929	0.02210 0.9094	-0.02237 0.9083	1.00000 0.0	0.52382 0.0035	0.66951 0.0001
GV	-0.16607 0.3893	-0.03063 0.8747	-0.14682 0.4472	0.52382 0.0035	1.00000 0.0	0.57096 0.0012
GP	0.00690 0.9717	-0.08098 0.6763	-0.18341 0.3409	0.66951 0.0001	0.57096 0.0012	1.00000 0.0
CSHIFT	-0.08373 0.6659	-0.10071 0.6032	-0.07975 0.6809	-0.14866 0.4415	-0.00654 0.9731	0.04864 0.8022
PERCREMA	-0.08848 0.6481	0.07618 0.6945	0.19271 0.3166	-0.12358 0.5230	-0.06553 0.7356	0.21877 0.2542
OVERLAP	0.16353 0.3966	0.10134 0.6009	-0.01610 0.9339	0.40946 0.0274	0.36824 0.0494	0.34779 0.0645
KONTAND	-0.30676 0.1055	0.09794 0.6132	0.13764 0.4764	0.58669 0.0008	0.27108 0.1549	0.34115 0.0701
ART	0.04829 0.8035	0.38246 0.0406	0.31136 0.1002	0.11925 0.5378	0.09400 0.6277	0.10588 0.5846



## CORRELATION ANALYSIS

Pearson Correlation Coefficients / Prob &gt; |R| under Ho: Rho=0 / N = 29

	CSHIFT	PERCREMA	OVERLAP	KONTAND	ART
CR	-0.08373 0.6659	-0.08848 0.6481	0.16353 0.3966	-0.30676 0.1055	0.04829 0.8035
EMPLOY	-0.10071 0.6032	0.07618 0.6945	0.10134 0.6009	0.09794 0.6132	0.38246 0.0406
MV	-0.07975 0.6809	0.19271 0.3166	-0.01610 0.9339	0.13764 0.4764	0.31136 0.1002
GS	-0.14866 0.4415	-0.12358 0.5230	0.40946 0.0274	0.58669 0.0008	0.11925 0.5378
GV	-0.00654 0.9731	-0.06553 0.7356	0.36824 0.0494	0.27108 0.1549	0.09400 0.6277
GP	0.04864 0.8022	0.21877 0.2542	0.34779 0.0645	0.34115 0.0701	0.10588 0.5846
CSHIFT	1.00000 0.0	0.16447 0.3939	-0.27375 0.1507	0.04011 0.8363	0.30334 0.1097
PERCREMA	0.16447 0.3939	1.00000 0.0	-0.02075 0.9149	0.00106 0.9956	0.22590 0.2387
OVERLAP	-0.27375 0.1507	-0.02075 0.9149	1.00000 0.0	0.37660 0.0440	0.03096 0.8733
KONTAND	0.04011 0.8363	0.00106 0.9956	0.37660 0.0440	1.00000 0.0	0.14571 0.4507
ART	0.30334 0.1097	0.22590 0.2387	0.03096 0.8733	0.14571 0.4507	1.00000 0.0

## A correlation matrix for dichotomized variables

	KONTAND(d)	ARt(d)	CR(d)	CSHIFT(d)	PERCREMA(d)
KONTAND(d)	1.000 0.0	0.280 0.19	-0.370 0.08	-0.088 0.68	-0.122 0.57
ARt(d)	0.280 0.19	1.000 0.0	-0.183 0.40	0.469 0.02	0.289 0.18
CR(d)	-0.370 0.08	-0.183 0.40	1.000 0.0	-0.014 0.94	0.066 0.76
CSHIFT(d)	-0.088 0.68	0.469 0.02	-0.014 0.94	1.000 0.0	0.067 0.75
PERCREMA(d)	-0.122 0.57	0.289 0.18	0.066 0.76	0.067 0.75	1.000 0.0

SUPPLEMENT: Questionnaire

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RESPONDENTS NAME:

FIRM:

## (D) DEMOGRAPHIC DATA

D1. YEAR OF BIRTH

D2. PLACE OF ADOLESCENCE

D3. FATHER'S PROFESSION AT THE TIME OF RESPONDENT'S UPBRINGING

D4. MARITAL STATUS

D5. EDUCATION

D6. YEAR OF EXAM

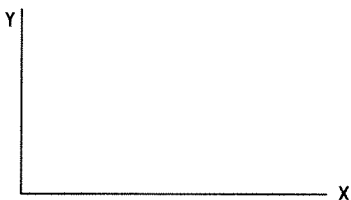
D7. PLACE OF EDUCATION/EXAM

## (R) RECRUITMENT DATA

R1. IN THE SYSTEM OF CO-ORDINATES BELOW PLEASE FILL IN ON THE X CO-ORDINATE THE YEAR OF A JOB CHANGE AND THE JOB'S LOCATION FROM THE PERIOD WHEN YOU STARTED WORKING AFTER YOUR EDUCATION UP UNTIL NOW (1989).

R2. ON THE Y CO-ORDINATE FILL IN THE NAME OF THE PERSON OR INSTITUTION THAT MEDIATED THE NEW JOB.

R3. FILL IN AT THE SAME PLACE YOUR RELATION TO THE RECRUITMENT SOURCE.



(C).TEAM MEMBER RELATIONSHIPS

CHARACTERIZE YOUR RELATIONSHIP TO ALL THE OTHER TEAM MEMBERS

- C1. DO YOU SOCIALIZE, WITH X,Y,Z?
- C2. DO YOU DISCUSS PRIVATE AND PERSONAL MATTERS WITH X,Y,Z?
- C3. DO YOU SHARE VALUES WITH X, Y, Z?
- C4. DO YOU SPEND YOUR SPARE TIME TOGETHER WITH X,Y,Z, PARTICIPATING IN A HOBBY OR A SPORT OF SOME SORT?

(E) TEAM MEMBER'S EXTERNAL NETWORK

- E1. CONSTRUCT A MATRIX OF YOUR EXTERNAL CONTACTS. NAME UP TO 15 IMPORTANT RESOURCE PERSONS OUTSIDE THE FIRM WHOM YOU CONTACT REGARDING STRATEGICALLY IMPORTANT ISSUES (EXAMPLES: LAWYERS, INVESTMENT BANKERS, OTHER FINANCIAL ADVISERS, POLITICIANS, JOURNALISTS, SPEAKING PARTNERS, HEADHUNTERS OR OTHERS.
- E2. FOR EACH OF THESE PERSONS SPECIFY HIS AGE, HOW LONG YOU HAVE KNOWN HIM, WHERE HE WORKED IN 1985, AND
- E3. FOR EACH OF THESE EXTERNAL CONTACTS NAMED, DO YOU SOCIALIZE WITH HIM, YES OR NO?
- E4. FOR EACH OF THESE EXTERNAL CONTACTS NAMED, DO YOU CONFIDE IN EACH OTHER, YES OR NO?
- E5. TO YOUR KNOWLEDGE WHICH OF THESE EXTERNAL CONTACTS KNOW EACH OTHER?

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