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**HUMAN CAPITAL, SOCIAL CAPITAL AND
COMPENSATION: The relative contribution
of social contacts to managers' incomes**

by

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Human capital, social capital and compensation

The relative contribution of social contacts to managers' incomes.

by

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Abstract: In this study the interplay between human capital and social capital in the income attainment of managers is discussed. A regression analysis of a 1985 sample of 114 executive team members in Swedish public firms shows that social capital is an important influencing factor of managers' incomes. The results also show that social capital contributes more to managers' incomes than human capital. Furthermore, it is not, as argued in earlier network research, weak ties that generate these instrumental effects but strong ties.

Key words: Strength of ties, calculative trust, reservation wages

Introduction

Next to financial and human capital, social capital or social network is an important asset. In the scientific literature social capital has been analyzed less, both theoretically and empirically, than human capital.

In this study the relative importance of social capital and human capital is investigated in the context of executive managers' income attainment. The analysis focuses on private rates of return on social capital compared to those on human capital.

Results from interface research on stratification and network analysis point to the relative importance of social capital for individual gains such as compensation benefits. Boxman et al. 1991, report that social capital adds to rather than replaces human capital in managers' income attainment. Human capital produces social capital, but the effect is not very strong. Social capital and human capital interact in the income attainment process but the hypothesis that social capital multiplies the return on human capital is refuted. Contrary to what is often assumed, returns on human capital decrease when managers have access to a large volume of social capital. Based on these findings Boxman et al. (1991) suggest a duplication of the study in different institutional contexts.

In this paper I present some results from an investigation of the relationship between Swedish executive managers' social and human capital and their incomes. In the first section I relate the human capital theory of investment to ideas on social capital effects on individuals' attainment of income. The second section reports some new results on the type of ties that make social capital enhance income attainment. Finally, I discuss some implications of the results. The main conclusion is that not only does social capital matter for managers' income, but social capital also generates somewhat more benefits than many other classical factors such as human capital. Furthermore, as argued elsewhere, the managers recruited to top positions have talents determined partly by their social capital. The social capital that generates higher income is not necessarily the social capital that generates talented managers. The results shed some light on the question of how the Swedish society allocates managerial talent.

Human capital and social capital as resources

Nobel prize winner Gary Becker's most famous scientific contribution to date is the theory of human capital investment in which the determinants of the distribution of income are put forth. The theory is formulated as a set of rate of return functions from human capital investment that determines the correlation between income from work and human capital. (See Lindbeck 1992, Becker 1992.) Human capital is created when a person's skills and capabilities are augmented. The acquisition of human capital improves the conditions for an individual to act in new ways (Coleman 1992, p. 304). Investments in human capital are often measured as years of schooling and workplace experiences. According to Becker's theory, investment in human capital is profitable for an individual if the present value of the expected future rate of return of that investment is greater than the investment costs. Many empirical studies of inequality rely on a human capital analysis like: differences in schooling and training (see Mincer och Papadopoulos) and differences in income profiles and income over time (Mincer 1974). Yet, according to Lazear (1993) the empirical support for traditional human capital models is weak and often difficult to interpret.

Becker (1992) claims that the theory of human capital investment relates inequality in earnings to differences not only in talents and bequest but also to family background and other assets (see also Becker and Tomes 1986). Family background such as the amount of attention a child receives from his parents is argued by Coleman to be of extreme importance for school performance. Social infrastructure, such as a child's family relationships, is part of the social capital. (See Coleman 1992; 1965.) The idea of social relationships extending an individual's access to human capital is easy to envisage. For instance if you do not have the skill to mend your bike you ask a friend who does it for you. Eventhough, you lack a skill you have access to it through your relationships, although the access is clearly not as straight forward as it would be if it were your own skill. That type of skill is typically not as available as your own. In this case there is at least one type of cost involved; a credit slip is issued. You help me today and I will help you sometime in the future. By adding social capital to a traditional

human capital model new and more easily interpreted results can be generated.¹

Social capital

An important idea within network research is that a person's relationships are resources for instrumental action (Lin 1982; Lin and Dumin 1986).² Burt refers to social networks as a form of social capital analogous to human capital. Just as human capital can be defined as the array of valuable skills and knowledge a person has accumulated over time, social capital is the array of valuable relationships a person has accumulated over time (Burt 1991, p. 2).³ According to Burt, a network is not only a device to receive resources, but a network is also a device to create resources such as other networks, that in turn create new resources and opportunities, thus the term social capital. "*Your social capital gives you opportunities to turn a profit from the application of your human capital*" (Burt 1990, 5).

The social context of the involved actors is the crucial factor in deciding how an instrumental network should be structured. One type of relational structure may be instrumental in a specific social context where another type may not be.⁴ I suggest that

¹ Yet, the interpretation of the model is different from normal human capital models, the reason being that individual bargaining strength for income attainment are modelled as exogenous in classical human capital models and in the below analysis individual capacity to attain income is endogenized.

² There is a great variety of research that studies networks from different perspectives, yet there is not to be found an integrated systematic theory of networks. The concept of a network is often used as a metaphor. The problem with metaphors, especially in science, is that the concepts in use become unclear and therefore difficult to interpret (Mitchell 1969). There are, however, suggestions as to how to define a network and its body of concepts. A frequently used definition is that a network is a set of direct and indirect social relationships centered around a given person, object or event (see Mitchell 1969). Anderson and Carlos (1979) state that these links are instrumental in the sense that they serve in the attainment of certain ambitions or goals and communicate aspirations and expectations. Links or ties that connect different actors in a network can be expressed as strong or weak, and as positive or negative. Ties are dynamic by nature and likely to change.

³ Burt suggests that research within this stream may be divided into two sections. In the first, a network is seen as something that provides you with specific resources, for example becoming wealthy, or getting a job (Lin 1982; Lin and Dumin 1986; Granovetter 1973). The second line of research suggested by Burt looks at how the structure of your network is a form of capital in its own right (see Burt 1990, 3, 1992).

⁴ According to Coleman, "*Social capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions by actors, whether persons or corporate actors within the structure.*"

the effects of the relational structure, i.e., of the social capital, are contingent on the strategic situation. Social capital can be applied for different purposes given different contexts, and therefore can be structured in different ways (Coleman 1992 p. 302).

Social capital for mobilizing or for information accrual?

What type of social relations turn into instrumental social capital? Granovetter presented the thesis that a specific type of weak tie, the bridge tie, is more instrumental for access to information than strong ties (Granovetter 1973). Granovetter defines a bridge tie as a tie that links two networks with each other that otherwise would not be connected: Burt (1990) names this tie nonredundant. The bridge tie is typically weak since the process of cognitive balance tends to eliminate unbalanced triads that make all three persons interconnected (Granovetter 1973, 1364-1365).

According to Granovetter the bridge tie is the element that forms the access to new networks, thus increasing the diversity and size of the network. Granovetter (1974) found that it is easier to find jobs through weak ties than through strong ties. It is often suggested that a weak tie increases an individual's reservation wage. The number of weak ties gives him job options and hence increases his bargaining power (See Montgomery, 1992.)

A strong tie between two individuals increases the likelihood that their other contacts, friends and colleagues will be introduced to each other. (See Granovetter 1973.) Hence, an individual connected to others mainly through strong ties will have a restricted network made up of ties that are overlapping, i.e., ties connecting to the same set of individuals (Burt calls the overlap of ties redundant ties).

Strong ties are less conducive to carrying novel information than are weak nonredundant ties. On the other hand, strong ties re-enforce cohesion. *Cohesive groups create norms that influence the individual's choice of action, and also their choice to refrain from action* (Coleman 1988; Pinard 1968; Merton 1968; Granovetter 1973, 1974; see also Meyerson 1992 chapter II, for an extensive discussion).

Consequently, in terms of exerting influence, strong redundant ties are instrumental in mobilizing or restraining others' actions. The existence of strong ties and

Like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible" (Coleman 1988, p. 302 : 1992, p.302).

redundant ties suggests that the individual belongs to a network that has a configuration of a rigid system of norms. Effective norms demand what Coleman labels closure. "Where there is an interdependence between two or more individuals there is a risk for actor 'a' to impose externalities on actor 'b' if no efficient norms have emerged to restrict unwanted actions" (Coleman 1988, p. S105). The interdependence between individuals such as described above where the actors pay a very high cost to leave the interdependent relationship is argued to create a cohesive network based on strong ties of business associates with emerging norms.⁵

As a consequence, the ability of an executive to use his social capital to obtain resources is not always a question of diversity or size of a network.⁶ A mobilizing network can be instrumental for high salaries for examples. The higher up a position in an organization is located, the stronger the impact an individual has on the performance of the firm. In cases with asymmetric information I suggest that trust becomes a substitute for other selection rules in the recruitment of top executives. (See Meyerson 1992; Montgomery 1990). Trust is in this context interpreted in Williamson's terminology as "calculative" trust. Trust justified by expectations of positive reciprocal consequences (economic exchange) however loosely coupled to a specific significant other. Hence, calculative trust mitigates risk (see Williamson p.38 1992).⁷ (See also the discussion on

⁵ However, these ties are of course of no use if they do not yield access to valuable resources for the CEO. Strong overlapping networks are not instrumental unless they mobilize relevant resources. In this special context our focus is on the structure of professional networks that are assumed to have been established because they are resource contacts.

⁶ Meyerson (1992) finds support for the thesis that, given the social and economic context of an executive team in a Swedish public firm, different characteristics of social capital were developed. Social capital of an executive team (in this case the external relational structure) is structured in a way to give an integrated team (strong cohesion among the team members) an external network with a mobilizing function, while a differentiated team's (weak cohesion among the members) efficient social capital is more oriented towards information accrual. Furthermore, a mobilizing external network contains strong and redundant ties whereas the information-accrual network is structured by weak and nonredundant ties. The motive for the choice of different network structure is that the differentiated teams were found in firms where there was an easy access to financial capital while the opposite is the case where a differentiated team is in place.

⁷ Williamson distinguishes between three categories of trust: calculative trust, personal trust, and institutional trust (p.37). Apart from the calculative trust defined above, personal trust is characterized by the absence of monitoring, favorable or forgiving predilections and discreetness (p.35). Institutional trust is defined as transaction specific safeguards (governance) that varies systematically with the institutional environment within which transactions are located. Williamson describes some contextual features with respect to which transaction specific governance is crafted.

partnership in Meyerson 1992 and Dasgupta 1990). In this context, a manager who violates a rule or an implicit or explicit agreement may suffer from a bad reputation among significant others such as other managers. This may in turn reduce the willingness of these managers to use their referral capacity for the violating manager.

The recruitment of managers is often based on strong ties (Meyerson 1992). The use of strong ties in the recruitment of executive team members is prominent in the sample of teams in Swedish public firms. A recruitment procedure where individuals recruit each other produces trust. Established norms can be re-enforced by owners or CEOs when they select what they consider to be loyal and talented people.

The value of trust rises when trust is sought after. I suggest that the scarcity of trustworthy candidates for an executive team segments the market for managers. The more trust is used as a recruitment and selection device, the more the market resembles an implicit cartel. Managers in a segmented labor market increase their bargaining position and hence their reservation wages by building networks on strong redundant ties.⁸ An executive manager would then try to build up a cohesive network in order to obtain a high salary and get compensated for his trustworthiness. The following hypothesis is empirically tested:

Hypothesis 1. A large number of strong ties is likely to increase and executive's income.

Interaction effects on income

Scholars like Bordieu (1980), Coleman (1988) and Burt (1992) have put forward the idea that the more social capital one has, the better his use of human capital investment can be put to use. Coleman (1988) argues that a pupil's access to social capital increases his ability to accumulate human capital. Well-organized and well-educated significant others (parents and the like) are important for a child's ability to assimilate education.

Yet, the exact causal order of social and human capital is not always apparent.

there are six kinds of embeddedness attributes: societal culture, politics, regulation, professionalization, networks and corporate culture (p.27).

⁸ The idea of an implicit cartel segmenting the market for managers is compatible with the Lindbeck and Snow (1988) suggestion that the insiders' profitable bargaining situation increases wage level and prevent the outsider to be employed.

Does human capital influence access to social capital? A strategic position with access to important social networks demands a well-educated and experienced individual. It is easy to imagine that human capital investment provides opportunities for an individual to establish and develop social contacts generated from having a good position in the firm at the start of a well-educated individual's career. The relative high position that a well-educated individual starts from provides a greater lifetime visibility and therefore increases the access to social capital.

I argue that executive managers establish a track record over the course of their careers. Their cumulative skills, education and work experience decreases in signalling importance and therefore diminishes in importance as a selection criterion. The type and level of human capital may still have an effect on an executive's productivity. (See also Berndt 1992, chapter 5, for a discussion on the non-linear effect of human capital on wage).

As trustworthiness becomes the more important characteristic in the selection process of managers, the effect of human capital decreases in importance. However, the actual interaction between human capital accumulation and the accumulation of important social ties cannot be ignored. Certain human capital levels may influence the potential manager's propensity and opportunity to acquire instrumental ties. This interaction effect can be modelled and tested.

Boxman et al. 1991 found that given a certain level of human capital investment, social capital increased the income by more than one unit of human capital and where position was controlled for, their model received an even better fit. Consequently, it is more reasonable to model a causal relationship where the social capital and human capital separately influence income. However, the interaction between social capital and human capital will be controlled for.

Hence:

Hypothesis 2: An executive manager's benefit from social capital exceeds that from human capital for income attainment.

Institutional effects on the impact of social capital

If it is easier for individuals with a certain structure of social capital to attain high incomes why do not all executives develop such a network? The reason is that individuals differ in their opportunities and in their risk behavior.

Certain executives have as their main task the accrual of new information. However, it is not possible to have both a cohesive network and an information-accrual network (Meyerson (1992). Individuals also differ in risk behavior. In Meyerson and Lang (1993) it is shown that CEOs who have a partnership with one of the main owners were more risk prone than CEOs who confront a dispersed ownership situation and are not able to build such a partnership. There is an increased "threat" of hostile takeovers in the latter situation. It is conjectured that an individual who chooses a 'safe career' with a strong controlling owner makes a tradeoff between a high income today for a more secure employment with a lower income.

If ownership structure sets the opportunities and influences managers' risk behavior then a duplication of the Dutch study performed by Boxman et al. 1991 must consider differences in the institutional setting. Boxman et al. 1991 did not account for ownership structure. According to claims in the property rights literature, differences in monitoring costs influence managers' discretion (Hedlund et al., 1985). Less monitoring would give managers more discretion to set their wages and the opposite would be the case with strong monitoring. Therefore, one would expect that managers, in firms with strong shareholders to receive lower salaries than managers in firms with a dispersed ownership.

Hypothesis 3. Managers in firms with a private concentrated owner have lower pay than managers in firms with dispersed ownership.

Furthermore, Boxman et al. 1991 suggest that the size of the firm could matter. Efficiency wage theory (Akerlof and Yellon 1986) claims that the higher the pay the higher the productivity. One suggested reason for this is that the assumed chance of getting caught cheating, and the consequent punishment of the cheater discourage cheating. According to Lucas (1988) the more able a manager is, the larger the organization he would lead and hence, the more he would get paid. These theories

suggest that firm size varies with pay and hence has little to do, directly, with managers' choice of social capital.

Hypothesis 4. The larger the size of the organization, the higher a manager's pay.

Other variables to consider

Statistical control for rival explanatory variables is always wise. Simon and Warner (1992) show that use of informal ties in getting a job increase the initial salary. Yet, they do not include other important factors in their analysis such as personal characteristics, internal labor ladders or the productivity of the individual. Bridges and Villemez showed already in 1986 that the type of ties or ways of searching for a job explained very little of the variance in initial salary. In Meyerson (1992) it was shown that for managers recruited to the executive team, whether it was from outside the firm or inside, strong ties between the manager and the recruiter were prominent.

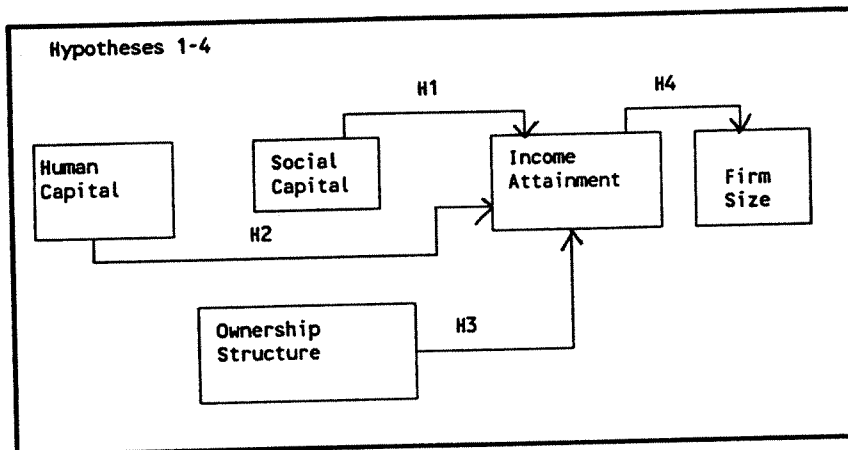
According to the reasoning above, an individual's starting salary could be expected to even out on the promotion ladder, the reason being the segmented market at the top (segmentation due to the importance of trust). The reward system may not be path dependent all the way to the top as implied by Lazear (1993). Since our sample only includes individuals at the top executive level initial salaries are argued to be redundant in the analysis. However, given the dubious empirical results shown above, statistical control is performed for external versus internal recruitment of top executives. Other typical individual variables to control for would be class background, personality and talent. The two latter aspects are very difficult to isolate and hence in the present analysis only social background is accounted for.

The Empirical Investigation

The main purpose of this section is to test empirically the suggested relationships between the executives' social and human capital and their income attainment.

A path model of the suggested hypotheses is presented in Figure 1.

Figure 1. A path model expressing the four hypotheses



The relationships between the variables in the hypotheses H1, H2, H3 and H4 are investigated by regression analysis. (The correlations for all variables in the hypotheses and the characteristics of the univariate distributions are presented in Appendix 1.)

Detailed information on managers' compensation contracts is difficult to gather for obvious reasons. I use a data base originally organized for other purposes, containing some information on managers' compensation. A population of Swedish 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 contains only those firms with a negative abnormal return greater than one standard deviation from the mean of the sample. From the ranking list the 32 firms with the lowest abnormal return were selected. Four of the 32 firms with the lowest abnormal return refrained from participation, therefore, only 28 firms are analyzed. Among 147 executive members in the sample, 114 agreed to answer questions about their demographic profiles, human capital, social capital and compensation schemes. (See Appendix 2 for a discussion of the sample and the selection criteria abnormal return.)

Social background was captured by socio-economic status and measured by the SEI coding (SEIKAT: 1=workers, 2=white collar workers, 3=independent professionals

and top white collar workers see SCB 1984) and age of the executive. Human capital was measured by the indicators: total years of work experience in the team (LEDNGR), years of work experience in the firm (YRKYEARF), total number of working years (YRKYEAR). Two sets of schooling variables are applied; EDUC : 0 = less than university education, 1 = university education 2 = more basic training in university i.e., master or a doctoral exam and four dummy variables expressing level and type of education (HCNOACAD =no academic exam, HCECON= exam in economics, HCLAW= Law exam, HCENG = in engineering). Furthermore, since external or internal recruitment to the firm may influence the level of the individual's attained income it is controlled for by the variable jobchange (jobchange). If a team member has been working more than three years in the firm previous to his current position it is considered as an internal recruitment.

Boxman et al., (1991) report that both social capital and human capital explain the variation in Dutch managers' incomes.⁹ The level of explained variance increase dramatically when position is accounted for, which is of course not surprising. Their choice of measuring social capital, however, is bound to reflect positional aspects. Social capital in the present study was captured by two indicators. The first was work contacts in other organizations external to the firm. The other indicator was membership in elite clubs such as Rotary and Lions and other professional associations. Both of the indicators are logically coupled with professional position.

In the present case the interaction effect between human capital and social capital is also accounted for although not along the lines of Boxman et. al. Instead, individuals were asked whom they considered to be important contacts outside their own

⁹ Boxman et al. 1991 argue that the direct relationship between a manager's social capital as a resource variable and his careers as a managers has to be interpreted with caution. Measuring social capital, human capital and income in the same period (my sample is from 1985) may imply that the relationship between social capital and income may not be due to a direct effect of social capital on income. An alternative explanation of this association may be found in a mutual dependence on the attained position of the managers. When the careers of managers proceed they might gain social capital and income simultaneously. With prestigious positions follow a number of ties and hence the size of the social capital. In our case the measure of social capital is the number of strong ties. For a strong tie to develop takes time. A test of the idea that strength of tie takes time to build up was performed. The correlation between time for first contact with a person that eventually became a strong tie was found to be positive. Also it was found that managers' strong ties tended to develop earlier than the members's entry in to the executive team.

organization for insight into important professional matters, discussions and information about law, finance, politics, media, general discussion partners, headhunters and other consultants. The respondent named up to 15 individuals and described his relationship to these people in terms of the strength of the tie. The strength of a tie is defined in accordance with Marsden et al.¹⁰ Closeness or emotional intensity in a relationship is measured by three indicators: closeness, socializing and mutual confiding. The respondents gave their opinion on the degree of closeness and strength of tie he had to the other party. The explaining variables are the number of weak ties (WEAK), the number of nonredundant ties per executive manager (NRT) and the number of external ties reported per executive (FEXT). (See Supplement: Questionnaire 1.) To distinguish between strong and weak ties, the respondents were asked if they socialized with and/or discussed private and personal matters with (i.e., confide in), the persons they were connected to. If the respondent was both socializing and confiding in the contact, the tie was considered strong. The explaining variable, the number of nonredundant ties, (nrt) is defined as unique tie if no one else in the executive's network (internal or external) is connected to the tie.¹¹ The interaction term; social capital * human capital is measured by the variable INT (STRONG * EDUC).

The explained variable, income, is measured by the gross yearly fixed income in

¹⁰ Numerous measures have been used in the aftermath of Granovetter's first article on the strength of ties. The most common measure used has been the indicators "closeness of a relationship"; thus close friends are coded as strong ties while acquaintances are weak ties. Other measures are not only the closeness of two parties but also the source of the tie, such as relatives or neighbors. Granovetter (1973, 1982) has used frequency of contact in combination with closeness. Friedkin used mutual acknowledgement of contact as a measure of strong ties in a scientific community. Marsden and Campbell (1984) came to the conclusion that closeness or emotional intensity of a relationship is on balance the best indicator. The measures duration and frequency of contact were badly contaminated by the foci around which ties may be organized. These two measures are suggested by Marsden and Campbell (1984) to be avoided. The measure personal confiding is little used as a measure of tie strength and hence cannot be well evaluated in the Marsden and Campbell study. In this study the three indicators of strength are all aspects of closeness, socializing, mutual confiding, i.e., the respondents opinion on the degree of intimacy he entertains with the party.

¹¹ There may be a problem with the link between reported secondary contacts of the team members (a primary contact is someone to whom you are connected through a weak nonredundant tie while a secondary ties are *indirect ties* that one is connected to through primary ties) (Burt 1990). The secondary contacts may know each other and hence limit the uniqueness of these contacts. This we do not know from the collected data.

Swedish Kronor (FIXSAL) for the executive respondent in 1985.¹² In tables 1 and 2 the distribution of fixed income is shown for CEO and the rest of the team by ownership structure.

Tabell 1. Distribution of gross yearly fixed income by ownership concentration¹³ for CEOs

| Fixsal | N | Mean | Std Dev | Min | Max |
|------------------------|----|---------|---------|---------|---------|
| Dispersed ownership | 9 | 871 166 | 486 962 | 200 000 | 184 050 |
| Concentrated ownership | 11 | 682 727 | 239 346 | 360 000 | 120 000 |

Tabell 2. Distribution of gross yearly fixed income by ownership concentration for TEAMS, CEOs excluded.

| Fixsal | N | Mean | Std Dev | Min | Max |
|------------------------|----|---------|---------|---------|---------|
| Dispersed ownership | 39 | 568 935 | 413 221 | 140 000 | 240 000 |
| Concentrated ownership | 62 | 433 644 | 128 847 | 220 000 | 900 000 |

Regression analyses in log forms are performed and presented below. Paraphrasing Mincer's wage equation the regression equation is derived from:

$$Y = Y_0 * e^{\alpha \text{educ} + \beta_1 \text{strong} + \beta_2 \text{int} + \beta_3 \text{yrkyearf} + \beta_4 \text{yrkyear} + \beta_5 \text{ledngr} + u}$$
 and hence the regression equation tested takes the following form $\ln Y = \ln Y_0 + \alpha \text{EDUC} + \beta_1 \text{STRONG} + \beta_2 \text{INT} + \beta_3 \text{YRKYEARF} + \beta_4 \text{YRKYEAR} + \beta_5 \text{LEDNGR} + \beta_6 \text{JOBCH} + u$. Indicators of social and human capital that give no significant effects on income attainment are excluded from the actual final regression but the total regression is presented in Appendix 3.

¹² Other pecuniary and nonpecuniary rewards are collected in the data base; however, the size of those rewards was rather small during the 80s and thus treated as negligible in the analysis.

¹³The break point between concentrated ownership and dispersed ownership is given by the mean of the variable ownership concentration (CR) 47.7%.

Regression model H1 and H2. A Manager's attained income explained by social capital and human capital

| | | |
|---------------------------|---------------|-----------------|
| Level of income: lnfixsal | = .266 * EDUC | + .844 * STRONG |
| Standard errors | .119 | .314 |
| T-values | 2.241 | 2.686 |
| R ² | = .09 | |

H1 cannot be rejected since social capital (STRONG) exhibits a positive and significant effect on income (fixsal). A regression performed with weak ties also shows a significant effect on income; the effect is negative. Consequently, a mobilizing-oriented network seems to be more efficient in providing a high salary than does information-oriented networks based on weak ties. As mentioned above in terms of exerting influence, strong ties are instrumental in mobilizing or restraining others' actions whereas the networks based on weak ties are efficient in accruing information. (See Meyerson 1992 the leadership paradox for a discussion of why you can not both have access to information efficient and mobilizing oriented networks).

The second hypothesis, that an executive manager's benefit from human capital is less than that from social capital for income attainment, cannot be rejected. Both factors have significant effects on managers' incomes. Yet, one unit more of social capital generates a .84% increase in salary while one unit more of human capital generates only .27%. Worth noting is that the interaction of INT has no significant effect.

The third and the fourth hypotheses concerning the relative importance of the ownership structure of the firm (CR) and the firm size (MV) for income attainment were also analyzed by a regression model. Ownership structure is measured by the concentration ratio (CR) or the largest shareholder's percentage of votes. Market size is measured by market value of the firm. Control for internal or external recruitment and social background gave no significant results.¹⁴ The regression equation tested is:

$$Y_0 + \alpha * EDUC + \beta_1 * STRONG + \beta_2 * INT + \beta_3 * CR + \beta_4 * MV + u.$$

¹⁴

Because of the aggregation bias problem with non-individual attributes such as ownership structure and market size, the beta coefficient for CR and MV are interpreted as indication of trends. In a statistical hierarchical LISREL model the effects of these indicators are better modelled and give more reasonable information (reference).

Regression model for hypothesis H3 and H4. A Manager's attained income explained by social capital, human capital and institutional factors (firm size and ownership structure).

$$\text{Level of income lnfixsal} = .174 * \text{EDUC} + .801 * \text{STRONG} + .328 * \text{CR} + .218 * \text{MV}$$

| | | | | |
|----------------------|-------|-------|-------|-------|
| Standard errors | .111 | .293 | .175 | .046 |
| T-values | 1.561 | 2.732 | 1.874 | 4.649 |
| R ² = .45 | | | | |

Human capital loses its significance when two factors, ownership structure and market size are introduced. Only firm size gives a significantly positive effect on managers's income. Social capital stands out as the most powerful generator of high income with almost the same effect as in the previous model. Hence hypothesis 3 has to be rejected where hypothesis 4 cannot be rejected. It can be noted that the correlation between ownership structure and firm size shows that large firms often have a dispersed ownership (see Meyerson 1992). Furthermore no apparent evidence is found of collinearity between the variables market value, ownership structure and education (see correlation coefficient in appendix 1).

Discussion and Conclusions

The results are in part in agreement with the findings of Boxman et al. (1991). There is a decreasing return on human capital as social capital increases. Social capital has a powerful impact on managers' income attainment, more so than human capital. When factors such as ownership structure and market size are taken into account, human capital shows no significant effect on the variation of managers' wages.

However, results here that were not in accordance with Boxman et al. (1991) had to do with the type of tie that provides the most instrumental type of social capital. Top managers' reservation wages increase with the presence of strong ties, not weak ones. Consequently, social capital does not necessarily have to be based on weak nonredundant ties in order to be instrumental. The type of social capital that is the most beneficial depends on the social context. These results contradict the general notion of the relative efficiency of the weak tie in attaining resources such as jobs, information and income.

Looking at social capital as a general concept opens up interesting paths to understanding not only issues such as how individuals benefit from their social networks or how income is distributed but also how society is stratified. It sheds light on the mechanisms that allocate resources in a society. Are the most talented individuals the highest paid and are these people positioned at the top of firms? The study shows that the highest paid managers lack social networks that are information efficient. The networks of these managers consists mainly of strong and overlapping ties. On the other hand, over the course of a long career, these managers have developed a social capital that is beneficial for mobilization and for restraining others' actions. What benefits this ability brings to society in the long run is an open question.

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Appendix 1. The Univariate and bivariate distributions of the tested variables

Social background

Information about the respondent's social background was traced by asking about the father's occupation at the time for the respondent's upbringing. The SEI classification (1984) was used for socio-economic classification. The SEI classification of persons in the labor force is based primarily on their occupation. Distinctions between self-employed persons and employees, and between employees with and without subordinates must however be based on additional information which is not available in the present study.

Blue collar workers: coded 11-12 non-skilled workers, 21-22 skilled workers

White collar workers: coded 33-36 lower-ranked, white collar workers, 44-46 middle-ranked white collar workers and 54-60 higher-ranked white collar workers,

Businessmen, self-employed: coded 60-78

Farmers: coded 86-89

SEIKAT is defined as 1=workers, 2=white collar workers, 3 independent professionals and higher ranked white collar workers. (See simple statistics below)

Mean 1.10, standard deviation. .99, min 0 max 2.

Human capital variables

The education variable was measured in two ways: a variable ranked between 0 to 2 measuring the three levels of education, (0) no academic exam, (1) academic exam (1) and master och doctoral exam(2).

EDUC

| EDUC | Frequency | Percent | Cumulative frequency | Cumulative percent |
|--------------------------------|-----------|---------|----------------------|--------------------|
| No academic exam (0) | 27 | 22.7 | 27 | 22.7 |
| University degree(1) | 86 | 72.3 | 113 | 95 |
| Master and doctoral degree (2) | 6 | 5 | 119 | 100 |

Education was also measured as a number of dummy variables measured in the following way.

HCNOACAD is a dummy variable measuring academic exam (1) or not (0).

| HCNOACAD | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|----------|-----------|---------|----------------------|--------------------|
| 0 | 92 | 77.3 | 92 | 77.3 |
| 1 | 27 | 22.7 | 119 | 100 |

HCECON is a dummy variable measuring academic exam in economics (1) or not (0)

| HCECON | | | | |
|--------|----|------|-----|------|
| 0 | 73 | 61.3 | 73 | 61.3 |
| 1 | 46 | 38.7 | 119 | 100 |

HCLAW is a dummy variable measuring academic exam in law (1) or not (0)

| HCLAW | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|-------|-----------|---------|----------------------|--------------------|
| 0 | 107 | 89.9 | 107 | 89.9 |
| 1 | 12 | 10.1 | 119 | 100.0 |

HCENG is a dummy variable measuring academic exam in engineering (1) or not (1)

| HCENG | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|-------|-----------|---------|----------------------|--------------------|
| 0 | 94 | 79.0 | 94 | 79.0 |
| 1 | 25 | 21.0 | 119 | 100 |

Tenure and experience were measured by the two variables YRKYEARF, number of years in the firm and YRKYEAR number of years, after formal education, working. Another measure of tenure is the year of entrance as a members of the team (Ledngr). The variable Jobch measures the number of years in the team.

| | N | Mean | Std Dev | Min | Max |
|------------|-----|-------|---------|-----|-----|
| Tenure | 119 | 13.3 | 9.88 | 1 | 46 |
| Experience | 119 | 24.28 | 8.49 | 7 | 46 |
| Ledngr | 119 | 77.89 | 6.5 | 51 | 85 |
| JOBCH | 116 | 2.03 | 1.63 | 0 | 7 |

Recruitment variables

Recruitment to the firm REKRYTF is divided into the following categories:

1. Work-mate, school or university friend, 2. headhunter, 3. Advertisement, 4. Mergers /Acquisitions, 5. Clients, 6. other mediating contact, 7. Relative, 8. Summer job, 9. Own effort, 10. Board of director, 11. Friend

Recruitment to executive team (REKRYTL) is divided into the following categories

1. Mergers/Acquisitions, 2. Owner, 3. CEO, 4. Other

| | N | MEAN | Std Dev | MIN | MAX |
|---------|-----|------|---------|-----|-----|
| REKRYTL | 119 | 2.68 | .56 | 1 | 3 |
| REKRYTF | 119 | 4.21 | 3.03 | 1 | 16 |

Social capital variables

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. Information was collected about these persons as to their age their profession and whether the members and these persons socialized with an or/ confided in each other. To distinguish between strong and weak ties the respondents were asked if they socialized with and or discussed private and personal matters with i.e., confide the persons they were connected to. If the respondent is both socialized with and confided in the contact the tie is considered strong else weak. The degree of overlap of one team member's network is measured by the number of overlapping ties in the teams to total number of ties (NRT). An overlapping tie is a non redundant tie. A non redundant tie is a tie that nobody else in the team or any ties connected to a team member is connected to. The number of total ties per member is measured by FEXTKONT.

| | N | MEAN | STD DEV | MIN | MAX |
|----------|-----|------|---------|-----|-----|
| STRONG | 114 | .29 | .26 | 3 | 1 |
| WEAK | 114 | .65 | .29 | 0 | 1 |
| NRT | 114 | .15 | .25 | 0 | 1 |
| FEXTKONT | 114 | 8.67 | 3.79 | 1 | 16 |

Firm variables

The market value of the firm (MV) and the number of employed (SYS) are two variables measuring the size of the firm. The ownership structure is captured by the concentration ratio which is the largest shareholder's percentage of votes.

| | N | MEAN/MEDIAN | Std Dev | Min | Max |
|------------------|-----|--------------|----------|---------------|----------|
| MV ¹⁵ | 124 | 840.2736/504 | 1277.561 | 124.6888 6 | 7052.981 |
| SYS | 124 | 6 432/2 157 | 13090 | 10 | 74320 |
| CR | 124 | 47.30806/51 | 12.677 | 15.6 | 82.2 |

¹⁵The figures of a firm's market value are divided by 100 000 in the statistical analysis.

Appendix 2. The sample criterion

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.¹⁶

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) | -.23 | .11 | -.19 | -3.16 | 12.51 | -.68 | -.15 |

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

¹⁶

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).

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

α_i, β_i = the share specific parameters

ϵ_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_{\cdot} .

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.

CORRELATION ANALYSIS

14 'VAR' Variables: MV WEAK YRK
 SYS YRKYEARF YRKYEAR
 SUMS2 YRKYEAR
 UTBKAT LEDNGR
 SEIKAT AGE
 STRONG FEXTKONT

Simple Statistics

| Variable | N | Mean | Std Dev | Sum |
|----------|-----|-----------|----------|-----------|
| MV | 124 | 840.27357 | 1278 | 104194 |
| SYS | 124 | 6433 | 13090 | 797691 |
| SUMS2 | 124 | 47.30806 | 14.67729 | 5866 |
| UTBKAT | 119 | 0.82353 | 0.49825 | 98.00000 |
| SEIKAT | 119 | 1.10924 | 0.66115 | 132.00000 |
| STRONG | 114 | 0.29224 | 0.25907 | 33.31483 |
| WEAK | 114 | 0.64528 | 0.29741 | 73.56218 |
| YRKYEARF | 119 | 13.36975 | 9.88396 | 1591 |
| YRKYEAR | 119 | 24.28571 | 8.49341 | 2890 |
| LEDNGR | 119 | 77.89916 | 6.50736 | 9270 |
| AGE | 119 | 48.42017 | 8.47878 | 5762 |
| FEXTKONT | 114 | 8.67544 | 3.79449 | 989.00000 |
| YRK | 119 | 0.53951 | 0.31714 | 64.20183 |
| FIXSAL | 123 | 52.37800 | 31.96712 | 6442 |

Simple Statistics

| Variable | Minimum | Maximum |
|----------|----------|-----------|
| MV | 15.00822 | 7053 |
| SYS | 1.00000 | 74320 |
| SUMS2 | 15.60000 | 82.20000 |
| UTBKAT | 0 | 2.00000 |
| SEIKAT | 0 | 2.00000 |
| STRONG | 0 | 1.00000 |
| WEAK | 0 | 1.00000 |
| YRKYEARF | 1.00000 | 46.00000 |
| YRKYEAR | 7.00000 | 46.00000 |
| LEDNGR | 51.00000 | 85.00000 |
| AGE | 27.00000 | 74.00000 |
| FEXTKONT | 1.00000 | 16.00000 |
| YRK | 0.03448 | 1.00000 |
| FIXSAL | 0 | 240.00000 |

CORRELATION ANALYSIS

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0
/ Number of Observations

| | MV | SYS | SUMS2 | UTBKAT | SEIKAT | STRONG | WEAK |
|----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| MV | 1.00000 0.0 124 | 0.90073 0.0001 124 | -0.30121 0.0007 124 | 0.15678 0.0886 119 | 0.07038 0.4469 119 | -0.02317 0.8067 114 | 0.04620 0.6255 114 |
| SYS | 0.90073 0.0001 124 | 1.00000 0.0 124 | -0.13982 0.1214 124 | 0.09941 0.2821 119 | 0.06557 0.4786 119 | 0.02352 0.8039 114 | 0.00539 0.9546 114 |
| SUMS2 | -0.30121 0.0007 124 | -0.13982 0.1214 124 | 1.00000 0.0 124 | -0.12950 0.1604 119 | 0.00035 0.9970 119 | 0.17248 0.0665 114 | -0.08873 0.3478 114 |
| UTBKAT | 0.15678 0.0886 119 | 0.09941 0.2821 119 | -0.12950 0.1604 119 | 1.00000 0.0 119 | -0.01816 0.8446 119 | -0.11919 0.2066 114 | 0.11149 0.2376 114 |
| SEIKAT | 0.07038 0.4469 119 | 0.06557 0.4786 119 | 0.00035 0.9970 119 | -0.01816 0.8446 119 | 1.00000 0.0 119 | 0.09714 0.3039 114 | -0.11107 0.2394 114 |
| STRONG | -0.02317 0.8067 114 | 0.02352 0.8039 114 | 0.17248 0.0665 114 | -0.11919 0.2066 114 | 0.09714 0.3039 114 | 1.00000 0.0 114 | -0.89171 0.0001 114 |
| WEAK | 0.04620 0.6255 114 | 0.00539 0.9546 114 | -0.08873 0.3478 114 | 0.11149 0.2376 114 | -0.11107 0.2394 114 | -0.89171 0.0001 114 | 1.00000 0.0 114 |
| YRKYEARF | 0.20475 0.0255 119 | 0.17205 0.0613 119 | 0.03716 0.6882 119 | -0.13807 0.1343 119 | -0.08275 0.3710 119 | 0.01033 0.9131 114 | 0.03422 0.7177 114 |
| YRKYEAR | 0.13213 0.1520 119 | 0.10075 0.2756 119 | -0.07148 0.4398 119 | -0.43055 0.0001 119 | -0.10219 0.2688 119 | 0.07347 0.4373 114 | -0.05107 0.5895 114 |
| LEDNGR | -0.07854 0.3958 119 | -0.07741 0.4027 119 | -0.10406 0.2600 119 | 0.15390 0.0947 119 | -0.00333 0.9714 119 | -0.12205 0.1958 114 | 0.06060 0.5218 114 |
| AGE | 0.16083 0.0806 119 | 0.09891 0.2845 119 | -0.11627 0.2079 119 | -0.20697 0.0239 119 | -0.15339 0.0958 119 | 0.04241 0.6541 114 | -0.01960 0.8361 114 |
| FEXTKONT | 0.04590 0.6277 114 | 0.01811 0.8483 114 | -0.12650 0.1799 114 | 0.06975 0.4609 114 | 0.09196 0.3305 114 | -0.04198 0.6574 114 | 0.12144 0.1981 114 |

CORRELATION ANALYSIS

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0
/ Number of Observations

| | MV | SYS | SUMS2 | UTBKAT | SEIKAT | STRONG | WEAK |
|--------|--------------------------|--------------------------|---------------------------|--------------------------|---------------------------|---------------------------|---------------------------|
| YRK | 0.15356 0.0954 119 | 0.12383 0.1797 119 | 0.08868 0.3375 119 | 0.13248 0.1509 119 | -0.03982 0.6673 119 | -0.05527 0.5591 114 | 0.11550 0.2211 114 |
| FIXSAL | 0.56383 0.0001 123 | 0.54952 0.0001 123 | -0.16463 0.0688 123 | 0.14972 0.1041 119 | 0.08460 0.3603 119 | 0.22522 0.0160 114 | -0.20779 0.0265 114 |

CORRELATION ANALYSIS

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0
/ Number of Observations

| | YRKYEARF | YRKYEAR | LEDNGR | AGE | FEXTKONT | YRK | FIXSAL |
|----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| MV | 0.20475 0.0255 119 | 0.13213 0.1520 119 | -0.07854 0.3958 119 | 0.16083 0.0806 119 | 0.04590 0.6277 114 | 0.15356 0.0954 119 | 0.56383 0.0001 123 |
| SYS | 0.17205 0.0613 119 | 0.10075 0.2756 119 | -0.07741 0.4027 119 | 0.09891 0.2845 119 | 0.01811 0.8483 114 | 0.12383 0.1797 119 | 0.54952 0.0001 123 |
| STMS2 | 0.03716 0.6882 119 | -0.07148 0.4398 119 | -0.10406 0.2600 119 | -0.11627 0.2079 119 | -0.12650 0.1799 114 | 0.08868 0.3375 119 | -0.16463 0.0688 123 |
| UTBKAT | -0.13807 0.1343 119 | -0.43055 0.0001 119 | 0.15390 0.0947 119 | -0.20697 0.0239 119 | 0.06975 0.4609 114 | 0.13248 0.1509 119 | 0.14972 0.1041 119 |
| SEIKAT | -0.08275 0.3710 119 | -0.10219 0.2688 119 | -0.00333 0.9714 119 | -0.15339 0.0958 119 | 0.09196 0.3305 114 | -0.03982 0.6673 119 | 0.08460 0.3603 119 |
| STRONG | 0.01033 0.9131 114 | 0.07347 0.4373 114 | -0.12205 0.1958 114 | 0.04241 0.6541 114 | -0.04198 0.6574 114 | -0.05527 0.5591 114 | 0.22522 0.0160 114 |
| WEAK | 0.03422 0.7177 114 | -0.05107 0.5895 114 | 0.06060 0.5218 114 | -0.01960 0.8361 114 | 0.12144 0.1981 114 | 0.11550 0.2211 114 | -0.20779 0.0265 114 |
| YRKYEARF | 1.00000 0.0 119 | 0.57283 0.0001 119 | -0.57652 0.0001 119 | 0.57504 0.0001 119 | -0.20372 0.0297 114 | 0.82660 0.0001 119 | 0.14660 0.1116 119 |
| YRKYEAR | 0.57283 0.0001 119 | 1.00000 0.0 119 | -0.42282 0.0001 119 | 0.92599 0.0001 119 | -0.12352 0.1904 114 | 0.10009 0.2788 119 | 0.00290 0.9750 119 |
| LEDNGR | -0.57652 0.0001 119 | -0.42282 0.0001 119 | 1.00000 0.0 119 | -0.40472 0.0001 119 | 0.01760 0.8526 114 | -0.40502 0.0001 119 | -0.09784 0.2898 119 |
| AGE | 0.57504 0.0001 119 | 0.92599 0.0001 119 | -0.40472 0.0001 119 | 1.00000 0.0 119 | -0.10190 0.2807 114 | 0.17531 0.0565 119 | 0.01885 0.8388 119 |
| FEXTKONT | -0.20372 0.0297 114 | -0.12352 0.1904 114 | 0.01760 0.8526 114 | -0.10190 0.2807 114 | 1.00000 0.0 114 | -0.15530 0.0990 114 | 0.05461 0.5639 114 |

CORRELATION ANALYSIS

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0
/ Number of Observations

| | YRKYEARF | YRKYEAR | LEDNGR | AGE | FEXTKONT | YRK | FIXSAL |
|--------|--------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| YRK | 0.82660 0.0001 119 | 0.10009 0.2788 119 | -0.40502 0.0001 119 | 0.17531 0.0565 119 | -0.15530 0.0990 114 | 1.00000 0.0 119 | 0.18530 0.0436 119 |
| FIXSAL | 0.14660 0.1116 119 | 0.00290 0.9750 119 | -0.09784 0.2898 119 | 0.01885 0.8388 119 | 0.05461 0.5639 114 | 0.18530 0.0436 119 | 1.00000 0.0 123 |

Appendix 3. SAS transcript of regression analysis

Model: MODEL1A
 Dependent Variable: LFIXSAL

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Prob>F |
|----------|-----|----------------|-------------|---------|--------|
| Model | 6 | 6.48461 | 1.08077 | 2.684 | 0.0183 |
| Error | 106 | 42.68950 | 0.40273 | | |
| C Total | 112 | 49.17411 | | | |
| Root MSE | | 0.63461 | R-square | 0.1319 | |
| Dep Mean | | 3.81490 | Adj R-sq | 0.0827 | |
| C.V. | | 16.63505 | | | |

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | T for H0: Parameter=0 | Prob > T |
|-----------|----|--------------------|----------------|--------------------------|-----------|
| INTERCEP | 1 | 3.608002 | 1.01266310 | 3.563 | 0.0006 |
| YRKYEARF | 1 | 0.016892 | 0.01032927 | 1.635 | 0.1049 |
| YRKYEAR | 1 | -0.005833 | 0.01060718 | -0.550 | 0.5835 |
| STRONG | 1 | 0.570708 | 0.23686362 | 2.409 | 0.0177 |
| EDUC EDUC | 1 | 0.292605 | 0.13476021 | 2.171 | 0.0321 |
| JOBCH | 1 | 0.066948 | 0.04644647 | 1.441 | 0.1524 |
| LEDNGR | 1 | -0.005391 | 0.01138679 | -0.473 | 0.6369 |

Supplement: Questionnaire

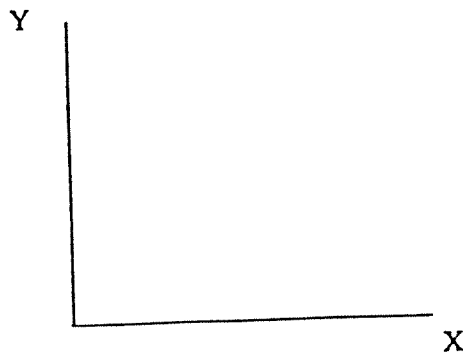
RESPONDENTS NAME:
FIRM:

(D) DEMOGRAPHIC DATA

- D1. YEAR OF BIRTH
- D2. PLACE OF ADOLESCENCE
- D3. FATHER'S PROFESSION AT THE TIME OF RESPONDENT'S UP-BRINGING
- 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/HER AGE, HOW LONG YOU HAVE KNOWN HIM/HER, WHERE HE/SHE WORKED IN 1985, AND
- E3. FOR EACH OF THESE EXTERNAL CONTACTS NAMED, DO YOU SOCIALIZE WITH HIM/HER, 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?

Model: MODEL1 B
 Dependent Variable: LFIXSAL

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Prob>F |
|----------|-----|----------------|-------------|---------|--------|
| Model | 5 | 6.75474 | 1.35095 | 3.392 | 0.0069 |
| Error | 108 | 43.00765 | 0.39822 | | |
| C Total | 113 | 49.76239 | | | |
| Root MSE | | 0.63105 | R-square | 0.1357 | |
| Dep Mean | | 3.80814 | Adj R-sq | 0.0957 | |
| C.V. | | 16.57096 | | | |

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | T for H0: Parameter=0 | Prob > T |
|----------|----|--------------------|----------------|-----------------------|-----------|
| INTERCEP | 1 | 3.815555 | 0.21780084 | 17.519 | 0.0001 |
| HCNOACAD | 1 | -0.497318 | 0.24473311 | -2.032 | 0.0446 |
| HCECON | 1 | -0.243581 | 0.23098790 | -1.055 | 0.2940 |
| HCLAW | 1 | -0.199111 | 0.28094981 | -0.709 | 0.4800 |
| HCENG | 1 | 0.076027 | 0.24979727 | 0.304 | 0.7614 |
| STRONG | 1 | 0.720912 | 0.23691173 | 3.043 | 0.0029 |

Supplement 2. Questionnaire on executive team members' compensation contracts

Konfidentiellt behandlat under tystnadsplikt av Eva Meyerson

Namn:

Företag (1985):

Kompensation från anställning

1. Om du hade en fast årsbruttolön av arbete i företaget, på vilket årsbelopp löd den 1985? SEK

2. Om du hade bonus/tantiem baserad på din egen prestation, hur var den konstruerad 1985? (kryssa för relevanta alternativ, procent och belopp),
 - a. fastställt av arbetsgivare utan någon särskild explicit regel, ange bruttobeloppet för året 1985 SEK
 - b. procent av avkastning på sysselsatt kapital, ange procent% samt bruttobeloppet för 1985 SEK
 - c. procent av avkastning på eget kapital, ange procent% och bruttobeloppet för 1985 SEK
 - d. procent av utdelning, ange procent% samt bruttobeloppet för 1985 SEK
 - e. procent av omsättning, ange procent% samt bruttobeloppet för 1985 SEK
 - f. procent av vinst över branchen genomsnittliga vinst, ange procent% samt bruttobeloppet för 1985 SEK
 - g. annan konstruktion vilken?

.....
samt ange beloppet som du erhöll för året 1985..... SEK

3. Uppskatta värdet av andra typer av kompensation av avsevärd betydelse tex sk fringe benefits som du erhöll från din anställning i företaget 1985.

.....
.....
.....

4. Om du hade ett avtalat avgångsvederlag 1985 beskriv hur det var konstruerat.

.....
.....
.....

5. Om du hade ett fallskärmsavtal 1985 beskriv hur det var konstruerat.

.....
.....
.....

Organisation av lönesättningen

6. Vilken eller vilka befattningshavare hade störst inflytande på din fasta lön under perioden 1984 tom 1986? (ange titel och namn för 1985)

1).....
2).....
3).....

7. Under perioden 1984-1986 hur ofta blev den fasta lönen justerad?

- Varje år
- Vartannat år
- Vart tredje år eller mer sällan

Annand grund än tidpunkt för justering nämligen

.....

8. På vilken befattningshavares initiativ blev lönen justerad? (ange titel och namn för 1985)

.....

9. Hur ofta blev bonus/tantiem justerat under perioden 1984-1985?

- Varje år
- Vartannat år
- Vart tredje år eller mer sällan

Annand grund än tidpunkt för justering nämligen

.....

10. På vilken eller vilka befattningshavares intitiativ justerades bonus och tantiem under perioden 1984 tom 1986? (ange namn och titel för 1985)

.....

.....

¹För frågorna 9 tom 12 gäller att om du bytt arbetsgivare under den perioden 1984 tom 1986 nämn den rutin som var den vanligast förekommande i det företag du arbetade i under största delen av 1985.

Individuell aktieportfölj

11. Innehade du aktier, optioner och/eller konvertibler under perioden 1984 tom 1986? (kryssa för alternativen)
- aktier
 optioner
 konvertibler
- 12a. Hur stor andel av din egen aktieportföljen 1985 utgjordes av aktier i de företag du arbetar i? %
- 12b. Hur stor andel av din optionsportfölj 1985 utgjordes av optioner i det egna företaget? %
13. Uppskatta marknadsvärdet av din aktieportfölj för året 1985: SEK
Uppskatta marknadsvärdet av optioner för året 1985: SEK
Uppskatta marknadsvärdet av konvertibler för året 1985: SEK
14. Uppskatta hur stor din totala förmögenhet var 1985SEK.