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Are monitoring and high-intensity pay complements or substitutes?

by

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Abstract: Two theories of incentive pay are empirically tested with respect to the relationship between degree of monitoring and high-intensity in output dependent pay: models within efficiency wage theory claiming that incentive pay and monitoring are substitute and models within the principal- agency theory claiming that they are complements. The two predictions are empirical tested on 123 top managers' compensation contracts in publicly traded firms on the Swedish Stock Market during the period of 1980 to 1988. The result confirms that low monitoring cost and high-intensity continuous output compensation contracts are complements.

Key words: ownership concentration, monitoring cost, continuous and discrete outcome-dependent compensation, risk transfer.

1. Introduction

Despite a large body of theoretical and empirical research on executive compensation little is understood of the variation in executive compensation contracts within and between corporate governance systems. Although insights in contract theory pointing to the efficiency of high-power incentive contracts (Haubrich 1994, Holmström 1979, Harris and Raviv 1979, Grossman and Hart 1986) the most dominant model, the classical principal-agency model is under attack (Gibbons 1996 for an overview). Although empirical evidence shows a strong relationship between high-power incentive contracts and firm performance (Mehan 1995, Garen 1994, Abowd 1990 and Kahn and Sherer 1990) empirical evidence show a lack of sensitivity in CEO's pay-for-performance compensation and weak evidence of the application of "high-power" compensation such as relative performance pay (Murphy 1985, Jensen and Murphy 1990a, 1990b).¹

The agency models have been the major theoretical work debated in connection to executive compensation issues. Apart from the agency models, dominating the scene, are other pay-for-performance models such as models within the framework of efficiency wage theory and deferred wage models.

¹ **There are some empirical evidence that provides weak support for the existence of relative performance(for an overview see Gibbons 1996 p.7).**

The different pay-for-performance models are not consistent in their predictions about compensation contracts such as the degree of intensity in incentive and under what circumstances they will appear. For instance, efficiency wage theory, the shirking model, argues that low cost monitoring should contain weaker incentive pay and costly monitoring drives high incentive pay.² On the other hand, within the framework of linear principal-

² There are more than one efficiency wage model, for instance the shirking model and the fair wage model (Akerlof 1982, Akerlof and Yellen 1990). The shirking model claims that workers dislike effort on the job and that employers only have limited information on how individuals perform an at work. Therefore employers must find ways to extract adequate effort from their workers. If monitoring is costly a firm might find it profitable to raise wages above market clearing levels to impose an economic penalty on a worker who is dismissed after being caught a shirker. If all firms do this the average wage will rise. This creates involuntary unemployment at the aggregate level. In equilibrium unemployment will work as a disciplinary device sine the loss of a job can involve a lengthy spell of unemployment (empirical tests, Ackum-Agell 1993, Arai 1990, Capelli och Chauvin 1991, Drago och Heywood 1992, Levine 1992,). See also Allgulin and Ellingsen 1998 for a modified efficiency wage model where monitoring is endogenous and as a result there will be relatively more transfer of risk ex ante than in the original model.

agency theory (see Holmström and Milgrom 1987) the "monitoring - intensity principle" predicts the combination of monitoring and intense incentive compensation: where there are agents that react positively to intense incentive, monitoring is profitable (see Milgrom and Roberts 1992 for empirical support see Krueger 1991³).

³ Krueger (1991) reports that managers at franchised restaurants, where the owner receives a large share of the profit and therefore has stronger incentives to monitor, have lower fixed salaries than their counterparts in restaurants owned by the mother company.

Hence, according to efficiency wage theory (the shirking model) monitoring and intense incentive compensation are substitute whereas according to the models within principal agency theory they are complements.⁴ Within the framework of efficiency wage theory the intensity in incentives increases with lack of information on the agent's effort and output performance. According to the monitoring principle the intensity increases with the information on agent's performance. The concept of intensity is interpreted in different ways in the two wage theories. The incentive devices and the risk sharing techniques differ. Risk sharing in the first model works through the level of compensation and in the second works through the structure of compensation. Risk sharing is completed in both models but under opposite assumptions of access to information.

In the present study I will empirically test the two predictions suggested by the shirking model within the framework of efficiency wage theory and the monitoring principal within the framework of principal-agency theory. And the main question raised is: Does lower cost of information increase intensity in incentive and hence increase the total pay?

This study differs from many previous studies in two main ways. First individual manager's contracts, level and structure of compensation, are accounted for in relation to owner monitoring. Second most of the available empirical evidence stems from the U.S. although some recent studies are reported from countries such as Germany, Britain, Japan and the Netherlands.

⁴ Another version of the idea of complement and substitute is found within demand theory.

The stock of knowledge on corporate governance mechanisms is clearly biased to the Anglo- American "market-oriented" financial systems. Consequently some insights and experience from the "bank-oriented" financial systems is provided to the general debate on corporate governance and in particular to the executive compensation debate by referring to Swedish data.

The empirical analysis is based on unique Swedish data providing detailed information on individual managers' compensation contracts. The study is explorative and the data set contains information from 28 publicly traded firms on the Swedish stock exchange during the period of 1980 to 1988. Interviews were carried out with 123 members of the executive teams of these firms about their compensation contracts in 1985 and other individual characteristics such as demographic characteristics and career history

Organization of the paper

The paper is organized in seven sections. In section 2 the predictions of the two wage theories are lined out; the efficiency wage theory predicting that low monitoring cost and high power incentive contracts are substitute and the, linear-principal agency theory predict that they are complements. In the third section it is argued that since monitoring is costly owners with incentive to monitor, low monitoring costs, are investors with large share holdings while dispersed ownership promotes owners with passive exit rather than voice behavior. In the fourth section the predictions from the two wage theories are related to national institutional settings of corporate governance systems. In the fifth section four hypothesis are generated. The empirical assessment of the hypothesis is performed in the sixth section and it is shown that the idea that low monitoring costs and high intensity in continuous output pay are complement and not substitutes cannot be rejected. Finally some conclusions are drawn in section seven.

2. Incentive pay--two models

Incentive pay or pay-for-performance are often stated in standard economic description as agents being paid their equal marginal products. However, the phrase pay- for- performance means the provision of incentives, (see Gibbons 1996). The dominant model of incentive contracting is the principal-agent model. The principal-agent model focus on the trade-off between incentive (give

the individual good reasons to put in a lot of effort) and insurance (that is guard the employee against events out of the agent's control). Other pay-for-performance models are the efficiency- wage and deferred payment models. These models differ from the principal-agency model mainly in that wages do not vary with performance on a continuous basis. In an efficiency-wage model the pay is discretely dependent on performance: a firm pays high wages to all workers according to an ex ante set standard but subsequently fires those whose performance is too low (Shapiro and Stiglitz 1984 and Groschen and Krueger 1990 and Abowd, Kramarz and Margolis 1994, for general empirical evidence).⁵

In these models, the "performance standard" is exogenous, that is, one does not use improved information to set a higher performance standard. A worker is fired for failing to meet a standard that is set outside of the model. That is another important difference between this model (efficiency wage model) and the principal-agent model (Holmström and Milgrom 1987).⁶

⁵ In deferred payment model workers are fired for poor performance but now forfeit higher wages later in their career or after retirement through a pension (see Lazear 1979 for theory and Goldin 1986, Hutchens 1987 and Margolis 1995 for empirical evidence and Gibbons 1996 for an overview).

⁶ If the model were generalized to allow this feature, its prediction would be

closer to that of the Holmström - Milgrom model (see Capelli and Chauvin 1991). See also Allgulander and Ellingsen 1998 for a discussion.

In general, better information could be used to improve incentive pay in either two ways. First, it can be used to *reduce the cost of incentives*, which is done in the efficiency wage model by reducing wages and making firing less frequent. The same effect is achieved in the linear (piece-rate) model, because measured output becomes less random, the agent bears less risk, and the principal is able to reduce the fixed component of compensation to reflect that reduced risk. Second, since information makes providing incentives cheaper, better information could be used to *intensify incentives while keeping the agent exposed to the same level of risk*. When information gets better, some intensification of incentives always happens in the Holmström-Milgrom model, but not in the standard efficiency wage model. This paper tests which of these two effects is predominant in a data set about executive compensation.

Efficient wages are argued to be employed when there is lack of information (moral hazard situation) and a lack of monitoring opportunities. According to efficiency wage theory costless monitoring should contain weaker incentive pay and costly monitoring drives high wages (Shapiro and Stiglitz 1984). This can be expressed as: a highly paid manager may be more energetic and eager to put in maximum effort and hence, productive than are similar managers earning a lower pay since they have more to lose by cheating and therefore find it in their interest to behave in the interest of share holders and honestly. The smallest wage that can deter from cheating is an efficiency wage and is set at higher than market clearing wages in order to motivate the

employee to work more efficiently.⁷

Hence, risk transfer can of course be accomplished by both types of models the shirking model and the linear principal agent model. The first, the risk transfer is organized as one where the executive do not meet the exogenous set standard of output and consequently is fired. This provides a strong high power incentive contract. The executive will try to meet the standard not any higher and not any lower. The other where the individual executive is punished or rewarded by the effort she puts in on a more or less continuous basis.

What do the two models predict about the total level of pay? In models within efficiency wage theory, improved information leads to lower total pay. In the Holmström-Milgrom model, improved information has three effects on total pay : (1) Better information leads to higher incentives leads to greater (more costly, effort is costly) work effort leads to higher pay. (2) Better information leads to higher incentives, which increase risk, which raises the risk premium component of pay. (3) Better information leads to less risk for any given intensity of incentives, and that leads to a smaller risk premium component of pay. The last two effects mean that there is ambiguity about what happens to the risk premium component, but there is no ambiguity about what happens to

⁷ Neal (1993) found no support for the efficiency wage theory in comparing wage premium between industries and degree of monitoring (supervision).

the "effort" component, leading perhaps to a slight presumption that better information leads to an increase in pay.

In summary the efficiency wage models can be interpreted as the more information gained by monitoring, the less need there is for *intense* incentive contracts: low cost of monitoring and high power incentives are substitutes. In contrast the monitoring principle, within the framework of principle agency theory, predicts that the more precision in monitoring the more likely explicit *intense* incentive contracts will be in place.

3. Exit and voice owners

Monitoring is costly.⁸ If one shareholder were to take the time and energy to monitor management, then this information would be free for the other shareholders an individual shareholder does not have an incentive to monitor management since the gains from improved management are enjoyed by all shareholders whereas the cost is born only by the monitoring shareholder. This free-rider effect makes shareholders in particular shareholders with small stakes reluctant to invest in monitoring.

The separation between ownership and control implies that the owners have reason to monitor management's actions and decisions. However, in order

⁸ Effort monitoring consists of gathering information on the agent's level of action or consists of direct observation of the agent's effort over some period of time. Output monitoring is the observation of the output for instance the performance of the firm or some agreed upon intermediate goals. (See Shavell 1979 and Holmström 1979).

to realize the interests of the owners, the shareholders, the monitoring of management has to be appropriate.⁹ Obviously, the owners cannot evaluate management's actions in detail, or else they would not need managers to begin with.

⁹ Monitoring is direct or indirect observations of agents' action or behavior over a period in time Jensen and Meckling 1976. See also McGuire 1988 on monitoring (gathering information on three factors 1. agent's effort 2.random external variables which influence agent's effort and 3. outcome.)

In a firm with highly concentrated ownership, the main shareholders receives a large share of the value increase from more careful monitoring. This is Hirschman's (1970) "exit voice" argument which implies that the large shareholders have an incentive to influence management while small shareholders prefer to vote with their feet, that is, exit the firm, if returns on investment are lower than expected. Thus we expect more informed owners in firms with concentrated ownership, that is where there is one or two shareholders with large stakes.¹⁰ Only investor with a relatively large stake will be inclined to do significant amounts of monitoring.¹¹

Different systems of corporate governance inhabit different sets of exit and voice investors. Frank and Mayer (1996) distinguish between the outsider system of the UK and U.S. where ownership and control rests with outsiders usually institutional investors (market oriented financial system) and the insider system where the control is in the hands of corporations or individual investors and where cross ownership of shares by one firm in another is commonplace and large family holdings frequently dominate (bank-oriented financial system). Sweden typically belonged to the latter during the 80ths.

¹⁰ **Monitoring is a collective good. The cost is carried by the monitors, however, the profits is distributed among all shareholders. Hubbard 1993:1407,1412, discusses the demarcation line, percentage of votes, for owners deciding to actively monitor management.**

¹¹ **Monitoring may be difficult even for large shareholder. Across 11 industries where capital is generally unspecific as measured by a low ratio of R&D to sales the presence of a single entity owning 15 percent of more the stock had a very significant positive effect on the ratio of stock price to current earnings implying a higher than normal expected growth in future earnings. No such effect showed up for firms in industries with high ratios of R&D to sales (see Milgrom and Roberts p. 498-499).**

Monitoring and incentive pay

If it is possible to minimize the uncertainty in the evaluation of the agent's performance, then the necessary risk premium is smaller.¹² Monitoring management increases the precision in the evaluation, and consequently the need to transfer risk is smaller in the case of concentrated ownership. Empirical research, mainly from the Anglo-American world, on the effects of owner-controlled firms vis-a-vis management-controlled firms are in accordance with the voice-exit argument. Monitoring and pay-performance relationship are stronger in the former than the latter (Gomez-Mejia, Tosi and Hinkin 1987, Tosi and Gomez-Mejia 1989, 1994, Beatty and Zajac 1994, Wade, O'Reilly and Chandratat 1990, Boyd 1990, 1994, Mehan 1995).

¹² A risk premium is defined as ..."the amount a person would be willing to pay to make the switch from a certain income to a random, with the same expected value" (Milgrom and Roberts 1992:210). Another way of expressing the meaning of a risk premium is the average wage increase that the employee demands in order to accept greater volatility in his expected wage.

4. Institutional settings

The empirical evidence show that there are a great variety of designs in executive compensation contracts, not only between firms but also between different types of corporate governance systems. For instance, it has been argued that the high monitoring capacity of banks and other companies in Japan make intense continuous output dependent compensation redundant. In contrast the system of UK and U.S. there are much more of continuous output-dependent compensations contracts where control devices such as take overs are more extensive than in other corporate governance systems (take over markets is argued to be a disciplinary device that will punish managers for bad performance ex post according to an exogenous decided standard)(efficiency wage argument).¹³ Grundfest (1990), Hoshi, Kashyap and Scharfstein (1990), and Prowse (1990) argue that close relationships between principals and agents reduce agency costs in Japan and allow investors to monitor management more effectively than in the U.S.

Exactly how corporate governance systems and designs of executive remuneration are interconnected is unclear. The stock market economies of the UK and U.S. are often argued to offer the opportunity of providing high-power incentives in the form of managerial stock options. While close monitoring by investors and well functioning remuneration committees should promote

¹³ International evidence show that in countries with assumed more monitoring such as Japan and Germany relies less on high powered incentives than less monitoring systems such as the UK and the U.S. In the former type of corporate governance system there is also less of take over markets as a control device compared to UK and U.S.

stronger relations between pay and performance in Germany and Japan. But this far the empirical evidence to support these propositions has not been forthcoming (see Mayer 1997).

Empirical findings for instance in Blinder (1991) claims that in UK and U.S. managers are more concerned about the growth than the profitability of firms and are not completely remunerated according to performance. Milgrom and Roberts (1992) on the other hand argue, based on Professor Chrystal's experience that Japanese firms are not run in the interests of their shareholders (Milgrom and Roberts 1992 p.442). And Schneider-Lemme (1994) makes similar points about Germany. Finally Kaplan (1994b) compares the relation between executive remuneration (salary and bonus) and performance as measured by earnings levels changes in earnings and sales growth in large Japanese and U.S. companies in the 1980s concludes that in general the sensitivity between pay and performance in the two countries Japan and the U.S. are not statically different (in Kaplan 1994b p. 512)!

Differences in institutional settings would imply that compensation contracts such as efficiency wage models are more frequent in bank-oriented financial system, where monitoring is claimed to be prevalent, and less frequent in more in market-oriented financial systems where monitoring costs are high.

5. Compensation levels, compensation forms and risk profiles

Compensation contracts often contain information on levels of compensation such as the level of fixed salary and tantieme, and rules for allocation and

assigning continuous output-dependent compensation such as *tantieme*, warrants, convertibles and company shares.

Degrees of risk can be assigned to different compensation forms. An example of a form of piece rate linear pay (continuous output-dependent compensation) is *tantieme* or bonuses.¹⁴ *Tantieme* can be coupled to an individual's or to a group's collective performance. Furthermore, it can be related to other firms' or the industry performance although this is seldom applied in compensation contracts (Garen 1995, Meyerson 1994). *Tantieme* has often an upside restriction, in order to control for events such as take-overs where important performance indicators may change drastically. In general, *tantieme* has a low downside. There was an expressed motive to restrict on both extreme upside and downside output among Swedish board members/owners: it is bad for business to create too much volatility in managers' salary.

Other types of continuous output-dependent compensation are warrants, convertibles and firm shares. It was often the case in Sweden during the 80s to give favorable loans to managers in order to enable them to buy firm shares. Warrants (*teckningsoptioner*) were not very common in the beginning of the 80s.¹⁵ However, contrary to the purchase of inside share holdings, warrants were clearly under the control of the owner (s) and was used as a reward device.

¹⁴ Lexically *tantieme* means a share in the profit in addition to a fixed salary. Bonus has a broader meaning: additional or extra pay. In the present study the two concepts are used synonymously and the term "*tantieme*" is used as a composite for both *tantieme* and bonus.

¹⁵ There were no developed market for derivatives and hence stock option were not liquid. There is also a need for a diversifying premium since the stock option was related to firm where the manager worked and the manager could not diversify his stock option portfolio.

¹⁶ There is an upside to warrants, convertibles and insider share holdings in general, but also a down side. There is always an issued price and there may also be loans backing up the purchase to be considered. In order to distinguishing between more or less risky assets one needs to take into account the details in the specific contracts per asset. In summary, in the Swedish institutional context, tantieme has a lower expected volatility than do warrants, convertibles and inside share holdings.

Given the Swedish specific financial settings it is conjectured that

¹⁶ **The actual package deal of warrants was combined with corporate bonds (förlagsbevis) or subordinated debt for tax reasons.**

shares holdings, warrants, convertibles are more risky types of compensation than tantieme.¹⁷ I suggest that managers in owner-concentrated firms (low monitoring cost) have stronger risk profiles (high intensity incentive compensation) in their total economic compensation than managers in firms with dispersed ownership. Hence, we expect that

H1. The level of fixed salary will be higher for managers in dispersed-owned firms than in concentrated-owned firms and

H2. The level of tantieme will be higher for managers in dispersed-owned firms than in concentrated-owned firms

H3. Continuous output-dependent wage will mainly be in tantieme for managers in dispersed owned firms and mainly in warrants, convertibles and firm share holdings for managers in firms with concentrated ownership.

H4. The lower monitoring cost and stronger intensity in continuous output-dependent compensation then the higher expected total pay, i.e. the more risk transfer through continuous output pay the higher the total pay.

¹⁷ See Kaplan 1994a,b, Benston 1985, and Coughlan and Schmidt 1985, Murphy 1985, Jensen and Murphy 1990a,b and Black and Scholes 1973 for a discussion and analysis of warrants, stock options, convertibles and insider share holdings.

6. Compensation systems in Swedish publicly-traded firms 1985.

Sweden differs from the U.S. in two important aspects. First, the financial system is a bank-oriented system, in contrast to the market-oriented system found in the UK and the U.S. However, in contrast to the German and the Japanese financial systems the stock market is alive and well even though there has been a decline in the number of firms on the stock exchange from around 250 firms in 1985 to 156 in 1995. Furthermore, the Swedish corporate governance system enhances dispersed and concentrated ownership as well as private and institutional owners.

Secondly, the analysis of the U.S. system of corporate control often focuses on the composition of the board. The assumption being that the more externally recruited board members the better control of managers' decisions. In Sweden boards are always externally seated, the only insider allowed on the board is the manager. The rest of the board members are either the owner(s) or representatives of the owners, not currently employed by the firm. The board composition and board remuneration are left out in the present study. The motive for doing that is based on what Mizruchi (1983) refers to as the bottom line control argument: The ones in control are the ones who can shape and set the premises for others and in our case it is the owners. Consequently, although the board of directors' compensation scheme could be studied, they are in the present study regarded as the owners and bank representatives and hence

reflect perfectly the interest of the owner.¹⁸ (The typical Swedish board compensation schemes were quite uniform both regarding the relatively low level and the design during the 80s.) Hence, the focus of our attention is the executive team members' payment of firms on the Swedish Stock Exchange.

The compensation systems of publicly traded Swedish would typically contain fixed wages, favorable loans to buy insider shares holdings, convertibles and warrants and other output related compensations such as tantieme. The similarity of compensation categories in Swedish firms during the 80s is in accordance with Finkelstein and Hambrick (1988) findings that firms mimic each others compensation menu, however, as will be shown, not necessarily among all firms.¹⁹

¹⁸ The possible agency problem between owners and board representative are therefore ignored in the present study.

¹⁹ A typical CEO in a large company in Japan (30 billion dollars in sales) earns 17 times more than an average paid worker in the same company. In France and Germany the CEO earns 24 times more than his employees, and in the USA, 109 times more. When firm size is controlled, the differences evens out somewhat. In the U.S. compensation contracts containing long-term output-dependent rewards such as tantieme, stock options and convertibles, are common (Arreglado 1991). "Long-term incentive pay components" are the rewards that generated the enormous

wealth among American managers during the 1980s. Milgrom and Roberts (1992: 427) reports that "Direct performance pay now accounts for the bulk of compensation for CEOs of large U.S. companies with annual bonuses contributing 25% and long-term incentives accounting for 36% of total compensation".

The big difference in the compensation packages of Sweden compared to other countries, such as the U.S., concerns the balance between fixed salary and output-dependent rewards and between short-term and long-term rewards. Institutional differences between countries can explain differences in the compensation design. One such institutional component is the national tax system. In Sweden wages were taxed relatively heavily up until 1989 (in some cases the marginal tax was up to 80%). Beneficial tax conditions for stocks and interest on loans made many Swedish managers choose these two forms of compensation. Earnings generated from membership of a foreign company's board of directors were under the control of the tax authorities.²⁰

Another institutional difference between countries is the financial system. Sweden is said to have a bank-oriented financial system whereas the U.S. has a market-oriented financial system (Rybczynski 1993, Berglöf 1990). Characteristic for a bank-oriented system are long-term business relationships between the firm and the bank. Takeovers as a disciplinary device was well developed in the market financial system during the 1980s; this was not the case

²⁰ It is argued that the compensation of managers is asymmetric in the western world. Managers are rewarded for their good initiatives but are never punished for their bad ones. One example of this asymmetry is reflected in the practice of offering stock options as a reward. Good performance is rewarded, yet there are no direct costs coupled to failures. "Asymmetry in financial payoffs helps to offset the greater weight that risk-averse managers give to the increase in the value of their human capital that follows success and that thus leads them not to want to take risks" (Milgrom and Roberts 1992: 431). There are reasons to claim that reward systems in the West are symmetric. However, a control structure is important for the existence of a punishment mechanism to hold management accountable for its actions. Returns on firm shares, for instance, contain a punishment component. The most common punishment is to lose one's job (Gilson and Vetsuypens 1993). However, this is a statement not agreed upon by others such as Jensen and Murphy (1990a p. 227) claiming that dismissal are not an important source of managerial incentives since the increases in dismissal probability due to poor performance and the penalties associated with dismissal are both small.

in Sweden. In the bank-oriented system, the punishment of a manager's bad performance takes a milder course, in contrast to the market-oriented system where a manager is often kicked out into the cold. In the latter case, certain types of insurance are necessary to soften the fall, which is not to pronounced in the case under bank control. If a CEO fail in systems such as Japan and Sweden she is really out for good on the other hand. CEOs in the U.S. often get a second chance.

Finally a third very important institutional factor is the legal system. The Swedish legal system makes managers liable to be put on trial only in those cases where it can be proven that he has caused owners financial damage while it is enough, in the U.S. to have been proven disloyal to the owners.

Variables and sample selection

In the present study, the actual compensation contracts of top executives were available from an earlier study on executive teams. Since this sample of managers was not randomly drawn from the total number of executives in leadership teams, the results should be carefully interpreted. However, the firms in this study do not differ in any significant way from the rest of the population in 1985 in terms of important characteristics such as ownership structure, size of the market value and the number of employees. (For a more elaborate discussion of the sample see Meyerson 1992 chapter 1.)

The population of public firms in existence both in 1980 and in 1985 was

ranked by their most negative abnormal return for any month during 1985.²¹ The resulting list contained 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).

Detailed information on manager's compensation contracts is difficult to gather for obvious reasons. I have used a database originally organized for other purposes containing unique information on managers' compensation contracts. A number 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 selection criterion abnormal return is defined as the difference between the actual and the expected return on share holdings. The expected return is linear to the expected return of the general index. The strength of this relation is dependent on the degree of covariation with the market portfolio See Meyerson 1992 Appendix 1. for an elaborate discussion on the selection

²¹ Abnormal return is defined as the difference between the actual and the expected return on investment. The expected return is linearly related to the expected return on the market portfolio. The strength of this relationship depends on the degree of covariation with the market portfolio, such as the Swedish General Index.

criterion.) The ranking 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 refrained from participation therefore only 28 firms are analyzed.

The population of publicly traded firms can be characterized by three different dimensions: ownership structure, market size and performance. The first two dimensions are well represented in the sample, i.e., the sample contains both private and institutional, concentrated and dispersed ownership and large and small firms. The third dimension, however, the performance measured by the abnormal return is not. Hence, there is a selection bias of firms poor performance in the sample. Consequently, the results can only be generalized to firms experiencing a negative abnormal return.

Another measurement error concerns the variation in negative abnormal return the crisis signal among the sample firms. The crisis signal is different in its magnitude and firms in the sample are not a homogenous group of firms. The measurement error can be controlled for by incorporating the variable abnormal return into the statistical analysis. From the list, the 32 firms with the lowest abnormal returns were selected. Three of the 32 firms refrained from participation; only 29 firms were analyzed in first study. For reasons of confidentiality the names of the firms cannot be published. Information about size, market value and number of employed are provided, however, in such a form as not to reveal the identity of the firm. The selection criterion was motivated by an earlier study where this particular data was used to study

recovery from a crisis situation at the stock market.

And so 29 leadership teams participated in the first interview about human capital and social capital. In the next round of interviews one team decided not continue to participate. Thus, in the present study 28 leadership teams agreed to the second interview. An additional four firms were dropped because two of the teams were too small for analysis (two members only) and two teams withdrew their participation, citing dissatisfaction with the design of the study. Consequently, from the 147 executive team members in the original sample, 123 members make up the subsample. 20 CEOs are included. The remaining 8 CEOs had either passed away or had declined to participate in the study.

Finally, there may be a measurement errors involved in the technique of individual self-reporting about their own compensation. An executive may give a biased description of the level of pay. It is unclear, however, how that bias would work in any systematic way. The measurement problem can also entail memory failures such as forgetting important details in the contracts this a problem we have to live with.

Information about compensation contracts such as stock options, fixed wages, output-dependent rewards, golden parachutes, and board remuneration have been collected through personal interviews (see Meyerson 1992 Supplement, Questionnaire 2).²²

²² Furthermore, information about the team members' human capital (education, career history) and social capital (social contact patterns, both within the team and outside the firm) have been collected in conjunction with demographic data such as age, social background and marital status (see Meyerson 1995)

A concluding picture of the distribution of the different compensation types for the whole sample is shown in figure 1. Out of the total compensation for the whole sample, 47.5% is in the form of fixed salary, 25.7% in returns on firm shares, and 20.5% in tantieme. Out of the 123 managers, 121 had fixed salaries, 32 had tantieme and 90 had firm shares.

Figure 1. The distribution of different forms of compensation for the whole sample. (123)

Hypothesis 1. The level of fixed wages - the first result

The fixed salary constitutes the main part of the economic compensation for the team members in the sample (See Figure 1). All members except two received a fixed salary in 1985. A CEO had on average 767.525 SEK per year in fixed salary.²³ The lowest pay was 200.000 and the highest 1.800.000 SEK. For the rest of the executive team members, the average wage was 484.886 SEK, with the distribution spread between 140.000 and 2 400 000 SEK.²⁴ (See Appendix

²³ The exchange rate to dollar was 8.60 SEK to one dollar on average in 1985. The period was characterized by high volatility in the exchange rate hence the lowest value was 7.62 and the highest 9.74.

²⁴ In interviews with the individuals responsible for setting wages and for the

for univariates.)

recruitment to top positions in the firm, the principle of "fair wages" at the top executive level stands out. The concept of "fair wages" was the following: too wide a wage dispersion within the team, irrespective of performance, would negatively affect morale. Too wide a wage dispersion creates discord.

The level of fixed salary is higher in firms with dispersed ownership than in firms with concentrated ownership (see Table 1 for statistical description).²⁵

[Table1 about here]

In Meyerson (1994) it was shown for the same sample data there was no statistically significant correlation between ownership concentration and CEO's fixed salary. In the regression individual level variables such as human capital (education, tenure and experience), social capital (social contacts) and firm size was controlled for.

In Table 2 below a regression analysis is presented with the endogenous variable being fixed salary and the exogenous variable being owner concentration, controlling for industry, market size, and selection bias in performance (abnormal return)²⁶, human capital variables such type of education (non academic, academic engineering, law, other where reference dummy is economics), tenure (number of years in executive position) experience (number of years in work life) and social capital variables (the strength of social ties and the number of ties that the manager has that are exclusive to him in the executive team) and career concerns such as number of job changes in the manager's work life, and finally social class background of the manager.²⁷

The result from the regression indicates no significant statistical relationship

²⁵ This is in accordance with Kato (1994) findings on Japanese CEO's wages. The more effective monitoring and control the more restrained executive compensation.

²⁶ The selection criteria a negative abnormal return is controlled for in the regression.

²⁷ For an extensive discussion of why variables such as social contacts should be in the analysis of manager's fixed salary regression see Meyerson 1994 and Burt 1992.

between ownership concentration and fixed pay level. Hence hypothesis 1 renders no support from the empirical analysis.

[Table 2. about here]

Hypothesis 2 Level of Tantieme - the second result

Out of the 123 team members 32 had tantieme. A tantieme scheme was designed in many different ways such as: 1. no explicit goal or the tantieme being regulated ad hoc by the employer; 2. percentage of the returns on working capital, 3. percentage of the returns on equity; 4. percentage of dividends 5. percentage of ; 6. percentage of the profit above the industry average; 7a. percentage of the profit after depreciation; 7b. percentage of the profit after financial net; 7c. percentage of the group profit after financial posts, 7d. percentage of the profit after deducting depreciation but before interest rates and dispositions with a ceiling up to 25% of the yearly fixed salary. 7e. return on working capital at the end of the year minus the return on working capital at the beginning of the year multiplied by the yearly wage but a maximum 15% of the returns 8. other agreements, such as fixed return on

share holdings above the long term interest rate of 5%.²⁸

²⁸

An important principle behind the choice of a tantieme scheme was disclosed in the interviews with representatives of the owner: there is a ceiling for the output-dependent compensation in tantieme which lies at 30-50% of the fixed salary, the reason being that too much volatility in a manager's individual compensation threatens the stability of his private economy, and hence his stability when it comes to judgment and decision making. A manager's private economy must rest on a solid foundation in order to keep his attention from being diverted to a project that is not in the interest of the shareholders.

Out of the 32 team members who had any type of tantieme the two most common types were the percentage of profit (15 team members) and the percentage of working capital (10 team members). Noteworthy is that neither percentage of turnover nor the relative measure percentage of profit over the industry average (type 6) was in use.²⁹

The average share of tantieme to total salary (tantieme and fixed salary) is 33% (n=32) for the entire executive team, including the CEO, and 30% (n=27) excluding the CEO.³⁰ For the CEOs alone, the share of the tantieme is 48% (n=5).³¹

Table 3 shows statistical description for the level of the average value of tantieme is higher in firms with dispersed ownership than in firms with concentrated ownership. For example the average value of tantieme among

²⁹ Relative output dependent performance measures such as the performance of one firm compared to another relevant firm or industry is one measured proposed by the scholars such as Holmström (1982a). Furthermore most evidence on this proposition is weak or disconfirming. Murphy (1985) provides evidence consistent with the proposition, but the evidence in Jensen and Murphy (1990a) is not supportive.

³⁰
$$\frac{\sum_{i=1}^n (tantiem/tantiem + fastl\hat{i}n)}{N}$$
 for all with tantieme.

³¹ Representatives for the owners with large controlling share holdings argued against short-term, profit-related compensation from two standpoints: First, it is difficult to design appropriate individual output-dependent compensation. Second, a manager performs many different tasks, but has little control over certain other factors. These two circumstances together imply that the most talented and ambitious persons, when given a choice between different jobs, would never accept a job coupled with too much uncertainty (adverse selection argument). Furthermore, team spirit, which could be difficult to achieve if there were too much emphasis on individual performance and compensation, would be threatened. (Yet, the fact that certain individuals are rewarded through promotion was seen as something natural.)

CEOs is 5 400 000 in dispersed owned firms and 400 000 in concentrated owned firms. Furthermore among 11 owner concentrated owned firms only one CEO has a form a tantieme where as among dispersed owned firms 4 out of 9 have tantieme.

[Table 3. about here]

In Table 8 the second expected result is empirically supported. Degree of ownership concentration varies negativeley with share of tantieme of the total pay.

Fotnot: (In the regression The variable Ytanboard entails not only tantieme but also convertible but to an extremley low extent).

Hypothesis 3 Ownership and risk transfer - the third result

Out of the 109 managers who had share holdings, 43 managers had more than 50% of their portfolio in firm shares.³² Nine managers had firm warrants and 22 managers had convertibles.

Managers' inside stock holdings can provide incentives, although these holdings are not generally controlled by the corporate board. Still, the incentive effect is argued to be taken into account in the research literature. The market value of the insider share holdings is measured (Murphy 1985, Jensen and Murphy 1990a). This is a somewhat peculiar way of catching the incentive effect since there are no information about the manager and his families's total wealth

³² The Swedish executives' insider stock holdings differ from the U.S. condition where inside stock holdings is small (Murphy and Jensen 1990a)

and hence, the portfolio composition and risk exposure.³³

³³

One reason to why managers are given high compensation deals is given by Gaumont and Merlateau (1993). They point to the fact that the management of the manager's own portfolio may compete with the manager's management of the firm. The owner should therefore design a contract where it is beneficial to the manager to concentrate on the management of the firms instead of paying too much attention to his own portfolio management. This is costly. Such a contract craves that the manager's portfolio contain a large portion of firm shares.

I suggest that the incentive effect of insider share holdings can be measured in the following way. Since I have no information on the striking date and the expiration date it is difficult to assign the value as measured at the conventional way (Black and Scholes 1973). Instead the stock of the portfolio of warrants can be assigned a value from the underlying share. Returns on securities are measured as 10 %, of the value of the securities. The return criterion is motivated by the assumption that the manager did not know ex ante the real return and instead based his decision on a historic average return on the shares.³⁴ Consequently in this study total income is composed by fixed salary, tantieme and return on securities. Let me first present some descriptive statistics.

Managers that had shares, in firms with dispersed ownership, had a portfolio with 68% inside share holdings while managers in concentrated owned firms had 75% of their portfolio in inside share holdings.

[Table 4. about here]

[Table 5. about here].

Tables 4 and 5 show that team members, excluding the CEO, in firms with

³⁴ The return criterion of 10% contains a 3% risk-free part, 5% average inflation and 2% average risk premium.

dispersed ownership diversify their risk by having returns on shares for higher values from outside stock holdings than from inside. The situation is somewhat different for the firms with concentrated ownership where the team members tend to have a more undiversified stock portfolio, slightly higher value of inside stock holdings. The same conditions are found in the comparison with risk strategies of CEOs in firms with different levels of owner concentration, even if the tendency is less distinct compared to the rest of the members.

Compensation through returns on firm shares, as a share of the total compensation comprised of tantieme, board remuneration, fixed salary and returns on the firm shares, is 13% (n=90). For the team, excluding the CEO, it is 12% (n=72) and for the CEOs alone it was 16% (n=18).

Tables 6 and 7 show the return on securities in relation to total income for firms with concentrated respectively dispersed ownership.

[Table 6. about here]

Total compensation (Y_{tot}) is defined as the sum of the fixed income, tantieme, board remuneration and 10% returns on the value of warrants, convertibles and firm shares. The relative weight of tantieme in the total compensation deal is defined as the value of tantieme divided by total compensation ($Y_{tanboard}$). The relative weight of firm shares is defined as 10% of the stock of firm shares divided by total income ($Y_{shareand}$). The relative weight of warrants and convertibles is defined as 10% of the value of the warrants and convertibles divided by the total income ($Y_{conopand}$).

Testing of the third idea -- that executive team members in firms with concentrated ownership are expected to have less continuous output-dependent

income from *tantieme* than agents in firms with dispersed ownership receive -- gave expected results.³⁵ The hypothesis was empirically tested with two different regressions.

The first regression contained the endogenous variable degree of risk, defined as the share of "high risk compensation" ($Y_{shareand}$), measured as 10% of the manager's insider share holdings by total income (See table 5).³⁶

The second regression expresses the relationship between the less risky form of compensation ($Y_{tanboand}$) defined as *tantieme*, and total compensation. (See table 7).

The different control variables are team size (TEAM), market value of the firm (MV), abnormal return (AR) and the indicator for partnership. Three proxy variables for a partnership between the CEO and the owner(s) are used in three regressions. (See Table 8) Social contract, partnership, defined as the owner's tendency to delegate the control of the firm, in this case, the recruitment of the executive team, is measured by three variables: the percentage of all team members recruited by someone else than the CEO

³⁵ The output-dependent compensation is influenced by the firm's performance, and (poor) performance was the selection criterion for this sample. Since the output-dependent compensation can have been influenced by the selection instrument abnormal return (AR) this variable is entered into the regression equations below as a control variable. It is important to note that the measurement error influences the relationships in the same direction for all firms; each firm's output-dependent compensation levels are with high probability undervalued compared to the normal population of Swedish firms at the stock market.

³⁶ These results should be carefully interpreted since it is unclear whether shares in the firm are handed out as a reward from the owners. However, it was a common practice in the 1980s to offer managers beneficial conditions under which they could buy firm shares.

(NOCEO); recruitment of next CEO defined as 1 if the CEO recruits his successor and 0 if others recruit the new CEO (CEOREK) and, finally, the share of the team members (excluding the CEO) that are recruited by the CEO (TEAMREC).

[Table 8. about here]

Table 8 shows that the idea that more information increase the intensity in compensation renders empirical support. The share of high intensity continuous output- dependent compensation increases with ownership concentration while the share of low intensity transfer of continuous output-dependent compensation decreases with ownership concentration. The control variable firm size³⁷, measured as market value, shows a nonsignificant negative correlation with the share of risk compensation. The low risk-oriented form of compensation, when controlled for partnership variables, is negatively and significantly correlated with owner concentration .

Hypothesis 4. Intensity in risk transfer and total pay - the fourth result.

The final empirical test determines the correlation between intensity in compensations contracts, the degree risk transfer in compensation, and total compensation.

³⁷ Firms size is reported to have an impact on the CEO tendency to own stocks and have less compensation based incentives than CEOs in smaller

The regression in Table 9 shows that the intensity in/degree of risk transfer in compensation has a direct and significant effect on total level of pay. One percentage of change in share of firm share increase total pay with 260%! In table 8 it was shown that there is empirical support for the positive and significant relationship between owner concentration and degree of risk transfer in compensation. In Table 9 it is shown that there is empirical support for the positive significant relationship between degree of risk transfer and total level of pay. The two tables 8 and 9 show an indirect effect of owner concentration on level of total pay: there is a direct positive relationship between owner concentration and the degree of risk transfer and a direct positive significant effect of degree of risk transfer on total level of pay.

[Table 9. about here]

Increased access to information, higher owner concentration CR, does not exhibit an effect over and above the effect of degree of risk transfer on total level of pay. However, owner concentration indirectly affect total level of pay through it's effect on degree of risk transfer.

7. Conclusions

Evidence seems to be inconsistent with the efficiency wage theory. The empirical findings suggest that the idea that monitoring, more and better information and high intensity output-dependent compensation are complement and not substitute cannot be rejected.

There is empirical support for the conjecture that strong owner

concentration increase degree of risk transfer, in the form of high intensity in continuous output dependent compensation that in turn increase the total level of pay. A monitoring owner, owners with large and controlling share holdings design executive compensation contract based on low level of fixed salary, low levels of tantieme and attractive loans to buy insider share holdings. There is presumably a strong alignment between owners' interest and agents' in these contracts.

The executive compensation system in firms with a dispersed ownership and where an individual share holder has a high monitoring cost are found to be very different: fixed salaries and tantieme are at a comparatively high level however does not significantly vary with ownership concentration. Insider share holdings are rare.

The majority of the 123 team members interviewed had a fixed salary in 1985. In addition, 26% had tantieme and 88% had firm shares. A CEO had on average 767.525 SEK in fixed salary within the interval of 200.000 to 1.840.050 SEK. The other team members had a fixed salary on average of 485.886 SEK, varying within the interval of 140.000 to 900.000 SEK. For the 32 individuals who had a tantieme, the mean value was 869.750 SEK with the range lying between 12.000 and 20 million SEK.

The interpretation of these results can be generalized to any executive team and firm that experience a negative abnormal return on the stock market, since the sample selection is rather exclusive, containing only 28 publicly-traded firms that were confronted with strong negative signals from the Swedish stock market in 1985. The sample does, however, exhibit strong similarities in

variations to the original population when factors such as ownership concentration, market value and the number of employed are considered. In sum, the present study has its value due to the micro data concerning compensation contracts and the insights provided from a corporate governance system within an institutional framework different from the more commonly reported in international journals

I have shown that the empirical data does not support the efficiency model implication of transfer of risk and monitoring. Next step is to discriminate between principal-agency models and other types of models such as rent-seeking models and the free riding problem among owner categories. This will include a performance based analysis: how does pay level and risk levels correlate with firm profit and overall firm performance?

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Appendix 1. Definition of variables, their transformation, the characteristics of the univariates and the correlation matrix.

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 minimum (MIN) and the maximum (MAX) values.

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 however only 28 firms are analyzed in this paper. The characteristics of the univariate distribution for *abnormal return* of the 106 firms and 28 firms are shown in Table A:1.

The *ownership concentration* is measured by the concentration ratio (CR) which is the largest shareholder's percentage of votes. The univariate description of ownership concentration for the sample is shown in Table A2.

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).

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

The *recruitment* to the executive team is captured through the variable *rekrytl* and is divided in the following categories: 1. recruitment to the executive team through mergers /acquisitions, 2. by owner(s), 3. by the

incumbent CEO, 4. other.

The variable REKRYTL is used to construct the tree indicators of the relative domination of the CEO in the recruitment of the executive team. The first measure is the percentage of team members not recruited by the CEO, NOCEO. The second measure is the percentage of team members excluding the CEO recruited by the CEO (TEAMREC). The third measure is the propensity that the CEO is recruited by the incumbent CEO. The first measure NOCEO is large when others than CEO dominate the recruitment, and smaller when the CEO dominates, The second and third is large when the CEO dominates and small when others dominate the recruitment of team members, In Table A1 the characteristics of the univariate distribution for the three measures are depicted.

Table A1. Characteristics of the univariate distribution for the variables.

Variables	N	Mean	Standard - deviation	Median	Min	Max
CR	28	45.27	15.90	47.25	18.3	82.2
MV*	28	898.723	1409.7	488.161	15.008	7000.9 81
AR	28	-.0544	-.0512	-.045	-.273	.008
EMPLOY**	28	6.090964	14.01657	2.0685	.001	74.32
TEAM	28	5.03	2.30	4	2	9
NOCEO	28	30.41	20.28	26.13	0	100
CEO	20	0.3571	.489	0	0	1
TEAMREC	28	74.30	31.54	80.00	0	100

* million Swedish kronor

** 1000 employed

Individual data

Compensation variables

Fixed salary (FIXSAL) is defined as the total fixed yearly salary

Tantieme (TANTSVAL) is defined as the value of the yearly tantieme.

Warrants (OPTIONVL) is defined as the market value of the individual's portfolio of warrants in 1985.

Stocks (SHAREVAL) is defined as the market value of the individual's stock portfolio in 1985.

Firm shares (FTGSHARE) is defined as the value of the firm shares with the stock portfolio in 1985.

Board remuneration (BOARD) is defined as the value of the total remuneration from positions at boards.

Total value of compensation in 1985 (Ytot) is defined as the sum of the fixed salary, tantieme board remuneration and 10 % of return on stock holdings, stock options and convertibles

The share of tantieme of total compensation (Ytanboard) is defined as the value of the tantieme for the manager divided by the total compensation.

The share of convertibles and stock options out of total compensation (Yconopand) is defined as 10 % returns from the stock options and the convertibles divided by the total compensation.

The variable firm shares (Yshareand) is defined as the 10 % return of firm share divided by the total compensation.

The characteristics of the univariate distribution is found in table A2.

Table A2. Univariats for the individual based variables

Variables	N	MEAN	Standard deviation	Median	Min	Max
CR	123	47.56	14.45	51	18.3	82.2
MV*	123	818.209	1258.839	504	15.008 2	70000.000
EMPLOY**	123	6.436	13.144	2.776	0.001	74.320
TEAM	123	6.0	2.26	6	2	9
CEOrek	123	0.33	0.47	0	0	1
NOCEO	123	25.59	16.84	25	0	100
AR	123	-0.00556	0.052	-0.044	-0.273	0.008
FIXSAL*	121	0.532438	0.315000	0.458	0.14	2.4
TANTSVAL	32	869750	3500379	150000	12000	20000000
OPTIONVL***	9	8916.67	57282.2	100000	2500	200000
FTGSHARE***	90	386455.3	1296678	22500	200	9700000
SHAREVAL***	109	394408.7	1237569	50000	1000	10000000
BOARD	32	141718.8	148147.8	100000	10000	700000
SHAREAND	90	0.13	0.209	0.034	0.0	0.9
CONVVAL***	22	150045	41795.6	35750	2500	2000000
TEAMREK	123	80.93	22.82	80	0	100

* million swedish kronor

** 1000 employed

*** the return criteria 10%

Definition of variables for Table 1.

A Strong tie is defined as a tie between two individuals that claim they either confide in or socialize with each other privately.

A Nonredundant tie is defined as a unique and exclusive tie that connects a team member to contacts outside the executive team and the firm and where no one else in the team has the same contact.

Human capital dummy variables defined as education below academic exam (Human capital no academic), engineering at university level (HCengineering), law, (HClaw) university degree in economics/management (HCecon), other academic exam (HCothers).

Social background is defined as the fathers occupation at the time for the respondents upbringing (SEI classification for 1984 was used for this socioeconomic classification).

Jobchange is defined as how many times a manager has changed employers for new jobs during his work life.

Tenure is defined as the number of years the managers has been in the executive team.

Experience is defined as number of years in the work force.

Univariates for Table 1

	N	Minimum	Maximum	Mean	Std. Deviation
	121	2,64	5,48	3,8621	,4463
LOG_FIS1					
CR	123	18	82	47,57	14,45
MV	123	15	7053	818,21	1258,84
AR	123	-.273	0.008	-5,87E-02	5,89E-02
STRONG	115	0	1	,29	,26
HCENG	120	0	1	,21	,41
HCLAW	120	0	1	,11	,31
HCOTHE	120	0	1	7,50E-02	,26
R					
SEIKAT	120	0	2	1,11	,66
JOBCH	117	0	7	2,02	1,64
LEDNGR	120	51	85	77,94	6,50
YRKYEAR	120	7	46	24,19	8,52
NRT	123	7	66	40,33	14,16
Teamsize	123	2	9	6,02	2,27
IND1	123	,00	1,00	8,943E-02	,2865
IND2	123	,00	1,00	,1220	,3286
IND4	123	,00	1,00	,1057	,3087
IND5	123	,00	1,00	3,252E-02	,1781

Supplement: The Two Questionnaires

Questionnaire 1.

Respondents Name:

Firm:

Demographic data

1. Year of birth, place of adolescence, father's social background, father's profession at the time of respondent's upbringing
2. marital status
3. education, work experience and tenure

Recruitment data

1. 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.
2. On the Y co-ordinate fill in the name of the person or institution that mediated the new job.
3. Fill in at the same place your relation to the recruitment source.

Team member relationships

1. Do you socialize with x,y,z in your team?

Questionnaire 2.

1. If you received a fixed yearly salary in 1985 please fill in the figure below.
2. If you had tantieme based on some sort of performance please give us some description of the principle for the construction of the tantieme.
3. Give us the value of other types of compensation such as fringe benefits that you received from you professional position in 1985.
4. If you had a retirement agreement please describe it below.
5. If you had a golden parachute please describe it below.

The organization of compensation settlement

6. Who were responsible for negotiating your fixed salary during the period of 1984 to 1986? What was his professional position?
7. Who were responsible for the tantieme setting during the period of 1984 - 1986? What was or were his or their professional position?
8. Who took the initiative to adjust the waage ?
- 9 Who took the initiative to the adjust the tantieme?
- 10 At what interval was the wage adjusted?
11. At what interval was the tantieme adjusted?

Securities

11. Did you have stocks, stock options, warrants and/or convertible during the period of 1984 - 1986?
12. How large of a proportion of stocks were your firm shares in 1985?
13. Give the 1985 market value of your stocks, stock options and convertibles.