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International Influences on CEO Bonus

- The Case of Swedish Acquiring CEOs

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Abstract

Title:	International Influences on CEO Bonus
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Supervisors:	Dr. Niclas Andréén Prof. Lars Oxelheim
Keywords:	CEO Compensation, CEO bonus, Mergers & Acquisitions, Cross-sectional regression.
Purpose:	In our study we intend to investigate if there is a specific acquisition component, in line with Grinstein and Hribar's study, in the bonus for CEOs in companies based in Sweden. The acquisition component will be studied in an international as well as in a domestic context, i.e. acquisitions of foreign and domestic companies.
Methodology:	Using cross-sectional regression analysis, estimated with OLS, with Bonus of Swedish CEOs as dependent variable in order to test our hypotheses
Theoretical framework:	The theoretical framework contains agency and corporate governance theories as well as previously made studies.
Conclusions:	We find very weak support for the hypothesis that the CEO bonus increases as a consequence of making foreign acquisitions.

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1. Introduction

The introduction chapter aims to create a better understanding of the purpose of the thesis. The chapter starts with describing the background, which leads to a problem discussion and ends up with a specification of the problem and the purpose of the thesis.

1.1 Background

In recent years CEO compensation has increased substantially which can be seen as an attempt to attract and motivate skilled managers and to get an alignment of managers' incentives and shareholders' interests. The area of CEO compensation has therefore been under great scrutiny of both the public and academics. With increased firm information disclosure it is possible to study the composition of compensation packages where the optimal composition is the one which completely aligns management's incentives with the interests of shareholders. What may not have been researched as much are bonuses paid to CEOs. This kind of pay should be dependent on the performance of the firm, according to the principle of optimal contracting, but may in reality also contain pay for amount of effort exerted by the CEO. It may also be that executives take advantage of their power over the board to raise their pay and that certain events are used to justify an increase in compensation. Such a component implies that managers may carry out investments partly as a purpose to raise their pay. An acquisition is a type of investment that probably is the most significant resource allocation a manager implements and where the potential value destruction is large. Even so, there is anecdotal evidence suggesting that CEOs get generous bonuses for completing M&A-deals even though most prior research points out that M&A-deals are value-destroying.

In their study made from a sample of UK firms, Grinstein and Hribar (2003) find that deal size and the amount of power the CEO have in the board of directors are the main drivers of M&A-bonuses. They suggest that effort and managerial power have significant impact on the size of the bonus paid and that CEOs who have more power tend to enter larger deals in comparison to the size of their own firms.

Kroll et al (1990) find that managers in manager-controlled firms get compensated for undertaking acquisitions. Managers in owner-controlled firms, on the other hand, do not experience higher post-acquisition compensation if the acquisition does not turn out to be profitable.

Acquisitions tend to enhance CEO compensation which seems to be consequences of various agency problems. There is also another dimension of CEO compensation that adds additional complexity to the matter, namely that CEOs tend to get compensated for international influence on the firm.

Ramcharran (2002) studies CEO compensation in US companies with foreign operations and concludes that the environment surrounding multinational businesses bears risks that increases the risk of the whole corporation and hence increases the compensation to the CEO.

Oxelheim and Randøy (2005) find that anglo-american influence on Swedish and Norwegian corporations leads to higher compensation for the CEO. The influence is captured through the product and service market, market for corporate control and the capital market. They argue that firm internationalization affects CEO compensation.

1.2 Problem Discussion

Clearly, there seems to be international factors influencing compensation components. This may, as Oxelheim and Randoy (2005) argue, come as consequences of international influences on the firm through which CEO compensation will be affected. The higher risks associated with foreign operations are just one factor that raises the executive's compensation level. Another factor might be the importing of pay practices from subsidiaries in countries with generally higher compensation levels, as Girma et al. (2002) argue. Yet another explanation to why the aspects of internationalization raise CEO compensation is that the supply of CEOs with sufficient international experience is limited. As also put forward in the discussion above, there exists evidence of an acquisition component in CEO bonuses. Harford and Li (2007) argue that an acquisition event presents a natural take-off point for the CEO to argue for higher pay. As already mentioned above, Grinstein and Hribar (2003) find that the CEO's power to influence board decisions enables him to use the acquisition event as a justification for a higher bonus. The effort exerted by the CEO in the acquisition deal further justifies higher pay. Moreover, Chalmers et al. (2006) find that rent extraction determines the level of bonus. Whether an acquisition component in the CEO bonus is common for all companies in every market remains for now unanswered. Thus, it is interesting to study the possibility of an acquisition premium in the CEO bonus in a region where the structure of compensation packages and compensation levels are much different from those in markets

reviewed in previous studies. Furthermore, considering that international aspects seem to influence CEO compensation, will a possible acquisition component in the bonus of the acquiring CEO be larger if the acquisition target is located in a foreign country? If so, are there differences in the bonus that depends on in which region the target is located?

1.3 Specification of the Problem

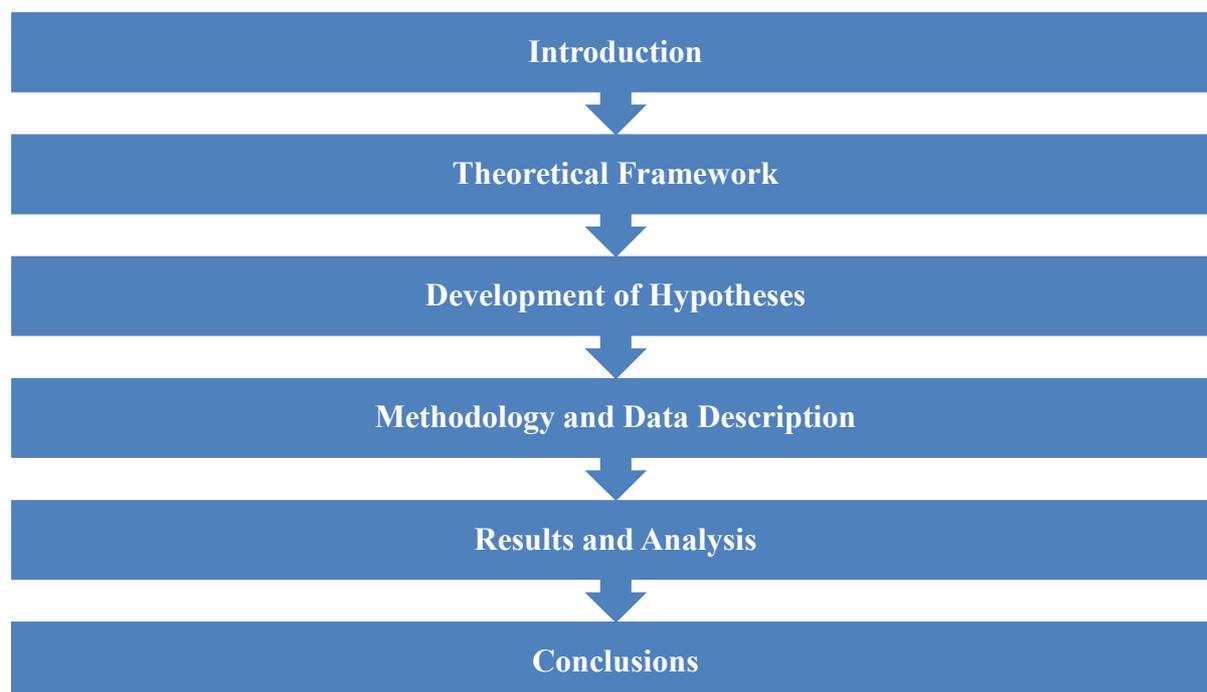
The area of interest is the influence of acquisitions on CEO bonuses in an international context. This will be investigated by examining the impact of acquisitions of foreign as well as Scandinavian targets on CEO bonuses to see whether there is a difference.

1.4 Purpose

In our study we intend to investigate if there is a specific acquisition component, in line with Grinstein and Hribar's study, in the bonus for CEOs in companies based in Sweden and, in that case, whether the bonus is higher if the targeted firm is located in a foreign country.

Our study is motivated by the increased interest from shareholders as well as other stakeholders to question the components in CEO compensation packages. We hope to bring further insights to this complex matter.

1.5 Thesis Outline



2. Theoretical Framework

This chapter will describe the most relevant theories concerning the subject of the thesis. The different theories aim to create a better understanding for the composition of CEO compensation as well as result and the analysis of the thesis.

2.1 Theory of the Firm

2.1.1 Principal-Agent Theory, Agency Costs and CEO Compensation

In most firms, there is a separation of ownership and control of the firm. The owners, hereinafter the principals, hire a board of directors who in turn hire the management, hereinafter the agent. The separation reflects the investors' risk aversion and happens because of shareholders having limited liability in the corporation and therefore do not risk their total personal wealth. The investors must therefore relinquish control of the firm. Furthermore they would want to diversify their equity investments which lead to the impossibility of fully monitoring the particular corporation's operations. Thus, separating ownership and control becomes natural. (Ogden, J. et al, 2002)

Due to there is a separation of ownership and control there is also a risk of incurring agency costs. By assuming that both principals and agents are utility maximisers there is a possibility that the agent will sometimes act in accordance to their own interests rather than those of the principal. The principal can therefore establish incentive devices to align his interests with the agent's. (Jensen and Meckling, 1976)

In the context of CEO compensation the principal-agent theory deals with issues concerning motivating the CEO to act in the shareholders' best interests. Obviously, the incentive alignment approach is one way to eliminate agency costs of this type. CEO compensation in the agency setting has been widely scrutinised in the academic literature. A great deal of the empirical work has focused on the pay-performance relationship in which the following regression is studied. (Garen, 1994)

$$Y_i = b_0 + b_1 R_i$$

Y_i is the compensation of firm i and R_i is the income of the firm i . The coefficient b_1 measures the pay-performance sensitivity. In a similar manner the pay-performance relationship can be

tested by including the value of the firm as an independent variable to capture the compensation change that originates from stock ownership and stock options. (Garen, 1994)

2.1.2 Moral Hazard

A moral hazard problem may be present in settings where parties engage in risk sharing under the condition that privately taken actions affect the probability distribution of the outcome. In the context of principal-agent theory this means that management's actions affect the wealth of the shareholders. The problem stems from an information asymmetry between the principal and the agent resulting from the fact that the principal's actions cannot be directly observed and therefore not contracted upon. Thus, an optimal compensation package which aligns management's interests with those of the shareholders is hard to construct and, hence, optimal risk sharing is difficult to obtain. Holmström (1978) defines the principals utility function as $G(w)$, where w denotes wealth, and the agents utility function as $H(w, a)$, where a denotes action. Moreover, a restriction is made by assuming that $H(w, a) = U(w) - V(a)$. The interpretation is that the skill or the effort the action requires reduces the utility of the agent and this reduction causes the objectives of the principal and the agent, respectively, to differ. To accomplish maximization of the shareholders' wealth the CEO must be compensated according to the effort and skills exerted. In other words, the CEO should receive higher compensation if the actions require greater skill or higher effort. Since the actions cannot be directly observed and the outcomes can be used as a signal about the action the CEO's compensation should depend on measures of the observable outcome. (Holmström, 1979)

2.1.3 Prior Literature on Determinants of CEO Compensation

It is widely known that the size of the firm serves as a major determinant in explaining the CEO compensation level. There are in general two main explanations to this relationship. First, it is assumed that bigger firms generally have larger and more complex organizational structures which in turn increase the complexity of managerial tasks and, thus, the job becomes more demanding. The second explanation is that firms have established pay differentials between levels of managers. Thus, larger organizations generally have more levels of managers and hence compensation to the CEO increases as firm size increases. (Geiger and Cashen, 2007)

In light of principal agent theory, many studies have focused on the relationship between pay and firm performance. McGuire et al (1962) studies the relationship between profits and

compensation and sales and compensation. They find a significant positive correlation between sales and compensation but no significant relationship between profits and compensation. This suggests that managers have incentives to maximize the scale of operations instead of profitability.

Although this study is somewhat dated the results may still be relevant. A later study by Jensen and Murphy (1990) finds little relationship between compensation and firm performance.

In studying the link between firm performance and compensation researchers recognize that both accounting measures of performance and stock performance have drawbacks with respect to determining compensation due to the possible existence of noise in both types of measures. (Nourayi and Mintz, 2008)

2.2 Internationalization of CEO Compensation

As firms turn overseas to expand their operations a CEO's international experience may play a crucial role in the future profitability and survival of the firm.

Managing multinational firms requires skills in addition to those required to manage domestic firms. The international experience of a CEO may reduce managerial uncertainty in the multinational corporation and contain benefits such as knowledge about various cultures. International experience may also be inimitable and non-substitutable. (Daily et al, 2000)

There have in several studies been suggestions on the possibility of converging pay levels and structures around the world which would imply an increasing global labor market for executives. This convergence can be explained by a number of factors. Parent companies may influence the pay practices in foreign subsidiaries by exporting certain compensation compositions. In a similar manner subsidiaries can indirectly affect pay levels in their respective parent company. If, for example, a foreign company acquires a US subsidiary the parent company may experience pay inequities, because of the high compensation levels in the US, which results in raising the pay for executives in the home country. Moreover, internationalization of CEO pay may result from benchmarking compensation with that of international rivals. (Girma et al, 2002)

A higher compensation for CEOs in multinational companies can also be explained by more uncontroversial factors. Ramcharran (2002) examines the impact of foreign activity on compensation. Cross-sectional regressions with variations of foreign sales, foreign profit and foreign assets as independent variables and compensation as dependent variable are run. By examining the significance of the variables on the firm-specific level it is concluded that compensation is indeed influenced by these foreign operations. A possible explanation to the results is that CEOs get compensated for the extra risk the multinational factors bring.

Oxelheim and Randøy (2005) examine the impact of Anglo-American influence on CEO compensation in Swedish and Norwegian firms. They study the influence through cross-listings, the product and service market and market for corporate control and show that Anglo-American influence indeed can explain cross-sectional variations in CEO compensation. It is argued that the risks associated with the firm's international exposure through the product and service market increases CEO pay. Studies have suggested that foreign operations enhance a firm's financial performance which is in turn attributable to the increased risk the firm faces. The increased risk in a managerial context implies new complex tasks and the fact that the CEO might even be held accountable for market fluctuations which obviously is beyond his or her control. Thus, the CEO of a multinational firm will most likely demand a pay premium. Internationalisation may also result in so called rent-sharing, which means that the CEO demands a stake in the value created by the firm for reasons such as a greater risk of dismissal. Moreover, since managerial tasks in an internationalized firm may be more complex than those of a purely domestic firm the supply and demand of CEOs with international experience may be limited.

2.3 CEO compensation in Scandinavia

The level of CEO compensation in Scandinavia is generally lower than in other European countries. The gap is even greater when comparing compensation levels in the U.S with Scandinavian levels of compensation. To illustrate the differences a comparison between the compensation of Ericsson's CEO and that of Motorola's CEO can be made. In 1999 Ericsson paid its CEO corresponding US\$1.1 million whereas the CEO of Motorola earned US\$58.9 million. Both numbers include the value of stock options. In 1999 an American CEO belonging to the S&P500 was paid on average 475 times the average wage of employees. The corresponding figures for listed firms in the United Kingdom ranged from 11 times to 24

times that of employees. In Sweden a CEO was paid an average 12 times more than the average pay of employees. Although it seems that CEOs in Sweden are paid much less than their Anglo-American counterparts the corporate governance system in Scandinavia is moving towards an Anglo-American system. That is, a more incentive-based compensation structure is emerging. This is partly due to the latter years' increase in foreign equity ownership in Scandinavia. (Randøy and Nielsen, 2002)

2.4 Managerial Power Theory

Compensation to executives exists partly to alleviate agency problems. A general view, mentioned above, of how to minimize agency costs is to construct the components in compensation packages in such a way that it aligns managerial interests with those of the shareholders. The managerial power perspective, on the other hand, argues that compensation is part of the agency problem. This view states that some compensation components reflect so called rent-seeking. The logic behind this rationale is that the board's tendency to passivity, dependence on CEO information and lack of exposure to firm returns enables the CEO to extract compensation in excess of the optimal compensation level.

In their Australian study, Chalmers et al (2006) examines whether rent extraction or labour demand determines components of compensation. They run cross-sectional regressions on each compensation component, namely fixed salary, bonus, options and shares, with economic, governance as well as ownership determinants as independent variables. If there are no agency problems, economic determinants alone should explain the variation in compensation levels. In their regressions governance and ownership attributes also have explanatory power. Except the interpretation that optimal contracting is absent, these results can have its explanation in misspecification of the model and/or that the ownership and governance attributes explains labour demand aspects not captured by economic determinants. For example, significance of board size as independent variable may not imply rent extraction by exerting influence over the board. Instead, this result could reflect an aspect of labour demand as a consequence of great business complexity a large board implies. To investigate the rent extraction and labour demand components further regressions on return on assets and stock return are run with the sum of governance and ownership coefficients as well as economic attributes as independent variables. The sum of governance and ownership coefficients is a proxy for the predicted excess compensation. Predicted excess compensation

is found to be significant and negatively related to bonus and options which suggests that these components are driven by CEO entrenchment. In conclusion, labour demand determines fixed salary and shares compensation whereas rent extraction explains bonus and options compensation components.

2.4.1 Managerial Power in an Acquisition Context

It is argued by Harford and Li (2007) that a restructuring of the CEO's compensation may be in place after an acquisition. This is because of that the increase in size and changes in the scope of operations may create a natural opportunity for the CEO to negotiate a new compensation package. An acquisition may imply a greater business complexity and hence the CEO could argue for more pay. When comparing major capital expenditures, another big resource allocation event, to major acquisitions it becomes evident that pay changes following major capital expenditures is much smaller and more sensitive to performance. An explanation regarding this could be that the information environment and the uncertainty surrounding an acquisition give the CEO more leeway in arguing for higher pay and thus the ability to extract more pay.

Bebchuk et al (2002) argue that CEOs who have more power will extract higher levels of compensation and that these high levels of compensation often are "camouflaged" in such a way that it does not cause an outrage from shareholders. An outrage will only occur if there is a consensus that the compensation level is not a product of optimal contracting. Hence, under the assumption that executives want to maximize rent extraction they might want to find justifiable reasons for the higher level of pay.

Kroll et al (1990) find that CEOs in manager-controlled firms get compensated for completing acquisitions whereas CEOs in owner-controlled firms get compensated for acquisition deals so long as they are profitable. This is shown to be consistent with earlier findings which suggest that manager-controlled firms tend to put more emphasis on the scale of operations instead of profitability.

Probably the most complete and scrutinizing study of M&A bonuses is that of Grinstein and Hribar (2004). With a cross-sectional regression they analyze how measures of effort, skill, performance and managerial power explain the variation in the bonus. First a regression is run

where the dependent variable is bonus and the independent variables are control variables as well as an acquisition dummy which equals one if the firm made an acquisition during the year and if the deal size was \$1 billion or more.

$$\begin{aligned} Bonus_{it} = & \alpha_0 + \alpha_1 Size_{it} + \alpha_2 ROA_{it} + \alpha_3 ROAGrowth_{it} + \alpha_4 Return_{it} \\ & + \alpha_5 SalesGrowth_{it} + \alpha_6 Margin_{it} + \alpha_7 MarginGrowth_{it} \\ & + \alpha_8 AcquisitionDummy_{it} + \varepsilon_{it} \end{aligned}$$

ROA is earnings before interest, depreciation and amortization divided by total assets; *ROAGrowth* is the percentage growth in *ROA* relative to the previous year; Return is the stock return of the firm; *Margin* is earnings before interest, depreciation and amortization divided by sales and *MarginGrowth* is the percentage growth in *Margin* relative to the previous year. The Acquisition dummy is found to be significant and positive which indicates that CEO's who make acquisitions receive higher bonuses even after controlling for other variables that may affect the size of the bonus.

The authors continue by trying to decompose the determinants of the bonus. They define measures of effort, skill, performance and managerial power. Deal size is one measure of effort and skill and it is assumed that a larger deal may require more effort and skill because of its complexity. However, a significant impact of deal size on bonus might be indicative of a so called empire building, which may be related to managerial power (p. 137). The other components of effort and skill are the time to complete the acquisition and whether the acquired firm is a firm from a different industry. An acquisition of a firm from a different industry is assumed to require less effort since there are fewer synergies and integration problems to consider. The measure for performance is the two-day abnormal return which will capture the market's assessment of the deal. The performance measure is there because to the extent that effort is directly unobservable it needs to be measured as an observable outcome. This stems from the traditional view that compensation should be based on observable outcomes in order to mitigate moral hazard problems. The third and last set of variables is those which should capture the magnitude of managerial power. The first and second measures are whether or not the CEO is also chairman of the board and whether the CEO is a member of the nominating committee, the committee that decides the amount of pay and its distribution among management. It is believed that a CEO who is also chairman of the board will be able to exert more influence over the board's decisions. If the CEO is also a member of the nominating committee the CEO is more able to influence the selection of

directors. The directors that got elected by a highly influential selection from the part of the CEO might feel obliged to reciprocate with respect to CEO compensation. The final measures are the ratio of insiders on the board of directors and the number of members on the board. If there is high proportion of insiders on the board this would indicate a higher degree of managerial power. Furthermore, a large number of members on the board would indicate a less effective board and thus a higher degree of managerial power. (Grinstein and Hribar, 2004)

By comparing summary statistics of the firms in the sample a managerial power index which ranges from zero (least managerial power) to three (greatest managerial power). This is made by summing up the significant managerial power coefficients for the firms respectively. Then the other independent variables are categorized into the index by its median and mean value. It is shown that among the least powerful CEOs the mean and median values for Deal Size are the greatest. These values decline as the CEO has more power. When Deal Size is set relative to total assets it can be seen that the most powerful CEOs tend to engage in larger deals. Except for Deal Size, measures of effort and skill do not explain a significant amount of the variation in the bonus paid. Moreover, other measures of managerial power plays a significant role in explaining the variation in the bonus. In conclusion it seems that the variables of managerial power have a much more deeper impact on the bonus than measures of effort, skill and performance. (Grinstein and Hribar, 2004)

2.5 Mergers and Acquisitions

2.5.1 The Deal Process

The probability that an acquisition will be successful increases the more sophisticated the deal process is. The target screening process typically involves examining and evaluating strategic fit, assessing integration risk and assessing closing transaction risk as well as transaction effectiveness. Examining strategic fit involve analyzing how the target complements and where it is in alignment with the acquirer. While this is a highly important aspect of the screening process the main interests for this thesis is in the analysis of integration and transaction risks. Key factors when looking at integration aspects may be matching of organizational structures, matching of information, management and financial reporting

systems and matching of corporate culture. Apart from integration risks, evaluating and assessing closing transaction risk and transaction effectiveness is important. This deals with issues that may affect the ability of closing on a target and the probability that the seller and the buyer will come to terms and successfully integrate operations. Factors to evaluate may be corporate governance practices, code of conduct and regulatory compliance issues. (O'Connor, 2006)

2.5.2 Legal Determinants of Corporate Governance

Recent research within corporate governance recognizes a strong link between the elements of corporate governance and the ability of a country's legal system to protect outside investors. Here, insiders are those who control the firm, be they controlling shareholders or managers, and outsiders can be both shareholders and creditors. La Porta et al (2000) states that "Corporate governance is, to a large extent, a set of mechanisms through which outside investors protect themselves against expropriation by the insiders". Expropriation can happen in a variety of different ways, e.g. asset stripping, overpaying executives or put in unqualified family members as managers. Investor protection is a necessity because it increases the number of potential outside investors willing to invest in the firm and, thus, increased protection of outsider investors can enable easier financing for firms. Furthermore, as found by La Porta et al (2002), it also enhances corporate value. Indeed, differences in law, regulation and enforcement have shown to be correlated with the development of capital markets, ownership structure and cost of capital (Rossi and Volpin, 2004).

The cross-country differences in investor protection, and consequently corporate governance, are to large part products of the different legal systems and its origins whereby the level of investor protection is determined. Countries which have adopted French civil law have the weakest investor protection whereas Common law countries have the strongest. Countries with German civil law and Scandinavian countries fall in between that of countries with common law and French civil law when it comes to protection of investors. Some research points out that civil law countries generally have weaker protection of private property and that governments in such countries tend to be more involved in economic activity. (La Porta et al, 2000)

In countries with poor investor protection it is common to see a more concentrated control of firms and there even the largest firms are usually controlled either by the families who founded or acquired the firm or by the state. Furthermore, a family-controlled firm usually hires other family members to manage the firm so that it seems that the leeway for managers' expropriation is minimized. Typically, it is the case that firms from countries with strong investor protection have dispersed ownership structures. Moreover, dispersed ownership structures may reduce shareholders' incentives and abilities to monitor managerial activities. (La Porta et al, 2000)

2.5.3 Legal Determinants and Acquisition Patterns

Rossi and Volpin (2004) show that cross-border M&A activity is positively related to the difference in investor protection between the two countries, meaning that it is more common to see an acquirer from country with relatively stronger shareholder protection. Thus, the probability of a firm making a cross-border acquisition decreases with the investor protection of the target's country. One reason is that it is costly to make acquisitions in countries with strong investor protection, due to stronger regulation such as mandatory-bid rules, and, hence, firms in stronger investor protection countries tend to look for targets in countries with weaker investor protection (Martynova & Renneboog, 2008). Another reason is that the targeted firm recognizes the benefits of improving the corporate governance structure and therefore tends to be more willing to sell to a firm in a country with stronger shareholder protection. Furthermore, to close the deal the controlling shareholders must be willing to give up the private benefits of control. If they get compensated for this loss they are likely to go along with the deal which in turn will increase efficiency of the firm. (Rossi and Volpin, 2004)

3. Development of Hypotheses

In this chapter we will review and discuss theories, in order to develop testable hypotheses.

3.1 Firm Performance and Bonus

As have been stated in the previous chapter the level of compensation to the CEO is affected by a big number of factors. The compensation level depends, among other things, on CEO tenure, the skills of the CEO and the demand and supply of such skills and characteristics. Firm and industry specific factors are also important determinants for the level of compensation. Among these factors is size of the firm which has shown to have great explanatory power and can be interpreted as an implication of the greater business complexity a larger firm has. There is also a well established view that management's compensation should be partly tied to the value created by the firm. By doing so managerial interests are aligned with the shareholders' interests and, in effect, agency costs will be minimized. Furthermore, Holmström (1979) states that because the CEO's tasks not being observable and the assumption that the utility function of the CEO is different from that of the investor, the CEO prefers performing tasks that do not maximize shareholder value. Consequently, the level of compensation should reflect the effort exerted or the skills required managing the firm. But, since the board cannot directly observe the tasks compensation should be tied to observable measures of outcome. Thus, we expect a positive relationship between CEO bonus and performance variables.

3.2 Acquisitions and Bonus

The managerial power approach argues that the CEO has significant power in influencing board decisions and that compensation contracts may enable the CEO to extract rents above optimal compensation levels. Moreover, as Bebchuk et al (2002) argue, the probability of the CEO taking on a compensation arrangement that is unfavorable for shareholders will depend on how it is perceived by shareholders. Shareholders are likely to cause an outrage and act against the high compensation level if the shareholders view it as a direct expropriation. Hence, there is a need for a "camouflage" or a justification of the high pay. An acquisition could fit into this framework and be used as a reason for a higher pay. Apart from pure

expropriation it can also be argued from a moral hazard point of view that the CEO possesses certain skills that are needed to handle acquisition transactions or that the CEO exerts a lot of effort managing such a deal. Skills and amount of effort are hard to measure and profitability measures may be an imperfect way of assessing these factors. Thus, to the extent that profitability measures do not capture the essential skills needed or the effort exerted, the CEO should get a higher pay. In addition, the information environment surrounding an acquisition, as put forward by Hartford and Li (2007), may create a natural take off point for the CEO to argue for higher pay. It may be that these factors enable the CEO to expropriate a higher bonus. Thus, we argue that CEOs get a higher bonus when an acquisition has been made.

Managing international operations may require skills in addition to those needed to manage domestic operations. In addition, Oxelheim and Randøy (2005) argue that the supply of CEOs with international experience may be limited and that they therefore can extract higher compensation levels. It may be that it is more likely that a CEO with international experience tends to encourage expansion of operations internationally or it may be that a firm which intends to expand operations to foreign countries is more likely to have hired a CEO with international experience. In the view of moral hazard theory, international skills may enhance the compensation level and, consequently, a CEO with international experience should be paid more when making a foreign acquisition relative to a domestic acquisition. That is, we argue that the skills facilitate the acquisition procedure and that these skills should be valued accordingly. This relationship can hold even though a CEO is lacking international experience. Given the additional skills needed to manage international operations, a CEO without such skills is more likely to exert more effort surrounding a foreign acquisition relative to a domestic acquisition. Work by Ramcharran (2002) and Oxelheim & Randøy (2005) suggest that the environment of a multinational firm tends to be riskier and that CEOs want to get compensated for the increased risk. Making a foreign acquisition would imply an increase in risk and, in the context of managerial power theory, the CEO could therefore more easily justify a higher pay. Moreover, there may be additional risks in cross-border acquisitions. Such risks may relate to closing of the transaction and various corporate governance issues. Considering that Scandinavia has its own tradition of laws the corporate governance systems in these countries are similar. International experience may therefore first and foremost refer to experiences relating to corporate governance systems in countries with a more different legal origin from that of Scandinavia. Thus, we define firms in Scandinavia as

having more “domestic attributes” and firms outside of Scandinavia as having more “foreign attributes”. The above arguments lead to our first hypothesis:

Hypothesis 1:

CEOs get higher bonuses when an acquisition of a firm located outside of Scandinavia has been made relative to when an acquisition within Scandinavia has been made.

As argued above international skills could enhance compensation levels. In making cross-border acquisitions there are additional factors that have to be taken into account relative to a domestic acquisition. These factors may concern the integration risks due to differences in the legal environment, accounting standards and additional differences such as culture. Furthermore, we know from Oxelheim and Randøy (2005) and Bebchuk et al (2002) that different corporate governance systems and ownership structures may be the source for differences in levels of CEO compensation. Girma et al (2002) states that subsidiaries may influence pay practices in the parent company. Thus, we argue that the bonus of an acquiring CEO may increase when the CEO of the target enjoys a generous compensation level. As the level of CEO compensation may be explained by corporate governance systems and ownership structures we might be able distinguish certain differences in the acquisition component of the bonus depending on the legal environment of the target.

Differences in the levels of compensation depending on different corporate governance systems may be very hard to predict. However, there might be more predictable patterns concerning the managerial tasks conducted in an acquisition transaction. As stated by Martynova and Renneboog (2008) there might be stronger market regulations in countries with strong investor protection. We argue that this may increase the risk that the transaction will not be completed. As firms in countries with poor investor protection generally exhibit concentrated ownership structures there is a greater possibility of some shareholders enjoying private benefits of control. Rossi and Volpin (2004) states that in the case of an acquisition of a firm in a country with poor investor protection the controlling shareholders must be compensated for giving up control of the firm. We argue that the possible unwillingness of

controlling shareholders to give up their stake in the firm may therefore increase the risk of not closing the transaction. However, we recognize that there are a large variety of factors which determines the effort exerted or skills needed by the acquiring CEO. Yet, we argue that there may be common denominators within each region, defined after its legal origin, that determines the skills or effort needed to complete a successful acquisition. According to moral hazard theory, effort and skill determines the level of the bonus. We can thus make the assumption that there will be differences in the bonus paid to the acquiring CEO that depends on the legal environment of the target's country. Our second hypothesis is:

Hypothesis 2:

Variations in the foreign acquisition component of the CEO bonus can further be explained by the legal environment of the target.

4. Methodology and Data Description

The chapter we will build the cross-sectional models that are needed to test our hypothesis.

4.1 Background

To study our hypotheses we will estimate two separate cross-sectional regressions using ordinary least squares with CEO bonus, measured in thousands of SEK, as dependent variable.

4.2 Data Description

We identify acquisitions made by Swedish firms listed on Stockholm stock exchange between 2003 and 2006 using the DataStream database containing data on mergers and acquisitions. The sample of firms that have made acquisitions is restricted to only contain firms that have made full takeovers. Moreover, we collect data on firms that have not made any acquisitions. In total we end up with 82 firms that have made acquisitions and 66 firms that have not made any acquisitions. CEO cash bonus and the data used to compute accounting measures of firm performance are collected from the companies' respective annual reports. Stock returns are collected from the Reuters EcoWin database.

4.3 Assumptions Underlying OLS

Assumption 1 – Linearity

One of the most elementary assumptions underlying the linear regression model is linearity. Linearity means that the dependent variable could be described by a linear function consisting of an intercept, an independent variable and an error term (Westerlund, 2006);

$$y_i = \beta_1 + \beta_2 x_i + e_i$$

To investigate the assumption of linearity of the model we can use the Ramsey's RESET test, which is a test for misspecification of functional form, i.e. a correct functional form is assumed to be linear in the parameters (Brooks, 2006).

Assumption 2 – Expected value of the error term is zero

The error term is defined as:

$$e_i = y_i - E(y_i)$$

The second assumption is that on average the error term is zero. The only thing that separates y_i from e_i is the constant $E(y_i)$. Since a constant doesn't have a variance, the position is the only difference between the two distributions (Westerlund, 2006). According to Brooks (2006), if the equation is including a constant term, this assumption will never be violated.

Assumption 3 – The variance of the error terms is constant over time

The third assumption implies that the relative scale of error terms should be stable as the value of the independent variable increase, i.e. all the error terms, e_i , shall have the same variance and shall be identically distributed (Westerlund, 2005). This assumption is usually called the assumption of heteroscedasticity. If the errors in the regression not are constant, we have problem with heteroscedasticity, which could imply that the variance is increasing when x is increasing (Brooks, 2006). Using OLS under heteroscedasticity may affect the standard errors, which implies that wrong inferences can be made. To test for heteroscedasticity one can use White's general test for heteroscedasticity, which is useful since it makes a small number of assumptions about the possible form of heteroscedasticity (Brooks, 2006).

Assumption 4 – Uncorrelated errors

The assumption of uncorrelated errors, also called the assumption of autocorrelation, implies that all error terms are independent of each other, i.e. the value of an error term is uncorrelated with the value of any other error term (Westerlund, 2006). Having correlated errors can lead to the same problem as in the case with hetroskedasticity (Brooks, 2006). According to Brooks (2006) autocorrelation in cross-sectional data is uncommon.

Assumption 5 – The independent variable, x_t , are non-stochastic

The fifth assumption is that the independent variable x_t , varies and take on at least 2 different values and that x_t , and the error term is uncorrelated (Westerlund, 2006). If the error term

correlates with x_t , then Y will not be the average line anymore, because if x change then will also the error term change. If x_t , are non-stochastic then Y will be the average line for any given number of x_t (Ramanathan, 1998).

If assumption 1 to 5 holds, it can be shown that the OLS-estimator¹ has the smallest variance of all estimators that is linear and unbiased, that is best linear unbiased estimator also called BLUE (Westerlund, 2006).

Assumption 6 – The error term is normally distributed

The assumption about normality is necessary to be able to construct single and joint hypothesis test of the parameters in the model. The most common test for normality is the Jarque-Bera test. The JB test use the first 4 moments of a normal distribution, mean, variance, skewness and kurtosis, to test for normality (Brooks, 2006). The assumption of normality can be disregarded if we have a sufficient large sample of data, since the data then will follow an appropriate distribution anyhow.

Assumption 7 – Multicollinearity

This assumption is about the correlation between the different variables in the regression. If the regression includes highly correlated variables, it can occur that the R^2 for the regression is very high even when the individual variables not are significant. Another impact that multicollinearity may have is that subtracting and adding independent variables will lead to large changes of the significance and the value of the other independent variables (Brooks, 2006). To determine multicollinearity in the data one can analyze the correlation matrix and exclude variables with a correlation over 0,8² (Westerlund, 2006).

¹ Ordinary least squares

² A rule of thumb

4.4 Definition of Independent Variables

In defining the independent variables we have to rely on theories reviewed in chapter two. Firm size has shown to have major explanatory power when it comes to determining CEO compensation. From moral hazard theory we know that the bonus paid to CEOs should be dependent on observable outcomes. Furthermore, as a starting-point we use the set of variables used in the study by Grinstein and Hribar (2004) to determine the pay-performance relationship. The performance and control variables are as follows: *Size* is defined as the natural logarithm of the book value of assets; *ROA* is operational profit divided by the book value of assets; *ROAGrowth* is the percentage change in *ROA* relative to the previous year; *SalesGrowth* is the percentage change in sales relative to the previous year; *Margin* is operational profit divided by sales; *MarginGrowth* is the percentage change in *Margin* relative to the previous year; *Return* is the stock return of the firm over one year.

We control for systematic differences in the bonus that are dependent on the industry of the acquirer by introducing dummy variables for each industry. We use the classification of industries as used by DataStream as take-off point. We end up with four industry categories: *Manufacturing*, *Information Technology*, *HealthCare* and *Other*.

Because our sample stretches from 2003 to 2006 there is a need to control for increasing bonuses over time. This is done by constructing dummy variables for each year.

As stated in chapter 3 we hypothesize that the CEO will get a higher bonus if an acquisition of a firm located outside of Scandinavia has been made compared to if an acquisition within Scandinavia has been made. To answer this question we construct two dummy variables – *Scandinavian* and *Foreign*. *Scandinavian* is assigned a value of one if the firm has made acquisitions of targets located within Scandinavia and zero otherwise. Similarly, *Foreign* equals one if the firm has made acquisitions of targets located outside of Scandinavia and zero otherwise. Our first regression then is:

$$\begin{aligned} Bonus_{it} = & \alpha_0 + \alpha_1 Size_{it} + \alpha_2 ROA_{it} + \alpha_3 ROAGrowth_{it} + \alpha_4 SalesGrowth_{it} \\ & + \alpha_5 Margin_{it} + \alpha_6 MarginGrowth_{it} + \alpha_7 Return_{it} + \alpha_8 Scandinavian_{it} \\ & + \alpha_9 Foreign_{it} + [Year Dummies] + [Industry Dummies] + \varepsilon_{it} \end{aligned}$$

However, Ramsey's RESET-test shows that we can reject the null hypothesis of linearity. As one of the assumptions underlying OLS is violated we cannot move on without correcting this

problem. The only model that shows linearity is one where non-acquisition firms are excluded from the sample and where the dummy variables controlling for increasing bonuses over time are excluded from the regression equation. Furthermore, after these changes, as can be seen in the correlation matrices in Table 4.2 and Table 4.3, we note that the correlation coefficient between *ROAGrowth* and *MarginGrowth* is larger than 0.8³. If both these variables are included in the regression equation we may have a problem with multicollinearity. We therefore exclude *MarginGrowth* from the equation⁴. Our final first regression equation looks as follows:

$$\begin{aligned} Bonus_{it} = & \alpha_0 + \alpha_1 Size_{it} + \alpha_2 ROA_{it} + \alpha_3 ROAGrowth_{it} + \alpha_4 SalesGrowth_{it} \\ & + \alpha_5 Margin_{it} + \alpha_6 Return_{it} + \alpha_7 Scandinavian_{it} + \alpha_8 Foreign_{it} \\ & + [Industry Dummies] + \varepsilon_{it} \end{aligned}$$

White's heteroscedasticity test, shown in Appendix B, Table B.4, confirms that we fail to reject the null hypothesis of homoscedasticity. Thus, the model fulfills all the underlying requirements of OLS.

Our second hypothesis states that variations in the foreign acquisition component of the CEO bonus further can be explained by the legal environment of the target. Specifying the impact of acquisitions on CEO bonus requires again that we use dummy variables for when and in which region acquisitions are made. We define the acquisition dummy variables according to the different general corporate governance systems of the targets. As discussed in chapter two, the corporate governance system used is often derived from the level of investor protection in the firm's country. Thus, we categorize the acquisitions in terms of the legal environment's origin of the target's country. Our acquisition dummy variables now are: *Scandinavian* which equals one if the target is located in Scandinavia and zero otherwise; *English* which equals one if the target is located in a country that has English common law origin, and zero otherwise; *French* which is assigned a value of one if the target's country has a legal system that derives from French civil law, and zero otherwise; *German* which equals one if the country of the target has German civil law, and zero otherwise. With all other variables remaining the same our second regression equation looks as follows:

³ A rule of thumb, Westerlund, 2006, p.160. See discussion in 4.3 regarding multicollinearity.

⁴ See correlation matrix table 4.2 and 4.3

$$\begin{aligned}
 Bonus_{it} = & \alpha_0 + \alpha_1 Size_{it} + \alpha_2 ROA_{it} + \alpha_3 ROAGrowth_{it} + \alpha_4 SalesGrowth_{it} \\
 & + \alpha_5 Margin_{it} + \alpha_6 Return_{it} + \alpha_7 Scandinavian_{it} + \alpha_8 English_{it} \\
 & + \alpha_9 French_{it} + \alpha_{10} German_{it} + [Industry Dummies] + \varepsilon_{it}
 \end{aligned}$$

White's heteroscedasticity test, shown in Appendix C, Table C.4, confirms that we have homoscedasticity and thus the model fulfills all the underlying requirements of OLS.

4.5 Descriptive Statistics

The highest mean value of *Bonus*, which is 3,256 KSEK, is observed for CEOs making acquisitions in French civil law countries. The standard deviation of this variable in this sample is 2,557.7 KSEK. The next highest mean value of *Bonus* is 2,981.7 and is observed in the sample for CEOs acquiring firms in English common law countries. For this sample the standard deviation is 3,128.3 KSEK. As expected, the lowest mean value of this variable is for CEOs acquiring firms within Scandinavia. The average bonus is here 1,889.2 KSEK. Moreover, the standard deviation is 2,116.3 KSEK. For CEOs making acquisitions of firms in countries with German civil law the mean value and standard deviation of bonus paid are 2,898 KSEK and 2,844 KSEK, respectively.

The highest mean value of firm size is observed in the French sample, 98.2 billion SEK, while the lowest mean value is observed in the German sample, 24 billion SEK. All samples show a mean that is higher than the median which indicates that there are a few very big firms within each sample. The highest standard deviation, 237.3 billion SEK, is found among the firms making acquisitions in countries with French civil law while the lowest standard deviation, 25.1 billion SEK, is observed in the German sample.

Table 4.1 – Descriptive statistics for Bonus and independent variables

	Mean	Median	Std. Dev.	Maximum	Minimum
<i>Bonus</i>	1 887	897	2 359	11 700	20
<i>Size</i>	29 054 593 750	3 370 000 000	101 000 000 000	1 120 000 000 000	58 376 000
<i>ROA</i>	0.046	0.090	0.192	0.395	-0.932
<i>ROAGrowth</i>	3.122	0.094	23.849	249.629	-5.761
<i>SalesGrowth</i>	0.213	0.106	0.566	5.242	-0.520
<i>Margin</i>	-0.076	0.084	0.718	0.954	-5.048
<i>Return</i>	0.269	0.212	0.327	1.332	-0.885

	HealthCare	IT	Manufacturing	Scandinavian	English	French	German	Foreign
Mean	0.101	0.270	0.405	0.236	0.209	0.149	0.081	0.658

Among the performance variables there are higher mean values of *ROA* among firms that have acquired firms in countries with either English common law or French civil law. The mean value of *ROA* within the English sample and French sample is 10.67 % and 10.73 %, respectively. This can be compared to the mean value in the Scandinavian and German samples of 5.94 % and 8.86 %, respectively. Furthermore, in the sample containing firms making acquisitions within Scandinavia a higher standard deviation is observed compared to the other samples. The highest mean value of *ROAGrowth*, being 30.90 %, is observed in the English sample while the lowest value, -5.87 %, is observed for firms that have made acquisitions in countries with German civil law. This variable has the highest standard deviation in the English and the Scandinavian samples of 112.7 % and 111.8 %, respectively, while the French and the German samples have a standard deviation in *ROAGrowth* of 56.2 % and 52.5 %, respectively. The highest mean value of *SalesGrowth* is observed among the firms making acquisitions within Scandinavia. Also, the highest standard deviation of this variable is observed for the same sample. The mean is 32.1 % and the standard deviation is 90.1 %, which can be compared to the next highest corresponding values observed in the English sample of 15.9 % and 19.5 %, respectively. The means of Margin are fairly similar across all samples at values ranging from 10.6 % to 11.3 % with the exception of the mean in the Scandinavian sample at a value of 6.7 %. The highest standard deviations of this variable are observed in the English sample, 19.3 %, and the Scandinavian sample, 21.7 %. In the Scandinavian sample the highest mean Return is observed, being 31 %, while the lowest corresponding value of 19.8 % is observed in the English sample. While the standard deviation of this variable varies between 26.8 % and 30.4 % across the English, German and Scandinavian samples, the standard deviation in Return for firms making acquisition in countries with French civil law is 18.5 %.

22.6 % of the firms making acquisitions in English common law countries were also making acquisitions in countries with French civil law. In the same sample 16.1 % and 12.9 % of the firms were also making acquisitions in countries with German civil law and Scandinavian civil law, respectively. Among the firms making acquisitions in French civil law countries 31.8 % and 18.2 % were also making acquisitions in countries with English common law and German civil law, respectively. As there is no separation of firms making acquisitions in only one region from those making acquisitions in several different regions, the descriptive statistics is not completely unbiased. The fact that there many firms within the English sample

making acquisitions of firms in French civil law countries, and vice versa, may explain the similarities of some variables across the two samples.

4.5.1 Correlation Coefficients

Table 4.2 and 4.3 provide the two correlation matrices for each respective model. Will we disregard of the high correlation coefficient between *MarginGrowth* and *ROAGrowth* as we already in chapter 4.4 discussed have discussed this. As can be seen there is a rather high correlation, 0.315, between *Size* and *ROA*. This may imply that bigger firms tend to be more profitable. There is very high correlation between *ROA* and *Margin* which tells us that these two variables might capture a lot of the same characteristics. But, as the correlation coefficient is not above 0.8 we will not exclude one of these variables from our models. Interestingly, the correlation coefficient between *ROA* and *SalesGrowth* is -0.466 which may imply that there is a tendency to maximize sales instead of profitability. Of course, the opposite relationship may as well hold. All performance variables have a positive relationship with bonus with the exception of *SalesGrowth*. What is more, foreign acquisitions are, with a correlation coefficient of 0.297, positively related to bonus. Among the variables of the different target regions, *French* has the highest correlation with bonus.

Table 4.2 – Correlation Matrix, Model 1

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Bonus</i> (1)	1.000												
<i>Size</i> (2)	0.467	1.000											
<i>ROA</i> (3)	0.321	0.315	1.000										
<i>ROAGrowth</i> (4)	0.367	0.062	0.300	1.000									
<i>SalesGrowth</i> (5)	-0.072	-0.291	-0.466	0.086	1.000								
<i>Margin</i> (6)	0.264	0.398	0.748	0.145	-0.353	1.000							
<i>MarginGrowth</i> (7)	0.241	-0.031	0.279	0.908	0.047	0.120	1.000						
<i>Return</i> (8)	0.179	0.018	0.204	0.329	0.024	0.040	0.292	1.000					
<i>HealthCare</i> (9)	0.128	-0.110	-0.064	0.145	0.061	-0.157	0.029	0.168	1.000				
<i>IT</i> (10)	-0.012	-0.381	-0.259	0.146	0.285	-0.226	0.225	0.129	-0.114	1.000			
<i>Manufacturing</i> (11)	-0.062	0.166	0.170	-0.210	-0.171	-0.012	-0.173	0.158	-0.271	-0.463	1.000		
<i>Scandinavian</i> (12)	-0.137	-0.132	-0.230	0.007	0.136	-0.091	0.094	0.184	0.098	0.113	-0.169	1.000	
<i>Foreign</i> (13)	0.297	0.245	0.303	0.098	-0.177	0.131	0.060	0.134	-0.041	-0.128	0.195	-0.828	1.000

Table 4.3 – Correlation Matrix, Model 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Bonus</i> (1)	1.000														
<i>Size</i> (2)	0.467	1.000													
<i>ROA</i> (3)	0.321	0.315	1.000												
<i>ROAGrowth</i> (4)	0.367	0.062	0.300	1.000											
<i>SalesGrowth</i> (5)	-0.072	-0.291	-0.466	0.086	1.000										
<i>Margin</i> (6)	0.264	0.398	0.748	0.145	-0.353	1.000									
<i>MarginGrowth</i> (7)	0.241	-0.031	0.279	0.908	0.047	0.120	1.000								
<i>Return</i> (8)	0.179	0.018	0.204	0.329	0.024	0.040	0.292	1.000							
<i>HealthCare</i> (9)	0.128	-0.110	-0.064	0.145	0.061	-0.157	0.029	0.168	1.000						
<i>IT</i> (10)	-0.012	-0.381	-0.259	0.146	0.285	-0.226	0.225	-0.129	-0.114	1.000					
<i>Manufacturing</i> (11)	-0.062	0.166	0.170	-0.210	-0.171	-0.012	-0.173	0.158	-0.271	-0.463	1.000				
<i>Scandinavian</i> (12)	-0.137	-0.132	-0.230	0.007	0.136	-0.091	0.094	0.184	0.098	0.113	-0.169	1.000			
<i>English</i> (13)	0.197	0.124	0.201	0.074	-0.090	0.091	0.087	-0.146	0.007	-0.003	0.037	-0.458	1.000		
<i>French</i> (14)	0.219	0.323	0.160	-0.038	-0.091	0.065	-0.081	-0.033	-0.043	-0.120	0.249	-0.402	-0.088	1.000	
<i>German</i> (15)	0.091	0.032	0.022	-0.129	-0.0668	0.060	-0.086	0.020	0.036	-0.090	0.189	-0.138	0.025	0.055	1.000

5. Results and Analysis

In this chapter we will discuss and analyze the results from the cross sectional regression from our models and compare this results to previous findings in the literature.

5.1 Model 1

Table 5.1 – Estimation output, Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-13655.12	3248.112	-4.204018	**0.0001
Size	599.6134	140.7874	4.259001	0.0001
ROA	3565.574	5017.818	0.710582	0.4798
ROAGrowth	465.0985	315.2694	1.475241	*0.1448
SalesGrowth	336.5606	478.4139	0.703493	0.4842
Margin	334.8731	2215.638	0.151141	0.8803
Return	1009.619	996.3369	1.013330	0.3145
HealthCare	1688.586	1143.575	1.476585	0.1444
IT	1402.862	848.5842	1.653179	0.1029
Manufacturing	-157.8259	641.2163	-0.246135	0.8063
Scandinavian	640.4251	880.4081	0.727418	0.4695
Foreign	1600.881	964.6987	1.659462	*0.1016
Number of observations = 80 R-squared = 0.432 Adj. R-squared = 0.340 F-stat = 4.702 Prob(F-stat) = 0.000				
*Statistically significant 10 % level (one-tailed)				
**Statistically significant 1 % level (one-tailed)				

5.1.1 Performance and Control Variables

As we would expect, *Size* explains a big portion of the bonus paid. The variable is significant on the 1 % level of significance. This result is consistent with prior literature suggesting that a greater firm size indicates greater managerial complexity and consequently greater compensation. This is also consistent with the results of McGuire et al (1962) which state that executive compensation is highly related to the scale of the firm's operations. The variable *ROA* has on average a very big positive impact on the level of bonus, with a coefficient value of 3,565.6 KSEK, but it is not significant. This result is inconsistent with that of Grinstein and Hribar (2004) who found that return on assets has a positive and significant impact on the bonus paid. All other accounting measures of performance have a more modest positive impact on CEO bonus. All but one performance variable, *ROAGrowth*, are insignificant. These results are in line with the study of McGuire et al (1962) which finds CEO compensation being more correlated with firm size than with profitability. *Return* has a positive but insignificant impact, with a coefficient value of 1,009.6 KSEK, on the bonus paid to CEOs. The insignificance of this variable shows that the bonus paid is not strongly related to the long-term value creation of the firm which would be expected. This is inconsistent with

the principal agency literature which states that compensation should be tied to the value created by the firm in order to align managerial incentives to those of the shareholders. Furthermore, the non-existent link between bonus and performance may have been caused by noise in the performance variables. Yet another explanation to our results might be that the compensation packages are not optimally designed with respect to their determinants.

All our industry dummy variables are insignificant which implies that variations in bonus are not explained by the industry the firm belongs to. With a probability value of 0.1029 the dummy variable for the IT industry can be considered somewhat of an exception as a probability value below 0.10 would imply significance at the 10 % level in a two-tailed significance test. The insignificance of the industry dummy variables may have been caused by a misspecification of the industry categorization. Hence, it may be that there is a need for a more specific categorization. However, due to our relatively small sample of firms, we argue that dividing firms into few categories of industries is needed in order to keep as many degrees of freedom as possible. Of course there is a trade-off concerning the more correct industry categorization and maintaining degrees of freedom.

5.1.2 Acquisition Dummy Variables

The acquisition dummy variables have positive values, as expected. With a t-value of 1.6594 the dummy for acquisitions outside of Scandinavia is significant at the 10 % level of a one-tailed significance test. This indicates that we have very weak evidence for CEOs being paid exclusively for making acquisitions outside of Scandinavia. Furthermore, this also suggests that while CEOs may get compensated for acquisitions outside of Scandinavia, there is no evidence of a general acquisition premium as argued in chapter 3. Thus, it might be the case that international skills or the amount of effort exerted surrounding cross-border acquisitions by CEOs increase the bonus. This would be consistent with our argument regarding moral hazard theory which states that observable measures are insufficient determinants of the bonus level. Our results may also imply, consistent with the arguments of Oxelheim and Randøy (2005), that there is indeed limited supply of CEOs international experience and that this, in turn, causes an increase in compensation for these executives. Finally, as argued by Girma et al. (2002), the pay practices of the target may influence the level of bonus for the CEO in the acquiring company. As we know from Randøy and Nielsen (2002), the compensation levels in Scandinavia are generally lower than in the rest of Europe and the

United States. An acquisition in either of these regions could therefore increase the bonus of the acquiring CEO.

It is hard to draw any conclusions on the basis of this result regarding the managerial power hypothesis. As we have argued in chapter 3 the acquisition event can be used by the CEO as an argument for higher pay. It may also be that the information environment surrounding an acquisition enables the CEO to more easily negotiate in favor of higher pay. As we have no evidence of a general acquisition component in the bonus the premise of an argument in favor of the managerial power hypothesis would imply that the CEO is able to extract rents in excess of optimal levels when an acquisition is made outside of Scandinavia and not being able to argue for higher pay at all when an acquisition within Scandinavia has been made. Although we suggest that it may be easier to argue for higher pay surrounding an acquisition outside of Scandinavia due to the increasing risk of operations, not being able to make a similar argument at all concerning a Scandinavian acquisition may simply seem implausible. Furthermore, as we do not control to which extent the firms are engaged in multinational activity this further complicates such an argument. This is because it may seem unlikely that the risk of the firm increases as the scale of operations in a known region increases. Thus, the increase in risk may not be a sufficient argument for higher pay.

5.2 Model 2

Table 5.2 – Estimation output, Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>Constant</i>	-12636.37	3452.622	-3.659934	**0.0005
<i>Size</i>	593.6704	151.2153	3.925995	**0.0002
<i>ROA</i>	4247.490	5162.571	0.822747	0.4136
<i>ROAGrowth</i>	579.3144	318.9487	1.816325	*0.0739
<i>SalesGrowth</i>	301.4710	487.5492	0.618340	0.5385
<i>Margin</i>	-91.46672	2282.254	-0.040077	0.9682
<i>Return</i>	918.7287	1016.772	0.903574	0.3695
<i>HealthCare</i>	1497.385	1183.310	1.265421	0.2102
<i>IT</i>	1247.756	880.4384	1.417198	0.1611
<i>Manufacturing</i>	-297.6073	673.5799	-0.441829	0.6601
<i>Scandinavian</i>	12.31437	663.0406	0.018573	0.9852
<i>English</i>	658.1458	618.3915	1.064287	0.2911
<i>French</i>	626.4863	691.9445	0.905400	0.3685
<i>German</i>	828.5142	703.3430	1.177966	0.2430
Number of observations = 80 R-squared = 0.432 Adj. R-squared = 0.320 F-stat = 3.854 Prob(F-stat) = 0.000				
*Statistically significant at 5 % level (one-tailed)				
**Statistically significant at 1 % level (one-tailed)				

5.2.1 Performance and Control Variables

In this regression, *Size* explains almost the same exact portion of the bonus paid as in regression one and is significant on the 1 % level of significance. All performance determinants of bonus are insignificant with the exception of *ROAGrowth* which is positively and significantly related to bonus. The t-value of this variable is 1.8163 which makes it significant at 5 % in a one-sided test of significance. This is not consistent with the result of Grinstein and Hribar (2003) which found no significant relationship between *ROAGrowth* and bonus. Again, our results are more or less in line with those of McGuire et al. (1962).

Our industry dummy variables show similar coefficient values to those in the first regression. Neither of these are significant. Possible explanations to this result are given in the discussion regarding the first regression.

5.2.2 Acquisition dummy variables

The acquisition dummy variables divided by region all show positive signs but neither of these are significant. The fact that their values are much different to those in our first

regression may be explained by the specification of these variables. As one firm may have done several acquisitions in different regions the *Foreign* variable in our first regression capture the accumulation of acquisitions. Our second regression, on the other hand, further divides the acquisitions into regions which in effect eliminate some of the accumulation characteristics of these variables.

As can be seen the acquisition dummy *German* has a value that is greater than either dummies for acquisitions of firms in countries with French civil law or English common law. This result is inconsistent with our suggestion in chapter 3 that higher skills and more effort are needed to handle the higher risk of not closing an acquisition transaction of targets in countries that have laws of either French or English legal origin. It may be that the closing transaction risk is not increased for targets in these regions and, thus, there is no need for additional skills or need for more effort to be exerted. Another explanation may be that the transaction risk is not a significant risk in an acquisition deal. Other aspects of the deal process such as issues of integrating the target may overshadow the risk of not being able to close the transaction. Thus, there are probably large variations among the acquisition deals in our sample regarding effort and skill needed to complete the respective deals. This may well be the case and might therefore explain the insignificance of these dummy variables. The fact that the concepts of effort and skill are very hard to define and measure, further complicates the testing of our research hypothesis. Our results may also reflect the large variation in the control structure of the firms in our sample. Kroll et al (1990) find that managers in manager-controlled firms get compensated for completing acquisitions regardless of whether the acquisition is profitable whereas managers in owner-controlled firms only get compensated for completing the acquisition if this turns out to be profitable. Moreover, when we further divide the acquisitions according to the target's regions the variation of control among acquiring firms may become more apparent. In addition, the insignificant results may tell us that a more narrow classification of targets' regions is needed.

5.3 Additional Discussion

The validity and reliability of our results is questionable due to a number of reasons. Considering that the sample of firms is not chosen at random from all firms listed on the Stockholm stock exchange we have a possible selection bias. The exclusion of firms not making any acquisitions may further bias our results. Including non-acquiring firms could

perhaps change the values and significance levels of our acquisition dummy variables because it would in that case be easier to control for general determinants of firm characteristics and firm performance. This would also eliminate the potential selection bias. On the other hand, the source of the problem with our initial model, described in chapter 4.4, might be that the performance and control variables of acquiring firms behave very different from those of non-acquiring firms.

Additionally, we do not control for increasing bonuses over time. This would otherwise eliminate the potential variations in the bonus that are not dependent on control variables and acquisition dummy variables. Another potential problem is that we do not take into consideration how much foreign presence each firm already has, something that would probably result in more fine-tuned coefficients. For example, this would enable us to draw conclusions on whether CEOs with an already established exposure to some foreign market get higher bonuses for acquiring firms in that specific geographical area. On the other hand, we argue that CEOs of firms with foreign operations may already have a generally higher compensation level as a result of their international experience and that this may in fact enable them to extract higher rents when making foreign acquisitions. Finally, we do not control for CEO tenure, geographical factors or whether several acquisitions within each of the defined regions in either model 1 or model 2 has been made by the same firm in the same year. We realize that these drawbacks may have caused model specification errors and in turn incorrect results.

6. Conclusions

In this chapter we will summarize our findings and propose suggestions for additional research.

6.1 Discussions and Conclusions

We examine the impact of acquisitions on the bonus of CEOs in Swedish public companies. We hypothesize that acquiring CEOs will get a higher bonus when making foreign acquisitions relative to when acquisitions within Scandinavia have been made. Furthermore, we argue that the so called acquisition component of the bonus will vary depending on in which region the target is located. The regions are defined after legal determinants of corporate governance systems.

By collecting relevant data on Swedish public companies between 2003 and 2006 we end up with 80 firms that have made acquisitions. We find very weak support for our suggestion that foreign acquisitions have bigger positive impact on the CEO bonus than do acquisitions within Scandinavia. As there is no significant positive relationship between CEO bonus and acquisitions within Scandinavia we conclude that there is no evidence of general acquisition component in the CEO bonus. These results imply that international skills the CEO possesses or the effort exerted by the CEO surrounding a foreign acquisition may enhance CEO bonus. However, when further dividing the acquisitions according to pre-specified target regions we do not find any significant impact of acquisitions on CEO bonus. A possible explanation to the our results might be that our results are biased due to the fact that we do not control for how many acquisitions have been made in the same year. Thus, it may in reality be that we do not have even a weak significant positive relationship between foreign acquisitions and CEO bonus. Another explanation to the different results may be that we may have a categorization of target's regions that is too broad. Lastly, we might have various model specification errors.

We realize that our study have some major drawbacks due to several factors. To begin with, we have a possible selection bias as the firms in our sample are not chosen at random from the population of firms. Moreover, we do not control for CEO tenure, increasing bonuses over time or geographical differences between the acquirer and its targets.

Despite these drawbacks our study contributes to prior academic research within the field of CEO compensation as no previous study has examined international influences on Swedish CEOs bonuses in an acquisition context.

6.2 Additional Research

The level of CEO compensation and its components have been intensively scrutinized by both media and academic research. As this has happened for a reason, it is of interest to further investigate the components in CEO compensation.

One way to elaborate our study would be to further look into the legal determinants of compensation among firms within Scandinavia. Furthermore, it would also be of interest to study a possible international acquisition component of the CEO bonus in different markets. Since our results shows very weak support of one of our hypotheses and for the reasons depicted in the analysis, testing similar hypotheses with a larger sample of firms could be of interest.

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8. Appendix

Appendix A: Companies

Table A.1 – Companies included in the regression

Aspiro AB	JM AB	Sandvik AB
Assa Abloy	Klövern AB	Sapa AB
Atlas Copco	Know IT	SCA
Bilia	Kungsleden AB	Scania
Biovitrum AB	Lindab AB	Seco Tools
Boliden	Lundin Petroleum Ab	Securitas AB
BTS Group	Meda AB	Sigma AB
Eniro AB	Modern Times Group MTG AB	Skanska AB
Ericsson	Munters AB	SKF AB
Expanda AB	NCC AB	Sweco
Fagerhult AB	Nefab AB	Tele2
G & L Beijer AB	Nobia	Tele2 AB
Getinge	Nobia AB	Telefon AB LM Ericsson
Husqvarna AB	OEM International AB	Telelogic AB
Höganäs	OMX AB	TeliaSonera AB
Indutrade	PartnerTech AB	Trelleborg AB
Indutrade AB	Peab AB	Vattenfall
International Business Systems	Precise Biometrics	VBG
Intrum Justitia AB	Proact IT Group AB	Vin & Sprit AB
ITAB Shop Concept	Readsoft AB	Volvo AB
Zodiak Television AB	Rejlers	

Appendix B – Estimation output, Model 1

Table B.1 - Estimation output

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>Constant</i>	-13655.12	3248.112	-4.204018	0.0001
<i>Size</i>	599.6134	140.7874	4.259001	0.0001
<i>ROA</i>	3565.574	5017.818	0.710582	0.4798
<i>ROAGrowth</i>	465.0985	315.2694	1.475241	0.1448
<i>SalesGrowth</i>	336.5606	478.4139	0.703493	0.4842
<i>Margin</i>	334.8731	2215.638	0.151141	0.8803
<i>Return</i>	1009.619	996.3369	1.013330	0.3145
<i>HealthCare</i>	1688.586	1143.575	1.476585	0.1444
<i>IT</i>	1402.862	848.5842	1.653179	0.1029
<i>Manufacturing</i>	-157.8259	641.2163	-0.246135	0.8063
<i>Scandinavian</i>	640.4251	880.4081	0.727418	0.4695
<i>Foreign</i>	1600.881	964.6987	1.659462	0.1016

Number of observations = 80 R-squared = 0.432 Adj. R-squared = 0.340 F-stat = 4.702 Prob(F-stat) = 0.000

Table B.2 – Ramsey's RESET test

Ramsey's RESET Test			
F-statistic	2.100823	Prob.	0.151885
Log likelihood ratio	2.469922	Prob.	0.116044

Table B.3 – Normality test

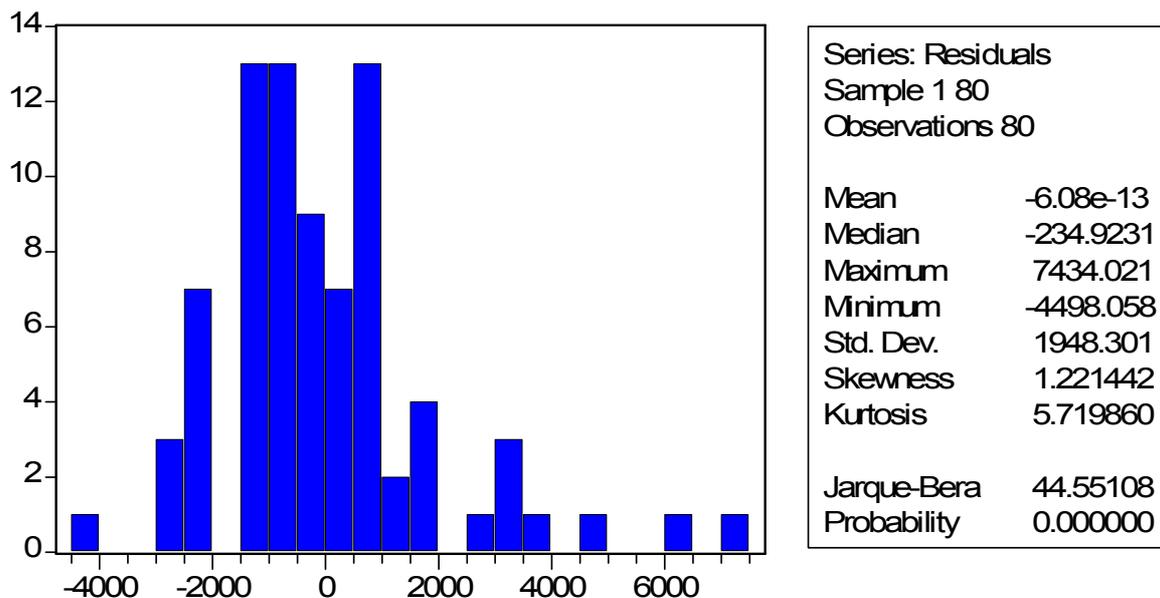


Table B.4 – White's Heteroscedasticity Test

White's heteroscedasticity test			
F-statistic	0.902041	Prob.	0.574481
Obs*R-squared	15.86320	Prob.	0.533553

Appendix C – Estimation output, Model 2

Table C.1 - Estimation output

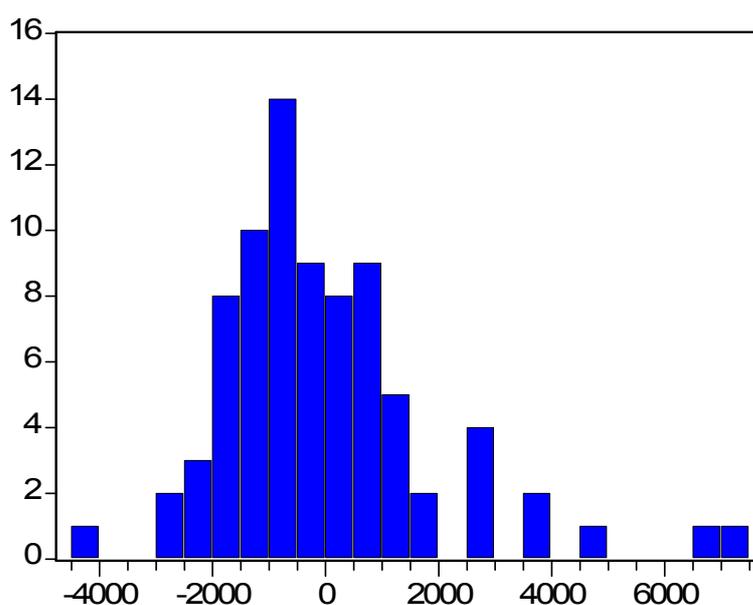
Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>Constant</i>	-12636.37	3452.622	-3.659934	0.0005
<i>Size</i>	593.6704	151.2153	3.925995	0.0002
<i>ROA</i>	4247.490	5162.571	0.822747	0.4136
<i>ROAGrowth</i>	579.3144	318.9487	1.816325	0.0739
<i>SalesGrowth</i>	301.4710	487.5492	0.618340	0.5385
<i>Margin</i>	-91.46672	2282.254	-0.040077	0.9682
<i>Return</i>	918.7287	1016.772	0.903574	0.3695
<i>HealthCare</i>	1497.385	1183.310	1.265421	0.2102
<i>IT</i>	1247.756	880.4384	1.417198	0.1611
<i>Manufacturing</i>	-297.6073	673.5799	-0.441829	0.6601
<i>Scandinavian</i>	12.31437	663.0406	0.018573	0.9852
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<i>French</i>	626.4863	691.9445	0.905400	0.3685
<i>German</i>	828.5142	703.3430	1.177966	0.2430

Number of observations = 80 R-squared = 0.432 Adj. R-squared = 0.320 F-stat = 3.854 Prob(F-stat) = 0.000

Table C.2 – Ramsey's RESET test

Ramsey's RESET Test			
F-statistic	3.180195	Prob.	0.079204
Log likelihood ratio	3.821349	Prob.	0.050603

Table C.3 – Normality test



Series: Residuals	
Sample 1 80	
Observations 80	
Mean	-1.24e-12
Median	-345.3464
Maximum	7402.816
Minimum	-4298.378
Std. Dev.	1948.985
Skewness	1.387010
Kurtosis	6.156164
Jarque-Bera	58.85519
Probability	0.000000

Table C.4 – White’s Heteroscedasticity Test

White's Heteroskedasticity Test			
F-statistic	0.597813	Prob.	0.893304
Obs*R-squared	12.73397	Prob	0.851907