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Should shareholders demand their board of directors to buy financial stake in the company to maximize wealth?

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Abstract

This study empirically investigates if shareholders in Swedish Large Cap listed firms should demand from their board of directors to buy financial stake in the company. Arising demands from shareholders in especially American Fortune 500 companies brings the question to Swedish shareholders as well, yet no demands of such ownership exists. After conducting extensive data for 2001-2011 regarding board ownership and numerous performance measurements three types of regression analysis were made; linear, polynomial and multivariable regression analysis in order to determine how the companies have performed both financially and operationally and how board ownership impact each variable as well as the correlation between variables. The results show that there is a way to maximize wealth for the shareholders, reaching it requires the shareholders to demand personal stake from the board of directors in order to achieve optimal corporate governance or optimal incentives to perform its best. Perhaps the Swedish shareholders will follow the American trend moving on. Furthermore, this study contributes to previous research providing knowledge about how much or at what ratio the board of directors will perform their outmost for each variable.

Keywords: Corporate governance, ownership structure, board of directors, multivariable regression analysis, regression analysis, polynomial analysis.

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Key terms

The Swedish ownership model: A model referring to historical dominance of one large block-holder group, often a family, holding a majority part of the voting stocks in a company.

Agency costs: (i) Monitoring costs: Costs to monitor that the agent fulfills her fiduciary duty.

(ii) bonding expenditures: Cost to establish a relationship.

(iii) residual loss (Jensen, Meckling, 1976)

Residual claimants: Agents claiming residual gains.

CalPERS: California Public Employee Retirement System

Tobins Q: The ratio between the market value and replacement value of the same physical asset

1. Background

Shareholders expect the company's board of directors to maximize their value. That is, to a large extent, the essence of running a company. Unfortunately that is not always the case, leading to a gap between shareholders and managers. Where managers instead of working for the interests of the shareholders, act in their personal best interest. This situation is the foundation of the principal-agent theory and these agency-conflicts can be mitigated by monitoring . Basic principal-agent theories, as stated in the late 70's by Jensen and Meckling (1976), encourage ownership in its purest form of entrepreneurs, where no agency costs are applicable. Modern corporate governance in the United States of America therefor encourage or in some case even demand from their members of the board to acquire share ownership in the company, in the belief to reduce the stated costs according to at least seven of the twelve largest S&P500 companies corporate governance statements (P&G, 2010; Microsoft, 2011; IBM, 2010; Google, 2011; GE, 2010; Exxon, 2010; Chevron, 2010; AT&T, 2010).

There are several studies regarding principal-agent theory and board ownership requirements. Many of whom are conducted in the US and the south-east Asia. Already in the beginning of the 1930s Berle and Means (1932) stated that when shareholders are dispersed, along with managers holding little equity in the firm, assets may be deployed to benefit managers rather than shareholder. Following are a sample of similar studies to enforce the strive to find the optimal principal-agent relationship.

A more recent study by Morck et al. (1988) it investigates the relationship between board ownership and market valuation of the firm's assets in a sample of large industrial firms. In a cross-section of 371 Fortune 500 firms in 1980, Tobins Q increase as board ownership increases from 0-5%, and decrease as ownership rises further to 25%, and then

continues to increase, although in a slower pace as board ownership exceeds 25%. The fact that some types of observed governance structures are preferable to other observed types imply that suboptimal governance structures has been adopted by some firms. The study of Morck et al. (1988) perhaps provide the most appealing evidence of this sub-optimality, which this study aims to investigate, thus also suggesting there is an optimal governance structure where firms deviating from it experiences worse performance.

Farooque et al. (2007) investigates the relationship between ownership, as a governance mechanism and corporate performance in Bangladesh. Their study differs from previous studies by probing both ownership and performance variables as exogenous and endogenous and measuring performance instead by the market to book value of equity as opposed to Tobin's Q or ROA used in prior studies regarding this relationship.

They produce two hypotheses, which they test for significance and end up with two streams of results. (i) Where it indicates that board ownership reduces value up to 23 percent level of ownership, enhances value between 24 percent and 60 per cent levels of ownership and again reduces value beyond the 60 percent level (Farooque et al., 2007). This means that the board initially lacks incentives to increase firm performance and eventually they become entrenched and perform poorly thereby negatively affecting performance. (ii) Second stream of results present a completely opposing conclusion for board ownership in the performance equation – it shows no significant effect for board ownership on performance. This stream implies that board ownership is irrelevant in explaining firm financial performance in Bangladesh. There is a reverse-causality: performance determines board ownership rather than board ownership determining performance. Thus, board ownership is determined by a number of alternative governance and control variables, in addition to financial performance (Farooque et al., 2007). This study, will focus on the positive results with respect to the financial

performances, thus this study aims to investigate and compare the results especially from the first line of the Bangladesh study, trying to find the optimal board ownership in relation to performance. The method is inspired by the Bangladesh paper method.

Board composition and the duties of the board of directors are commonly determined in each company's Corporate Governance statement, the credibility of those may vary. Corporate governance is defined according to (Mallin, 2010) as describing decision chains for creating value, no matter what kind of organization. Corporate governance differs between cultures and countries (Henrekson, Jakobsson, 2010), this study will focus on the ownership governance within the area of corporate governance.

Dalton and Daily (1999) address the agency and compensation problem, another perspective explored in this study, in a wider context by reviewing contemporary articles, journals and statements from senior people in various businesses and organizations, i.e. Deputy Executive Officer and General Counsel of CalPERS Richard Koppes. He remarks:

> *"...our experience with a decade of corporate governance activism and some 50+ meetings with companies has clearly demonstrated to us that those directors with very nominal or no stock holdings are generally those not fulfilling their fiduciary obligation to the shareholders." (Dalton, Daily, 1999 p.74)*

When Korn/Ferry International released their 25th Annual Board of Directors Study in 1998 they noted in it's five year summary forecast that:

> *"stock ownership by directors will continue to grow. More directors will be paid all or partially in stock. Directors and CEOs will, over the next five years, be required to own a specific number of shares." (Korn/Ferry, 1998 p.8)*

As shown, the world's largest executive search firm, already in 1998 foresaw this course of event in companies worldwide as previously stated and illustrated in table 1. (P&G,

2010; Microsoft, 2011; IBM, 2010; Google, 2011; GE, 2010; Exxon, 2010; Chevron, 2010; AT&T, 2010)

However, stock based compensation plans for directors add a challenging new element to the problem. Boards are often accused of bad judgement, lack of attention or lack of independence from management, but for directors to be accused of this is one thing, benefit personally from it is another. According to Dalton and Daily in 1999 the relationship between efficacy of board stock based compensation plans and corporate financial performance should be taken lightly until they are more definitive data (Dalton, Daily, 1999).

Table 1

Which of the 12 largest S&P500 companies demand ownership from their BODs?		
Company	Demands	No demand
Exxon Mobil Corp		X
Apple Inc		X
Chevron Corp	X	
IBM Corp	X	
Microsoft Corp	X	
GE Corp	X	
P&G Corp	X	
Johson & Johnson		X
AT&T	X	
Pfizer Inc		X
Google Inc	X	
Wal-Mart stores Inc.		X

This study aims to complete the research from a Swedish governance perspective. Analyzing three areas: (i) If any Swedish shareholder group should force a Swedish company listed on Nasdaq OMX Large Cap to apply board ownership demands as American companies seem to do; (ii) if the Swedish ownership structure, with less block holders of significant volumes than the Anglo-saxon capital markets in general (Henrekson, Jakobsson 2008), affect the previous question; (iii) should Swedish companies apply the North American trend as well, and in that case how would the best alternative to imply requirements on boards to undertake ownership responsibilities look like. Remarking that the latest question might be out of the scope of this study.

Exploring these three areas, we can draw a conclusion regarding whether board ownership in Swedish companies would reduce what Jensen and Meckling (1976) referred to as agency costs. Swedish culture generally appears as a non-controlling environment, why we would like to measure the impact of this in some way controlling measure. Hence, the study seeks to investigate if the application of the North American model could be beneficial for Swedish shareholders as well with intentions to maximize their value and minimize agency costs (Jensen, Meckling, 1976). The North American trend refers to larger corporations requiring from their members of the board to acquire significant ownership in the company they are representing, as Proctor & Gamble mentions in their corporate governance statement:

> *"Non-employee directors must own Company stock and/or restricted stock units worth six times their annual cash retainer. These compensation programs help to ensure the alignment of the interests of our senior executives and directors with shareholders." (P&G, 2010)*

emphasized as well by the global American telecom company AT&T's governance statement:

> *"The Board believes that, in order to align the interests of Directors and stockholders, Directors should have a significant financial stake in the Company." (AT&T, 2010)*

Amongst the largest twelve S&P 500 companies IBM, Microsoft, Google, General Electric and Chevron also applies similar requirements (Microsoft, 2011, IBM, 2010, Google, 2011, GE, 2010, Chevron, 2010).

1.2 Swedish Corporate Governance

Swedish corporate governance reflects that of the most of the industrialized world and is in line with the international development within the field during the past few decades. At the same time it differs in important aspects, like traditional Anglo-Saxon countries. (Pierce, 2009) Why a background of the Swedish corporate governance and the differences from other analyzed governance cultures are important to keep in mind analyzing the results of this study conducted on the Swedish market.

The regulatory framework for Swedish corporate governance consists of legal requirements, Stock Exchange rules and the so called "*Code*" which is based on the principle of "comply or explain" and resembles the corporate governance codes of other EU member states. The Code is administered by the Swedish Corporate Governance Board, an independent body within the Swedish self-regulatory system and is mandatory for all Swedish companies listed on a Swedish regulated market. (The Code Group, 2004)

The Swedish legal Companies Act focuses on shareholder's rights and corporate governance issues. Issues like board composition, remuneration of management and transparency that is regulated through corporate governance codes in most other jurisdictions, are instead incorporated in the Swedish law (Riksdagen, 2005).

Furthermore, all companies listed on a regulated market in Sweden are contractually bound to comply with the rules set up by the OMX Nordic Exchange Stockholm. Rules such as requirements on the composition of boards and the independence of all the board of directors unless they are union representatives or the company CEO. (The Code Group, 2004)

The Swedish model, the one-tier model commonly used in countries with an Anglo-Saxon judicial tradition in opposite to the German two-tier model. The Swedish model is based on a hierarchical governance structure in which each governance body has powers to issue directives to subordinate bodies and to some extent also the ability to take over their decision making authority. Apart from few occasions where the board has exclusive decision power, the shareholders meeting is sovereign to decide company matters and even to issue instructions to the board. (Pierce, 2009)

In Sweden the board, in contrast to the United States and the United Kingdom, are entirely or mainly non-executive. Listed companies are not allowed to have more than one person from the company management on the board, usually the CEO in the company. (Pierce, 2009) In addition, Swedish law demands that the chairman of the board and the CEO must not be the same person (Riksdagen, 2005), implying the directors have no natural ties to the company apart from their ownership.

In Sweden, like in most continental European countries, the ownership is dominated by one or few major shareholders, unlike in the US and UK where the stock markets have a highly dispersed ownership structure. Controlling shareholders are considered better in the long run and expected to take long term responsibility for the company by holding on to their shares even in rough times and to actively try to participate in the governance of the company. (Pierce, 2009)

Another important feature of Swedish corporate governance is the role of the auditor. The auditor of a Swedish company is appointed by and reports to the shareholders' meeting. In addition to traditional duties the auditor in Sweden also reviews the performance of the

board and the CEO and is obliged to make recommendations on the issue of discharge from liability of the board and CEO. In essence this means that a Swedish board is subject to auditor review and thereby not the issuer of the auditing assignment. (The Code Group, 2004; Riksdagen, 2005)

While Sweden clearly believes in major and strong ownership by a few shareholders it is easy to assume that the rights of the minority are neglected. In an emphasis to avoid this, the Swedish government maintain protection for minority shareholders in the Companies Act. Two regulations: (i) strict legal obligation for companies to treat all shares equally, unless otherwise prescribed. Any decision that might give undue advantage to some shareholders at the expense of the company or other shareholders is prohibited and such decision would be legally invalid. (ii) The possibility that minorities of various sizes can block certain resolutions at the shareholders meeting poses the last line of defense. (Pierce, 2009)

1.3 Formulating the problem

Understanding the American endeavor to reduce agency costs through aligning shareholder interests with their agents, the members of the board, the following becomes interesting. Is this American displacement towards a requirement for the board of directors to buy shares and thereby financial stake in the company applicable also in Sweden, with its different approach to governance? Can we distinguish positive performance differences between Swedish firms where members of the board have had larger share ownership over the past 10 years, compared with those with less or none, giving guidance to the study's primary question:

Should shareholders demand their board of directors to buy financial stake in the company to maximize wealth?

1.4 Purpose

Seeking to investigate if there is evidence from past performance amongst companies listed on NASDAQ OMX Large Cap with relatively comparable sizes that would enforce the shareholders to demand ownership from their board of directors, reducing agency costs.

2. Method

2.1 Identify trends

2.1.1 Creating an empirical foundation

With a purpose contemplating our thoughts on how to reduce agency costs in the relation between board of directors and shareholders. Having identified a trend amongst large American companies, with a great amount of shareholders, where recent demands from shareholders are aimed towards the board of directors to acquire personal stake in the company in order to align shareholder interests with the director's interests (P&G, 2010). Moving on to analyze whether the agency theories and this tweak as an effort trying to reduce the agency costs are applicable amongst Swedish firms as well. This study analyze the question from three perspectives forming an empirical research with emphasis on the quantitative data research.

Beginning (i) the study by forming a framework of related research where the foundations of Agency theories will conform the base and building the frame of related articles and the roof compiled of research regarding both agency problems and corporate governance.

Second (ii) these theories woven together, with data extracted within the below stated limitations, (iii) the comparison between empirical research with previous studies will show if similar actions are applicable to Swedish companies as well.

2.1.2 Segmenting the data

When conducting the data for this thesis we started out by determining which companies we would extract information about from the Large Cap list present at Nasdaq OMX. The list of companies decreased slightly during the process when gathering information about the ownership held by the board of directors. This due to available information from the Swedish financial markets regulatory agency and their "insiderlista" (FI, 2011). If information regarding board ownership about a company, for any reason, did not exist we chose to exclude that company since it would have been impossible to perform any measurements with the same included. Hence, the final list of companies in this study consists of those with information about the ownership held by their board of directors. This is where the process begins with its 4 steps. (i) Since the "insiderlista" shows ownership held by all insider persons and their relatives, the extracted ownership information were sorted by title in order to easily mark out the ownership held by the board of directors. (ii) The point of interest was that of the 30th of June each year between 2000 and 2010. Since we focus entirely on share ownership we neglected all other types of financial instruments, such as options or likewise. (iii) Inserting the ownership information into pivot-tables in Microsoft Excel® we were able to sort out each board member with her respective ownership and then rearrange the information in an orderly manner. (iv) This procedure was made for every company and year. The ownership information formed the foundation of our Microsoft Excel sheet as Appendix 1.

After conducting all ownership information we went on to (v) gather information about share price and our chosen variables (see 2.3). The Nasdaq OMX (NASDAQ OMX, 2011) provided us with historical share price for each day and company. As with board ownership, we considered at the closing share price on the 30th of June or, when applicable the most recent available day of trade with each stock. (vi) Cleared it from any irregular adjustments in share price, such as splits, emissions or similar.

(vii) Information about our chosen variables was available on the Retriever database (Retriever, 2011). By sorting the information in two steps, first by (vii.i) Nasdaq OMX Large Cap and (vii.ii) by each variable we were able to receive an extensive list comprising all Large Cap companies and their variables reaching 10 years back. To obtain a list that matches the previous two concerning the amount of companies (viii) it was cleared from the companies lacking information about ownership held by the board, that concludes the data gathering.

2.2 Analyze previous research

Partitioning previous studies in four subcategories; (i) Principal-agent theories; (ii) Corporate Governance theories; (iii) theories regarding the board composition and (iv) theories regarding remuneration for top executives and members of the board. This approach simplifies the data analysis in the sense that ratios are easily tied to a specific subcategory and its previous performances similarly to Farooque et al. (2007).

2.3 Analyze empirical results

In order to determine how the companies have performed both financially and operationally we chose to look at the following performance measurements: Return On

Assets (ROA, x1), Return On Equity (ROE, x2), Equity ratio (E/(E+D), x3), Debt ratio (D/(D +E), x4), Turnover (x5), Net income (NI, x6), Immaterial assets growth (x7), Material assets growth (x8), Financial assets growth (x9) and Salaries to Board of directors and the Chief Executive Officer (x10), as they show potential shareholder gain from each company. By comparing these measurements with theories regarding agency costs (i) conclusions and recommendations could be formed. Together with the governance (ii) partition and the board composition (iii) researches, the corporate governance data relations are easily distinguished. Last, telling apart the relation between all mentioned parts and the remuneration theories (iv) this study can determine if there is a relationship between firm performance, board composition and the personal stake of members of the board. If the agents have larger personal stake in the company, hence subject to greater risk, will they try to reduce their risk, increasing guaranteed pay-off through increased salary?

As with almost all types of variables, there is a potential problem, since they can be manipulated to show another truth about the company, in this case through acquisitions or similar operational measures. The shortcomings of these variables will be subject for discussion when relevant.

2.3.1 Calculating with Excel

The conducted data was then inserted into our Excel sheet with the ownership information. A couple of calculations performed in Excel to establish the three different measurability's. (i) Linear relationship between ownership and the independent variables, one at the time, to sort them out individually. (ii) Relationship between ownership and the independent variables, one at the time, through a second degree equation to find the best possible outcome individually. Last, (iii) the multiple regression analysis to determine how the independent variables impact each other and the situation as a whole.

2.3.1.1 Establishing average board ownership

To determine the relationship between the performance variables with the board ownership the following equations were conducted with the same average board ownership from the following four steps. (i) Summarizing the board members ownership for one year. (ii) Multiplying the number of outstanding shares with the share price for the respective day. (iii) Dividing step (i) with (ii) and summarizing (iv) for all available years, dividing by the number of available years to establish the average ownership. This applies for all three of the measurement calculations.

2.3.2 Linear regression

Combining these pieces of information in a linear regression analysis according to Newbold et al. (2010) we can recognize the relationship between the variables and if there is any, correlation between the board ownership, and the independent performance variable.

The linear equation formula is accordingly (Newbold et al., 2010):

Equation 1

$$\hat{\beta}_1 = \frac{\sum(x_i - \bar{x})\,(y_i - \bar{y})}{\sum(x_i - \bar{x})^2} \; and \; \hat{\beta}_0 = \bar{y} - \hat{\beta}_1 \bar{x}$$

Specifically for the linear regression the variables average growth were determined yearly. Hence the calculations were conducted through the two steps for each variable: (i) each year is first subtracted and the difference is then divided with the previous year as far as possible. (ii) Summarizing each years average and dividing by the number of measurements to determine the average growth over the years.

2.3.3 Quadratic functions

The quadratic functions are conducted just like the linear functions data points, what differs are the equations to establish the maximum or minimum value. (Newbold et al., 2010)

Equation 2

$$f(x) = ax^2 + bx + c$$

Equation 3

$$x = \frac{-b \pm \sqrt{\Delta}}{2a}$$

Equation 4

$$\Delta = b^2 - 4ac$$

2.3.4 Multiple Linear Regression

From the same set of data points the multiple regression analysis is conducted through the following equations, with Excel as calculator.

The ten performance variables for each company are compared to the average ownership per company (appendix 2-6) with the built in function =LINEST(known y's, known x's, [const], [stats]) where the performance variables are the known x's, the average

ownership are the y's and the constants and the stats are determined as TRUE to determine the results as a matrix. The results are then tested for their relevance in three different tests.

First (i) the r2 measurement, or coefficient of determination, determining the spread or the relationship, where 100% is the strongest possible, between the independent variables and the ownership. (ii) The F and df tests the likelihood of a higher F value. The test is performed in a few steps, where v1, v2 and F are all determined according to the output from the LINEST function. Together these three variables are the input in the =FDIST(F,v1,v2) function built-in in the excel program to determine if the F value occurred by chance. (Newbold et al., 2010)

To establish whether or not it did, we have to assume an alpha value, or the distribution values. Normally these are chosen in a selected range of 5-25%. The distributions in this analysis are however easier to interpret with a few extreme values. Why the distributions controlled for are limited to 15%. For each alpha value the function FDIST is established and compared to the linear estimation, or multiple regression analysis. Where a value of the LINEST variable is tested for its significance compared to the other variables in the data set. Values larger, and in a rising order, than the FDIST value for each alpha indicates a strong significance or relevance to the equation. Meaning it is more important than other variables if it is greater. (Newbold et al., 2010)

2.4 Demarcations

This study is limited to the firms noted on the NASDAQ OMX Large Cap as of October 30th 2011 and their members of the board as described in "insiderlistan" each available

year between 2001 and 2011. The Large Cap limitation derives from available information and its dispersion of ownership, which would encourage even greater interest from principals to reduce agency costs. As this study's main purpose is to discuss the differences or similarities between Swedish and International corporate governance engagements, the study is limited to the Swedish market.

Gathering and conducting the empirical research, the research is founded on 10 consecutive years of data (Appendix 2; Retriever, 2011). If, for any reason, data for a specific year was not available the data points are compared to each year with a sibling data point and if the data for the next consecutive year were not available, the years are compared to the first one available.

Excluding Axfood, Latour and Melker Shörling from all statistical analysis, since their share of ownership is significantly different from the other data points, which would have implied greater errors to the results conducting this type of statistical analysis where extreme values would imply significantly different results.

With the purpose to further understand our results we divide our list of companies into three categories based on levels of ownership held by the board of directors. To avoid an arbitrarily division we chose to use the same as Morck et al. (1988), which is 0-5% (small), 5-25% (medium) and >25% (large) ownership. These three categories will help us discover if there is an optimum range of level of ownership in which companies perform their best regarding previously stated variables. Another type of sectioning we made is that of industry. By dividing our list of companies after what type of industry they operate in we can see if there is a pattern regarding the relationship between board ownership and/or chosen variables among firms in a particular industry, allowing us to discuss and

draw conclusions about the possible causes of such a pattern. The different industries and which of the companies operating in them was obtained through the Nasdaq OMX (2011) homepage.

2.5 Shortcomings

Conducting research where financial ratios and indicators play a significant role always involves an isolation problem as to what variable actually is impacting the results. This is since several variables often has impact on business performance. In an emphasize to reduce these shortcomings the study will look at several ratios as mentioned above. What would give the study even more credibility is to understand the relation to individual financial strength. This is since relative and absolute financial engagements would differ significantly between a wealthy and a not as wealthy person according to Jensen and Meckling (1976). Consequently, 100 of 1000 monetary units is a potentially greater risk for an investor than 100 of 100 000 monetary units. With the hypothesis that it is not the absolute sum invested in the company that implies financial responsibility, rather the relation to individual wealth. Individual financial strength is however data restricted and unavailable at the time of this study.

3. Theoretical framework

3.1 Agency theory

Conducting a study like this, investigating managerial incentives and firm performance one will cross path with Jensen and Meckling's agency theory presented in their article from 1976 since it underlies any study of this subject. They define an agency relationship as a contract where one person, the agent, is engaged to perform some service to another or several other people, principals, on their behalf. If both agent and principal are utility maximizers it is not too farfetched to believe that the agent will not always act in the best interest of the principal. The principal can limit the agent's ability to such aberrant activities by giving incentives and incurring monitoring costs. Either way, the principal want to guarantee the agent will not harm the principal taking certain actions or to ensure that the agent will be required to compensate for such actions. However, it's hard, if not impossible, to ensure the agent will make the optimal decision from the principle's point of view, at least without a cost. The principal and the agent will, in most agency relationships, receive positive monitoring and bonding costs, thus some divergence between the decisions which would maximize the welfare of the principal and the agent's decision. The decrease in welfare for the principal due to this divergence is equal to the cost of the agency relationship, which is referred to as "residual loss". (Jensen, Meckling, 1976)

Jensen and Meckling define agency costs as the sum of (i) the monitoring expenditures by the principal, (ii) the bonding expenditures by the agent and (iii) the residual loss. Agency costs arise in any situation involving cooperation between two or more people; hence it exists in all organizations and in all cooperative efforts, at every level of management in any firm. The existence of these costs is proven by the authors and

implies that these costs should be viewed as any other costs in the corporation, and the level of it depends among other things on laws and human creativity in making these principal-agent contracts. (Jensen, Meckling, 1976)

Fama further investigate theories of agency problems. In his article Agency Problems and the Theory of the Firm (1980) he separates classical and modern theories of agency problems and defines the entrepreneur as: management and risk combined, why no agency costs are applicable. The two functions are treated as naturally separate factors within the set of contracts called a firm. Fama argues that classic theories emphasize the entrepreneur, the manager and risk-bearer whereas modern theories argue firms and therefore their managers are competing and fighting for their survival on the market, not for success, as the entrepreneur. Their study sheds light on the entrepreneurial ownership as well, whether it is the optimal or not. (Fama, 1980)

The firm is disciplined by competition from other firms, forcing the evolution of devices for efficient monitoring of the performance of the entire team and of its individual members. Fama further argues the manager lacks capability to understand and include all shareholders interests. (Fama, 1980)

3.2 Board Composition

The implications deriving from the agency theory and corporate governance are that the only way for shareholders, principals, to impact on their agents, companies or board members, is to elect the members of the board. Hence there is a need to understand how to compose the relevant board of directors.

Trewor W. Chamberlain (2010) investigates the relationship between firm financial performance and different board characteristics of the largest 100 Canadian public firms between the years 2005 and 2007. His study separates board involvement and board effectiveness and focus on the impact of outside director representation and the level of equity ownership held by the directors. Among other characteristics, the average length of tenure of the outside directors and their relationship to performance are examined. The results of the study indicate that both the number and proportion of outside directors are positively related to financial performance, both as ROA and ROE measures. Concerning the length of tenure by outside directors, the results show a positive link to performance. Their result supports the argument that during ones tenure knowledge and experience is accumulated which enables directors to be more effective in their different governance roles. (Chamberlain, 2010)

At the same time, the results indicate that there is a roof of accumulated knowledge to be contained, exceeding that line leading to benefits beginning to diminish. Long-serving outside directors may become entrenched and difficult to dislodge even if the company's performance is deteriorating. Despite this fact the findings in their study argues that companies should avoid policies allowing frequent directors turnover and instead try to retain effective board members as a way to take advantage of their knowledge of company operations and experience in board decisions. This under the terms that it does not continues indefinitely and that the replacement of directors is made one by one and not in large blocks, negatively impacting the entire board's experience and knowledge. (Chamberlain, 2010)

Pearce and Zahra (1989) review empirical research regarding the relationship between board of directors and corporate financial performance. To understand the board of

directors impact on financial performance, Zahra and Pearce present a model that consider different types of board attributes and roles former absent from the literature. Pearce and Zahra identify three sets of interrelated roles: (i) service, (ii) strategy and (iii) control. Through service (i) activities, directors can ensure company survival while enhancing a company's identity and reputation as well as commitment to the community. A board's strategic (ii) role includes defining a firm's business concept, along with developing a mission, selecting and implementing the same. Aiming to enhance competitiveness to maximize shareholder wealth and at the same to ensure the firm pursue its goals and follow their chosen strategy. The board further acts as corporate control (iii) which includes choosing senior executives, foremost the CEO. The control role and the board power assigned to it are used to protect shareholders' interests as well as monitoring, evaluating and rewarding executive performance. With agency theories like the ones stated by Jensen and Meckling (1976), their study concludes that executives are believed to pursue objectives that may contradict the goals of their principals, why boards of directors plays an evident role in monitoring the agents in striving towards shareholder wealth maximization. However, according to Zahra and Pearce, there is little documentation of this important role for the board. (Pearce, Zahra, 1989)

In their article from 1992 Pearce and Zahra focus on the importance played by the board by investigating the link between financial performance and board composition as measured by size and outside director representation. In order for a board to perform their different roles it is largely dependent on its composition. The proper balance of inside and outside directors are vital creating this ability and overall, the board composition is an important consideration in explaining director's ability to undertake their fiduciary duty and to contribute to company performance. The result shows that

larger board size, as well as higher proportions of outside directors, was significantly and positively associated with higher corporate performance. (Pearce, Zahra, 1992)

In a completely opposite direction, Hermalin and Weisbach (1991), concludes, quite striking, that there appears to be no relation between board composition and firm performance. In their article The Effects of Board Composition and Direct Incentives on Firm Performance they measure differences in firm performance caused by board composition and ownership structure. In the area of board composition their paper differs between inside and outside directors and finds that the most consistent explanation to performance is that both types of directors are equally important with respective pros and cons. Outside directors play an important role in monitoring management, while inside directors provide both advice and knowledge about the operations of the company, helping the CEO maximize value. Results regarding the ownership by top management and CEO show that at low levels of ownership, <1%, corporate performance, as well as aligning the interests of management and shareholders, improves with increased ownership. Additionally, their result also suggests that increases in ownership above 20% cause management to become more entrenched, and less interested in the welfare of their shareholders. (Hermalin, Weisbach, 1991)

3.3 Principal governance

The board of directors plays an important role in solving the agency problem between shareholders and management, so how can the relationship be optimized? Fama and Jensen (1983) discuss the agency problem from a control perspective. They view an organization as a nexus of written, as well as unwritten, contracts and their paper investigate whether separating decision management, decision control and residual risk

bearing is more efficient than combining these three functions at the same agent. This type of control in the decision process is important when the decision managers who initiate and implement, decision management, important decisions are not the major residual claimants, thus not bearing the wealth effect of their decisions. The control is separated from the management due to efficient ratification and monitoring of decisions, decision control. Residual claimants have little protection against opportunistic actions of decision agents without separation of decision management from decision control, which in turn reduce the value of unrestricted residual claims, which this study investigates concluding the volatility in results. (Fama, Jensen, 1983)

Yoshikawa and Phan (2005) focus on the Japanese boardroom, specifically the role of the outside directors. On many Japanese boards there are a small number of outside directors who act as representatives of corporate and banking institutional investors. (Yoshikawa, Phan, 2005)

Yoshikawa and Phan examine how domestic institutional investors, who are often business partners or affiliated firms, influence the corporate strategy of investment firms through the directors they appoint into the boardroom. The few outside directors, contradicting to Swedish board of directors (Rahmqvist, 2010), that serve in the Japanese corporate governance system are usually nominees of the banks and corporations that invest in the firm (Yoshikawa, Phan, 2005). Hence, those directors often act as stewards of the commercial interests of their institutional investors and serve to narrow the conflict of interests between management and certain classes of shareholders. The conflicts of interest can lead to inefficient allocation of resources, especially in countries where dominant shareholders are common, as is or has been in Swedish corporations. (Rahmqvist, 2010; Yoshikawa, Phan, 2005)

A recognizable pattern in governance literature is that it emphasizes the role of outside directors in resolving agency problems and aligning the interests of management and shareholders through the design of incentive contracts and the monitoring of management behavior (Fama, Jensen, 1983; Yoshikawa, Phan, 2005; Hermalin, Weisbach, 1991).

3.4 Remuneration theories

One of these incentive contracts is the level of remuneration of executive directors and managers. Remuneration is considered to affect, and therefore to be connected to, financial performance, firm size, organizational structure and corporate governance. Therefore Hermalin and Weisbach (1991) scrutinize this relation. It is also the incentive for managers to achieve better financial performance states Lazarides (2008). Furthermore mentioned literature, like the agency theory (Jensen, Meckling, 1976), has established a connection between ownership-structure and executives remuneration. Lazarides (2008) examines if these connections are valid in Greece, according to the author a typical non Anglo-Saxon country. With the hypothesis that agency theory is not valid in a Continental Europe´s system country (Lazarides, 2008), their paper concludes that remuneration levels in Greece are defined by a different set of factors than the ones in an Anglo-Saxon country. In Greece the age of firms and corporate governance quality have a catalytic impact on remuneration levels, along with the fact that fundamental financial measures of performance are more widely used. (Lazarides, 2008)

As previously mentioned, Hermalin and Weisbach (1991) also discuss the remuneration of management. The agency theory (Jensen, Meckling, 1976) states that the larger share the

management owns, the stronger their motivation to work is to raise the value of the firm's stock. In firms where management owns a large fraction of the stock there will be less demand for other anti-agency measures. Meanwhile, this situation insulates management from other forces reducing agency costs, like the threat of takeovers and the discipline of the board. Often large management ownership is the case with family-controlled firms, which are notorious for putting the family in the first place, rather than the shareholders. The possibility that agency costs increase with ownership over a certain level is therefore a justified scenario that may arise. On top of this, Hermalin and Weisbach claim that another measure of agency problem could be the length of tenure of the board and top management. They found that CEO tenure does not affect profitability at low levels of tenure. However, CEOs who have been on the job for more than 15 years, each additional year actually reduces profitability. This result suggests, similar to Chamberlain's (2010) result regarding outside directors, that such CEOs becomes entrenched and reduce corporate performance. Although, as far as top management goes, Hermalin and Weisbach claim that if management has been around a long time, this favors the idea that agency problems might not be too extreme. The logic behind this reasoning derives from the fact that otherwise top managers would have been dismissed by the board, voted out by shareholders or takeover. (Hermalin, Weisbach, 1991)

4. Empirical Data

4.1 General

Assembling data as stated in the method, comparing the different variables according to regression analysis theories (Newbold et al., 2010) to investigate the relationship of ownership and firm performance we divide our empirical research in the 11 sub categories: (i) ROE growth; (ii) ROA growth; (iii) Equity ratio growth; (iv) Debt ratio growth; (v) Turnover growth, (vi) Net Income growth, (vii) Immaterial assets growth, (viii) Material assets growth, (ix) Financial assets growth, (x) salaries to BOD's and CEO growth and (xi) Market value growth. All of the results are compared as average over all available years of data, further they are presented as percentages since absolute numbers would vary even more due to the great differences in turnover size between the companies. Further we segment our data by share of ownership as Morck et al. (1988).

Segmented empirical data after ownership	Range
Large	25% < x
Medium	5% < x < 25%
Small	0%< x < 5%

The empirical study shows the NASDAQ OMX Large Cap listed companies has an average share of board ownership at 8,63% over the observed time period of 10 years (appendix 2). Further the average years one director stays at any board for the same sample is 5,12 years (appendix 9).

Table 2 (Retriever, 2011) represents the empirical results for the linear and polynomial equations, chapters 4.2.1-4.2.10. Each variable is compared to the average ownership

over the years and the relation is determined by a + if the relation is positive, and a - if the relation is negative. The maximum and minimum values are determined as + if there is a maximum and the corresponding approximate y-axis value or the variable tested for. Following the empirical results table are comments for each variables results.

Table 2

Results - Ownership to average growth in		ROE	ROA	E/(E+D)	D/(E+D)	Turnover	NI	Immateriel assets	Material Assets	Financial assets	Salaries to BOD and CEO
	Segment										
Linear	**All**	-	-	+	-	-	-	-	-	+	-
Polynomial	**All**	–22,50 %	+40%	–37,50 %	+37,5%	–112,00 %	+50%	–50,00 %	+20%	+45%	–100,00 %
Linear	**Large**	+	+	+	-	+	+	+	-	-	+
	Medium	-	-	+	-	-	+	+	+	+	+
	Small	-	+	+	-	+	-	-	+	+	-
Polynomial	**Large**	–22,50 %	-27,5%%	+82,5%	–110,00 %	-60%%	+110%	–60,00 %	–80,00 %	–82,50 %	–60,00 %
	Medium	+15%	+15%	+15%	–15,00 %	+7,5%	+22,5%	–12,00 %	+20%	+20%	+22,5%
	Small	+1,5%	+2,25%	–0,10 %	+1,5%	+2%	–2,00 %	+1,5%	–0,80 %	–1,00 %	–1,50 %
	For linear results: + indicates a positive relationship | - a negative relationship. For polynomial results: + indicates a maximum around the following result | - a minimum.										

4.2 Linear and polymetric empirical results

4.2.1 ROE growth

The Return On Equity with its negative relation to ownership and a minimum value determines that if shareholders seeks to maximize return on equity, they should emphasize ownership at somewhere around 15% from their board of directors according to the polynomial results from the medium shareholder group.

4.2.2 ROA growth

Return On Assets as well has a negative relationship to ownership at the board, that is however not true for the large and small segments of ownership where it is positive. The combination of previous with the maximum at some 40% ownership means there is

increasing interest to perform solid return on assets in the medium segment of ownership and reaching to 40%.

4.2.3 Equity ratio growth

Concerning the Equity ratio the relationship is positive, as well for all of our segments, meaning the more the board of directors owns of the company, the more they tend to concern about keeping a solid equity share in the company's balance sheet.

4.2.4 Debt ratio growth

For the debt ratio, it is confirmed that companies with 1,5% ownership or less seek to increase their amount of debt whereas companies with larger ownership seek to reduce their debt finance. Which is accordingly to the above results for the equity ratio.

4.2.5 Turnover growth

The empirical research over turnover growth demonstrates there is a positive correlation for both large and small segments, yet a negative correlation over all. Combined with the polynomial results, the results determine the shareholders who tries to maximize turnover growth should emphasize ownership at somewhere around 5%. What is further to be acknowledged here is the possible risk of a significantly different value in the large segment that may tamper with the results.

4.2.6 Net Income growth

For the growth of net income shareholders should strive to keep ownership at the board of somewhere around 50%, they should though be aware of the fact that the relationship is negative overall, meaning going past 50% ownership seems to make the board less

carefull about performing stronger net income. The net income is perhaps the most important performance measurement since this is the variable that ultimately could come the shareholders to privilege as dividends.

The longer directors remain at the board, the better the growth of results are, however it peaks somewhere around seven years. (Appendix 9)

4.2.7 Immaterial assets growth

Immaterial assets are not important to grow for boards with a large share of the company since the relation here is negative. However the relationship is increasingly important after the small and medium segments. From here, the importance to grow the immaterial assets increase again. Which is confirmed by the minimum value of 50% overall.

4.2.8 Material assets growth

On the contrary, material assets growth are emphasized by boards in the medium segment. Reaching towards the medium segment as well. However there is turning point around 20% of ownership where boards give less effort to increase the material assets growth or simply tries to keep them low.

4.2.9 Financial assets growth

Reaching towards the large ownership segment, the directors focus on increasing the financial assets up to the point of 45% of ownership, where it seems to decrease again.

4.2.10 Salaries to Board of directors and CEO growth

We find it interestingly that with progressively ownership, the board of directors increase their own salaries or the remuneration to their CEO. This could be a result of their wish that with increasing risk they demand higher guaranteed return.

4.2.11 Market value growth

The regression function confirms a slight decrease in market value with increasing ownership by -0,001% per year and company. Again, it is worthwhile taking notice to the abnormals in the data range by Hufvudstaden and Lundbergsföretagen in this case. Excluding them would reveal a strong positive relationship. (Appendix 8)

Regarding the market value progress, the empirical research signify an optimal amount of board ownership somewhere around 20% average ownership (Appendix 7). Regarding Appendix 7 and the chart *Large* and *Medium* the data points with the best average growth is gathered at the end (Medium) and beginning (Large) of the x-axis. Finding a perfect relation could be subject to further research according to chapter 7.

Understanding the length of an efficient board membership, the empirical research provides information that the market value growth is best for companies where the board of directors remain at the board for approximately 6 years in average (Appendix 9). The trend is negative though, meaning the longer directors remain, the worse the market value grow.

4.2.12 Compounded results

Concluding the results in table (Table 2). Where plus (+) indicates a positive correlation between the variables, minus (-) a negative correlation and the maximum or minimum values (max/min) the optimal values for each variable. These results show a mix of relations between the variables. The most significant ones are however the compelling negative linear relationships on a compounded level.

4.3 Multiple regression analysis empirical results

The third stream of results, apart from the linear and polynomial, are the multiple regression analysis results as demonstrated in table 10 (Appendix 10).

Table 3

Multiple regression analysis	–0,00495	0,006399	–0,00164	–0,00011	–0,00012	0,012078	–0,03517	0,051494	–0,00234	–0,00086	0,108644
	0,016061	0,012682	0,003309	0,00049	0,001529	0,039514	0,056383	0,072009	0,004872	0,003955	0,062911
	0,089558	0,265592									
	0,24592	25									
	0,17347	1,763474									

r2 =	0,089558
df =	25
F =	0,24592
n =	37
v1 = n -df- 1	11
v2 = df	25
FDIST	0,990595

deg_freedom: 42				
alpha	t	0,05	0,1	0,15
ROE	–0,30835	2,018082	1,681952	1,466353
ROA	0,504553			
E/(E+D)	–0,49607			
D/(E+D)	–0,22121			
Turnover	–0,08138			
NI	0,305671			
Immaterial assets	–0,62385			
Material assets	0,715101			
Financial assets	–0,47938			
Salaries to BOD and Cl	–0,21845			
Ownership	1,726946			

Observing the results and the signification tests in the bottom of the table 3. The results show a quite weak correlation in terms of gathered data points in the r2 value of only 8.96%. The t tests indicates the importance of each variable in relation to each other in the analysis, determining in combination with the F-test that the ownership variable is the most important, or the one which, if adjusted, would imply the largest change in results. A result that is confirmed and seems reasonable since it is the only y-variable.

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5. Analysis

5.1 Agency Theory

Considering Jensen and Meckling (1976) and Berle and Means (1932) where both duos state the importance of managers to have personal stake in the companies to avoid unwanted dispersion. Actions in the manager's best interest and not the shareholder's, that is. In the light of the empirical results which demonstrates the firm turnover growth and thereby the possibilities of means to provide shareholders with return on their investment. The results give some proof to Berle and Mean's (1932) as well as Jensen and Meckling's (1976) theories that more entrepreneurial trustees perform their duties better to their principals, however the results determine there is a maximum value of ownership to perform the strongest growth in turnover. Similar results are provided by Farooque et al. (2007).

However keeping in mind the increasing results growths with more ownership, at least longer than turnover, the variable who is actually available to provide wealth to the principals, is increasing with proprietorship. These are two significant results contradicting the mentioned theories. This could be the case since abnormal results disturb the trends according to above. Therefore the empirical results can shed a different kind of light on these theories, or perhaps the theories are not applicable on the imperfect market, which these companies could be suggested to work on.

So even though the theories speak their solid language, entrepreneurial ownership perform the best, this study finds it somewhat different. Further it is important to understand the most important variables are the actual ownership in this matter. If ownership differs the variables will differ significantly more than if the question would

have been the opposite around. Meaning, the best thing shareholders can do to control, according to the empirical results, the company's financial performance and make sure their goals are reached, is to demand a certain ownership from their board of directors. Concluding the main question for this thesis. This is according to the multiple regression analysis conducted with the ten input variables, an interesting as well as somewhat compelling result (Appendix 2-6).

5.2 Governance

As Yoshikawa and Phan (2005) suggest about outside directors this study can confirm the large listed Swedish companies has a high average of outside directors, why? The answer is simple, since the Companies Act (2005) demand the same from the company. Further we can conclude there is a group of people who are subject to be representatives on numerous of the 42 investigated companies (Appendix 2). Insinuating nothing, yet the research show the list of actual members of the board is significantly shorter than the available positions amongst the companies.

Contemplating information about the time at the board, market value growth declines and has its best around six years whereas yearly results growth increase with time at board and peaks somewhere around seven years. This is regarded as the members of the board seem to be more aware of producing growth in results the longer they remain at the board whereas the shorter time at the board the more they focus on growing market value. This is accordingly to Chamberlain's (2010) study.

5.3 Board Composition

When agents bear less decision-management they are more likely to be risk-willing about their assets according to Fama and Jensen (1983). As the definition of risk is volatility, our study supports Fama and Jensen's (1983) study as the volatility of results is significantly larger in terms of variation between best and worse performers with lower ownership share segment as defined in the appendix 2-6.

When grouping the companies according to mean ownership in the three segments, as Appendix 2-6, the results support Farooque et al. (2007) theories addressing the issues of both too large or too small ownership shares from the board of directors as inefficiently managed, since the optimal board ownership ratio could be specified. In the NASDAQ OMX case this optimum is observed at somewhere around 20% of standard board ownership over time in relation to market value growth and 50% to earn the best growth in net income. These are the two obvious variables for shareholders since they can make an arbitrage gain in selling their shares at a higher price, or force the company to payout dividends to its owners, which are available from the net income.

Interestingly the number of board owners affect both turnover growth and results growth as well. Both variables grow with number of board members as owners, although turnover grow at a faster pace accordingly to Chamberlain (2010), yet Chamberlain probed different financial measurements than the once who are subject to this research, but the findings would support each other.

5.4 Remuneration theories

Motivational theories, both Jensen and Meckling (1976) and Hermalin and Weisbach (1991), state that the larger the ownership from the board of directors, the more likely it is the board prioritize the growth of firm value. Whether it is for personal benefit or not. This sample, Appendix 2-6, contradicts their suggestions for Swedish companies. However once again there can be an issue regarding the sample data due to its anomalies. In this research the findings support the theories arguments to a certain extent, or some 50% ownership to be specific. With more, it seems as the board loose its incentive to act in the principals interest and perhaps ends up on the lazy side. Whereas the majority of the sample actually would confirm the statements from Hermalin and Weisbach (1991). Proving that the larger the ownership from the board of directors, the larger the growth of performance measures over time.

6. Conclusion

Concluding the analysis and empirical results, this study of the largest Swedish noted corporations listed on NASDAQ OMX Large Cap, confirms there is reason for shareholders to emphasize their right to demand their board of directors to have personal financial stake, ownership that is, in the company. This is accordingly to investigated earlier research, however, this study does not only confirm previously mentioned studies, there are differences.

Especially in how much or at what ratio the board of directors will perform their outmost for the shareholders. Jensen and Meckling (1976) and Fama et al. (1983) would argue the more the merrier. This study finds the reality amongst this sample of companies to be different. There are optimums for the shareholders to aim for, which ever performance they seek. If it is to simply maximize wealth, no matter the performance variable, the multiple regression analysis can calculate the absolute optimum to grow personal wealth from board ownership.

If the shareholder seeks a certain performance from the company and to maximize it, this study has isolated each performance measurement and can show at what ratio the company will perform its best for each variable. This means that there has to be both strong individual and outsider incentives for the board member to work for. If either part is to strong, the board member will loose focus on certain performances.

Furthermore the study indicates that the purpose of the shareholders should be clear when selecting their board of directors, since keeping the board of directors for a longer time the companies deliver stronger growth in results whereas on the opposite side,

shorter term board of directors increase the company's market value at a faster pace, but seems to act inefficient regarding the results in the longer term. So,

> *should shareholders demand their board of directors to buy financial stake in the company to maximize wealth?*

Yes, to reduce agency costs and improve the economic and financial performance of the company, shareholders should emphasize their right to ensure their agents fulfill their fiduciary duty, and putting them in the same situation is accordingly one way to easily maximize personal benefit from available influence methods without increasing costs. Although it is also proven directors active at boards with larger ownership of any company increase their or the salary to their CEO in a faster pace. Further the length of each member of the board should be considered, and to achieve the best possible growth in market value, apply shorter periods of time at the board for each member and for results have a longer time horizon.

There is a way to maximize wealth for the shareholders, reaching it demands the shareholders to demand personal stake from the board of directors.

7. Suggestions to further research

During the study it appeared some interesting threads to pick-up on. Especially emphasizing four: (i) how do the board of directors react to a similar demand from their principals. Is there a larger group that are excluded since acquiring a large amount of shares require a certain initial wealth. (ii) Could this as well imply that the reduced available group of people to the board lose some very good candidates accordingly? (iii) Further it would be very interesting comparing these results to companies not listed on public exchanges or the smaller listed companies as well to identify if there is a certain ownership average that should be applied to different sizes of companies and the amount of shareholders. Last, (iv) how are the dividend pay-out amounts and dividend frequency ratios affected by increasing ownership?

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Appendix

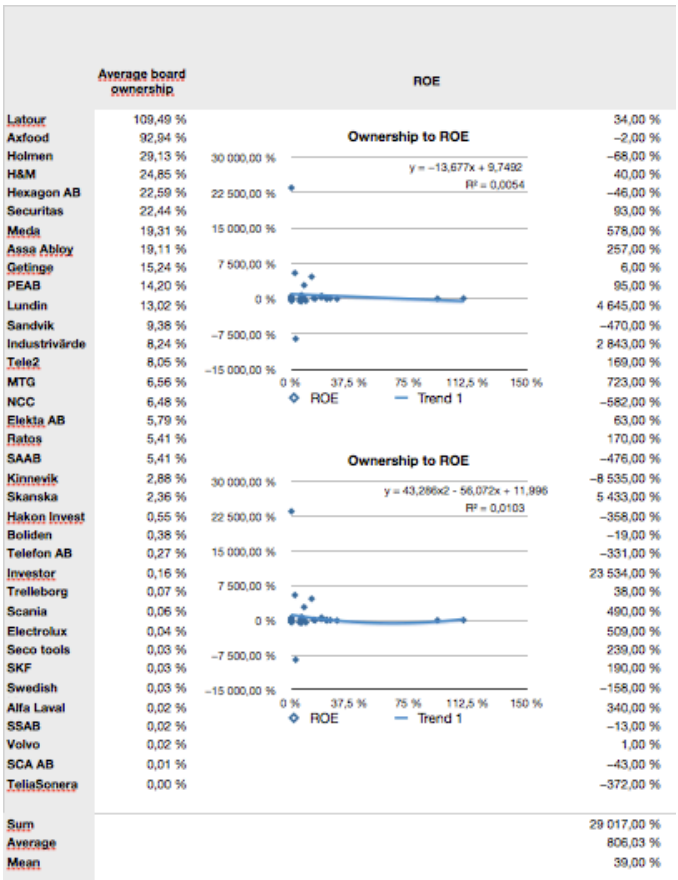
Appendix 1 - Empirical data gathering and calculations

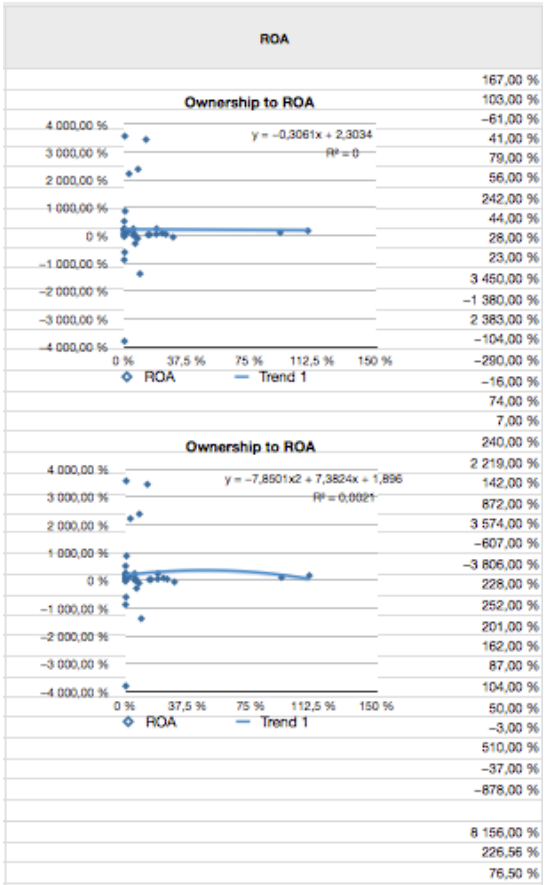
This table represents the calculations for all empirical data. The complete appendix can be found at https://docs.google.com/spreadsheet/ccc?key=0AuMsmSnMfLwxdDRLOXZuNEo0YVViQS01OEtMb2FTS1E

Company			2011 Q	2010 Q	2009 Q	2008 Q	2007 Q	2006 Q	2005 Q	2004 Q	2003 Q	2002 Q	2001 Q		Years at the board	
Board member			3000	3000	3000	3000									4	
Board member			3000	3000											2	
Board member			1000	1000											2	
Board member			372	312	112										3	
Board member			5200	5200											2	
Board member* (A)			40000	20000	5200	10000	10000	2000	2000	2000	2000	2000	2000		11	
Board member (B)			1425		10000										2	
Board member'			700	700	700										3	
Board member			30000	30000	30000				6724						4	
Board member			190287	190287	190287	33620	33620	6724	39538	6724	6724	6724	5000		11	
Board member			349023	349023	349023	247690	257690	43538		35538	30000	30000	30000		14	
Board member					6000	20000	10000								3	
Board member					50	50	50	50	50	50	50				7	
Board member					105	105	105	105	105	105	55				7	
Board member						2000	2000	2000	2000	2000	2000	2000	2000		12	
Board member						693	693	693	693	693	693	693	693		12	
Board member						2250	2250								2	
Board member						665	675	235	235	235	201	184			7	
Board member						250	250	50	50	50	50	50			7	
Board member						10000									1	
Board member						21000	16000	8000	8000	8000	8000	8000	8000		11	
Board member							31000	6200	6200	6200	1000	1000	3600		12	
Board member									2000	2000	2000	2000	2000		5	
Board member															0	
Board member											50	50	50		4	
Board member											1000	1000	1000		4	
Board member											5000	5000	2000		3	
Board member											44	44	44		4	
Board member															5	
Board member															5	
Board member															5	
Board member															3	
Board member															3	
Board member															2	
Board member															1	
=count(E2:E36)	Board composition		9	8	8	10	10	8	9	9	13	12	11	9,3125		
(NASDAQ OMX, 2011; ref: Company name)	Aktiepris (A)	663495022	110,3	83,25	47,5	71,25	141	66,73	59,23	48,56	30,33	33,22	28,71		5,228571429	=average(V36:V2)
(NASDAQ OMX, 2011; ref: Company name)	Aktiepris (B)	1464925198	110,5	87,35	47,6	74	137	68,08	61,15	50,38	31,87	34,49	29,51		Average years at the board per director	
=sum(shares(A))* aktiepris (A) + sum(shares(B))*aktiepris (B)		16	2,35058E+11	1,83197E+11	1,01246E+11	1,55678E+11	2,94248E+11	1,44007E+11	1,28879E+11	1,06022E+11	66810970078	72566574710	62278884675			
			(Finansinspektionen, 2011: not: Company name, date: June 30 year X: data range: subject to board members, only confirmed shares, personal, in family or by held companies)											Number of individuals per year at the board		
														=average(individuals at board)		
* for ownership from other company of which the board members controls																
' for ownership within the family to the board member																

Appendix 2 - Ownership to ROE and ROA

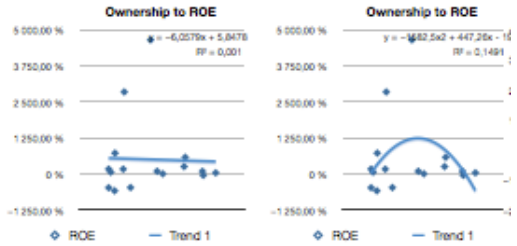
	Average board ownership	ROE	ROA
Latour	109,49 %	34,00 %	167,00 %
Axfood	92,94 %	-2,00 %	103,00 %
Holmen	29,13 %	-68,00 %	-61,00 %
H&M	24,85 %	40,00 %	41,00 %
Hexagon AB	22,59 %	-46,00 %	79,00 %
Securitas	22,44 %	93,00 %	56,00 %
Meda	19,31 %	578,00 %	242,00 %
Assa Abloy	19,11 %	257,00 %	44,00 %
Getinge	15,24 %	6,00 %	28,00 %
PEAB	14,20 %	95,00 %	23,00 %
Lundin	13,02 %	4 645,00 %	3 450,00 %
Sandvik	9,38 %	-470,00 %	-1 380,00 %
Industrivärde	8,24 %	2 843,00 %	2 383,00 %
Tele2	8,05 %	169,00 %	-104,00 %
MTG	6,56 %	723,00 %	-280,00 %
NCC	6,48 %	-582,00 %	-16,00 %
Elekta AB	5,79 %	63,00 %	74,00 %
Ratos	5,41 %	170,00 %	7,00 %
SAAB	5,41 %	-476,00 %	240,00 %
Kinnevik	2,88 %	-8 535,00 %	2 219,00 %
Skanska	2,36 %	5 433,00 %	142,00 %
Hakon Invest	0,55 %	-358,00 %	872,00 %
Boliden	0,38 %	-19,00 %	3 574,00 %
Telefon AB	0,27 %	-331,00 %	-607,00 %
Investor	0,16 %	23 534,00 %	-3 806,00 %
Trelleborg	0,07 %	38,00 %	228,00 %
Scania	0,06 %	490,00 %	252,00 %
Electrolux	0,04 %	509,00 %	201,00 %
Seco tools	0,03 %	239,00 %	162,00 %
SKF	0,03 %	190,00 %	87,00 %
Swedish	0,03 %	-158,00 %	104,00 %
Alfa Laval	0,02 %	340,00 %	50,00 %
SSAB	0,02 %	-13,00 %	-3,00 %
Volvo	0,02 %	1,00 %	510,00 %
SCA AB	0,01 %	-43,00 %	-37,00 %
TeliaSonera	0,00 %	-372,00 %	-878,00 %
Sum		29 017,00 %	8 156,00 %
Average		806,03 %	226,56 %
Mean		39,00 %	76,50 %





Large

Medium



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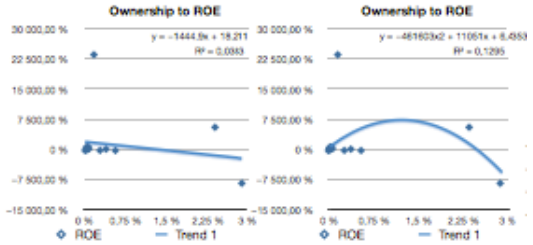
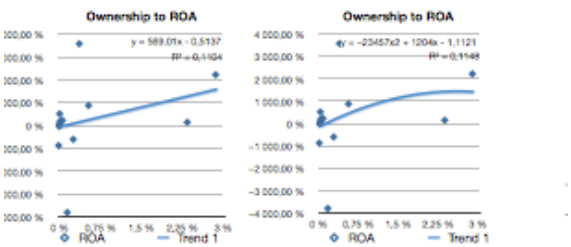
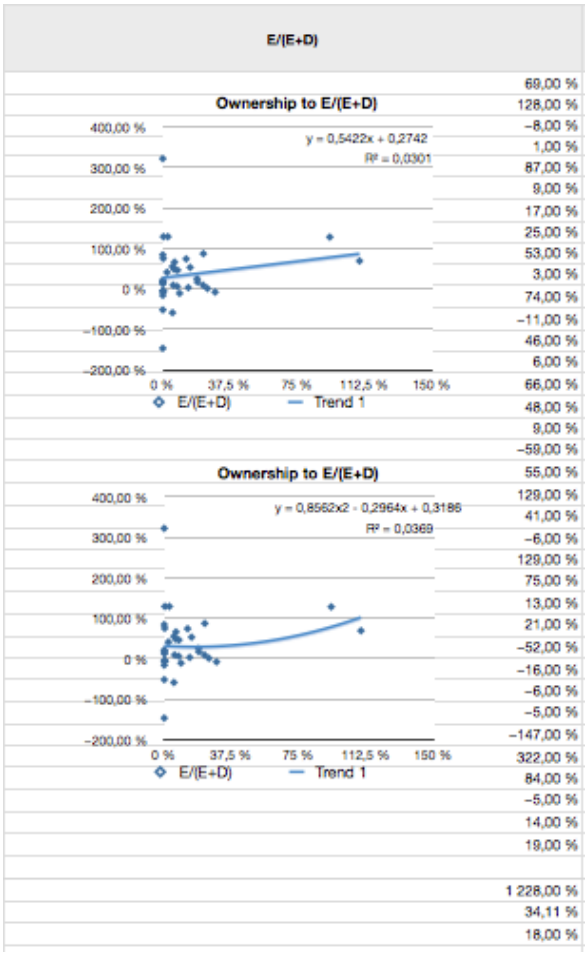
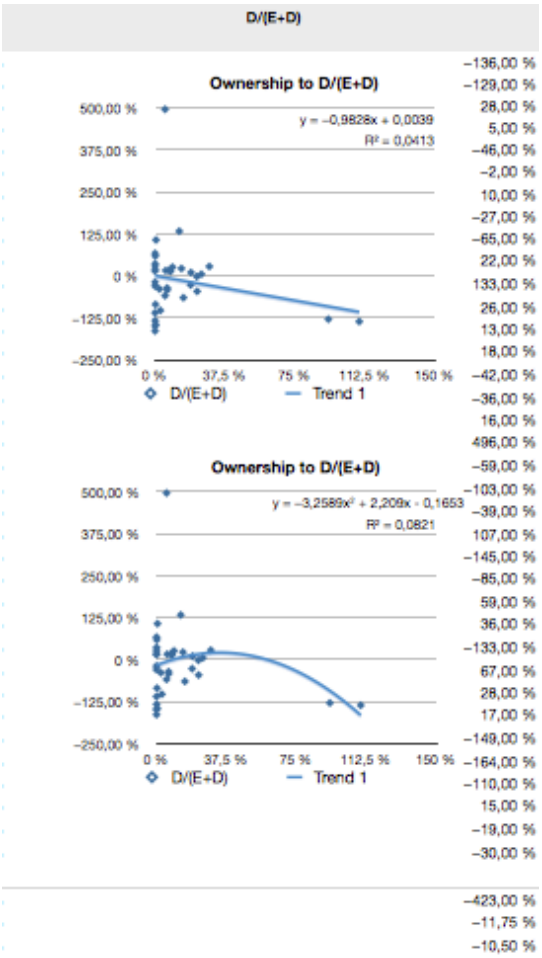
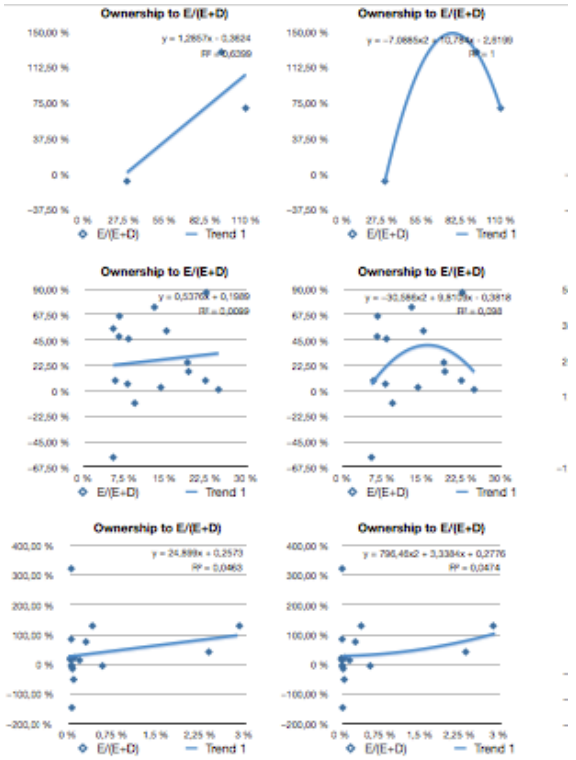


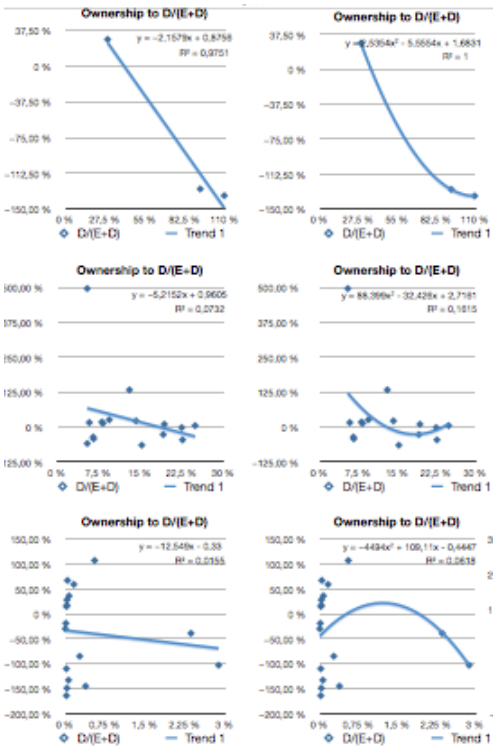


Appendix 3 - Ownership to E/(E+D) and D/(E+D)

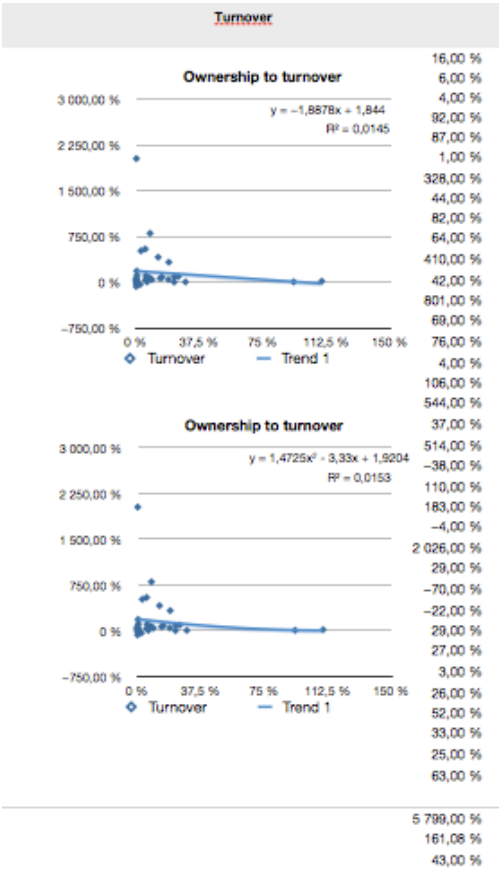


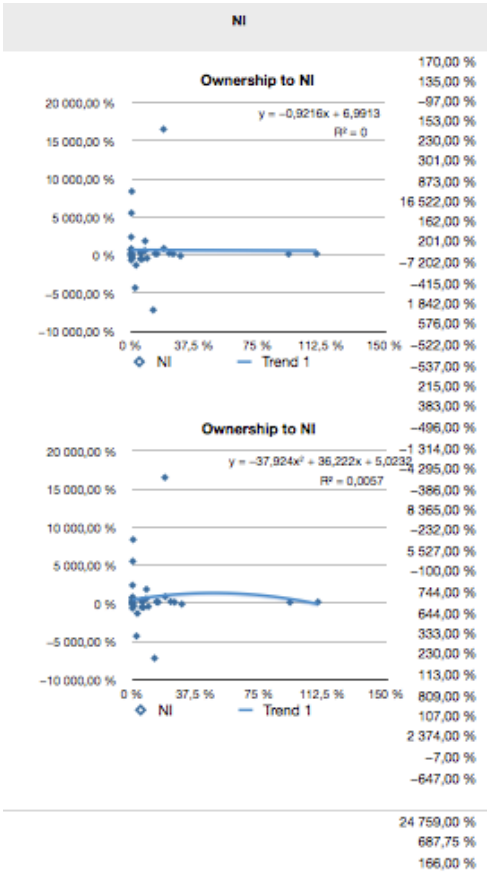


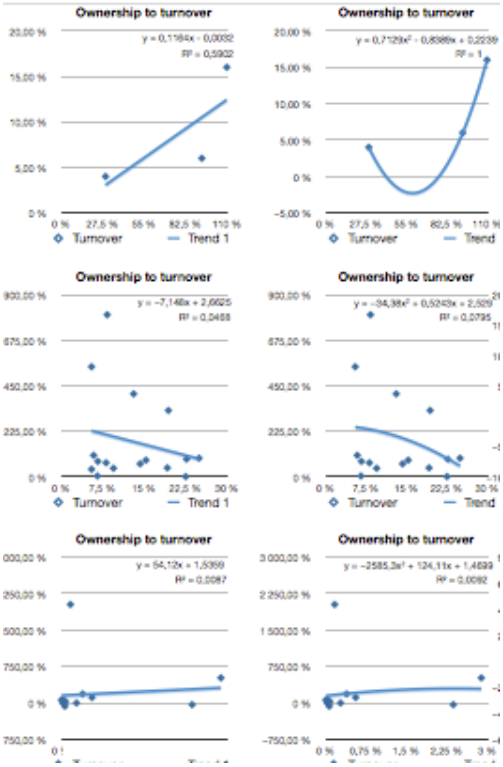


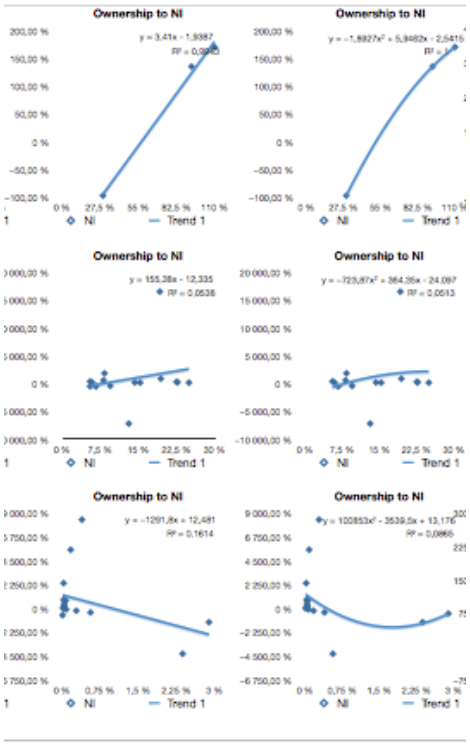


Appendix 4 - Ownership to Turnover growth and Net Income

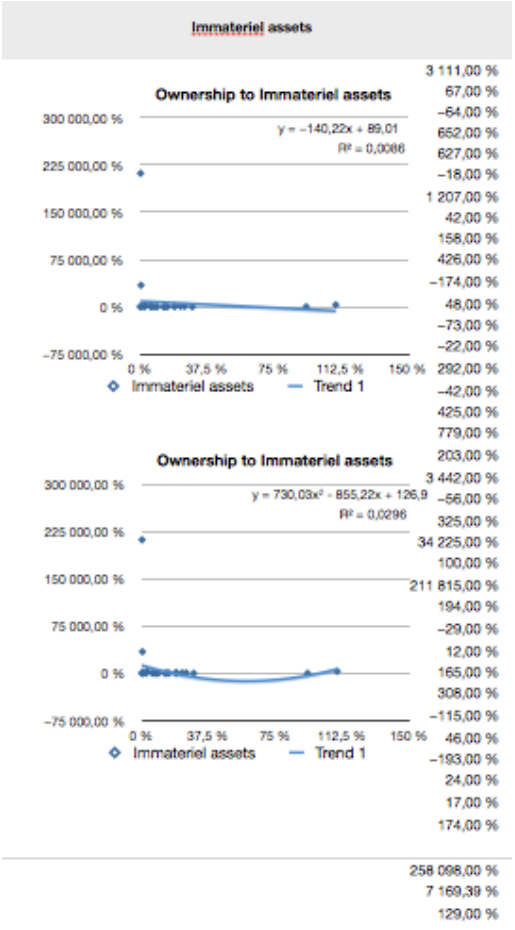


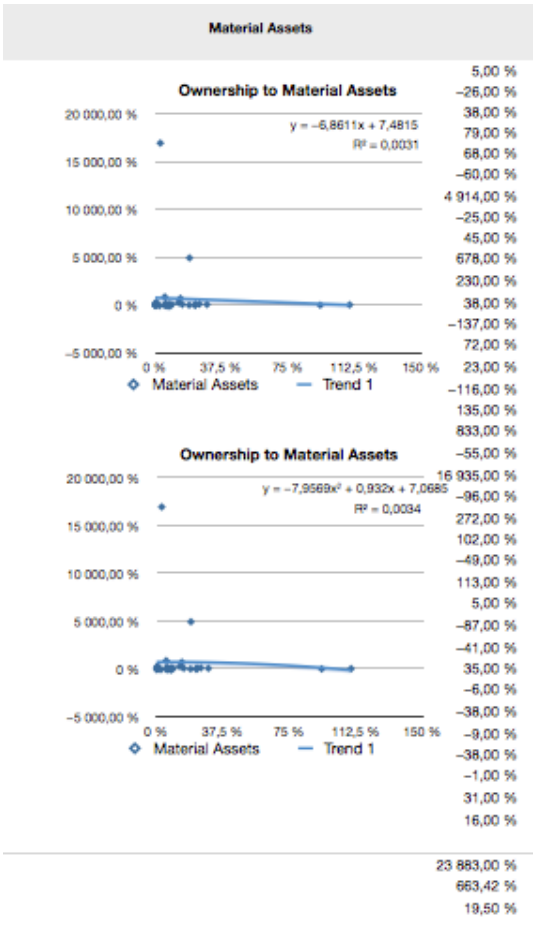


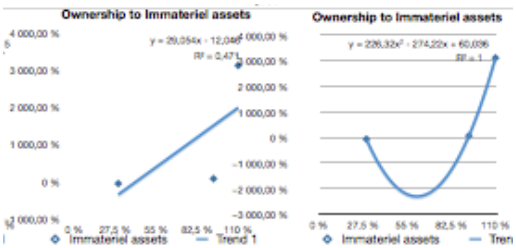


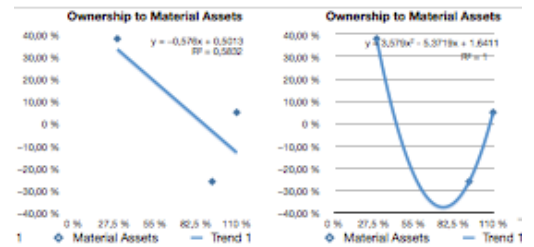


Appendix 5 - Immaterial assets growth and Material assets growth

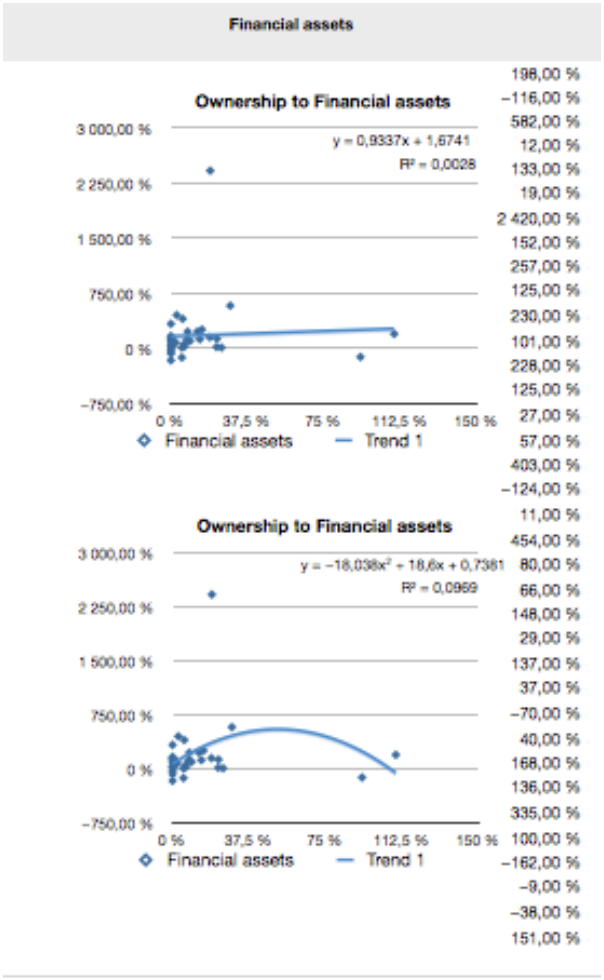


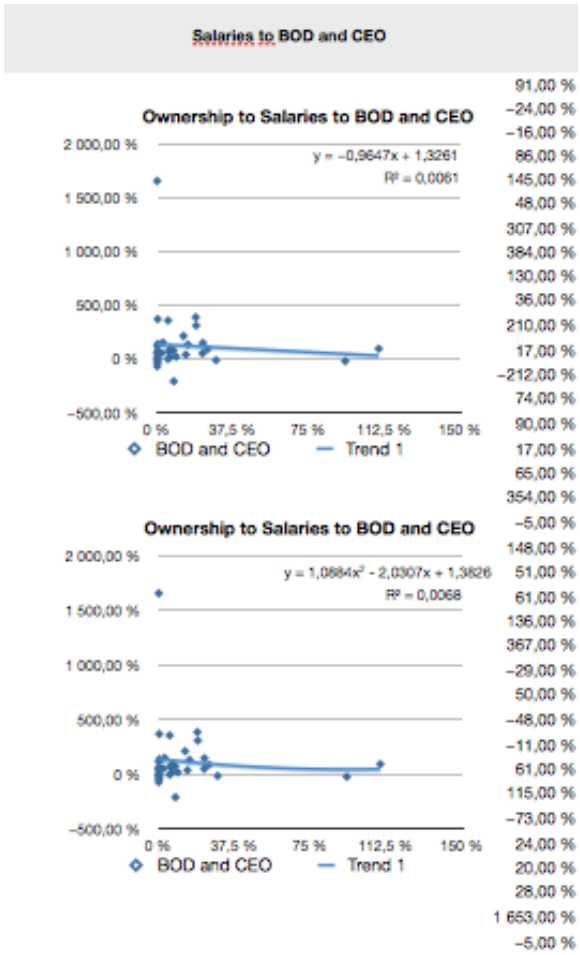


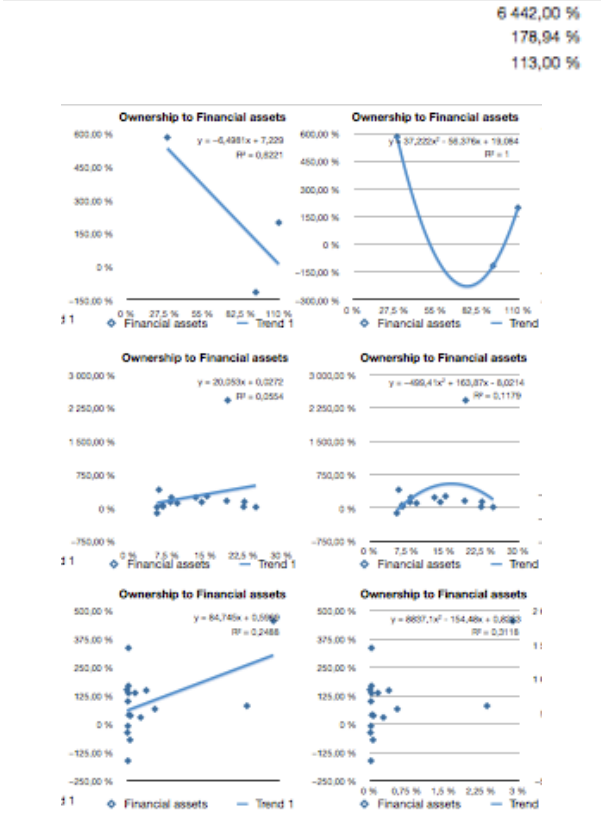


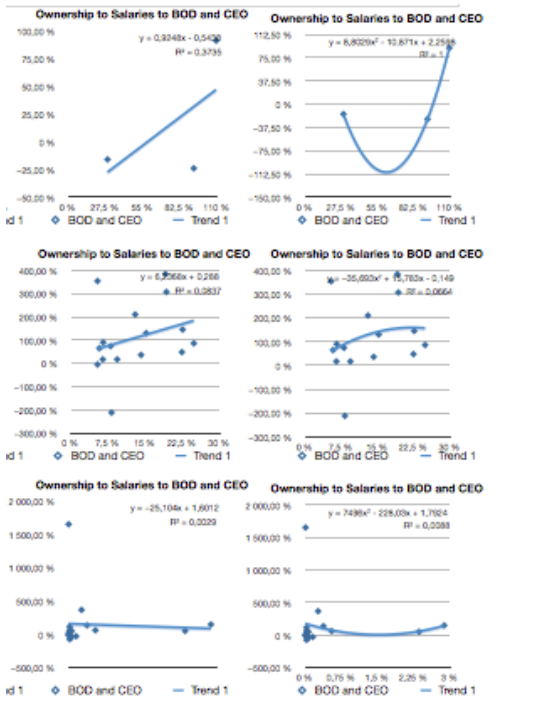


Appendix 6 - Financial assets growth and salaries to BOD and CEO growth



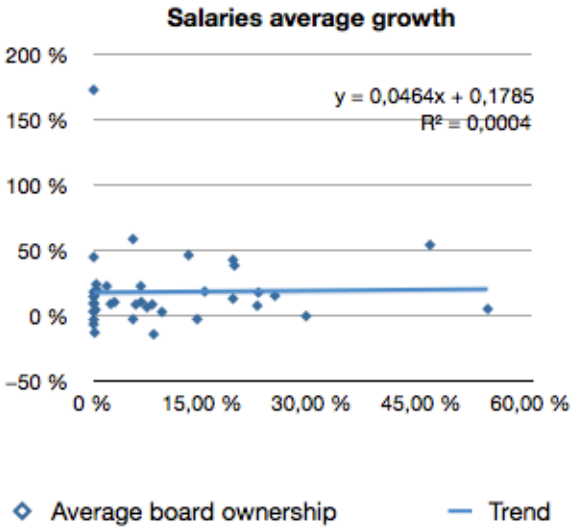






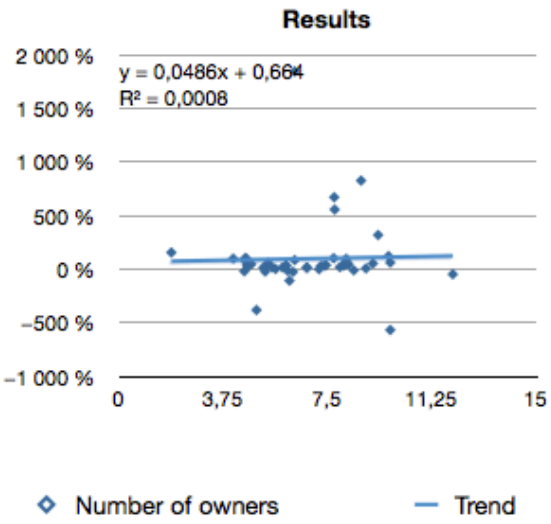
Appendix 7 - Market value growth

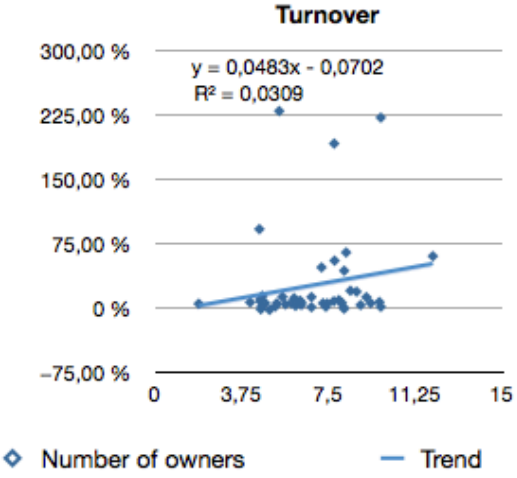
	Average board ownership	Salaries growth to BOD and CEO
Alfa Laval	0,02 %	3,15 %
Assa Abloy	19,11 %	42,68 %
Astra Zeneca	19,11 %	12,97 %
Atlas Copco	0,03 %	9,72 %
Autoliv AB	0,27 %	4,55 %
Boliden	0,38 %	24,01 %
Castellum	0,02 %	–6,63 %
Electrolux	0,04 %	–3,02 %
Elekta AB	5,79 %	8,45 %
Fabege	7,33 %	6,39 %
Getinge	15,24 %	18,47 %
H&M	24,85 %	15,22 %
Hakon Invest	0,55 %	19,32 %
Hexagon AB	22,59 %	17,69 %
Holmen	29,13 %	–0,34 %
Hufvudstaden	46,10 %	54,06 %
Husqvarna	0,05 %	8,86 %
Industrivärden	8,24 %	–14,26 %
Investor	0,16 %	–12,96 %
Kinnevik	2,88 %	10,32 %
Lundbergsföretagen	54,00 %	5,07 %
Lundin Mining	1,81 %	22,55 %
Lundin Petroleum	13,02 %	46,29 %
Meda	19,31 %	38,35 %
MTG	6,56 %	10,45 %
NCC	6,48 %	22,52 %
PEAB	14,20 %	–2,65 %
Ratos	5,41 %	58,59 %
SAAB	5,41 %	–2,75 %
Sandvik	9,38 %	2,83 %
SCA AB	0,01 %	172,76 %
Scania	0,06 %	14,88 %
SEB	0,03 %	
Seco tools	0,03 %	18,22 %
Securitas	22,44 %	7,60 %
Skanska	2,36 %	8,99 %
SKF	0,03 %	14,41 %
SSAB	0,02 %	3,04 %
Swedbank	3,54684E-05	–13,98 %
Swedish Match	0,03 %	44,83 %
Tele2	8,05 %	8,60 %
Telefon AB Ericsson	0,27 %	
TeliaSonera	8,80347E-06	6,58 %
Trelleborg	0,07 %	14,13 %
Volvo	0,02 %	5,47 %
Summa	370,885 %	725,430 %
Medel	8,625 %	16,870 %
Median	2,879 %	9,720 %



Appendix 8 - Number of owners

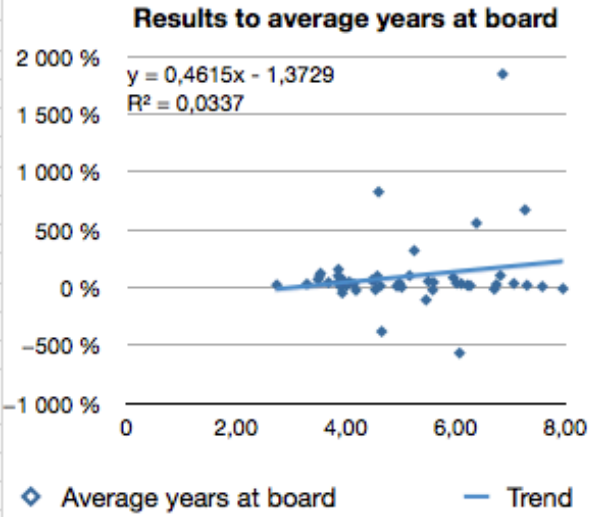
	Number of owners	Results	Turnover	
Alfa Laval	4,1	99,24 %	5,72 %	
Assa Abloy	6,3125	1 845,98 %	5,76 %	
Astra Zeneca	5,25	22,66 %	4,66 %	
Atlas Copco	5,25	–20,88 %	4,23 %	
Autoliv AB	1,875	156,51 %	4,13 %	
Axfood	5,1875	14,10 %	0,86 %	
Boliden	8,7	827,31 %	18,12 %	
Castellum	4,533333333	104,03 %	7,02 %	
Electrolux	4,5625	68,85 %	–2,39 %	
Elekta AB	4,625	25,85 %	13,17 %	
Fabege	9,75	62,47 %	0,49 %	
Getinge	5,5	18,00 %	12,08 %	
H&M	6,75	19,85 %	11,86 %	
Hakon Invest	8,4375	–9,78 %	19,26 %	
Hexagon AB	6	30,13 %	10,61 %	
Holmen	6,0625	–13,86 %	1,66 %	
Hufvudstaden	6,3125	85,91 %	2,66 %	
Husqvarna	8,875	8,41 %	2,59 %	
Industrivärden	4,5	–19,09 %	91,05 %	
Investor	9,75	–566,12 %	221,06 %	
Kinnevik	12	–46,30 %	59,50 %	
Latour	5,875	16,55 %	4,69 %	
Lundbergsföretagen	5,357142857	58,23 %	228,74 %	
Lundin Mining	7,733333333	671,72 %	190,82 %	
Lundin Petroleum	7,75	557,21 %	54,31 %	
Meda	8,166666667	97,64 %	42,59 %	
Melker Schörling	6,125	–106,58 %		3 933 322,22 %
MTG	4,5625	101,58 %	9,73 %	
NCC	4,6	41,53 %	0,99 %	
PEAB	7,9375	19,81 %	8,35 %	
Ratos	8,25	43,70 %	63,85 %	
SAAB	8,0625	34,98 %	5,17 %	
Sandvik	6	37,64 %	6,79 %	
SCA AB	5,625	2,69 %	3,28 %	
Scania	7,714285714	103,02 %	6,97 %	
SEB	8,166666667	70,16 %	–1,74 %	
Seco tools	7,4375	38,79 %	4,43 %	
Securitas	7,375	33,69 %	0,52 %	
Skanska	4,9375	–380,31 %	–3,01 %	
SKF	7,25	29,70 %	4,65 %	
SSAB	9,125	54,28 %	11,74 %	
Swedbank	7,1875	1,00 %	46,45 %	
Swedish Match	6,75	11,29 %	0,05 %	
Tele2	9,6875	122,59 %	6,12 %	
Telefon AB Ericsson	8,125	45,52 %	0,23 %	
TeliaSonera	6,25	–24,03 %	7,69 %	
Trelleborg	4,75	47,62 %	4,81 %	
Volvo	9,3125	319,55 %	4,82 %	

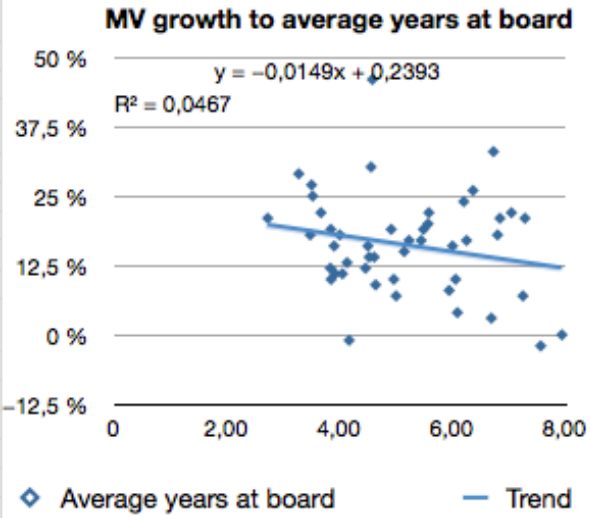




Appendix 9 - Years at the board

	Average years at board	Results	MV growth
Husqvarna	7,57	8,41 %	–2 %
TeliaSonera	4,17	–24,03 %	–1 %
Hakon Invest	7,94	–9,78 %	0 %
Holmen	6,69	–13,86 %	3 %
Securitas	6,09	33,69 %	4 %
SCA AB	5,00	2,69 %	7 %
Lundin Mining	7,25	671,72 %	7 %
Hufvudstaden	5,94	85,91 %	8 %
Skanska	4,64	–380,31 %	9 %
Autoliv AB	3,85	156,51 %	10 %
Seco tools	4,96	38,79 %	10 %
Investor	6,06	–566,12 %	10 %
SEB	3,92	70,16 %	11 %
Trelleborg	4,05	47,62 %	11 %
NCC	3,83	41,53 %	12 %
Fabege	4,46	62,47 %	12 %
SKF	4,13	29,70 %	13 %
Industrivärden	4,52	–19,09 %	14 %
Axfood	4,61	14,10 %	14 %
Scania	5,14	103,02 %	15 %
Swedbank	3,90	1,00 %	16 %
Kinnevik	3,92	–46,30 %	16 %
Lundbergsföretagen	4,50	58,23 %	16 %
Sandvik	6,00	37,64 %	16 %
Volvo	5,23	319,55 %	17 %
Melker Schörling	5,44	–106,58 %	17 %
Latour	6,25	16,55 %	17 %
Electrolux	3,48	68,85 %	18 %
Getinge	4,00	18,00 %	18 %
Castellum	6,80	104,03 %	18 %
MTG	3,84	101,58 %	19 %
Swedish Match	4,91	11,29 %	19 %
SSAB	5,49	54,28 %	19 %
Atlas Copco	5,57	–20,88 %	20 %
Astra Zeneca	2,72	22,66 %	21 %
Assa Abloy	6,84	1 845,98 %	21 %
PEAB	7,29	19,81 %	21 %
Ratos	3,67	43,70 %	22 %
Telefon AB Ericsson	5,58	45,52 %	22 %
SAAB	7,05	34,98 %	22 %
H&M	6,20	19,85 %	24 %
Tele2	3,52	122,59 %	25 %
Lundin Petroleum	6,36	557,21 %	26 %
Meda	3,50	97,64 %	27 %
Hexagon AB	3,27	30,13 %	29 %
Alfa Laval	4,56	99,24 %	30,23 %
Elekta AB	6,73	25,85 %	33 %
Boliden	4,58	827,31 %	46 %
Summa	245,98	47,63	7,82
Medel	5,12	0,99	0,16
Median	4,94	0,36	0,17





Company	Average, ROE (x1)	ROA (x2)	E/(E+D) (x3)	D/(E+D) (x4)	Turnover (x5)	NI (x6)	Immaterial assets (x7)	Material assets (x8)	Financial assets (x9)	Salaries to BOD and CEO	Ownership (y)
Aktiebolaget Electrolux	509 %	201 %	−16 %	67 %	−22 %	644 %	12 %	−41 %	40 %	−11 %	0,04 %
Aktiebolaget Industrivärden	2 843 %	2 383 %	46 %	13 %	801 %	1 842 %	−73 %	−137 %	228 %	−212 %	8,24 %
Aktiebolaget SKF	190 %	87 %	−5 %	17 %	27 %	230 %	308 %	−6 %	136 %	115 %	0,03 %
Aktiebolaget Volvo	1 %	510 %	−5 %	15 %	33 %	2 374 %	24 %	−1 %	−9 %	28 %	0,02 %
Alfa Laval AB	340 %	50 %	322 %	−164 %	26 %	809 %	46 %	−9 %	100 %	24 %	0,02 %
ASSA ABLOY AB	257 %	44 %	25 %	−27 %	44 %	16 522 %	42 %	−25 %	152 %	384 %	19,11 %
Axfood Aktiebolag	−2 %	103 %	128 %	−129 %	6 %	135 %	67 %	−26 %	−116 %	−24 %	92,94 %
Boliden AB	−19 %	3 574 %	129 %	−145 %	183 %	8 365 %	34 225 %	102 %	148 %	136 %	0,38 %
Elekta AB (publ)	63 %	74 %	9 %	16 %	106 %	215 %	425 %	135 %	403 %	65 %	5,79 %
Getinge AB	6 %	28 %	53 %	−65 %	82 %	162 %	158 %	45 %	257 %	130 %	15,24 %
H & M Hennes & Mauritz AB	40 %	41 %	1 %	5 %	92 %	153 %	652 %	79 %	12 %	86 %	24,85 %
Hakon Invest Aktiebolag	−358 %	872 %	−6 %	107 %	110 %	−386 %	325 %	272 %	66 %	61 %	0,55 %
Hexagon Aktiebolag	−46 %	79 %	87 %	−46 %	87 %	230 %	627 %	68 %	133 %	145 %	22,59 %
Holmen Aktiebolag	−68 %	−61 %	−8 %	28 %	4 %	−97 %	−64 %	38 %	582 %	−16 %	29,13 %
Investment AB Kinnevik	−8 535 %	2 219 %	129 %	−103 %	514 %	−1 314 %	3 442 %	16 935 %	454 %	148 %	2,88 %
Investmentaktiebolaget Latour	34 %	167 %	69 %	−136 %	16 %	170 %	3 111 %	5 %	198 %	91 %	109,49 %
Investor Aktiebolag	23 534 %	−3 806 %	13 %	59 %	2 026 %	5 527 %	211 815 %	113 %	137 %	−29 %	0,16 %
Lundin Petroleum AB	4 645 %	3 450 %	74 %	133 %	410 %	−7 202 %	−174 %	230 %	230 %	210 %	13,02 %
Meda Aktiebolag	578 %	242 %	17 %	10 %	328 %	873 %	1 207 %	4 914 %	2 420 %	307 %	19,31 %
Modern Times Group MTG AB	723 %	−290 %	66 %	−42 %	76 %	−522 %	292 %	23 %	27 %	90 %	6,56 %
NCC Aktiebolag	−582 %	−16 %	48 %	−36 %	4 %	−537 %	−42 %	−116 %	57 %	17 %	6,48 %
Peab AB	95 %	23 %	3 %	22 %	64 %	201 %	426 %	678 %	125 %	36 %	14,20 %
Ratos AB	170 %	7 %	−59 %	496 %	544 %	383 %	779 %	833 %	−124 %	354 %	5,41 %
SAAB Aktiebolag	−476 %	240 %	55 %	−59 %	37 %	−496 %	203 %	−55 %	11 %	−5 %	5,41 %
Sandvik Aktiebolag	−470 %	−1 380 %	−11 %	26 %	42 %	−415 %	48 %	38 %	101 %	17 %	9,38 %
SCANIA Aktiebolag	490 %	252 %	−52 %	−133 %	−70 %	744 %	−29 %	−87 %	−70 %	−48 %	0,06 %
Seco Tools Aktiebolag	239 %	162 %	−6 %	28 %	29 %	333 %	165 %	35 %	168 %	61 %	0,03 %
Securitas AB	93 %	56 %	9 %	−2 %	1 %	301 %	−18 %	−60 %	19 %	48 %	22,44 %
Skanska AB	5 433 %	142 %	41 %	−39 %	−38 %	−4 295 %	−56 %	−96 %	80 %	51 %	2,36 %
SSAB AB	−13 %	−3 %	84 %	−110 %	52 %	107 %	−193 %	−38 %	−162 %	20 %	0,02 %
Svenska Cellulosa	−43 %	−37 %	14 %	−19 %	25 %	−7 %	17 %	31 %	−38 %	1 653 %	0,01 %
Swedish Match AB	−158 %	104 %	−147 %	−149 %	3 %	113 %	−115 %	−38 %	335 %	−73 %	0,03 %
Telefonaktiebolaget L M	−331 %	−607 %	75 %	−85 %	−4 %	−232 %	100 %	−49 %	29 %	367 %	0,27 %
Tele2 AB	169 %	−104 %	6 %	18 %	69 %	576 %	−22 %	72 %	125 %	74 %	8,05 %
TeliaSonera Aktiebolag	−372 %	−878 %	19 %	−30 %	63 %	−647 %	174 %	16 %	151 %	−5 %	0,00 %
Trelleborg Aktiebolag	38 %	228 %	21 %	36 %	29 %	−100 %	194 %	5 %	37 %	50 %	0,07 %
Wallenstam AB	−601 %	257 %	204 %	−127 %	98 %	861 %	−31 %	154 %	1 032 %	−46 %	#N/A
Mean	315 %	400 %	45 %	39 %	190 %	745 %	6 289 %	584 %	557 %	124 %	12,35 %
Median	6 %	74 %	21 %	−19 %	43 %	201 %	48 %	33 %	125 %	61 %	5 %

Multiple regression analysis											
	−0,004952295	0,006398652	−0,001641586	−0,000108481	−0,000124417	0,012078178	−0,035174389	0,051493885	−0,002335534	−0,000864026	0,108644206
	0,016060558	0,012681819	0,003309177	0,000490396	0,001528756	0,039513671	0,056382588	0,072009218	0,00487203	0,003955204	0,062911191
	0,089558489	0,265591682	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	0,24592049	25	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	0,173469711	1,763473542	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

r2 =	0,089558489
df =	25
F =	0,24592049
n =	37
v1 = n -df- 1	11
v2 = df	25
FDIST	0,990595467

deg. freedom: 42				
alpha	t	0,05	0,1	0,15
ROE	−0,308351387	2,018081703	1,681952357	1,466352901
ROA	0,504553156			
E/(E+D)	−0,496070698			
D/(E+D)	−0,221211018			
Turnover	−0,081384502			
NI	0,305670866			
Immaterial assets	−0,623851984			
Material assets	0,715101291			
Financial assets	−0,47937605			
Salaries to BOD and CEO	−0,218453043			
Ownership	1,72694561			

Appendix 10 - Multiple regression analysis