

# Expropriation of Minority Shareholders

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## A Study on Swedish Market between 1985 and 2007

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Key words: minority expropriation, separation, ownership concentration, M&A expropriation, ownership characteristics.

### **Abstract**

Based on a sample of company observations on the Stockholm Stock Exchange in the period 1985-2007, we find evidence that the tendency of largest shareholders to expropriate other shareholders rise with their control rights and the difference between their control rights and cash flow rights. Looking at different types of largest shareholders, for largest shareholders classified as financial institutions, spheres, individuals and private equity firms the tendency to expropriate other shareholders rises with ownership of control rights, while for financial institutions it also rises with the separation of control rights and cash flow rights. Based on a sample of company observations on the Stockholm Stock Exchange during the period 1997-2007, we find no correlations between the largest shareholder's ownership of control rights or separation of control rights and cash flow rights and abnormal returns following an acquisition.

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# **1. Introduction**

## **1.1 Focus of Our Thesis**

A lot has been written on the subject of whose interests a manager of a company should pursue. Some argue that managers should take a broad approach and act in the interests of all parties affected by the actions of a company, for instance employees, customers, suppliers, the public and shareholders. This view, called the stakeholder approach, has gained much acceptance in some countries, like in Germany, where for instance employees and banks by rule of law are represented in boards. There is also another approach, called the shareholder approach, which says that a manager of a company should maximise shareholder value. Many countries, especially Anglo-Saxon countries, have corporate governance systems that are closer to the shareholder than the stakeholder approach. How are then shareholders' interests best taken care of? If there is only one shareholder, it may be rather straightforward to figure out how his interests are best furthered. This thesis will focus on the problems arising when a company is owned by more than one shareholder, potentially resulting in divergences of interests among the different shareholders.

Different shareholders of the same company may differ in their preferences on how the company should be governed. These differences may stem from different beliefs among the shareholders as to how the company can be made the most profitable. But they could also arise from diverging interests among the shareholders. Different shareholders in the same company could have different interests if one shareholder can obtain monetary or non-monetary private benefits when the company acts in a way that reduces the value for other shareholders. It has sometimes been argued that these differences in interests become more serious if the fractions of cash flow rights of the shareholders do not coincide with the fractions of voting rights that they hold. For a given shareholder, the larger his control rights, the larger are his possibilities of influencing the governance of a company. The lower a shareholder's cash flow rights, the higher are his incentives to extract private benefits that reduce overall shareholder value. Hence, the likelihood that a large shareholder extracts private benefits at the expense of the other shareholders can be argued to increase with the separation of his control rights and cash flow rights (also denoted excess votes). Differences in control rights and cash flow rights can result from the use of dual-class shares, cross-share holdings and pyramids.

In this thesis we examine if the tendency of a largest shareholder to act in ways that increase his value at the expense of the other shareholders depends on his share of control rights and on the separation of his control rights and cash flow rights. We will call such action where the largest shareholder acts in ways that enhances his own value but reduces the monetary value of the other shareholders for minority expropriation. Our studies include companies listed on the Stockholm Stock Exchange in the period 1985-2007. Based on the theoretical reasoning above, one would expect to observe a positive correlation between a largest shareholder's share of control rights and his tendency to engage in minority expropriation and a positive correlation between the separation of control rights and cash flow rights of a largest shareholder and his tendency to engage in minority expropriation. In

addition to empirically testing these predictions, we examine if there are any differences concerning these correlations for different types of largest shareholders.

Our thesis bears some resemblance to a paper written by Cronqvist and Nilsson (2003) where they find that there is a negative correlation between ownership of control rights by controlling shareholders and Tobin's Q for companies listed on the Stockholm Stock Exchange between 1991-1997. Tobin's Q, which is the market value of a company's assets divided by the book value of its assets, has often been used as proxy for minority expropriation. They interpret the finding as evidence that controlling shareholders' tendency to expropriate rises with their ownership of control rights. The authors find no correlation between the separation of ownership of control rights and cash flow rights of the controlling shareholder, and Tobin's Q. In our thesis we also use Tobin's Q as a measure of minority expropriation. The logic behind the use of Tobin's Q in such a way is that it can be argued that when minority expropriation takes place, the market value of a company decreases relatively more than its book value. Therefore, one would expect to observe a negative correlation between extent of minority expropriation and Tobin's Q. Apart from using Tobin's Q as a measure of minority expropriation, we also measure it by using cumulative abnormal returns following an acquisition for the acquiring company. Negative share price reactions to an acquisition announcement are in this method interpreted as signs that a large shareholder has expropriated other shareholders. This method is based on the assumption that a large shareholder can expropriate other shareholders by acquiring another company. Two other assumptions implicitly made when using this method are that that investors realise when such expropriation happens and that they can adjust down the share price accordingly.

Consequently, we are not examining whether there are any correlations between ownership structure of the largest shareholder and minority expropriation as such. Instead we are looking for correlations between ownership structure of the largest shareholder and signs of minority expropriation, which in our case are low Tobin's Qs and negative reactions to acquisition announcements.

## **1.2 Contribution of Our Thesis**

We believe that there are several reasons for investigating the issues presented in the previous section. First of all, when knowing how the ownership structure of the largest shareholder impacts his tendency to engage in minority expropriation, the trade-offs of rules facilitating the divergence of cash flow and control rights, such as the ones allowing the use of dual class shares, pyramids and cross share holdings, can be more accurately assessed. If, for instance, it can be shown that a larger discrepancy of control rights and cash flow rights of the largest shareholder results in more minority expropriation, this could be used as an argument in favour of rules that would make it more difficult to hold more control rights than cash flow rights, arguing that minority expropriation is a way for some shareholders to gain benefits from wasting other shareholders' money. However, the validity of this argument would be contingent on what perspective one takes on. Given that one cares only about what is

socially optimal, minority expropriation may not be viewed as something bad if the total benefits of the expropriating shareholder exceed the value lost by the expropriated shareholders. It is not clear how, or if at all, the views on rules allowing shareholders to have less cash flow rights than control rights would be affected by more knowledge of how minority expropriation depends on the ownership structure of the largest shareholder. However, we believe that more such knowledge would make it possible to form more well founded views on the subject.

Further, if the evidence indicates that there is a positive correlation between the separation of control rights and cash flow rights of the largest shareholder, and minority expropriation, this could to some degree explain the general finding that voting strong shares typically are valued higher than voting weak shares in the same company (Lease et al 1983, Hoffmann-Burchardi 1999). This voting premium would then partly be explained by the fact that a share with many voting rights gives the shareholder more power to expropriate other shareholders and create value for himself than a share with fewer voting rights. Another explanation for this voting premium that has been put forward in the past is that voting rights can be of crucial importance for the holder in case of a battle for control of the company. For instance, Zingales (1995) shows that in Italy the voting premium depends on the extra payoff that a holder of a voting strong share can expect from an eventual control contest. This extra payoff is in turn dependent on the extent of private benefits that can potentially be extracted from the company. However, evidence pointing at a negative voting premium has also been put forward. Neumann (2003) finds that for companies in Denmark with dual class shares, the voting strong shares tend to be traded at discounts compared to the voting weak shares, and he attributes this finding to the higher liquidity of the voting weak shares.

Moreover, knowledge of how the tendency of the largest shareholder to engage in minority expropriation depends on the structure of his ownership should be of interest to shareholders in general. If it can be shown that minority expropriation depends on the structure of the ownership of the largest shareholder, the need for the other shareholders to be vigilant of minority expropriation would differ from company to company. Where minority expropriation can be shown to be most likely, it might be in the other shareholders' interests to take action that would make it more difficult for the large shareholder to expropriate, rather than to simply rely on the largest shareholder to act in ways that maximise all shareholders' monetary value. Small shareholders could do this by more actively taking part in the governing of a company and making sure that it is managed so as to maximise the value of all shareholders. A more efficient way to work against minority expropriation could be for small shareholders to own shares collectively through an intermediary that could take care of the monitoring of the largest shareholder.

Knowing how the correlations between ownership structure of the largest shareholder and minority expropriation differ for different kinds of largest shareholders can also be of importance. For instance, such findings would offer arguments in favour of or against treating different types of shareholders differently when deciding on laws allowing or forbidding having more control rights than cash flow rights. In addition to that, we believe that examining how different types of largest

shareholders differ in these respects can lead to important insights into how different types of shareholders differ in other aspects.

There have been some other studies on the same subject as ours. As already mentioned, Cronqvist and Nilsson (2003) have conducted a study in which they approximate minority expropriation by Tobin's Q and find that controlling minority shareholders in companies listed on the Stockholm Stock Exchange in the period 1991-1997 to some extent expropriate other shareholders. Given that we in our study categorise largest shareholders in a more specific, incentive-based way, we think that we can complement existing findings in terms of how the tendency to engage in minority expropriation differs between different types of largest shareholders. Our classification of largest shareholders is based on how different types of largest shareholders in theory differ in terms of their possibilities and incentives to expropriate. Also, while Cronqvist and Nilsson (2003) only include largest shareholders with votes exceeding 25 percent, we include all largest shareholders with votes exceeding 5 percent. If one chooses 25 percent as the cut-off to include a shareholder in the sample, there is a risk that the included largest shareholders' possibilities to expropriate do not vary to such a large extent. If one uses 5 percent as the cut-off, it is clear that largest shareholders with significantly lower possibilities of expropriating are included in addition to the ones with more possibilities of doing so. It should therefore be easier to see how the tendency of the largest shareholder to expropriate depends on ownership of votes and excess votes with a cut-off of 5 percent. As mentioned, we also measure minority expropriation by looking at cumulative abnormal returns following an acquisition announcement of a company. This method gives us an opportunity to find out in what ways minority expropriation can take place. The method has in the past only been used to approximate minority expropriation by insiders (Masulis et al 2008), but, to our knowledge, never to approximate minority expropriation by other types of large shareholders.

### **1.3 Summary of Methods and Results**

In our first study we investigate correlations between votes and excess votes, defined as votes to cash flow rights, of the largest shareholder, and Tobin's Q. When looking at the whole sample, we find evidence that there are negative correlations between both ownership of votes and excess votes as independent variables and Tobin's Q as dependent variable. When looking at different types of largest shareholders, our regressions show that there are negative correlations between vote ownership and Tobin's Q for the financial institutions, individuals, spheres and private equity ownership groups. The results on the excess vote ownership variable give somewhat mixed results, of which only a negative correlation between excess votes and Tobin's Q for the financial institutions group is significant.

In our second study, we look for correlations between votes and excess votes of the largest shareholder and cumulative abnormal returns following an acquisition. Here we fail to find any significant results.

## **2. Previous Research**

### **2.1 Large Shareholders Acting as Monitors of Management**

Considerable attention has in the past been focused on investigating how ownership structure affects the governance of companies, not least how the existence or absence of large shareholders affect company performance. Here, the focus of attention has often been the divergence of interests between managers and shareholders. Berle and Means (1933) argue that widely dispersed ownership, divergence of interests between managers and shareholders, and little ownership by managers, result in managers not acting in the interests of shareholders (Stiegler and Friedland 1983). Shleifer and Vishny (1997) argue that large investors have better incentives to collect information and monitor management than small shareholders, and that they have enough voting power to make sure that management acts in the interests of the shareholders.

When trying to investigate whether dispersed ownership results in management acting less in the shareholders' interests, researches have often examined whether there are any relationships between on the one hand concentrated ownership as the independent variable, and measures of company performance on the other as the dependent variables, such as company valuation and accounting ratios of profitability. Most researchers have neither been able to find a relation between ownership concentration and company value (Holderness and Sheehan 1988; McConnell and Servaes 1990; Mehran 1995; Agrawal and Knoeber 1996; Hovey et al 2003) nor between ownership concentration and accounting profitability (Demsetz and Lehn 1985; Holderness and Sheehan 1988).

Taking into account the possibility that different types of large shareholders may have different impacts on company value, some researchers have been able to find relationships between ownership structure and company valuation. Morck et al (1988) find that up to 5% ownership, management ownership is positively related to company value. Hovey et al (2003) find a positive relationship between large ownership by legal persons and company value. McConnell and Servaes (1990) find a positive relationship between large ownership by institutional investors and company value, which they attribute to institutional investors acting as monitors. However, Mehran (1995) does not find any relationships between large ownership by institutional investors, individuals or corporations and company value. Woidtke (2001) finds a positive relationship between large ownership by private pension funds and company value, which he attributes to the fact that the managers of these funds are rewarded for good performance. He finds a negative relationship between large ownership by activist public pension funds and company value, which he argues is due to the fact that these funds are run with political motives.

### **2.2 Minority Expropriation**

While the existence of large shareholders can at least theoretically alleviate the conflicts of interests between shareholders and management by better monitoring of the latter, it could also result in conflicts of interests between the shareholders themselves. Less attention has been focused on the



potential conflicts of interest between different shareholders and how these are affected by the ownership structure of the different shareholders. Divergences of interests between shareholders in the same company can come from the opportunity of a shareholder to extract private monetary or non-monetary benefits from the company at the expense of the other shareholders. Jensen and Meckling (1976) argue that if shareholders do not have full information of a firm, a controlling shareholder could have an incentive to extract benefits for himself while destroying value for other shareholders (Bergqvist and Rydqvist 1990). Fama and Jensen (1983) argue that a controlling owner can extract value from a company at the expense of other shareholders by for instance giving himself an unjustifiably high salary, negotiating lucrative deals with other companies he controls, investing in unprofitable projects and withdrawing corporate funds. (Bergqvist and Rydqvist 1990). If a large shareholder can more easily extract private benefits than a small shareholder, conflicts of interests between shareholders can be expected to be more severe where large shareholders are present. Barclay and Holderness (1989) show that blocks generally are traded at premiums, which they interpret as evidence that large shareholders receive value from extracting private benefits in addition to the fraction of the company's monetary returns they are entitled to. Dyck and Zingales (2004) find in a similar study the same pattern as Barclay and Holderness. Dyck and Zingales show that the private benefits are smaller in countries with better investor protection, more effective tax enforcement and more intense media pressure.

Some researchers have based their research on the assumption that the incentive and possibility of a large shareholder to expropriate other shareholders are likely to increase with the difference between his control and cash flow rights. Easterbrook and Fischel (1983) show that non-optimal decisions will be made concerning the governance of a company if the control rights of the shareholders are disproportionate to their ownership of cash flows. They argue that the agency costs rise with the difference in a share's voting and cash flow rights. The empirical investigations on whether minority expropriation exists and whether it is more likely to happen when a large shareholder has larger control rights than cash flow rights have yielded mixed results. Zingales (1995) shows that the fact that voting strong shares have higher market values than voting weak shares partially can be explained by the extraction of private benefits by shareholders with large control rights. Bergström and Rydqvist (1990) find that the controlling shareholder often holds more than 50% of the cash flow rights, that he often owns more voting rights than would be required for full control and that he often invests in many low vote shares. They argue that these findings do not support the minority expropriation hypothesis, although they admit that it cannot be ruled out that minority expropriation takes place in certain companies.

Bebchuk et al (1999) shows theoretically that a controlling minority shareholder can enhance his own utility at the expense of the other shareholders by not choosing the most profitable projects, by choosing to invest too much and by hindering transfers of control. Claessens et al (2002) find in their empirical investigation of companies in East Asia that there is a negative correlation between the difference in control rights and cash flow rights for the largest shareholder and company value. When

looking at different types of shareholders, they find that this correlation holds for family shareholders and to a lesser extent for the state and not at all for widely held corporations and financial institutions. They interpret these findings as evidence that controlling shareholders with larger control rights than cash flow rights expropriate other shareholders in East Asia. Also La Porta et al (2002) find evidence that the more cash flow rights the controlling shareholder has, the higher is company value. Cronqvist and Nilsson (2003) find that there is a negative correlation between ownership of votes by the controlling shareholder and company value. They find this relation to be the strongest for founder and non-founder families, weaker for corporations and non-existent for financial institutions. The authors find no correlation between excess votes (control rights to cash flow rights) of the controlling shareholder and company value. Edwards and Weichenrieder (2004) find that higher control rights of the largest shareholder results in lower company value and that higher cash flow rights of the largest shareholder results in higher company value. Masulis et al (2008) show that there is a positive correlation between the difference of insiders' control rights and cash flow rights on the one hand and their tendency to expropriate outside shareholders on the other.

### **3. Theoretical Framework**

#### **3.1 Theories Used**

According to Jensen and Meckling (1976), a manager who holds less than 100% of the cash flow rights of a company has an incentive to extract private benefits for himself at the expense of other shareholders. They argue that a manager holding 100% of the cash flow rights will maximise his utility by making investments for which the sum of the monetary shareholder value and the value of the private benefits exceed or are equal to the cost. Private benefits can be both monetary and non-monetary. An example of a monetary private benefit is when a large shareholder exploits a company's business relations with other companies he controls to shift value between them. An example of a non-monetary private benefit is when a large shareholder induces a company to give money to charity, given that this does not create value for the company. The smaller the fraction of cash flow rights a manager holds, the lower the fraction of the costs of the company's activities he has to bear and the lower the monetary returns of them he receives. But the amount of private benefits he receives from every activity of the company is independent of what fraction of cash flow rights he holds. Hence, the incentive to expropriate outside shareholders by making investments that yield private benefits to the manager but result in a lower monetary value of the firm to the outside shareholders, declines as the ownership of cash flow rights of the manager increases. Jensen and Meckling argue that outside shareholders to some extent can alleviate the consequences of this conflict of interests by spending resources on monitoring the manager. When a manager holds little cash flow rights he can be expected to extract many private benefits and outside shareholders can be expected to engage in monitoring to try to minimise this activity. Both the manager's extraction of private benefits and the monitoring are costly to outside shareholders. Consequently, Jensen and Meckling argue that rational investors are willing to pay less for shares of a company with a manager with little cash flow rights than for shares of a company with a manager with many cash flow rights, *ceteris paribus*.

Several writers (La Porta et al 2002, Edwards and Weichenrieder 2004) extend the above reasoning to also apply for the relation between large shareholders and small shareholders. With the same line of logic as above, one can argue that large shareholders with little cash flow rights may have an incentive to expropriate other shareholders, by extracting monetary and non-monetary private benefits at the expense of the other shareholders. A large shareholder would want the company he owns shares in to take a certain action if the sum of the value of the private benefits to him and the monetary value to him as a shareholder that result from this action, exceed the monetary cost to him as a shareholder. If a large shareholder induces a company to take an action that reduces the monetary value of the shareholders but gives him private benefits, this can be called minority expropriation. Using the same line of reasoning as Jensen and Meckling (1976), it can be assumed that the larger a large shareholder's cash flow rights, the lower are his incentives to expropriate other shareholders in this way.

There are two further assumptions that have to be made in order to be able to extend Mecklings and Jensens (1976) theory to apply not only for the relation between a manager and shareholders, but also for the one between a large shareholder and other shareholders. First, a large shareholder must have the possibility of influencing the operations of a company. A shareholder and a manager differ in many aspects regarding the extent to which they can influence a company's operations and how they can do it. A manager runs a company's day-to-day business and thus it may seem that he has ample possibilities of making decisions in such a way so that he can extract private benefits at the expense of outside shareholders. However, since it is not in the interests of outside shareholders that the manager expropriates them in this way, outside shareholders may object to him doing that and ultimately relieve him of the position as manager. Also, the manager can find it difficult to expropriate through engaging in activities that by rule of law have to be approved by representatives of the shareholders or the shareholders themselves, such as acquisitions of other companies. On the other hand, a large shareholder may have a hard time trying to expropriate because he does not, in contrast to the manager, run the company's day-to-day business. A large shareholder may have to influence the manager of the company in order to expropriate, which complicates the matter for the former. A manager who expropriates does not have to go through an intermediary in this way. However, a large shareholder who owns enough voting rights to have control over a company may not face any objections from other shareholders when expropriating, unless the action is illegal, since other shareholders have no say if they do not have enough votes. Also, a large shareholder, in contrast to an expropriating manager, does not face the risk of being relieved of his position as shareholder. Considering the above reasoning, it is easy to see that a shareholder's possibilities of influencing the operations of a company are different from those of a manager, but whether it is easier or more difficult for him than a manager to expropriate shareholders is not as clear.

The other assumption that has to be made in order to use the theories put forward by Jensen and Meckling (1976) on the relationship between a large shareholder and other shareholders, is that there must be private benefits available for a large shareholder to extract and that it must be possible for him to be aware of the opportunities to expropriate. It is likely that a large shareholder may find it more difficult to know of ways to expropriate outside shareholders than a manager, since a large shareholder does not run the company's day-to-day business and may therefore not observe opportunities to expropriate. Nonetheless, it is likely that there are several ways that a large shareholder can expropriate other shareholders. For instance, Shleifer and Vishny (1997) argue that a large shareholder can expropriate other shareholders by giving special dividends to himself or by influencing the company's business relations with other companies that the large shareholder controls. According to Grossman and Hart (1980), it is under some circumstances possible for a shareholder who takes control in a company to transfer value to himself at the expense of other shareholders. This activity is called dilution of minority property rights by the authors. They argue that such dilution can, for example, be achieved if a shareholder induces the company to sell its assets or output at too low prices to other companies he is a shareholder in. Dyck and Zingales (2004) argue that in addition to

exploiting business relations with other companies a large shareholder controls, he can also receive information from inside the company and use this, at the expense of the other shareholders, to further his own goals. In addition to these examples of private benefits, we believe that when a large shareholder does not have the sole goal of maximising his monetary returns, but to further other goals as well, this can result in minority expropriation. If such a shareholder induces a company to further a different goal than shareholder value maximisation, this can be called minority expropriation, under the condition that it leads to lower shareholder value. Examples of such goals can be environmentally friendly production and unnecessarily good conditions for the workforce. Of course, if the furthering of such goals lead to higher shareholder value, it is not minority expropriation.

It has already been said that using the theories of Jensen and Meckling (1976) it can be argued that the smaller a large shareholder's cash flow rights, the larger are his incentives to expropriate other shareholders by extracting private benefits from the company. Shleifer and Vishny (1997) argue that when the discrepancy of a large shareholder's control rights and cash flow rights is large, not only his preferences but also his abilities to expropriate are large. This is straightforward reasoning since the larger a shareholder's voting rights, the greater are his chances of influencing a company's operations. Therefore, the risk and severity of minority expropriation can be expected to rise with the separation of control rights and cash flow rights of the largest shareholder of a company.

### **3.2 How Expropriation Tendency Differs for Different Shareholder Types**

It is our belief that a large shareholder's power and incentives to expropriate not only depend on his control and cash flow rights in a company, but also on his very characteristics. We therefore categorise each of the large shareholders into a group with the purpose that shareholders in each group are similar in their powers and incentives to expropriate. While for instance Cronqvist and Nilsson (2003) categorise their large shareholders into the groups 'founder families', 'non-founder families', 'corporations' and 'financial institutions', we choose to categorise the large shareholders into other types of groups.

The first group, called 'individual', includes in addition to individuals also families and management. The reason why we include management in the same group as individuals and families is that, with the information available to us, we are unable to judge whether an individual or a family have roles in the company that effectively make them part of management. It is probable that many in the group 'individual' act as managers or have founded the company, so that they have enough knowledge of it to know of opportunities to extract private benefits. In addition, it is likely that some of the shareholders in this group have other goals with their ownership than just maximising the monetary returns. The reason for this assumption is that shareholders of this group are free to pursue their own interests, which are not necessarily always to maximise their monetary returns, but for instance to maximise the quality of the products or to expand more than is optimal from a shareholder point of view. The existence of other goals than the maximisation of shareholder value is in itself a source of potential minority expropriation, since these other goals may be conflicting with the other

shareholders' goals of maximised returns. Of course, it can be shareholder value maximising to maximise the quality of the products or to expand heavily, and if this is the case, it is not minority expropriation. Still, we believe that largest shareholders of this group have both powers and opportunities to expropriate other shareholders.

In the group 'state' all ownership by the state is included. Since also a state shareholder may have other motives than just monetary returns with its ownership and therefore have other interests than the other shareholders, it seems clear that a state can have incentives to expropriate. For instance, the state may have interests to have too much employment in the company or to pollute too little, than would be optimal from the other shareholders' point of view.

In our third group, 'sphere', we include all kinds of shareholders that at a particular time are the controlling shareholder in three or more companies and at least hold 5% of the control rights in all of these. Hence, in this group shareholders from all the other groups, except the state, can be included. The logic behind this categorisation is that a shareholder who owns a varying fraction of cash flow rights in different companies can through business transactions shift value from the company where he owns less cash flow rights to a company where he owns more. This is, of course, under the assumptions that it is possible for the two companies to have business transactions with each other and that the shareholder is able to influence these.

In our fourth group, 'corporation', we include companies that are non-financial and which provide customers with services or products. These shareholders could have incentives to expropriate if they themselves are engaged in or potentially could be engaged in business transactions with a company they own. In that case, minority expropriation could happen through for instance the use of artificially high or low prices in these business transactions or just the existence of business transactions if the company in question would be better off not taking part in such business transactions.

In the group 'financial institution' we include funds, insurance companies and trust funds/foundations. The major goal of these kinds of shareholders is to maximise the monetary returns of their holdings, so there should be few opportunities to expropriate for these. However, also banks are included in this group. Banks could potentially expropriate other shareholders by lending to the company at terms which are favourable to the bank or, if it has a corporate finance department, by advising in favour of a deal, and receiving deal payments, that would not be optimal for the company. Ideally, we could have separated the types of largest shareholders in this group which have opportunities and powers to expropriate from the types that do not. But often the types of largest shareholders in this group that do not have opportunities and powers to expropriate have links to the types that do, and vice versa. For instance, often a fund has links to a bank. Determining which largest shareholder to place in which subgroup of this group would have been too time consuming and to arbitrary. We still believe that largest shareholders in this group have rather small possibilities of expropriating other shareholders.

In the group ‘private equity’ we include shareholders that invest in companies over a period of a couple of years and make operating changes in these companies to increase profitability. Since shareholders in this group have the sole goal of maximising monetary value by making operating changes and then selling the company, it seems that their interests are in line with other shareholders, resulting in a low propensity for this group to engage in minority expropriation. Since shareholders in this group can be considered to be active owners and since they have the same interests as the small shareholders, it is even possible that they can reduce the level of minority expropriation in the companies in which they are shareholders.

### **3.3 Formulation of Hypotheses**

Based on the previous research and the theoretical framework, we have six hypotheses. The study where we measure minority expropriation by Tobin’s Q tries to answer the first four hypotheses and the study where we measure minority expropriation by cumulative abnormal returns following an acquisition tries to answer hypotheses 5 and 6.

*H1: There is a positive correlation between the separation of a largest shareholder’s control rights and cash flow rights (control rights divided by cash flow rights, denoted excess votes), and his tendency to engage in minority expropriation.*

*H2: There is a positive correlation between the control rights (denoted votes) of a largest shareholder, and his tendency to engage in minority expropriation.*

Based on our reasoning in the previous sections, we expect to see the following differences in the correlations described in *H1* and *H2* for the different types of largest shareholders:

*H3: The correlation described in H1 is positive for largest shareholders classified as individual, state, sphere and corporation and negative for largest shareholders classified as financial institution and private equity.*

*H4: The correlation described in H2 is positive for largest shareholders classified as individual, state, sphere and corporation and negative for largest shareholders classified as financial institution and private equity.*

*H5: There is a negative correlation between the separation of a largest shareholder’s control rights and cash flow rights (control rights divided by cash flow rights, denoted excess votes), and cumulative abnormal returns following an acquisition.*

*H6: There is a negative correlation between the control rights (denoted votes) of a largest shareholder, and cumulative abnormal returns following an acquisition.*

## **4. Data**

### **4.1 Overview of the Databases**

In the following section we go through the description of the databases as well as the assumptions that we have made in forming the datasets. As mentioned, in our first study we test whether there are any correlations between votes and excess votes of the largest shareholder and Tobin's Q. Here, we also examine whether there are different correlations for different types of shareholders. This study is based on an already existing dataset which has previously been used by Averstad and Rova (2007). The database contains the panel data of over 600 companies that have been listed on any of the lists of the Stockholm Stock Exchange in the period between 1985 and 2005. Where possible, it has been updated with the appropriate accounting ratios, company values and ownership data until 2007. The final dataset contains 3 402 firm-year observations, adjusted for missing values and outliers. In total, the dataset contains 10 variables with company information which forms an unbalanced panel dataset of 34 020 observations.

In our second study we measure the extent of minority expropriation resulting from acquisitions. Here, we use a dataset that consists of 94 observations and includes acquisitions that have been announced and completed in the period between 1997 and 2007. Only acquisitions that, in terms of deal size, exceeded 10% of the acquiring companies' median turnover for the period between 1997 and 2007 are included. For this dataset we have used 10 variables with accounting ratios and other company information which then forms a data set of 940 observations.

Financial and insurance companies are not included in the datasets since their operations differ to such a large extent from the more ordinary companies. This is something that has been done previously in most studies, meaning that this way of treating the data increases the comparability of our studies. Similarly, companies that have their main listing in other countries are classified as foreign and are thus excluded from the datasets. This should not pose a problem for our studies since only a few companies are excluded due to this reason.

A difference between our dataset and the dataset used in the Cronqvist and Nilsson (2003) study is that our dataset covers approximately 60% of all listed companies each year, whereas Cronqvist and Nilsson (2003) study covers on average 95% of all the companies listed on Stockholm Stock Exchange for each year between 1991 and 1997. Therefore, it is expected that our results will be different from Cronqvist and Nilsson (2003) study and therefore not fully comparable. Given our underlying dataset, we therefore draw our conclusions from industry specific fixed effects regressions, whereas Cronqvist and Nilsson (2003) use company specific fixed effects regressions.

### **4.2 Data Collection**

We started off by updating the existing data sets with the ownership data that was lacking and with the ownership data for the years 2006 and 2007. The update was made using the publications *Owners and Power in Sweden's Listed Companies* (Sundin and Sundqvist 1986-2008). We have thereafter



collected all the relevant accounting information from the Datastream. We have used the SIX Trust database to gather information for missing accounting ratios and stock prices. We have then assigned all the largest shareholders one of the six categories that we introduced in a previous part of this thesis. Also, the databases are completed with the industry dummies that divide the companies in eight industries following the industry classification of *Affärsvärlden*. Finally, the datasets are completed by time dummies in order to control for the general market conditions and state of the economy.

Unfortunately, we were unable to find all the data for all the firm year observations. This is in particular the case for the companies in the earlier part of the sample and for small companies that have been listed for only a short period of time. All of the observations for which we lack any of the data for the variables we are using have been removed. The removed observations have been excluded randomly and should therefore not bias the sample. Also, obvious outliers, such as observations with Tobin's Q values of over 25 or negative such values are excluded. In addition, observations with negative or very high leverage percentages are excluded. The number of observations that have been removed because they were considered to be outliers is small, and we therefore believe that our results will not be significantly affected by these exclusions.

## **4.3 Descriptive Statistics**

### **4.3.1 General Descriptive Statistics**

Looking at table 1 below, one can see that the number of companies listed at the Stockholm Stock Exchange has not been constant over the past 23 years. In 1989 the number of listed companies had a peak and in the years 1992-1993, which was around the time of the Swedish banking crisis, the number of listed companies was at its lowest level during this 23-year period. Since that time, the number of listed companies rose steadily to reach a peak in the year 2000 and then decreased somewhat in the following period ending with 2007. It can be observed that the line showing number of companies included in our dataset, in other words companies with a largest shareholder with more than 5 percent of the votes, has a similar pattern as the line showing total number of listed companies each year. Still, the coverage ratio varies more than marginally over the years, with a lowest level in 1990 of around 40 percent and a highest level in 2006 with a little more than 70 percent. This means that the share of the listed companies with a largest shareholder with more than 5 percent of the votes has substantially varied in our dataset over the years. In the periods 1985-1988 and 1998-2007 this share was at a level close to 60 percent or above. However, 1990-1997 this share was in all years below 50 percent. When analysing the dataset quality, one should bear in mind that the coverage ratio is affected by the exclusion of companies with missing values.

Table 1: Number of companies listed on Stockholm Stock Exchange

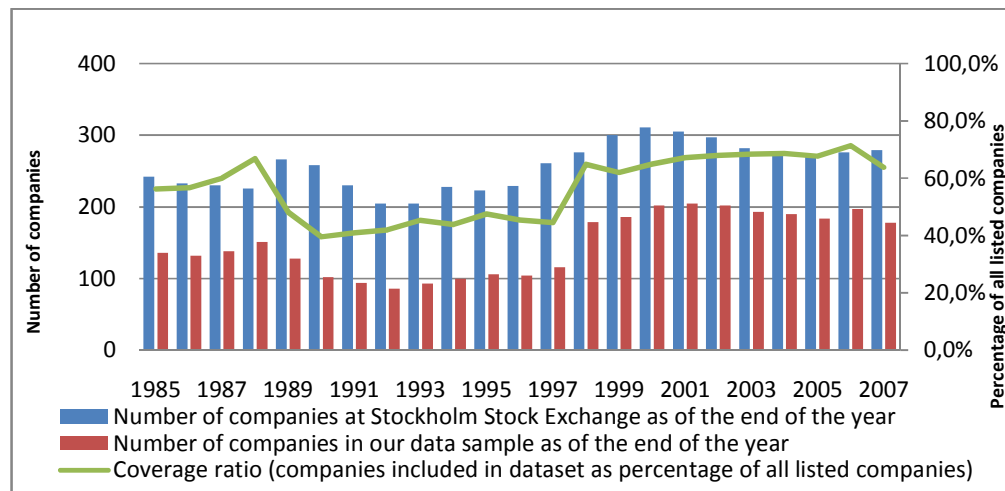
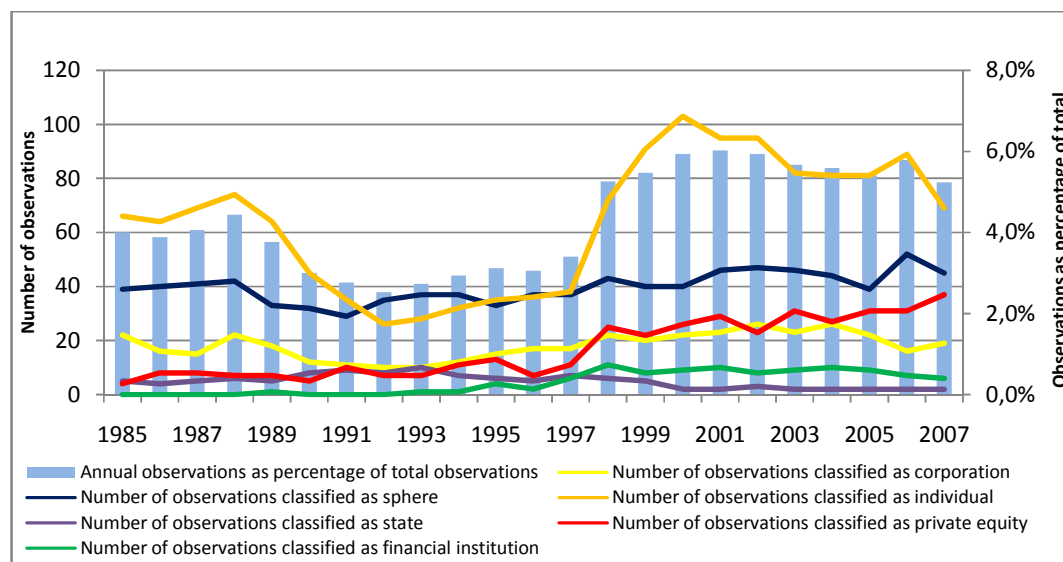


Table 2 shows that the number of observations from each year included in our dataset varies a lot, with observations from each year in the period 1999-2007 contributing with more than twice the observations than a year in the period 1991-1993. It can also be seen that observations classified as ‘individual’ make up a large part of our total observations, especially in the periods 1985-1988 and 1998-2007. In the period 1990-1997 the number of observations classified as individual was at significantly lower levels. Combining this finding with what can be seen in table 1, it can be inferred that a large part of the companies delisting in the period 1989-1991 and listing in the period 1997-2000 were companies with a largest shareholder classified as individual. Another interpretation would be that in periods with fewer listed companies, large shareholders classified as individuals tend to have fewer shares than in the other periods. The fact that different ownership groups have varying numbers of observations is also a potential problem for drawing conclusions from the studies, which is why we perform robustness tests by splitting the sample in two time periods and comparing the conclusions.

Table 2: Distribution of observations over time and between groups



The number of observations classified as sphere do not vary so much over the period. This is not surprising, since the particular shareholders classified as sphere in our study tend not to change their ownership stakes so often and since they generally hold shares in companies that have been listed a long time and still are. Also not surprisingly, the number of observations classified as private equity has risen steadily throughout the period. It is noteworthy that the number of observations classified as financial institution was very close to zero in the years until 1994, but since then there has been around 10 observations per year in this group. It can also be observed that only a small share of the total observations are made up of observations classified as state or financial institution. In general, the number of observations in each ownership category have been fairly stable over time, except for the individual category, which has varied a lot throughout the years in the sample. Given that the distribution of the observations over time is not constant, there could be a potential bias in the estimates coming from the choice of the period. However, the number of observations included in our studies does seem to correlate with the number of companies listed on the Stockholm Stock Exchange, which is why the dataset could be used as a proxy for the number of listed companies on the Stockholm Stock Exchange. In addition to that, we add the time period dummies in most of our regressions in order to adjust for any time specific market and economy effects.

#### 4.3.2 Descriptive Statistics on Votes, Excess Votes and Tobin's Q

In table 3 below, we can find the summary of our descriptive statistics for the dependent and explanatory variables used in the thesis. We can see that our variables do vary a lot, considering the maximum and minimum of each variable. Votes of the largest shareholder of each company varies between 5% and 99% with a mean of 37%. The standard deviation of the variable is 22%. For excess

votes, which is defined as  $\frac{votes}{capital} - 1$ , the mean value is 78% and the standard deviation is 156%.

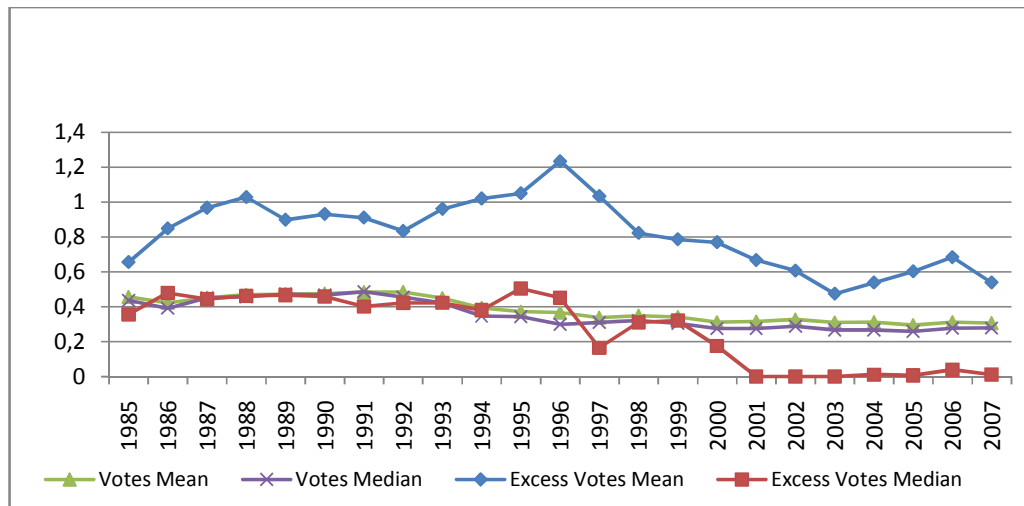
Table 3: Summary of descriptive statistics

Variable	Mean	Median	Standard deviation	Max	Min
Excess Votes	0,78	0,29	1,56	33,50	-0,63
Votes	0,37	0,32	0,22	0,99	0,05
Tobin's Q	1,80	1,36	1,54	19,95	0,44

Table 4 below shows that the mean votes of the largest shareholders included in our dataset was at a level of around 50 percent from 1985 until 1992 and then gradually declined until 1997 and from then and onwards remained at a level of around 30 percent. The same pattern goes for the level of median votes. Looking at the level of the mean of excess votes one can see that there is a positive trend from the beginning of the whole period until a peak in 1996 and then a negative trend until the end of the period. The median of excess votes somewhat resembles this pattern. However, since the median of excess votes for the whole period is significantly below the mean of excess votes, one can draw the conclusion that a few largest shareholders hold voting rights that substantially exceed their cash flow rights. In the period 2001-2007 the median of excess votes was zero, which means that more

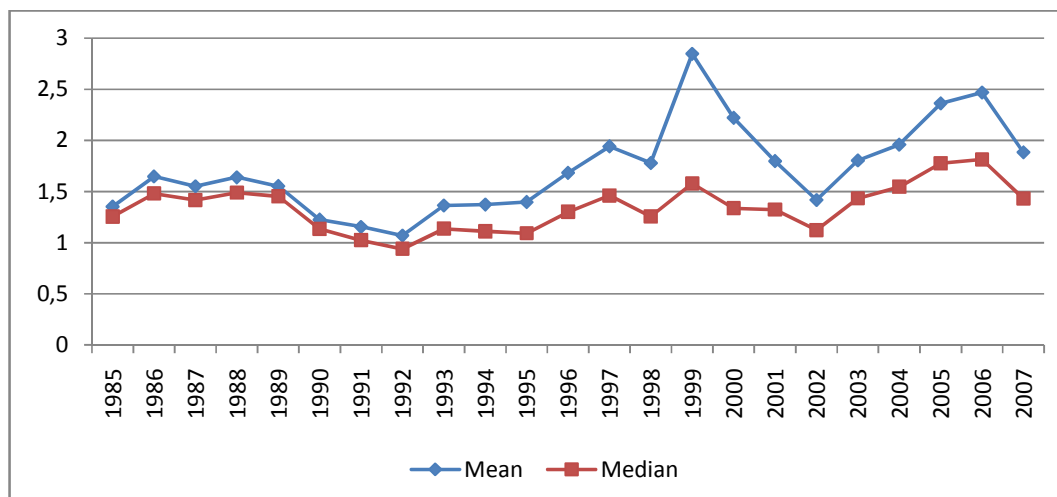
than half of the largest shareholders in each of the years in that period did not have more votes than cash flow rights.

Table 4: Mean and median of votes and excess votes over time



Looking at the mean of Tobin's Q in table 5 below, one can see that it varied substantially over the whole period, with one peak at the height of the IT-boom in 1999-2000 and another peak before the eruption of the subprime crisis in the summer of 2007. The median of Tobin's Q follows more or less the same pattern. However, the mean tends to be substantially higher than the median around the time of the peaks, which could indicate that in these periods the valuation in terms of Tobin's Q in a few sectors or of some particular stocks tend to be significantly higher than in the rest of the stock exchange. This finding is consistent with the fact that during the IT-boom, companies related to the IT sector were relatively more overvalued than other companies.

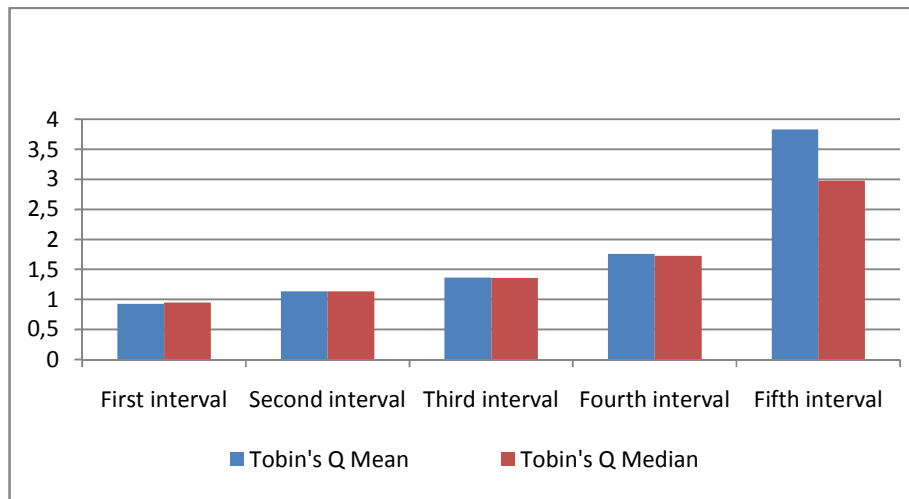
Table 5: Mean and median of Tobin's Q over time



What is interesting about table 6 below is that in one fifth of all observations, the companies had market values below their book values. On the other hand, when looking at the one fifth of the observations with the highest Tobin's Q, one can see that these observations have significantly higher Tobin's Qs than the other four fifths. This finding and the fact that the mean in the fifth interval

exceeds the median suggest that there are a few observations with much higher Tobin's Qs than the rest of the companies. These could be companies that due to accounting conventions have much lower book than market values, such as pharmaceutical companies that have a lot of their value in already conducted research which is not captured on the balance sheet. It is, of course, also possible that some of the companies with very high Tobin's Qs are extremely successful in terms of their cash flow creation ability as related to their assets. A third plausible explanation is that some of the high valuations can be specific to the periods of high valuations, such as the IT-boom.

*Table 6: Distribution of Tobin's Q over five intervals (each interval being 20% of all observations)*



In table 7 below it can be seen that the amount of votes of the largest shareholders in the observations increase gradually when moving from the shareholders with the lowest votes to the ones with the highest. In the interval with the lowest votes both the mean and median are around 10 percent and in the interval with the highest votes mean and median are around 70 percent. The closeness of mean and median of the variable indicates that no outliers could be identified in the variable.

*Table 7: Mean and median of Votes over the intervals (each interval being 20% of all observations)*

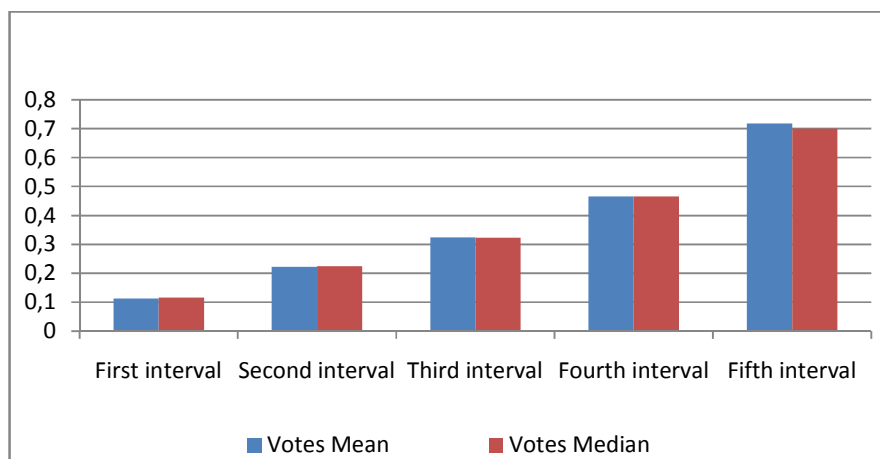
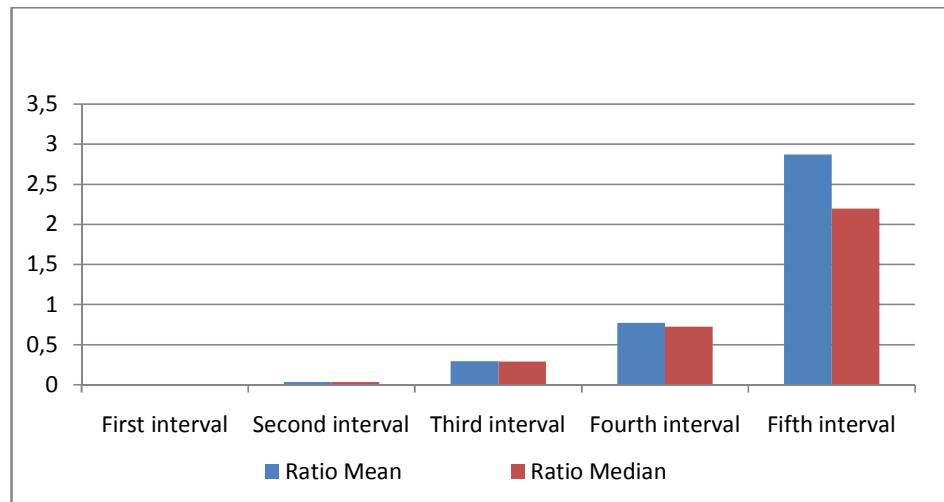


Table 8 below shows that for two fifths of the observations, the largest shareholder does not have more votes than cash flow rights, or only marginally so. For the third and second intervals the largest shareholders have votes that exceed their cash flow rights, but not by a large margin. What is

striking is that for the one fifth of all observations with the highest excess votes, the average largest shareholder has a ratio of votes to cash flow rights larger than 3 to 1. Since the mean in this interval is higher than the median, one can draw the conclusion that a few largest shareholders even have ratios significantly higher than that.

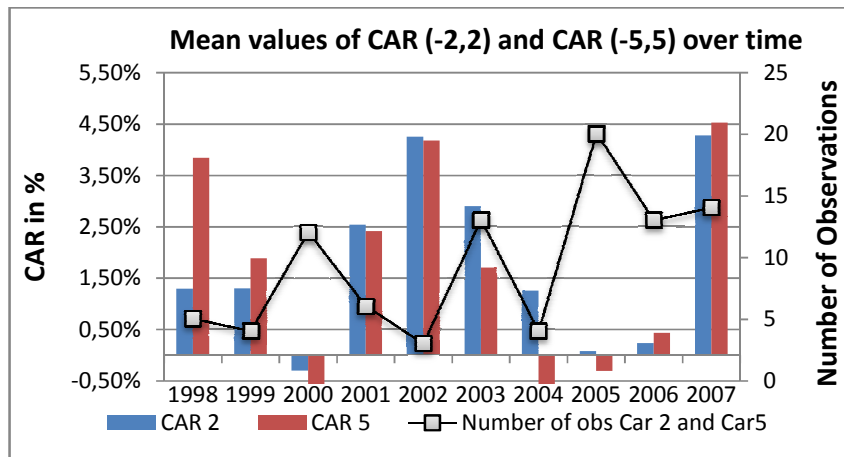
*Table 8: Excess votes mean and median over the intervals (each interval being 20% of all observations)*



#### 4.3.3 Descriptive Statistics of Study Based on Cumulative Abnormal Returns

Table 9 below shows that the number of acquisitions vary a lot from year to year during the period, with a peak of around 20 acquisition announcements in 2005 and a low of around 3 acquisition announcements in 2002. During the IT-boom and the period preceding the subprime crisis there were many acquisition announcements. We can generally see that both CAR measures seem to correlate quite well over the years, implying that only little more effect has been added by a longer event window. Hence, most of the announcement effect is priced in rather quickly. However, the acquisition announcements in 2004 and 2005 seem to indicate that longer event windows seem to better capture the effects of the transactions' announcements. One can see that an acquirer's stock generally reacts in a rather positive way upon announcement for most of the sample years. But there were also some negative cumulative abnormal return reactions, possibly due to acquiring companies announcing the transactions at high multiples. Due to non-consistent distribution of the data and changing market conditions, we use time dummy variables in order to control for these effects. We use both CAR(-2,2) and CAR(-5,5) in the regressions in order to check the robustness of the results.

Table 9: Mean value of  $CAR(-2,2)$  and  $CAR(-5,5)$  over time



## **5. Methodology**

### **5.1 Overview of Our Statistical Studies**

In order to investigate the hypotheses of this thesis we make two kinds of statistical studies. In both studies we have the same two kinds of independent variables and these are the largest shareholder's votes and excess votes. In our first study we investigate correlations between the mentioned independent variables and Tobin's Q. In our second study we examine whether there is any correlation between either of the mentioned independent variables and cumulative abnormal returns of the acquirer's share after an acquisition announcement.

The first independent variable in our studies is votes of the largest shareholder. The measure tells us a lot about a shareholder's power to expropriate but less of his incentives to do so. The second independent measure is excess votes and is defined as control rights divided by cash flow rights minus the integer 1. It is an appealing measure since it measures the percentage with which the control rights exceed the control rights a shareholder would have if all shares gave the same control rights. The measure takes into account both a shareholder's power to expropriate, in that it includes his control rights, and his incentives not to expropriate, in that it includes his cash flow rights.

### **5.2 Overview of the Study using Tobin's Q to Measure Minority Expropriation**

In our first study we use Tobin's Q as dependent variable. Tobin's Q is calculated as the market value of total assets divided by the replacement cost of total assets. It is a commonly used measure of minority expropriation in empirical studies and the logic behind the use of it is uncomplicated. Small shareholders can be assumed to own shares only for their monetary payoff and to have little chances of influencing the operations of a company in such a way that they are able to extract private benefits. When using Tobin's Q to measure minority expropriation, the share price of a company is assumed to reflect the monetary value of a share in the company to small shareholders, and therefore not to include any value from potential extraction of private benefits. The market value of a company can be expected to be negatively correlated with the extent of minority expropriation, since such expropriation by definition lowers the monetary value of a company and since we have argued that the market value only includes the monetary value to a non expropriating small shareholder. Since one can expect that the market value of a company is more negatively affected by expropriation than its book value, one can conclude that there should be a negative correlation between extent of minority expropriation and Tobin's Q. The reason for this is that the market value also includes the expected loss of value from future expropriation, while the book value does not.

To better understand why Tobin's Q is potentially a good way to measure expropriation, one can think of two companies with exactly the same book values and operations but with two different large shareholders. If the first company has a large shareholder that starts to expropriate other shareholders, and if the other shareholders in this company realise this and expect that behaviour to continue in the future, the market value of this company will be adjusted down. If such expropriation



does not happen in the second company, its market value would not be adjusted down in this way. Consequently, the first company would have a lower market value than the second, regardless of the fact that they have exactly the same book values. We would with these two hypothetical observations observe a negative correlation between minority expropriation and Tobin's Q. In addition to looking at how Tobin's Q is affected when a large shareholder starts to expropriate other shareholders, one can consider the circumstance where expropriation has been going on for a long time. Imagine a shareholder who has always expropriated the other shareholders. If he were to stop expropriating, the book value of the company would not change, but the market value would rise since the market value would include the value in the future that was previously thought would be lost due to expropriation.

One major disadvantage with the use of Tobin's Q for measuring minority expropriation is that it can be argued to work best if investors are well informed and rational. If investors are well informed and rational, they know when and where expropriation takes place and can adjust the market prices of companies accordingly. However, the use of Tobin's Q could give satisfactory results even if investors are neither well informed nor rational. Let us assume that investors have no information on what happens in companies and only use the last observed profit when valuing companies. Even then would Tobin's Q be negatively affected by minority expropriation. The reason for this is that, given certain assets (and hence a certain book value), a company where a large shareholder expropriates other shareholders can be expected to have a lower profit than a company with the same assets (and therefore the same book value as the first) where there is no minority expropriation. The use of Tobin's Q for measuring minority expropriation has the disadvantage that it includes much noise due to the fact that market values of equity and accounting book values are affected by many more factors than the existence or absence of minority expropriation. But the method has the advantage that all kinds of minority expropriation can be expected to show up in the measure.

It is our belief that a large shareholder's power and opportunities to expropriate not only depend on his control rights and cash flow rights in a company, but also on his very characteristics. As already mentioned, we therefore categorise each of the large shareholders into a group with the purpose that shareholders in each group are similar in their powers and opportunities to expropriate. We divide all the largest shareholders into one of the following groups: individual, sphere, corporation, private equity, financial institution and state.

### **5.3 Description of Method and Variables in the Tobin's Q Study**

As described in the above section, we use Tobin's Q as a proxy for minority expropriation in our first study, where the existence of minority expropriation is expected to lower Tobin's Q. Tobin's Q is a measure that is robust and easily comparable between companies and industries. As mentioned, the real Tobin's Q should actually be calculated using the replacement value of the total assets in the denominator. Since this is difficult to do for a large number of companies and in particular for periods further back, we use a commonly used approximation for Tobin's Q defined in the following way:

$$\text{Tobin's } Q = \frac{\text{MV(Equity)} + \text{BV(Non equity liabilities)}}{\text{Book value of total assets}}$$

Calculation of Tobin's Q in this way should not affect our results severely except in case we have many companies in financial distress whose interest rates differ significantly from the market rates. Hence, we assume that this is not the case in our sample. This is a reasonable assumption, given that the Swedish market is rather stable with generally few public companies going bankrupt.

In order to test for the expropriation effect we conduct two types of regressions with different specifications. We have used the regular OLS regressions to see whether there seems to be any correlation between variables and how they interact, while we also use fixed effects regressions in order to adjust for the time invariant properties such as demographic changes and the market properties of the companies and industries. By doing that we are estimating the following model:

$\text{Tobin's } Q_{it} = \alpha_0 + \beta_1 \times \Gamma_{it} + \beta_2 \times N_{it} + \beta_3 \Phi_{it} + \varepsilon_{it}$  in which we define  $\Gamma_{it}$  as the vector of all the ownership variables, meaning that vote concentration and excess vote concentration are included therein. The parameter  $N_{it}$  should summarise all the control variables of the fixed effects regression, thus including all company specifics which we want to hold constant and  $\Phi_{it}$  includes the year dummies, which should take into account changes in the market over time. The regression then estimates the joint coefficient for all the different companies or industries in the sample while varying the interception with the y-axis for different companies or industries. We conduct this process through time demeaning due to the fact that our dataset is an unbalanced panel dataset with gaps in different companies for several years. Thus, by demeaning with the mean of the variable for the observation  $i$ , we simply tackle the problem of gaps in the sample. In order to produce unbiased fixed effects regression estimates we correct for the serial correlation and heteroskedasticity of the error term. In regular OLS regressions we also control for the heteroskedasticity of the error term, thus producing and reporting the robust standard errors in the regression results in appendix 2. In the study, we perform both company specific and industry specific fixed effects regressions. We do this due to the fact that when only applying company fixed effects, many coefficients are found insignificant. This is due to little variation within a cluster, given that we have yearly frequency in the independent variable. Thus, industry specific fixed effects regressions allow us to better estimate the underlying effect, since this method adjusts better to the underlying dataset and takes into account differences between industries. The results of company specific fixed effects regressions are therefore included for purpose of comparison only. In order to perform correct analysis of the underlying effects, we decide to control for a number of properties that might affect the variables that we try to analyse. Thus, when applying regressions, we control for size, operating performance, time and leverage rate. These variables are also used by Cronqvist and Nilsson (2003) as well as in other similar studies. Since we use total assets to calculate Tobin's Q, we use the natural logarithm of sales and the square of the natural logarithm of sales as control variables used to proxy size. By doing this we avoid possible multicollinearity between Tobin's Q and total assets and account for possible non-linear effect of the sales variable.

## 5.4 Overview of the Study using CAR to Measure Minority Expropriation

In our second study the method used only recognises minority expropriation that occurs through acquisitions. In this study we use a method that Masulis et al (2008) use when they study how the separation of control rights and cash flow rights of management ownership affects the governance of a company. They use acquisitions that result in negative cumulative abnormal returns as signs of expropriation by managers of outside shareholders. In this study we make an empirical investigation where we have the same independent variables as in our first study and where cumulative abnormal return of large acquisitions is the dependent variable.

The approach used in this study is appealing because it gives a very close link between an action that could potentially yield private benefits to a large shareholder and the way in which investors perceive that action. If investors trade down the share price of an acquiring company more than is typically observed in the days following an acquisition announcement, this could be a sign that investors believe that the acquisition in itself has constituted minority expropriation or that it improves the opportunities to expropriate other shareholders in the future. However, there are certain difficulties with this method. First, a bad acquisition might just as well have been expropriation by the manager of all shareholders, as expropriation by a large shareholder of the other shareholders. Second, this approach only includes one kind of expropriation while leaving out all the rest. Hence, the extent of expropriation that can be inferred from this method might not be representative of total minority expropriation. Third, it is not certain that a large shareholder has the interests and possibilities of expropriating by inducing the company to acquire another one. Nonetheless, we believe that the larger a company, the more opportunities there are for a large shareholder to extract private benefits, given that his control rights do not change. Hence, it might be in a large shareholder's interest to induce the company to acquire another one, even if that results in a lower monetary value for the other shareholders, since it can increase his chances of extracting private benefits.

## 5.5 Description of Method and Variables in the CAR Study

In order to test the effects of an acquisition announcement on acquirer's share return we control for some of the transaction's properties which would affect the acquirer's return after the transaction. We measure the acquirer's share return as cumulative abnormal return, defined as:

$$CAR_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} AR_{i\tau}, \text{ where we define } CAR_i(\tau_1, \tau_2) \text{ as the cumulative abnormal return using the}$$

market model (MacKinley 1997). The abnormal return  $AR_{i\tau}$  is the abnormal return defined in the following way:  $AR_{i\tau} = R_{i\tau} - \hat{\alpha}_i - \hat{\beta}_i \times R_{m\tau}$ , where  $R_{i\tau}$  is the return of  $i$  security for time  $\tau$ , while  $R_{m\tau}$  is the market return of the Stockholm Stock Exchange All Share Index for time  $\tau$ . The estimated coefficients  $\hat{\alpha}_i$  and  $\hat{\beta}_i$  are results of the regression between an  $i$  security return and the market return  $R_m$ . Thus, we estimate 94 coefficients for 94 acquisition announcements which are non-overlapping

by using the estimation window of 200 days, 211 days prior to an event. After that, we calculate the abnormal return as well as the 5 and 11 days cumulative abnormal returns,  $CAR(-2, 2)$  and  $CAR(-5, 5)$ . We use these variables as our dependent variables in the regressions as they reflect the acquirer's share return on the announcement adjusted for the general market effects.

As previously mentioned, we examine if the ownership variables votes and excess votes of the largest shareholder to some extent have an effect on an acquirer's return upon acquisition announcement. We apply five different accounting ratios of the acquiring companies in order to control for operational differences. We include return on assets, which is a measure of an acquirer's return from operations and the log of total assets, which should allow us to control for differences in size of the acquiring companies. We further control for size of the acquisition by including the natural logarithm of deal size. We also control for an acquirer's financial leverage by including the solidity of the acquirer, defined as its equity divided by total assets. Finally, we use Tobin's Q as control variable in order to take into account the value of acquirers' intangible assets. On top of this, we control for the year of the M&A transaction, industry participation and nature of the deal, creating six dummy variables. These include private all cash deal, private all stock deal, public all cash deal, public all stock deal, subsidiary all cash deal and subsidiary all stock deal. Thus in the OLS regression what we are trying to estimate is following:

$$CAR_i = \alpha_i + \beta_1 \times Ownershipvariable_i + \beta_2 \times Ln(Deal\ size)_i + \beta_3 \times ROA_i + \beta_4 \times Solidity_i + \beta_5 \times Tobin's\ Q_i + \beta_6 \times Ln(Total\ Assets)_i + \beta_7 \times Industrydummies_i + \beta_8 \times Yeardummies_i + \beta_9 \times Transaction\ dummies_i + \varepsilon_i$$

## **6. Results**

### **6.1 Overall Results on Tobin's Q Regressions**

The main results of the regressions using Tobin's Q as a measure of minority expropriation are presented in the appendix 2. In our first regressions, we treat all largest shareholders as if they belonged to a single category. We first conduct a pooled regression without any control variables. Here, we find a negative coefficient of -0.76 for the votes variable and a negative coefficient of -0.036 for the excess votes variable, both significant at 1% level. Next, we conduct a regular pooled regression where we control for the size of sales, ROA, leverage, sales to assets and year. In this regression we find a negative coefficient of -0.41 for the votes variable, significant at 1% level, and negative coefficient of -0.01 for the excess-votes variable, but with no significance. We also conduct company and industry specific fixed effects regressions with these control variables: sales, ROA, leverage, sales/assets and year. By conducting the fixed effects regressions we are controlling for the time constant unobserved effects of firms or industries which we believe could be correlated with the dependent variable. This method should therefore offer us the best estimates of minority expropriation. Here, for company specific fixed effects there is a positive coefficient of the votes variable of 0.15 and a negative coefficient of the excess votes of -0.02, of which none is significant at a reasonable level. However, by including industry specific fixed effects regressions we obtain negative coefficients for both the vote and excess votes variables, -0.35 and -0.03 respectively, both significant at 5% level.

### **6.2 Results of Tobin's Q Regressions on Different Ownership Groups**

Next we divide all largest shareholders into six different groups based on their characteristics. All of these regressions are fixed effects, both company and industry specific, and are controlled for sales, ROA, leverage, sales/assets and year. Looking first at the company specific fixed effects regressions, there is a positive votes coefficient for corporation of 0.38 with no significance and a negative coefficient for excess votes of -0.03 significant at the 5% level. The financial institution-group has a negative coefficient of votes of -0.17 and a negative coefficient of excess votes of -0.04, both coefficients without significance. In the individual-group, we find a positive coefficient of 0.15 for the votes variable and a slightly positive coefficient of 0.01 for excess votes, both not significant. For the sphere-group there is a negative coefficient of votes of -0.05 with no significance and a negative coefficient for excess votes of -0.04 significant at a 10% level. For private equity there is a negative coefficient of -0.25 for votes and a negative coefficient of -0.13 for excess votes, both lacking significance. Finally, for state there is a positive coefficient of 0.70 for votes at a significance level of 5% and a negative coefficient of -0.07 for excess votes significant at a 1% level.

Looking at the results of the industry specific fixed effects regressions, we notice that the corporation group has a positive votes coefficient of 0.05 and a negative excess votes coefficient of -0.05, of which none is significant. The financial institution-group has a negative coefficient of -0.82, significant at 10% level and a negative excess votes coefficient of -0.10 significant at 5% level. The

individual-group has a negative coefficient for votes of -0.5, significant at 5% level and negative excess votes coefficient of -0.01, without significance. Further, the sphere group has a negative votes coefficient of -0.47, significant at 10% level and a negative excess votes coefficient of -0.01, without significance. The private equity group has a negative correlation between votes variable and Tobin's Q of -1.40, significant at 1% level and a negative coefficient for excess votes variable of -0.31, without significance. Finally, the state variable has a negative coefficient between votes and Tobin's Q of -0.28 and a positive coefficient between excess votes and Tobin's Q of 0.02, of which none is significant.

### **6.3 Results of Acquisition Regressions**

Our regressions provide us with no evidence that minority expropriation takes place through acquisitions of other companies. Looking at the results displayed in the appendix 4, we can notice a positive coefficient of 0.038 between the voting rights of the largest shareholder and abnormal returns following an acquisition, without any significance. There is an insignificant negative coefficient of -0.002 between excess votes of the largest shareholder and cumulative abnormal returns following an acquisition, suggesting that negative reaction upon announcement is marginally more likely to occur the larger the separation of control and cash flow rights of the largest shareholder.

## 7. Analysis

### 7.1 Analysis of Results on Tobin's Q Regressions

Before interpreting the results of the regressions, we should state that we have opted to use the industry specific, instead of company specific, fixed effects regressions for drawing conclusions. This is due to the fact that the variations within a cluster of the company specific fixed effects regressions are too small. The reason for this is that many companies that are part of the sample have only 2 or 3 observations during the examined 23-year period.

We first consider our results from the regressions where shareholders are not divided into groups. The pooled regressions, both with and without control variables, yield negative correlations between ownership of votes of the largest shareholder and Tobin's Q, both at significance levels of 1 percent. This is also the fact with the industry specific fixed effects regressions in which we obtain a negative coefficient at 5% level. These results indicate that largest shareholders expropriate other shareholders and that the more votes the largest shareholder has in a company, the more likely it is that he expropriates other shareholders. This is in line with our theoretical reasoning in the previous sections, which stated that a large shareholder's possibilities of expropriating other shareholders rise with his control rights. Looking at the independent variable excess votes, there are negative correlations for both the pooled regression without control variables and the one with control variables, although the negative correlation is only significant for the one without control variables. In the industry specific fixed effects regression there is a negative significant correlation between excess votes and Tobin's Q. We interpret these results as indications that the larger the separation of a largest shareholder's control rights and cash flow rights, the higher is the likelihood that he expropriates other shareholders. This is in line with theory, which states that a largest shareholder's powers to expropriate rise with his control rights and that his incentives to do so decrease with his cash flow rights. Relating these findings to the hypotheses we stated in a previous section of this thesis, it can be said that both hypothesis 1 and 2 are supported by these results.

In the regressions on the different ownership groups there were significant negative correlations between votes and Tobin's Q for the groups financial institution, individual, private equity and sphere. The only significant correlation for the regressions on excess votes and Tobin's Q was the negative correlation for the group financial institution. In this sense, our findings do only partially confirm hypotheses 3 and 4. The findings indicate that shareholders categorised as financial institutions engage in minority expropriation and that their tendencies to do so rise with their ownership of votes and the discrepancy between their ownership of votes and cash flow rights. This contradicts our theoretical reasoning, which stated that a shareholder classified as a financial institution should have interests that to a large extent are aligned with the other shareholders and have few opportunities to expropriate. However, we also mentioned that in the group financial institution are included banks that provide companies with loans and corporate finance advice. A bank that is a shareholder in a company could potentially exploit these circumstances to expropriate the other shareholders, by either lending to the

company at unfavourable terms or inducing it to consult its corporate finance department when it is not in its interest to do so. These are two possible explanations for the findings for the financial institution group.

Our findings also suggest that shareholders classified as individuals expropriate minority shareholders and that their tendency to do so rises with their ownership of votes. This finding is in line with our theoretical reasoning, which stated that this type of shareholder is likely to have goals that compete with the goal of shareholder maximisation, for instance giving money to charity or having unnecessarily good working conditions. Also, an individual who is the largest shareholder of a company may be unwilling to accept risks that from a diversified shareholder perspective are motivated, if he has founded the company and has a special bond to it or if he has no other shareholdings and therefore is dependent on it not going bankrupt.

We also find that largest shareholders classified as private equity expropriate and that their tendencies to do so rise with their ownership of votes. This contradicts our expectations, which were that shareholders in this group to a large extent have the same interests as the other shareholders. The reason for this argumentation is that private equity firms typically own companies for a few years before they sell them so that they should have a clear incentive to maximise the monetary value of the company at the point in time when they sell the company. However, the truth is that a private equity firm has the incentive to make the company it owns *look as* valuable as possible at the time it sells the company, rather than make the company *be* as valuable as possible. In the pursuit of that goal, actions that actually reduce the intrinsic value of the company can be taken, such as the reduction of the quality of the products. Such actions could actually be considered minority expropriation, since they create value for the largest shareholder while reducing it for the other shareholders. However, if rational investors realise what is going on and adjust down the share price accordingly, it may seem that no value is created for the expropriating private equity firm, since it sells its holdings at the share price, and that therefore no expropriation has taken place. One can use game theory to argue that value has in fact been created for the private equity firm. If investors are unable to see whether a private equity firm has taken short-term actions or not, such as reducing the quality to lower expenses, it would be in every private equity firm's interest to take short-term actions. If investors cannot know if a private equity firm takes short term actions or not, it is by the investors treated as an average private equity firm. If the private equity firm chooses to take short term actions, its company will have higher cash flows today and it will be priced higher than it would if the short term actions had not been taken. Hence, under the assumptions made, it is in a private equity firm's interests to take short term actions.

Our regressions also show that shareholders classified as spheres expropriate minority shareholders and that their tendency to do that rises with their ownership of votes. This is in line with our theoretical reasoning, which said that spheres could transfer value from companies it owns to itself by exploiting transactions between companies in which it owns different fractions of the cash flow rights.



## **7.2 Analysis of Results on Acquisition Regressions**

In our regressions we cannot find any statistically significant correlations between votes and excess votes as independent variables and cumulative abnormal returns following an announcement of an acquisition as dependent variable. Hence our findings do not support hypotheses 5 and 6. There are several different explanations for this. First, it is possible that minority expropriation does not take place through this action. Second, investors may not be rational or informed enough to price in minority expropriation in the nearest days following an acquisition announcement. Nonetheless, we do not believe that the absence of findings here weaken our findings in the other regressions, since this study based on acquisitions, in contrast to the study based on Tobin's Q, only tries to measure one specific type of minority expropriation.

## 8. Conclusions and Suggestions for Further Research

This study aimed at examining if the tendency of a largest shareholder to act in ways that increase his value at the expense of the other shareholders depends on his ownership of control rights and on the separation of his cash flow and control rights. In the study, minority expropriation has been defined as an action in which the largest shareholder acts in ways that enhances his own value but reduces the monetary value of the minority shareholders. We have furthermore examined if what type a shareholder is classified as can determine his tendency to expropriate minority shareholders. Finally, we also identified a certain potential way of expropriation, namely acquisitions of other companies, and examined if there is any evidence that minority expropriation takes place through this channel.

Our empirical investigations provide evidence that minority expropriation existed in Sweden during the period between 1985 and 2007. We are able to conclude, as expected, that there is a positive and robust correlation between the control rights of a largest shareholder and his tendency to engage in minority expropriation. Furthermore, we also show that there is a positive and robust correlation between the separation of a largest shareholder's cash flow and control rights and his tendency to engage in minority expropriation.

We are also able to conclude that largest shareholders classified as financial institutions, individuals, spheres and private equity engage in minority expropriation and that their tendency to do so depends on their ownership of votes. These results are robust to time specification as well as the specification of the ownership threshold assumption. On the other hand, when looking at the independent variable separation of cash flow and control rights we are only able to conclude that largest shareholders classified as financial institutions have a robust, negative and significant correlation with Tobin's Q. Finally, by conducting the study of acquisition announcements we can show that there was no evidence of minority expropriation taking place through this type of corporate action, regardless of whether we use 5- or 11-days cumulative abnormal return.

We believe that results of the study could be improved by for instance only including the period after year 2000 due to the better quality of data and the increased number of observations offering better statistical quality. Furthermore, the results of this study are specific to Sweden and its institutional system and as such should be carefully interpreted. Institutional differences across countries is a very important aspect of the issue covered in this study, which is why we believe that future research could examine to what extent findings such as those in this thesis depend on the institutional framework. Most of the previous research has focused on whether or not large shareholders expropriate and how their tendencies to do so depend on their ownership structures. We did that in our thesis, but we also examined whether minority expropriation takes place through a certain channel, namely company acquisitions. We believe that there is a lot more room to examine through which channels minority expropriation is typically achieved.

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## **Appendix 1 - Robustness Tests**

In order to check the robustness of our results, we perform regressions by dividing the sample into two time periods and compare the results of these regressions with the regression for the whole time period. Furthermore, we change our assumptions concerning the threshold for votes of the largest shareholder, by varying it between 5%, 10%, 25% and 50%. Finally, we add industry dummies to our OLS regressions in order to control for the difference between industries and check whether our OLS results are robust when controlled for industry specific effects. In order to check the robustness of the results of our acquisition announcement regressions, we also apply the eleven days cumulative abnormal return of CAR(-5,5) as our dependent variable.

### **1.1 Robustness over time**

The results of the regressions when the full sample is divided into two different time periods can be found in the appendix 3. The division of the whole time period into two smaller time periods is based on the volatility of the market as measured by the standard deviation of the OMX All Share Index. Hence, one period is defined between 1985 to 1998, while the second time period includes 1999 to 2007. This division offers us fairly equal amounts of observations in each group and should give us a good proxy for how much our results vary throughout the time. From the tables 19-20 in the appendix 3, we can see that the period between 1985 and 1998 gives us generally higher R-square for the regressions, implying a higher explanatory power.

In the table 11 below, we can see the results of the OLS and industry specific fixed effects regressions for vote ownership and excess votes over time. In the following section we therefore test the robustness of the results based on the time specification. In the regressions 1, 7 and 13 we just apply the votes and excess votes variables to the dependent variable Tobin's Q in order to estimate the correlations between the two. Looking at vote ownership, the correlation is negative and significant regardless of the specification of time period. When applying excess votes of the largest shareholder, we can notice that the correlations are negative regardless of the time specification and significant for the period 1985-1998 and for the entire period. Thus, we can conclude that the results of this regression seem to be robust with respect to the time period specification.

When we apply our firm specifics as control variables to the OLS regressions, regressions 2, 8 and 14, we can notice that both votes and excess votes have negative correlations regardless of the time period specification. The votes variable has in addition significant coefficients for each separate period as well as for the entire time period. The excess votes variable does not have any significant coefficients in these regressions, but shows a rather robust negative trend in correlation with Tobin's Q.

Finally, if we control for the unobserved time invariant properties by applying industry specific fixed effects regressions, we can conclude that the results seem to have a robust negative trend for votes and excess votes when the sample is divided into two periods, but without significance. Still, when the regression is applied to the entire underlying sample, we are able to obtain significant and

negative coefficients for both votes and excess votes. From this, we can infer that our conclusions on hypothesis 1 and 2 seem to be rather robust to time period specification.

*Table 10: Separation of votes and cash flow rights and vote concentration over time-summary*

Separation of votes and cash flow rights and vote concentration over time			
	Tobin's Q		
Regression number	7	13	1
Variable	1985-1998 Coefficients	1999-2007 Coefficients	1985-2007 Coefficients
Controlling owner vote ownership	***	***	***
Controlling owner excess vote ownership	*	-	***
Regression number	8	14	2
Variable	1985-1998 Coefficients	1999-2007 Coefficients	1985-2007 Coefficients
Controlling owner vote ownership	*	***	***
Controlling owner excess vote ownership	-	-	-
Regression number	10	16	4
Variable	1985-1998 Coefficients	1999-2007 Coefficients	1985-2007 Coefficients
Controlling owner vote ownership	-	-	**
Controlling owner excess vote ownership	-	-	**

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

In order to check the robustness of our results from the industry specific fixed effects regressions for the ownership groups with respect to time specification, we apply the same method as above. The results of the regressions, 6, 12 and 18 from appendix 3, are summarised in table 11 below. Looking at the votes variable for different ownership groups, we can see that all the ownership groups except for private equity have robust correlations with respect to time specification. Although not many correlations are significant, the trend is rather robust. Private equity vote ownership has a positive correlation with Tobin's Q for the period 1985-1998 and a negative significant correlation for the period 1999-2007 as well as for the overall period. We observe robust negative trends for financial institutions, individuals, spheres, private equity firms and state, suggesting that there is a positive correlation between vote ownership of a largest shareholder and his tendency to engage in minority expropriation. The robust positive and statistically insignificant trend can be seen for the corporation ownership group, suggesting that ownership by this type of shareholder is not likely to cause minority expropriation. Thus, out of this, we can conclude that vote ownership for different ownership groups seems to be rather robust with respect to time specification.

The excess votes variable, for the same regressions, show some robustness for different ownership groups. The robust negative trends for excess votes can be seen for the corporations, financial institutions and private equity ownership groups, suggesting that an increase in excess votes positively correlates with the tendency to engage in minority expropriation. Ownership groups with less robust but negative overall trends for excess votes for the two periods are individuals and spheres.

Finally, the state ownership group shows negative correlations for the two periods between excess votes and Tobin's Q but a positive correlation for the entire period of the study, suggesting that an increase in excess votes of the largest shareholder does not increase the tendency of the largest shareholder to expropriate the minority shareholders. From the discussion above, we can infer that conclusions concerning the individual, sphere and state ownership groups' separation of excess votes

do seem to be sensitive to period specification. Therefore, a degree of awareness is needed when making general conclusions concerning the hypothesis 3.

*Table 11: Ownership Structure Regression results over time-summary with industry fixed effects*

Ownership Structure regression results over time			
Regression number	Tobin's Q		
	12	18	6
Variable	1985-1998 Coefficients	1999-2007 Coefficients	1985-2007 Coefficients
Corporation / conglomerate vote ownership	+	+	+
Financial institution vote ownership	-	-	.*
Individuals vote ownership	-	-	..**
Sphere vote ownership	-	..***	.*
Private equity vote ownership	+	..***	..***
State vote ownership	-	..***	-
Regression number	Tobin's Q		
	12	18	6
Variable	1985-1998 Coefficients	1999-2007 Coefficients	1985-2007 Coefficients
Corporation / conglomerate excess vote ownership	-	..**	-
Financial institution excess vote ownership	..**	..**	..**
Individuals excess vote ownership	+	-	-
Sphere excess vote ownership	+	+	-
Private equity excess vote ownership	-	.*	-
State excess vote ownership	-	-	+

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

## 1.2 Ownership vote threshold assumption

In our main results, we assume that the ownership vote threshold is 5 percent, which means that we include the largest shareholder of the company as long as he has at least 5% of the voting stake in that company. In order to test the robustness of the results, we vary this threshold assumption in order to see what happens. Looking at the largest shareholder's vote ownership and excess votes, we notice that in the OLS regressions 1, 19, 20 and 21 in the appendix 3, summarised in table 12 below, we obtain significant and negative coefficients for vote ownership for vote thresholds of 5%, 10% and 25%, indicating that the results for the vote threshold specification are robust. Noteworthy is the fact that when the ownership threshold is set at 50% the correlation for vote ownership becomes positive, but insignificant, indicating that on average when a largest shareholder in a company owns more than 50% of the company his tendency to engage in minority expropriation decreases with increasing vote ownership. Similarly, when ownership threshold is set at 50% even the excess votes becomes positive and insignificant, suggesting that on average when a largest shareholder in a company owns more than 50% of the company his tendency to expropriate minority shareholders decreases with increasing separation of cash flow and control rights.

For the second part of the OLS regressions, when control variables are added to the OLS regressions, i.e. regressions 2, 22, 23 and 24, we similarly obtain robust negative but insignificant correlations for both vote ownership and excess votes for ownership vote threshold of 5%, 10% and 25%. This result indicates that when vote ownership or excess votes increase, so does the tendency of the largest shareholder to expropriate minority shareholders. Interestingly, we perceive a similar pattern as in the OLS regression results above when setting the vote ownership threshold at 50%. The

correlation of the vote ownership variable becomes positive indicating that when the largest shareholder has a stake over 50% his tendency to expropriate minority shareholders decreases with increasing stakes in the company. Excess votes maintains however its negative insignificant sign even when the threshold assumption is set at 50%, thus adding to the robustness of the above-mentioned conclusion.

The results of the industry specific fixed effects regressions for vote ownership and excess votes are displayed as regressions numbered 4, 28, 29 and 30 in appendix 3 and summarised in table 12 below. From the results we notice robust negative and significant correlations for both vote ownership and excess votes variables for ownership thresholds of 5% and 10%. The correlations for both variables are further negative but insignificant for both threshold assumptions of 25% and 50%, thus indicating that increasing vote ownership and excess votes do lead to increasing tendency of the largest shareholder to expropriate minority shareholders. From these results we can conclude that the results regarding vote ownership and excess votes are robust to ownership threshold assumption up to the level of 25%, thus adding robustness to our results concerning tests of hypotheses 1 and 2 specified in section 3.3.

*Table 12: Separation of votes and cash flow rights and vote concentration based on the ownership threshold assumption*

Separation of votes and cash flow rights and vote concentration based on the ownership threshold assumption				
Tobin's Q				
Regression number	1	19	20	21
Variable	Vote ownership 5%	Vote ownership 10%	Vote ownership 25%	Vote ownership 50%
Controlling owner vote ownership	_.***	_.***	_.**	+
Controlling owner excess vote ownership	_.***	_.***	_.***	+
Tobin's Q				
Regression number	2	22	23	24
Variable	Vote ownership 5%	Vote ownership 10%	Vote ownership 25%	Vote ownership 50%
Controlling owner vote ownership	_.***	_.***	-	+
Controlling owner excess vote ownership	-	-	-	-
Tobin's Q				
Regression number	4	28	29	30
Variable	Vote ownership 5%	Vote ownership 10%	Vote ownership 25%	Vote ownership 50%
Controlling owner vote ownership	_.**	_.**	-	-
Controlling owner excess vote ownership	_.**	_.*	-	-

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

The results of the industry specific fixed effects regressions of the ownership groups, based on ownership threshold assumption are presented as regressions 6, 34, 35 and 36 in appendix 3 and summarized in the table 13 below. From the look at the table below, we can see that ownership concentration coefficients for financial institutions, individuals, spheres and private equity groups are significant and negative for ownership thresholds of 5% and 10% and still negative but insignificant for ownership thresholds of 25% and 50%. This indicates that largest shareholders that can be characterized as participants in one of the groups tend to experience increasing tendencies to expropriate minority with increased ownership concentration in a company. State ownership group also shows negative but insignificant coefficients for ownership concentration for threshold levels of 5%, 10% and 25%. At 50% ownership threshold, the coefficient of ownership concentration of the state group becomes positive. Another group with robust positive coefficient for ownership



concentration throughout all ownership threshold levels is corporations. This indicates that the largest shareholders belonging to this group tend not to expropriate minority shareholders as their ownership concentration increases. Thus, from the section above, we can conclude that results for the ownership concentration seem to be rather robust up to 25% threshold level for all ownership groups, thus adding further strength to conclusions we draw with regard to the hypothesis 4 described in section 3.3.

The results of the industry specific fixed effects regressions for excess votes are also reported in table 13 below. From the regressions, we can see that not many coefficients are significant in the regressions but some of the ownership groups have persistent correlation signs throughout the threshold levels of 5%, 10% and 25%. Corporations, financial institutions, individuals and state ownership groups all have rather robust, although insignificant, correlations for excess votes. Corporations, financial institutions and individuals have negative correlations, indicating that increasing excess votes leads to increased tendency of largest shareholders to expropriate minority shareholders. The opposite is true for the state ownership group for which more excess votes leads to a decreased tendency of largest shareholders to expropriate minority shareholders. From the results we can also conclude that the correlations between excess votes for spheres and private equity ownership groups are sensitive to ownership threshold specification, which is why these result are not considered robust and a greater deal of attention is required when interpreting them. Most of the ownership groups tend to shift correlation signs when the ownership threshold is set at 50%, which could be the consequence of too few observations, making it hard to draw any general conclusions from this. Thus, we consider the results of the regressions on corporations, financial institutions, individuals and state in this section to be robust to 25% level, while the ownership groups sphere and private equity are considered to be sensitive to the specification of ownership threshold.

*Table 13: Separation of votes and cash flow rights and vote concentration of different ownership characteristics based on threshold assumption with respect industry fixed effects*

Separation of votes and cash flow rights and vote concentration of different ownership characteristics based on the ownership threshold assumption				
Tobin's Q				
Regression number	6	34	35	36
Variable	Vote ownership 5%	Vote ownership 10%	Vote ownership 25%	Vote ownership 50%
Corporation / conglomerate vote ownership	+	+	+	++
Financial institution vote ownership	.*	.*	..*	-
Individuals vote ownership	..*	.*	-	-
Sphere vote ownership	.*	.*	-	-
Private equity vote ownership	..**	..**	-	-
State vote ownership	-	-	-	+
Tobin's Q				
Regression number	6	34	35	36
Variable	Vote ownership 5%	Vote ownership 10%	Vote ownership 25%	Vote ownership 50%
Corporation / conglomerate excess vote ownership	-	-	.*	-
Financial institution excess vote ownership	..*	..*	-	+
Individuals excess vote ownership	-	-	-	+
Sphere excess vote ownership	-	-	+	-
Private equity excess vote ownership	-	+	-	..*
State excess vote ownership	+	+	+	-

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

### 1.3 Industry variables effect

In order for the final results to be comparable with fixed effects regressions used, we use the industry variables which we have previously defined. We apply the industry dummies to the OLS pooled

regressions, such as regressions 1 and 2 in order to see if our results are robust or whether the industry dummies can actually apply some explanatory power to the tested effects. We can see from the comparison table below that ownership of votes does not seem to be affected by the additional control variables such as industry dummies. Larger ownership of votes of a largest shareholder does seem to very clearly lead to lower valuation of companies on Stockholm Stock Exchange. The difference being, when applying industry dummies and controlling for the firm-specific properties, that the excess votes variable becomes statistically significant in regression 38. But the correlation has been robust and negative throughout both regressions, with and without industry dummies. Thus, the results seem to be more robust with industry dummies included.

*Table 14: Separation of votes and cash flow rights and vote concentration based on the industry-summary*

Regression number	Tobin's Q			
	1	37	2	38
Variable	W/O Industry dummies	W Industry dummies	W/O Industry dummies	W Industry dummies
Controlling owner vote ownership	***	***	***	***
Controlling owner excess vote ownership	***	***	-	***

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

## 1.4 Acquisition announcement robustness test

The table below presents the summary of the regressions presented in the appendix 4. From the table, we can see that there are no significant results in the regression, regardless of whether if we use CAR (-2,2) or CAR(-5,5) as dependent variable. With regards to an acquirer's stock reaction upon announcement of an acquisition, we can see that stocks with separation of cash flow and control rights have negative insignificant coefficients, implying that there is a negative trend in market's reaction upon these companies' announcements, which however cannot statistically be proven. Similarly, we notice that large vote ownership of the largest shareholder in the acquiring company seems to lead to a positive reaction upon announcement of an acquisition transaction. This observation cannot be statistically confirmed, although the correlations are positive regardless of whether if we use 5-days or 11-days cumulative abnormal returns.

*Table 15: Summary of acquisition announcement regressions using separation of cash flow and voting rights and ownership concentrated*

M&A regression using separation of cash flow rights and votes and concentrated votes				
Regression number	Regression CAR (-2, 2)	Variable	Regression number	Regression CAR (-5, 5)
39	-	Ratio	41	-
40	+	Votes	42	+

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

## Appendix 2 – Summary of Main Results of the Study

Table 17. The regression results for the whole time period

In the regressions below we present the final results of the study, in which we are estimating OLS regression and fixed effects regression models. The regressions 1 and 2 are the regular OLS regressions, while regressions 3, 4, 5 and 6 are the fixed effects regressions. Among the regressions we vary the specification of expropriation as well as control variables included in the regressions. The time period for all the regressions is 1985 to 2007, i.e. the full period sample. The number within the parenthesis beneath each coefficient presents t-statistic for the coefficient. The reported t-statistic for OLS regressions is based on robust standard errors, while fixed effects regressions have been adjusted for both serial correlation and heteroskedasticity, thus also reporting t-statistic based on the robust standard error. Thesis presents both industry and firms fixed effects regressions.

Corporate Valuation Consequences of Controlling Minority Shareholders		Dependent variable					
For the period 1985-2007		Tobinsq					
Regression number		1	2	3	4	5	6
Independent variables							
Controlling owner vote ownership		-0,755*** (-6,830)	-0,407*** (-3,960)	0,145 (0,790)	-0.352** (-2.990)		
Controlling owner excess vote ownership		-0,036*** (-2,810)	-0,008 (-0,650)	-0,019 (1,280)	-0.033** (-2.520)		
Corporation / conglomerate vote ownership						0,378 (1,350)	0,049 (0.120)
Corporation / conglomerate excess vote ownership						-0,025** (2,300)	-0,052 (-1.660)
Financial institution vote ownership						-0,169 (-0,380)	-0.817* (-2.170)
Financial institution excess vote ownership						-0,044 (-1,300)	-0.104** (-3.000)
Individuals vote ownership						0,154 (0,620)	-0.499** (-2.430)
Individuals excess vote ownership						0,013 (0,270)	-0,009 (-0.530)
Sphere vote ownership						-0,054 (-0,290)	-0.466* (-2.260)
Sphere excess vote ownership						-0,043* (-1,680)	-0,011 (-0.430)
Private equity vote ownership						-0,252 (-0,540)	-1.403*** (-4.090)
Private equity excess vote ownership						-0,129 (-0,340)	-0,305 (-1.720)
State vote ownership						0,696** (2,050)	-0,283 (-0.670)
State excess vote ownership						-0,070*** (-4,030)	0,015 (0.220)
Ln(Sales)		-1,266*** (-4,390)	-1,189 (-1,540)	-1.381* (-2.220)	-1,190 (-1,530)	-1.327* (-2.020)	
Ln(Sales)2		0,027*** (4,090)	0,026 (1,380)	0.031* (2.140)	0,025 (1,370)	0.029* (1.910)	
ROA		0,899*** (3,150)	1,229*** (3,110)	1.141* (2.190)	1,227*** (3,090)	1.157* (2.200)	
Leverage		-1,874*** (-10,630)	0,197 (0,560)	-1.544*** (-5.360)	0,195 (0,550)	-1.510*** (-5.570)	
Sales/Assets		0,098*** (4,930)	0,189*** (3,390)	0.066** (2.830)	0,186*** (3.360)	0.068** (3.130)	
Year dummies	No	Yes	Yes	Yes	Yes	Yes	Yes
Company or industry fixed effects	No	No	Company	Industry	Company	Industry	
Fixed effects regression	No	No	Yes	Yes	Yes	Yes	
Number of observations		3402	3402	3402	3402	3402	3402
Adjusted R square		0,013	0,207	0,634	0,230	0,634	0,234
F Statistic p-value for all regression = 0.000		26,790	16,870	12,440	N/A	9,820	N/A

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

## Appendix 3 – Summary of Robustness Tests for Main Regressions

Table 18. The regression results the first half of the time period

In the regressions below we present the robustness part of the study, in which we are estimating OLS regression and fixed effects regression models. The regressions 7 and 8 are the regular OLS regressions, while regressions 9, 10, 11 and 12 are the fixed effects regressions. Among the regressions we vary the specification of expropriation as well as control variables included in the regressions. The time period for all the regressions is 1985 to 1998, i.e. a half of the sample. The number within the parenthesis beneath each coefficient presents t-statistic for the coefficient. The reported t-statistic for OLS regressions is based on robust standard errors, while fixed effects regressions have been adjusted for both serial correlation and heteroskedasticity, thus also reporting t-statistic based on the robust standard error.

Corporate Valuation Consequences of Controlling Minority Shareholders		Dependent variable					
For the time period 1985-1998		Tobinsq					
Regression number		7	8	9	10	11	12
Independent variables							
Controlling owner vote ownership		-0,281*** (-2,930)	-0,153* (-1,690)	-0,132 (-0,700)	-0,148 (-0,730)		
Controlling owner excess vote ownership		-0,012* (-1,690)	-0,006 (-0,770)	0,004 (0,490)	-0,014 (-0,930)		
Corporation / conglomerate vote ownership						-0,156 (-0,650)	0,040 (0,170)
Corporation / conglomerate excess vote ownership						-0,001 (-0,220)	-0,022 (-1,770)
Financial institution vote ownership						-0,138 (-0,500)	-0,440 (-1,640)
Financial institution excess vote ownership						-0,057* (-1,800)	-0,066** (-2,900)
Individuals vote ownership						-0,182 (-0,800)	-0,315 (-1,260)
Individuals excess vote ownership						0,069** (2,200)	0,029 (0,820)
Sphere vote ownership						-0,163 (-0,830)	-0,145 (-0,510)
Sphere excess vote ownership						-0,005 (-0,400)	0,005 (0,260)
Private equity vote ownership						-0,840 (-1,320)	0,499 (0,450)
Private equity excess vote ownership						-0,001 (-0,010)	-0,543 (-1,100)
State vote ownership						0,585* (1,710)	-0,001 (0,000)
State excess vote ownership						-0,061*** (-3,430)	-0,019 (-0,630)
Ln(Sales)		-1,145*** (-4,430)	-0,751 (-1,310)	-0,941* (-1,950)	-0,803 (-1,430)	-0,930 (-1,820)	
Ln(Sales)2		0,026*** (4,290)	0,018 (1,300)	0,022* (1,920)	0,020 (1,420)	0,021 (1,770)	
ROA		2,966*** (4,130)	2,515*** (5,340)	2,936*** (4,660)	2,575*** (5,400)	2,995*** (4,790)	
Leverage		-1,438*** (-8,270)	-0,371 (-1,550)	-1,243** (-2,620)	-0,370 (-1,580)	-1,200** (-2,760)	
Sales/Assets		0,074*** (3,320)	0,140*** (6,650)	0,096** (2,420)	0,140*** (6,920)	0,102** (2,410)	
Year dummies	No	Yes	Yes	Yes	Yes	Yes	
Company or industry fixed effects	No	No	Company	Industry	Company	Industry	
Fixed effects regression	No	No	Yes	Yes	Yes	Yes	
Number of observations		1665	1665	1665	1665	1665	1665
Adjusted R square		0,006	0,282	0,825	0,334	0,829	0,340
F Statistic		5,470	19,970	31,940	N/A	28,610	N/A

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

Table 19. The regression results for the second half of the period

In the regressions below we present the robustness part of the study, in which we are estimating OLS regression and fixed effects regression models. The regressions 13 and 14 are the regular OLS regressions, while regression 15, 16, 17 and 18 are the fixed effects regressions. Among the regressions we vary the specification of expropriation as well as control variables included in the regressions. The time period for all the regressions is 1999 to 2007, i.e. a half of the sample. The number within the parenthesis beneath each coefficient presents t-statistic for the coefficient. The reported t-statistic for OLS regressions is based on robust standard errors, while fixed effects regressions have been adjusted for both serial correlation and heteroskedasticity, thus also reporting t-statistic based on the robust standard error.

Corporate Valuation Consequences of Controlling Minority Shareholders						
For the time period 1999-2007						
Regression number	Dependent variable					
Independent variables	Tobinsq					
	13	14	15	16	17	18
Controlling owner vote ownership	-0,674*** (-3,110)	-0,540*** (-2,780)	0,676 (1,620)	-0,361 (-1,340)		
Controlling owner excess vote ownership	-0,046 (-1,140)	-0,025 (-0,650)	-0,040 (-0,720)	-0,057 (-1,710)		
Corporation / conglomerate vote ownership					1,306* (1,660)	0,893 (1,120)
Corporation / conglomerate excess vote ownership					-0,110 (-0,580)	-0,364** (-2,820)
Financial institution vote ownership					-0,351 (-0,440)	-0,742 (-1,050)
Financial institution excess vote ownership					-0,052 (-0,470)	-0,339** (-3,180)
Individuals vote ownership					0,601 (1,110)	-0,444 (-0,940)
Individuals excess vote ownership					-0,054 (-0,580)	-0,040 (-0,980)
Sphere vote ownership					-0,167 (-0,280)	-0,940*** (-3,740)
Sphere excess vote ownership					-0,022 (-0,430)	0,015 (0,250)
Private equity vote ownership					-0,210 (-0,300)	-2,072*** (-6,280)
Private equity excess vote ownership					1,090*** (2,590)	-0,862* (-2,180)
State vote ownership					-7,765** (-2,350)	-2,225*** (-4,410)
State excess vote ownership					2,315** (2,490)	-0,239 (-0,230)
Ln(Sales)		-1,402*** (-3,360)	-0,616 (-0,500)	-1,644* (-1,980)	-0,589 (-0,470)	-1,614 (-1,870)
Ln(Sales)2		0,029*** (3,070)	0,007 (0,220)	0,036 (1,880)	0,006 (0,200)	0,035 (1,760)
ROA		0,909*** (2,710)	1,518*** (3,660)	1,292* (2,260)	1,512*** (3,620)	1,251* (2,160)
Leverage		-1,927*** (-6,830)	1,117*** (1,890)	-1,407** (-3,180)	1,175* (1,940)	-1,381** (-3,000)
Sales/Assets		0,129*** (3,170)	0,248*** (1,930)	0,044 (1,260)	0,247* (1,930)	0,035 (0,930)
Year dummies	No	Yes	Yes	Yes	Yes	Yes
	No	No	Company	Industry	Company	Industry
Fixed effects regression	No	No	Yes	Yes	Yes	Yes
Number of observations	1737	1737	1737	1737	1737	1737
Adjusted R square	0,006	0,176	0,614	0,208	0,614	0,219
F Statistic	5,840	11,750	6,550	N/A	8,630	N/A

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

Table 20. The regression 1 with varying vote rights threshold assumption

In the regressions below we present the robustness part of the study, in which we are estimating OLS regression and fixed effects regression models. The regressions 1, 19, 20 and 21 are all regular OLS regressions and are simply regressing our expropriation measures on Tobin's Q. The specification of the regression is identical to regression 1 above, whereas in the other regressions we are testing whether our results vary with specification of the voting rights threshold assumption. The time period for all the regressions is 1985 to 2007, i.e. the full sample. The number within the parenthesis beneath each coefficient presents t-statistic for the coefficient. The reported t-statistic for OLS regressions is based on robust standard errors.

**Corporate Valuation Consequences of Controlling Minority Shareholders**

<b>Regression number</b>	<b>Dependent variable</b>			
	<b>Tobinsq</b>			
<b>Independent variables</b>	<b>1</b>	<b>19</b>	<b>20</b>	<b>21</b>
Controlling owner vote ownership	-0,751*** (-6,810)	-0,684*** (-5,820)	-0,242** (-2,010)	0,274 (0,080)
Controlling owner excess vote ownership	-0,036*** (-2,810)	-0,034*** (-2,640)	-0,030*** (-2,700)	0,042 (-1,450)
Ln(Sales)				
Ln(Sales)2				
ROA				
Leverage				
Sales/Assets				
<b>Vote ownership percentage threshold</b>	<b>5%</b>	<b>10%</b>	<b>25%</b>	<b>50%</b>
Year dummies	No	No	No	No
Fixed effects regression	No	No	No	No
Number of observations	3402	3180	2220	880
Adjusted R square	0,013	0,014	0,003	0,002
F Statistic	26,600	19,760	5,350	1,180

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

Table 21. The regression 2 with varying vote rights threshold assumption

In the regressions below we present the robustness part of the study, in which we are estimating OLS regressions models. The regressions 2, 22, 23 and 24 are all regular OLS regressions, and are simply regressing our expropriation measures on Tobin's Q, including the control variables. The specification of the regression is identical to regression 2 above, whereas in the other regressions we are testing whether our results vary with specification of the voting rights threshold assumption. The time period for all the regressions is 1985 to 2007, i.e. the full sample. The number within the parenthesis beneath each coefficient presents t-statistic for the coefficient. The reported t-statistic for OLS regressions is based on robust standard errors.

**Corporate Valuation Consequences of Controlling Minority Shareholders**

<b>Regression number</b>	<b>Dependent variable</b>			
	<b>Tobinsq</b>			
<b>Independent variables</b>	<b>2</b>	<b>22</b>	<b>23</b>	<b>24</b>
Controlling owner vote ownership	-0,403*** (-3,920)	-0,348*** (-3,210)	-0,037 (-0,320)	0,188 (0,690)
Controlling owner excess vote ownership	-0,008 (-0,650)	-0,006 (-0,540)	-0,012 (-1,350)	-0,066 (-1,540)
Ln(Sales)	-1,270*** (-4,400)	-1,357*** (-4,440)	-1,446*** (-4,320)	-0,905 (-1,300)
Ln(Sales)2	0,027*** (4,090)	0,029*** (4,160)	0,032*** (4,200)	0,021 (1,250)
ROA	0,899*** (3,150)	1,150*** (3,140)	1,584*** (2,690)	2,079** (2,140)
Leverage	-1,871*** (-10,620)	-1,801*** (-9,810)	-1,627*** (-7,810)	-1,228*** (-5,390)
Sales/Assets	0,098*** (4,930)	0,103*** (4,450)	0,069*** (3,380)	0,028 (0,750)
<b>Vote ownership percentage threshold</b>	<b>5%</b>	<b>10%</b>	<b>25%</b>	<b>50%</b>
Year dummies	Yes	Yes	Yes	Yes
Fixed effects regression	No	No	No	No
Number of observations	3402	3180	2220	880
Adjusted R square	0,207	0,204	0,200	0,207
F Statistic	16,840	15,010	12,450	8,940

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

Table 22. The regression 3 with varying vote rights threshold assumption

In the regressions below we present the robustness part of the study, in which we are estimating fixed effects regression models. The regressions 3, 25, 26 and 27 are all fixed effects regressions, and are regressing our expropriation measures on Tobin's Q, including the control variables and year dummies. The specification of the regression is identical to regression 3 above, whereas in the other regressions we are testing whether our results vary with specification of the voting rights threshold assumption. The time period for all the regressions is 1985 to 2007, i.e. the full sample. The fixed effects regressions have been adjusted for both serial correlation and heteroskedasticity, thus reporting t-statistic is based on the robust standard error, displayed beneath the estimated coefficient within parenthesis. The fixed effects regressions have been performed with respect to firms.

Corporate Valuation Consequences of Controlling Minority Shareholders				
Regression number	3	Dependent variable		
		Tobinsq		
Independent variables		25	26	27
Controlling owner vote ownership	0,150 (0,820)	0,212 (1,060)	0,331* (1,690)	1,045 (1,450)
Controlling owner excess vote ownership	-0,019 (-1,280)	-0,015 (-0,990)	-0,023 (-1,380)	-0,025 (-0,370)
Corporation / conglomerate vote ownership				
Corporation / conglomerate excess vote ownership				
Financial institution vote ownership				
Financial institution excess vote ownership				
Individuals vote ownership				
Individuals excess vote ownership				
Sphere vote ownership				
Sphere excess vote ownership				
Private equity vote ownership				
Private equity excess vote ownership				
State vote ownership				
State excess vote ownership				
Ln(Sales)	-1,187 (-1,530)	-0,985 (-1,410)	-1,404** (-1,990)	0,014 (0,020)
Ln(Sales)2	0,025 (1,380)	0,021 (1,240)	0,032* (1,890)	0,001 (0,030)
ROA	1,233*** (3,100)	1,423*** (2,950)	0,589 (0,920)	1,159 (1,350)
Leverage	0,197 (0,560)	0,240 (0,700)	0,172 (0,400)	0,008 (0,020)
Sales/Assets	0,189*** (3,400)	0,201*** (3,370)	0,056 (1,360)	0,050 (1,360)
Number of companies	561	556	446	213
<b>Vote ownership percentage threshold</b>	<b>5%</b>	<b>10%</b>	<b>25%</b>	<b>50%</b>
Company or industry fixed effects	Company	Company	Company	Company
Year dummies	Yes	Yes	Yes	Yes
Fixed effects regression	Yes	Yes	Yes	Yes
Number of observations	3402	3180	2220	880
Adjusted R square	0,634	0,667	0,741	0,756
F Statistic	12,450	13,070	9,580	7,640

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.



Table 23. The regression 4 with varying vote rights threshold assumption

In the regressions below we present the robustness part of the study, in which we are estimating fixed effects regression models. The regressions 4, 28, 29 and 30 are all fixed effects regressions, and are regressing our expropriation measures on Tobin's Q, including the control variables and year dummies. The specification of the regression is identical to regression 4 above, whereas in the other regressions we are testing whether our results vary with specification of the voting rights threshold assumption. The time period for all the regressions is 1985 to 2007, i.e. the full sample. The fixed effects regressions have been adjusted for both serial correlation and heteroskedasticity, thus reporting t-statistic is based on the robust standard error, displayed beneath the estimated coefficient within parenthesis. The fixed effects regression have been performed with respect to industry specification.

Corporate Valuation Consequences of Controlling Minority Shareholders				
Regression number	Dependent variable			
	Tobinsq			
Independent variables	4	28	29	30
Controlling owner vote ownership	-0.352** (-2.990)	-0.309** (-2.790)	-0,045 (-0.420)	-0,020 (-0.040)
Controlling owner excess vote ownership	-0.033** (-2.520)	-0.030* (-1.920)	-0,027 (-1.680)	-0,060 (-0.850)
Corporation / conglomerate vote ownership				
Corporation / conglomerate excess vote ownership				
Financial institution vote ownership				
Financial institution excess vote ownership				
Individuals vote ownership				
Individuals excess vote ownership				
Sphere vote ownership				
Sphere excess vote ownership				
Private equity vote ownership				
Private equity excess vote ownership				
State vote ownership				
State excess vote ownership				
Ln(Sales)	-1.381* (-2.220)	-1.451* (-2.180)	-1.373* (-2.010)	-0,569 (-0.550)
Ln(Sales)2	0.031* (2.140)	0.032* (2.110)	0.031* (2.000)	0,013 (0.540)
ROA	1.141* (2.190)	1.382** (2.400)	1.701** (2.400)	2.445*** (3.900)
Leverage	-1.544*** (-5.360)	-1.480*** (-5.140)	-1.352*** (-4.510)	-0.995*** (-2.410)
Sales/Assets	0.066** (2.830)	0.075** (2.920)	0.064** (3.370)	0,044 (0.930)
<b>Vote ownership percentage threshold</b>	<b>5%</b>	<b>10%</b>	<b>25%</b>	<b>50%</b>
Company or industry fixed effects	Industry	Industry	Industry	Industry
Year dummies	Yes	Yes	Yes	Yes
Fixed effects regression	Yes	Yes	Yes	Yes
Number of observations	3402	3180	2220	880
Adjusted R square	0,230	0,229	0,232	0,234
F Statistic	N/A	N/A	N/A	N/A

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

Table 24. The regression 5 with varying vote rights threshold assumption

In the regressions below we present the robustness part of the study, in which we are estimating fixed effects regression models. The regressions 5, 31, 32 and 33 are all fixed effects regressions, and are regressing our expropriation measures on Tobin's Q, including the control variables and year dummies. The specification of the regression is identical to regression 5 above, whereas in the other regressions we are testing whether our results vary with specification of the voting rights threshold assumption. The time period for all the regressions is 1985 to 2007, i.e. the full sample. The fixed effects regressions have been adjusted for both serial correlation and heteroskedasticity, thus reporting t-statistic is based on the robust standard error, displayed beneath the estimated coefficient within parenthesis. The fixed effects regressions have been performed with respect to firms.

Corporate Valuation Consequences of Controlling Minority Shareholders				
Regression number	Dependent variable			
	Tobinsq			
Independent variables	5	31	32	33
Controlling owner vote ownership				
Controlling owner excess vote ownership				
Corporation / conglomerate vote ownership	0,374 (1,340)	0,446 (1,640)	0,313 (1,340)	1,073 (1,170)
Corporation / conglomerate excess vote ownership	-0,025** (-2,310)	-0,019*** (-2,640)	-0,008 (-1,350)	-0,056 (-0,270)
Financial institution vote ownership	-0,171 (-0,470)	-0,212 (-0,520)	-0,100 (-0,270)	0,322 (0,370)
Financial institution excess vote ownership	-0,044 (-1,300)	-0,035 (-0,990)	-0,036 (-0,680)	0,441* (1,830)
Individuals vote ownership	0,159 (0,640)	0,180 (0,720)	0,287 (1,230)	0,988 (1,170)
Individuals excess vote ownership	0,010 (0,210)	0,014 (0,260)	-0,063 (-0,910)	-0,151 (-1,230)
Sphere vote ownership	-0,065 (-0,350)	0,002 (0,010)	0,286 (1,290)	1,083 (1,230)
Sphere excess vote ownership	-0,043* (-1,670)	-0,039 (-1,340)	-0,033 (-1,030)	0,120 (0,380)
Private equity vote ownership	-0,261 (-0,560)	-0,381 (-0,790)	0,320 (0,620)	N/A N/A
Private equity excess vote ownership	-0,136 (-0,360)	0,070 (0,190)	-0,250 (-0,630)	N/A N/A
State vote ownership	0,694** (2,060)	0,760** (2,170)	0,670* (1,730)	1,543 (1,650)
State excess vote ownership	-0,071*** (-4,080)	-0,080*** (-4,880)	-0,072*** (-3,990)	-0,003 (-0,430)
Ln(Sales)	-1,188 (-1,530)	-1,005 (-1,420)	-1,391** (-1,970)	-0,086 (-0,100)
Ln(Sales)2	0,025 (1,370)	0,021 (1,250)	0,032* (1,860)	0,003 (0,150)
ROA	1,232*** (3,090)	1,421*** (2,960)	0,591 (0,930)	1,116 (1,280)
Leverage	0,196 (0,550)	0,234 (0,670)	0,173 (0,410)	-0,042 (-0,110)
Sales/Assets	0,186*** (3,360)	0,197*** (3,340)	0,053 (1,330)	0,041 (1,080)
Number of companies	561	556	446	213
Vote ownership percentage threshold	5%	10%	25%	50%
Year dummies	Yes	Yes	Yes	Yes
Fixed effects regression	Yes	Yes	Yes	Yes
Number of observations	3402	3180	2220	880
Adjusted R square	0,634	0,667	0,741	0,756
F Statistic	9,820	10,010	8,480	8,470

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

Table 25. The regression 6 with varying vote rights threshold assumption

In the regressions below we present the robustness part of the study, in which we are estimating fixed effects regression models. The regressions 6, 34, 35 and 36 are all fixed effects regressions and are regressing our expropriation measures on Tobin's Q, including the control variables and year dummies. The specification of the regression is identical to regression 6 above, whereas in the other regressions we are testing whether our results vary with specification of the voting rights threshold assumption. The time period for all the regressions is 1985 to 2007, i.e. the full sample. The fixed effects regressions have been adjusted for both serial correlation and heteroskedasticity, thus reporting t-statistic is based on the robust standard error, displayed beneath the estimated coefficient within parenthesis. The fixed effects regressions have been performed with respect to industry participation.

Corporate Valuation Consequences of Controlling Minority Shareholders				
Regression number	Dependent variable			
	Tobinsq			
Independent variables	6	34	35	36
Controlling owner vote ownership				
Controlling owner excess vote ownership				
Corporation / conglomerate vote ownership	0,049 (0.120)	0,099 (0.230)	0,285 (0.810)	0.557* (2.080)
Corporation / conglomerate excess vote ownership	-0,052 (-1.660)	-0,051 (-1.640)	-0.045* (-2.290)	-0,677 (-1.240)
Financial institution vote ownership	-0.817* (-2.170)	-0.792* (-2.270)	-0.629** (-2.990)	-0,904 (-1.260)
Financial institution excess vote ownership	-0.104** (-3.000)	-0.097** (-3.090)	-0,044 (-0.960)	0,092 (0.670)
Individuals vote ownership	-0.499** (-2.430)	-0.449* (-2.410)	-0,076 (-0.400)	-0,213 (-0.250)
Individuals excess vote ownership	-0,009 (-0.530)	-0,008 (-0.400)	-0,036 (-1.650)	0,000 (0.000)
Sphere vote ownership	-0.466* (-2.260)	-0.447* (-2.120)	-0,275 (-1.290)	-0,301 (-0.330)
Sphere excess vote ownership	-0,011 (-0.430)	-0,006 (-0.220)	0,008 (0.190)	-0,050 (-0.440)
Private equity vote ownership	-1.403*** (-4.090)	-1.554*** (-3.850)	-0,656 (-1.270)	-3,664 (-1.500)
Private equity excess vote ownership	-0,305 (-1.720)	0,024 (0.060)	-0,040 (-0.110)	3.519** (2.400)
State vote ownership	-0,283 (-0.670)	-0,244 (-0.600)	-0,175 (-0.450)	0,063 (0.090)
State excess vote ownership	0,015 (0.220)	0,022 (0.300)	0,028 (0.360)	-0,059 (-1.520)
Ln(Sales)	-1.327* (-2.020)	-1.390* (-1.990)	-1,285 (-1.740)	-0,703 (-0.680)
Ln(Sales)2	0.029* (1.910)	0,031 (1.880)	0,029 (1.720)	0,017 (0.680)
ROA	1.157* (2.200)	1.387** (2.400)	1.655* (2.260)	2.443*** (4.010)
Leverage	-1.510*** (-5.570)	-1.445*** (-5.370)	-1.339*** (-4.690)	-1.042* (-2.250)
Sales/Assets	0.068** (3.130)	0.077** (3.140)	0.061** (2.670)	0,043 (0.940)
<b>Vote ownership percentage threshold</b>	<b>5%</b>	<b>10%</b>	<b>25%</b>	<b>50%</b>
Year dummies	Yes	Yes	Yes	Yes
Company or industry fixed effects	Industry	Industry	Industry	Industry
Fixed effects regression	Yes	Yes	Yes	Yes
Number of observations	3402	3180	2220	880
Adjusted R square	0,234	0,233	0,236	0,255
F Statistic	N/A	N/A	N/A	N/A

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

Table 26. The industry effects robustness on OLS regressions

In the regressions below we present the robustness part of the study, in which we are estimating OLS regression. The regressions 1, 37, 2 and 38 are all OLS regressions in which we are regressing our expropriation measures on Tobin's Q with different specification of control variables. The main difference between regressions 1 and 37 and 2 and 38 is that one of the regressions has industry dummies as control variables whereas the other regression does not. The time period for all the regressions is 1985 to 2007, i.e. the full sample. The fixed effects regressions have been adjusted for heteroskedasticity of the error term and thus report t-statistic in the parenthesis beneath the estimated coefficient, which is based on the robust standard error.

**Corporate Valuation Consequences of Controlling Minority Shareholders**

<b>Regression number</b>	<b>Industry effects</b>		<b>Dependent variable</b>	
			Tobinsq	
<b>Independent variables</b>	<b>1</b>	<b>37</b>	<b>2</b>	<b>38</b>
Controlling owner vote ownership	-0,751*** (-6,810)	-0,479*** (-4,380)	-0,403*** (-3,920)	-0,353*** (-3,410)
Controlling owner excess vote ownership	-0,036*** (-2,810)	-0,050*** (-3,690)	-0,008 (-0,650)	-0,034*** (-2,660)
Ln(Sales)			-1,270*** (-4,400)	-1,380*** (-5,060)
Ln(Sales)2			0,027*** (4,090)	0,031*** (4,890)
ROA			0,899*** (3,150)	1,140*** (3,830)
Leverage			-1,871*** (-10,620)	-1,547*** (-8,230)
Sales/Assets			0,098*** (4,930)	0,066*** (3,310)
<b>Industry dummies</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>
Year dummies	No	No	Yes	Yes
Fixed effects regression	No	No	No	No
Number of observations	3402	3402	3402	3402
Adjusted R square	0,013	0,096	0,207	0,237
F Statistic	26,600	31,280	16,840	16,820

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.

## Appendix 4 – Summary of Robustness Test for CAR Study

Table 27. The acquisition announcement regression results

In the regressions below we summarize the main results of our M&A transaction study based on Masulis et al. In the regressions below we summarize the robustness results of our M&A transaction part of the study using the 5-days and 11-days cumulative abnormal returns, i.e. CAR(-2,2) and CAR(-5,5). The regression is regular OLS regression and regresses different specification of the ownership variables on the cumulative abnormal return of the acquirer's stock reaction upon the transaction's announcement. The period used in the regression is the full time period between 1998 and 2007. The regression reports t-statistic in the parenthesis below the estimated coefficients, which is based on the standard robust error.

Regression for the M&A expropriation effect		Dependent variable			
	M&A	CAR (-2,2)		CAR (-5,5)	
Regression number		39	40	41	42
Independent variables					
Ln(Deal Size)		0,012 (1,360)	0,013 (1,470)	0,004 (0,380)	0,005 (0,470)
ROA		0,038 (0,700)	0,030 (0,500)	-0,005*** (-0,11)	-0,007 (-0,140)
E/A		-0,013 (-1,440)	-0,012 (-1,180)	0,000 (0,050)	0,001 (0,070)
Tobin's q		0,009*** (3,030)	0,009*** (2,930)	0,015 (3,810)	0,015*** (3,760)
LN(Total Assets)		-0,014 (-1,370)	-0,015 (-1,520)	0,002 (0,200)	0,001 (0,070)
Votes			0,038 (0,980)		0,006 (0,110)
Ratio		-0,002 (-0,370)		-0,003 (-0,420)	
Raw material dummy		0,017 (0,390)	0,015 (0,370)	0,012 (0,220)	0,012 (0,240)
Industrial dummy		0,033 (0,870)	0,029 (0,760)	0,031 (0,610)	0,029 (0,570)
Consumer goods dummy		0,009 (0,250)	0,005 (0,140)	0,017 (0,370)	0,017 (0,370)
Health Care dummy		-0,007 (-0,190)	-0,008 (-0,210)	-0,007 (-0,120)	-0,009 (-0,150)
Real Estate dummy		-0,008 (-0,190)	-0,009 (-0,210)	-0,031 (-0,610)	-0,028 (-0,560)
TIME dummy		0,018 (0,590)	0,015 (0,520)	-0,031 (-0,860)	-0,031 (-0,910)
Services dummy		0,007 (0,170)	0,005 (0,130)	-0,027 (-0,600)	-0,028 (-0,630)
Private all cash deal dummy		0,025 (0,460)	0,028 (0,520)	0,001 (0,010)	0,001 (0,010)
Private stock deal dummy		0,009 (0,190)	0,012 (0,250)	0,001 (0,030)	0,003 (0,050)
Public all cash cash deal		0,027 (0,480)	0,026 (0,480)	-0,017 (-0,210)	-0,023 (-0,300)
Public stock deal		-0,044 (-0,850)	-0,037 (-0,730)	-0,060 (-1,070)	-0,058 (-1,060)
Subsidiary all cash deal		0,032 (0,650)	0,03474 (0,700)	0,005 (0,070)	0,005 (0,080)
Constant		0,004 (0,030)	0,006 (0,040)	-0,124 (-0,850)	-0,118 (-0,830)
Industry dummies		No	No	Yes	Yes
Year dummies		Yes	Yes	Yes	Yes
Number of observations		94	94	94	94
Adjusted R square		0,245	0,251	0,243	0,242
F Statistic (27, 66)		2,440	2,490	3,550	3,360

The coefficients are noted with a star if they are significant at 10%, with two stars if significant at 5% and with three stars if significant at 1% level.