# CONTROLLING MINORITY SHAREHOLDERS' EFFECT ON

### VALUE CREATION IN M&A TRANSACTIONS

An empirical study on the effects of controlling owners who hold more voting rights than cash flow rights on the extent of value creation from M&A transactions in Swedish listed firms

We examine the effect of having a controlling minority shareholder (CMS controller) – who holds a large fraction of a firm's voting rights without a proportional investment in the cash flow rights – on the extent of value creation from M&A transactions in Sweden. The data sample consists of 263 M&A transactions between 2003 and 2013, of which 109 were undertaken by firms with a CMS controller. Whether value is created or destroyed through M&A transactions ultimately depends upon whether the CMS controller uses its control to ascertain value creating M&A transactions or misuses its control to extract private benefits at the expense of minority shareholders. Value creation is measured by examining aggregated abnormal return of the acquiring firm, both in the short run and in the long run. Results suggest that investors initially expect that the transaction is value-destructive. The initial expectation seems to reflect the actual long run performance of the acquiring firm, as we also document a negative effect from the level of separation on long run aggregated abnormal return. However, our results show that it is not separation per se that causes inferior acquiring firm performance, as the negative effect only results from high levels of separation, suggesting that the negative entrenchment effect of CMS controllers arises first when the level of separation is high. Furthermore, we document a positive effect on acquiring firm performance from having other large shareholders – blockholders - present in the ownership structure. The result suggests that blockholders in Sweden adhere to a monitoring role and thereby are able to discipline the CMS controller from making acquisitions motivated by private benefits.

Keywords: M&A, Corporate Governance, Minority Expropriation, Ownership Structure

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Happy reading,

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## 1. Introduction

The ownership structure of Swedish firms is to a large extent characterized by a separation between voting rights and cash flow rights in the hands of the controlling shareholder (La Porta, Lopez-de-Silanes, and Shleifer, 1999; Holmén and Knopf, 2004). Such separation can give rise to unique owner incentives that conflict with the interest of firm value maximization (Bebchuk, Kraakman, and Tritanis, 2000). These owner incentives arise because the controlling shareholder has *private benefits of control*<sup>l</sup>, and may induce the controlling shareholder to take sub-optimal decisions that do not maximize firm value. A controlling shareholder who holds more voting rights than cash flow rights (a CMS controller<sup>2</sup>) will bear the negative ex-post wealth consequences of not maximizing firm value to a lesser extent than if the amount of cash flow rights were proportional to the amount of voting rights. Given that the private benefits of control exceed the controlling shareholder's wealth loss from not maximizing firm value, the controlling shareholder will be incentivized to take decisions in line with her private benefits of control at the expense of minority shareholders. This behavior on behalf of the controlling shareholder is commonly denoted *minority expropriation*, a behavior that has received considerable interest from investors, academics and regulators over the years. Recently, the founder and managing partner of Cevian Capital, Christer Gardell, criticized Investor - the controlling owner of the telecommunications company Ericsson - for holding considerably more voting rights than cash flow rights in the firm. Since Cevian Capital holds the largest share of cash flow rights in Ericsson, it is in the interest of Cevian Capital that Ericsson is efficiently run. Christer Gardell's concern is that by holding to few cash flow rights, Investor does not suffer enough when Ericsson performs poorly, stating that:

"I cannot help but suspect that this 'imbalance' [the imbalance between the amount of voting rights and cash flow rights] has affected Ericsson negatively. Therefore, it is my view that Investor has a moral and ethical duty to correct for this imbalance."<sup>3</sup>

- Christer Gardell, founder and managing partner of Cevian Capital

<sup>&</sup>lt;sup>1</sup> See wordlist (Table 6) in Appendix for definition. Definitions for all italicized words in this paper can be found in the Wordlist in Appendix.

 $<sup>^2</sup>$  In this thesis, CMS controller refers to a controlling shareholder who holds more voting rights than cash flow rights. CMS controller is used by Bebchuk et al. (2000) as an acronym for the controlling shareholder in a controlling minority structure (see section 2.1 for an elaboration on controlling minority structure).

<sup>&</sup>lt;sup>3</sup> Svenska Dagbladet, Gardell till attack mot Wallenberg: "Omoraliskt", published April 18th, 2018

Since a large portion of Swedish firms have an ownership structure characterized by a separation between voting rights and cash flow rights, the most influential agency problem in Sweden is likely to be the agency conflict between the controlling shareholder and the minority shareholders, rather than the agency conflict between owners and managers (Shleifer and Vishny, 1997). Hence, it is in the interest of both investors and regulators that the agency conflict between the controlling shareholders is addressed.

To date, the literature within the field of minority expropriation has commonly used two approaches to capture the relationship between minority expropriation and the extent of separation between voting rights and cash flow rights in the hands of the controlling owner: (1) value creation in M&A transactions (e.g. Holmén and Knopf, 2004; Bigelli and Mengoli, 2004; Ben-Amar and André, 2006); and (2) firm value (e.g. Claessens, Djankov, Fan, and Lang, 2002, La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2002; Cronqvist and Nilsson, 2003). The method of capturing minority expropriation by examining firm value involves examining whether the market discounts firms controlled by a CMS controller by demanding a higher cost of capital, all else equal. What is troublesome with this approach is that it has an inherent causality problem. Jensen and Meckling (1976) argue that rational investors would expect that CMS controllers expropriate the minority shareholders. Hence, they would safeguard themselves against future minority expropriation by demanding a lower subscription price when the CMS controller turns to the capital market to issue new equity. As such, studies that focus on firm value risk capturing the market's *expectation* that minority expropriation will prevail in firms controlled by CMS controllers, rather than capturing actual minority expropriation. As we want to understand whether minority expropriation actually prevails in Sweden, we have chosen to adhere to the method that captures minority expropriation through value creation of M&A. This approach has the inherent assumption that a CMS controller has the intent to pursue private benefits in relation to M&A transactions, and as such expropriate the minority by making value destructive M&A<sup>4</sup>.

To the best of our knowledge, there are only three studies on minority expropriation performed in Sweden (Bergström and Rydqvist, 1990; Holmén and Knopf, 2004; Cronqvist and Nilsson, 2003), out of which only one investigates minority expropriation in relation to M&A (see Holmén and Knopf, 2004). As studies have documented that minority expropriation to a high degree is country-specific, due to differences in legal institutions (La

<sup>&</sup>lt;sup>4</sup> See section 2.6.2 for examples of how the CMS controller expropriate the minority through means of M&A.

Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000) and extralegal institutions (e.g. Zingales, 2000; Coffee, 2001), the results of studies in other countries are not considered applicable to Sweden. Bergström and Rydqvist (1990) do not explicitly study minority expropriation, but rather relate the amount of cash flow rights to the amount of voting rights held by the CMS controller. Their argument is that a CMS controller who has the intention to expropriate the minority would minimize her cash flow rights so as to reduce her negative wealth effects that follow from not maximizing firm value. They find that CMS controllers hold more cash flow rights than required for control, which they argue is inconsistent with the expropriation hypothesis. However, they nonetheless recognize that the CMS controller has an interest in holding more cash flow rights than required for control, in order to signal to the market that there is no intention to choose projects based on private benefits of control, as opposed to firm value maximization. This positive signal is sent to the market simply to obtain a low cost of capital. Considering this signaling effect, Bergström and Rydqvist's (1990) result is not sufficient evidence to support the claim that minority expropriation does not prevail in Sweden. However, the findings of Nenova (2003) support Bergström and Rydqvist's (1990) argument that CMS controllers in Sweden would not have the intent to expropriate the minority. Nenova (2003) estimates private benefits of control to be almost insignificant in Sweden, as proxied by the *control premium*<sup>5</sup> of 1.04% in Sweden. As such, the CMS controller would not have the intent to expropriate the minority, as the private benefits to be extracted are negligible. Contradicting these findings, Cronqvist and Nilsson (2003) do find quite strong evidence of the prevalence of minority expropriation in Sweden. They document a significant agency cost of the CMS controller, estimating it to be between 6% to 25% of firm value (Tobin's q) for the median firm in their sample. Furthermore, Holmén and Knopf (2004) also find evidence of minority expropriation in Sweden, although limited. They suggest that their finding of limited minority expropriation is due to Sweden's strong extra-legal institutions.

Due to the inconsistency in findings of the Swedish studies, the prevalence of minority expropriation in Sweden remains an empirical question that calls for further research. As such, our thesis contributes by adding evidence that can help resolve this empirical question. Our thesis further contributes to the specific stream of research on minority expropriation in relation to M&A by expanding the method of capturing the effects

<sup>&</sup>lt;sup>5</sup> The control premium measures the value of control-block votes relative to the market value of the firm, where the control-block represents the parties in control of the firm (Nenova, 2003). As such, the control premium serves as a proxy for the extent of private benefits of control.

of minority expropriation through M&A. To date, most researchers examine the relationship between ownership structures and acquiring firm performance by employing the traditional short run market based event study methodology. Thus, the validity of the findings of these studies is contingent on the assumption of market efficiency holding. However, Hitt, Harrison, Ireland, and Best (1998) argue that there are reasons to believe that the short run market based event study methodology may not fully capture the benefits from M&A. We therefore take a longer-term perspective in this thesis by, in addition to performing a short run event study, also conducting a long run event study. The long run event study serves to capture the actual value created from M&A. As such, the conduction of both a short run- and a long run event study allows us to contrast the market's expectation of the value created through the transaction with the actual long run performance of the acquiring firm. Thus, our study challenges the assumption of market efficiency, instead of being reliant on it to hold.

# 1.1 Research Question

The aim of this paper is to add to the existing body of literature on minority expropriation by investigating the relationship between ownership structure and minority expropriation. This relationship is studied by means of investigating M&A transactions, where potential minority expropriation is reflected in acquiring firm performance. Our study aims to answer one primary and one secondary research question:

- 1. Does a controlling owner who holds more voting rights than cash flow rights expropriate the minority in M&A transactions?
- 2. Given that M&A transactions are used as a means to expropriate the minority, is there a mitigating effect of having other large shareholders present in the ownership structure?

The research question is operationalized in two steps. Firstly, acquiring firm performance is measured both in the short run and in the long run. Hence, one short run event study and one long run event study are performed. The resulting measure of aggregated abnormal return serves as our proxy for acquiring firm performance. Finally, we relate the ownership structure of the acquiring firm to acquiring firm performance by running a multiple regression model.

# 1.2 Focus of Study and Delimitations

The scope of our study is delimited to Swedish acquiring firms listed on the Stockholm Stock Exchange (OMXS) during the period 2003-2013. By delimiting our investigation to a single country, we hold constant legal and extralegal factors that, according to theory, are believed to influence the possibility to extract private benefits, and consequently the extent of minority expropriation. Our chosen time period is in part motivated by a length requirement. The time period must be long enough in order for us to examine whether the researched relationship persists over time. Our chosen time period is further motivated by a relevance requirement, which favors more recent data. A further delimitation of this study results from the method chosen to examine our research question. As we investigate the relationship between ownership structure and minority expropriation by looking at M&A transactions, we can only draw conclusions about minority expropriation by means of M&A. Furthermore, this study is delimited in terms of what it aims to answer. There is no intention to provide recommendations on optimal ownership structures. In the case of minority expropriation, we do not attempt to understand the type of private benefits of control incentivizing the minority expropriation. Furthermore, we do not attempt to measure the magnitude of potential wealth transfers from minority shareholders to the CMS controller. We only investigate whether minority expropriation exists. Additionally, we do not aim to provide an answer as to how regulators should remedy minority expropriation. Rather, the purpose is to provide valuable insights that can help investors and regulators make more informed decisions through an increased understanding of the ownership structures that enable minority expropriation. Finally, although our findings are discussed in relation to market efficiency, the purpose of this study is not to evaluate whether the market is efficient or not.

## 2. Theory and Previous literature

#### 2.1 Ownership structure classification

According to Bebchuk, Kraakman and Triantis (2000), ownership structures can be classified into three distinct categories with respect to how voting rights and cash flow rights are allocated amongst the different shareholders, as shown in Figure 1: [1] dispersed ownership (DO), [2] controlled structure (CS), and [3] controlling minority structure (CMS). The CS

structure and the CMS structure share the characteristic of having a shareholder that has control through her large fraction of the firm's voting rights. They can therefore both be classified as concentrated ownership structures.

The DO structure is defined as an ownership structure in which no single shareholder possesses enough voting rights to exert influence over corporate decisions (Berle and Means, 1932). On the other hand, a CS structure has a controlling shareholder in place who holds both the majority (or a large fraction) of the voting rights and the cash flow rights. Similar to the CS structure, the CMS structure has a controlling shareholder in place. However, the important difference is that control in the CMS structure is reached by holding a large fraction of the firm's voting rights but a relatively smaller fraction of the cash flow rights (Bebchuk et al., 2000). This controlling position is enabled through a separation between voting rights and cash flow rights, which can be achieved through the use of either of the following three, or any combination of them: *dual class shares, stock pyramids* and *cross shareholdings* (Claessens, Djankov, Fan & Lang, 1999; Bebchuk et al., 2000). The controlling shareholder in the CMS structure is referred to as the CMS controller to emphasize the important distinction between the controlling shareholder in the CS structure and the CMS structure, as the disproportionate ownership in the CMS structure gives rise to unique owner incentives.

#### Figure 1: Ownership Classification



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Controlling owners share of voting rights and cash flow rights, respectively

# 2.2 The benefits and costs of the ownership structures DO, CS and CMS

This section outlines the benefits and costs of the ownership structures DO, CS and CMS. The benefits and costs of the CMS structure are best explained by juxtaposing this ownership structure to the DO- and the CS structure. Hence, this section firstly addresses the issues with respect to the DO structure and secondly how the CS structure can resolve these issues. Finally, we present the CMS structure, which shares some important characteristics of both the CS and the DO structure.

#### 2.2.1 The agency cost between managers and owners in the DO structure

DO is commonly viewed as the typical ownership structure of the modern organization (Berle and Means, 1932). The challenge with the DO structure is that it is burdened by a free-rider problem, resulting from the fact that no single shareholder holds a sufficiently large equity stake to be incentivized to gather information and oversee management. This is because the individual cost from monitoring management exceeds the individual benefit from ensuring that management maximizes shareholder value (Shleifer and Vishny, 1986). Consequently, the manager will have 'de facto' control. This represents a problem as the manager has an incentive to pursue management in a DO structured firm can be disciplined through the market for corporate control, which assures competitive efficiency amongst managers. The market for corporate control serves to transform a poorly run firm into an efficiently run firm through corporate takeovers, where inefficient management is replaced (Manne, 1965). Consequently, managers can be disciplined ex-ante potential takeovers to pursue shareholder

<sup>&</sup>lt;sup>6</sup> For example, the manager has an incentive to entrench himself in the firm by making excessive investments in assets that are complementary to his specific knowledge and abilities, thereby destroying shareholder value (Shleifer and Vishny, 1989). Managerial entrenchment is also costly to the owners of the firm as the manager's specific knowledge, which is needed in order to extract the highest value from the manager-specific investments, makes it difficult for the manager to be replaced. As a result, the manager not only increases his job security (Amihud and Lev, 1981) but also places himself in a position to extract higher wages and larger perquisites (Shleifer and Vishny, 1989). The agency conflict between owners and managers can also take the form of deliberate excessive investments motivated by the manager's preference for running large firms rather than simply profitable ones (e.g. Baumol, 1959; Marris, 1964; Williamson, 1964; Donaldson, 1984; Jensen, 1986, 1993). This empire building preference is partly explained by executive compensation (Firth, 1991) and prestige (Avery, Chevalier and Schaefer, 1998) being linked to firm size. In addition to running large firms, managers have an incentive to engage in diversifying mergers due to the preference for running stable empires that are less likely to go out of business (Amihud and Lev, 1981).

value maximizing projects rather than projects motivated by managerial private benefits. Furthermore, the agency conflict between managers and owners can be reduced through equity based compensation, which serves to align the interest of the manager with that of the owner (Jensen and Murphy, 1990). The agency cost between managers and owners will hereafter be referred to as *Agency Cost I*.

#### 2.2.2 The monitoring role by the controlling shareholder in the CS structure

The agency cost between owners and managers is effectively addressed in the CS structure, as the large shareholders have both a sufficiently large equity stake to care about profit maximization - the incentive effect - and sufficiently large voting power to influence decisions to ascertain that the firm's assets are employed in a way that maximizes firm value (Shleifer and Vishny, 1997). As a result of the incentive effect, large shareholders will monitor managers so as to mitigate the conflict of interest between shareholders and managers (Jensen and Meckling, 1976). Through their substantial amount of voting rights, large shareholders also have the ability to put pressure on managers or replace inefficient management through a proxy fight or takeover (Claessens et al, 2002). Therefore, the disciplining force from the market for corporate control is no longer needed, as the large shareholder ensures that inefficient management is replaced. The presence of a controlling shareholder is thus expected to have a positive effect on firm performance<sup>7</sup> (Shleifer and Vishny, 1986). However, others (Fama and Jensen, 1985; Zhang, 1998) argue that the controlling shareholder might have incentives that are unaligned with the interest of other shareholders. This is because of the controlling shareholder's significant amount of wealth invested in the company, which gives rise to a diversification preference that could result in sub-optimal investment decisions (Zhang, 1998).

<sup>&</sup>lt;sup>7</sup> The statement is based on the assumption that the controlling shareholder is not the manager of the firm. If the controlling shareholder is the manager, the CS structure would imply that there is neither a disciplining force from a controlling shareholder nor from the market for corporate control (Bebchuk et al., 2000). Instead, there will be a conflict between the positive incentive effect of managerial equity ownership and the negative entrenchment effect of managerial control through voting power. Once ownership increases beyond a certain point, the entrenchment effect starts to dominate the incentive effect, and it then becomes costly to have managers as large shareholders (Stulz, 1988).

# 2.2.3 The value enhancing hypothesis vs. the value destructive hypothesis of the CMS structure

One practical problem with achieving control in the CS structure in the case of large firms is that it requires a significant capital investment. The CMS structure, on the other hand, enables control to be concentrated in the hands of a single shareholder without requiring an equity stake that is proportional to the voting rights. This structure is beneficial to firms facing significant growth opportunities, as suggested by the value-enhancing hypothesis of the CMS structure (Dimitrov and Jain, 2006). According to Lehn, Netter and Poulsen (1990), firms establish a CMS structure by adopting a dual class structure when they face significant growth opportunities. To see why high-growth opportunity firms choose to issue dual class shares, consider the following situation<sup>8</sup>. Managers cannot fully communicate to investors the growth opportunities available to the firm, thus resulting in asymmetric information between managers and investors of public firms. Consequently, investors cannot correctly assess the future value of decisions taken today (i.e. current investments). Therefore, there is a risk that a corporate raider attempts to take over the firm with the faulty belief that existent management is inefficient and should be replaced. A replacement of management in this scenario would harm current shareholders, under the assumption that the new management team would be less efficient. This is why the dual class structure is valuable, as it provides protection from such value destruction (e.g., Alchian and Demsetz, 1972). This argument favors the value-enhancing hypothesis of the CMS structure.

However, other theory suggests a value-destructive hypothesis of the CMS structure (e.g. Bebchuk et al., 2000; Claessens et al., 2002). Assume that the manager of the firm is also the CMS controller. Since the manager does not hold a proportional amount of cash flow rights, the cost in the form of negative ex-post wealth consequences from managerial value-destructive decisions will only be proportional to the manager's relatively few cash flow rights. By contrast, the manager enjoys one-hundred percent of the managerial private benefits from his decisions (Claessens et al., 2002). As such, instead of aligning the managerial interest with that of owners, concentrated voting rights without proportional cash flow rights only reinforces the manager-owner agency conflict.

<sup>&</sup>lt;sup>8</sup> This example was put forth by Dimitrov and Jain (2006).

#### 2.2.4 Incentive and entrenchment effect of concentrated ownership

The presence of large shareholders implies a tension between the positive *incentive effect*, resulting from the large shareholder's cash flow rights, and the negative *entrenchment effect*, resulting from the shareholder's voting rights (Claessens et al., 2002). Whereas cash flow rights give the incentive to care for firm-value maximization, voting rights give the discretionary power that allows for pursuance of private benefits. These private benefits could be either managerial private benefits or private benefits to the controlling owner<sup>9</sup>. Both the incentive- and entrenchment effects are prevalent in the CS structure as well as in the CMS structure. However, the balance between these effects differs in the two ownership structures. Stulz (1988) predicts in his model of managerial ownership that once managerial ownership and control increases beyond a certain point, the entrenchment effect of managerial control starts to exceed the incentive effect of managerial equity ownership. Stulz's model is however based on one-share-one-vote, which differs from the concentrated ownership structure in Sweden that is characterized by a separation between cash flow rights and voting rights (La Porta et al., 1999; Holmén and Knopf, 2004). In the case of a separation between cash flow rights and voting rights, for each increase in equity ownership, control will increase disproportionately more. Hence, the entrenchment effect will dominate the incentive effect more in the CMS structure.

#### 2.3 Contrasting the CMS structure to the DO- and CS structure

The CMS structure resembles the CS structure insofar as it does not allow for the market for corporate control to discipline managers. At the same time, the CMS structure resembles the DO structure when corporate control is placed in the hands of an insider who, due to her limited cash flow rights, has the incentive to pursue private benefits (Bebchuk et al., 2000). In light of the absence of external control from the market for corporate control, it becomes troublesome having a controlling shareholder who lacks the incentive to maximize firm value, as it allows for the expropriation of minority shareholders (e.g Claessens et al., 2002; Cronqvist and Nilsson, 2003; Holmén and Knopf, 2004), given that there is nothing else that

<sup>&</sup>lt;sup>9</sup> Managerial private benefits include empire building (Jensen, 1986), managerial compensation and prestige, which are increasing with firm size (Firth, 1991; Avery, Chevalier and Schaefer, 1998) and job security, which is linked to managerial specific investments that entrench the manager's role in the firm (Amihud and Lev, 1981). Private benefits of outside shareholders (outside CMS controllers) include tunneling, i.e. transfer of wealth from firms where the CMS controller has low cash flow rights to firms where he has higher cash flow rights (Holmén and Knopf, 2004), a diversification preference that could result in suboptimal investment decisions (Zhang, 1998) and keeping control within the family for family CMS structured firms.

constraints the controlling shareholder from exerting influence in line with private benefits (see section 2.5 for constraints on minority expropriation).

Ownership structure	Owner's incentive	Owner's influence	Manager's incentive	Manager's influence	Private benefits	Agency problem	How the agency conflict is handled	Functioning of market for corporate control
DO	No individual owner has a large enough equity stake to be incentivized to monitor mannagement	Wcak	Trade-off between managerial private benefits and firm-value maximization	Strong	Managerial private benefits	Between managers and owners (Agency Cost I)	<ol> <li>The market for corporate control 2) Managerial equity stake</li> </ol>	Effective
CS	Firm-value maximization	Strong		Weak*			Monitoring by the controlling shareholder	Ineffective
CMS	Trade-off between CMS controller's private benefits of control and firm-value maximization	Strong		Wcak**	Private benefits of control	Between controlling owners and minority shareholders (Agency Cost II)	1) Legal protection 2) Extralegal institutions	Ineffective

Figure 2: Summary of the three classifications of ownership structure (DO, CS, C
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\* Restricted by the controlling shareholder)

\*\* Restricted by the CMS controller's influence

In this table it is assumed that the manager is a manager only (i.e. does not hold a sufficiently high equity stake to have aligned interests with owners). It is further assumed that the manager is not the CMS controller in the CMS structure.

# 2.4 The agency conflict between the controlling shareholder and minority shareholders

Since rational CMS controllers want to maximize their own utility, which constitutes both private benefits of control and a positive wealth effect from increased firm value, they are faced with a tradeoff between extraction of private benefits and value maximizing activities (Bebchuk et al., 2000; La Porta et al., 2002). Bebchuk et al. (2000) mathematically demonstrates the agency costs that arise when a CMS controller – who can extract private benefits from negative NPV projects – is faced with a decision whether to expand the firm or

to distribute cash flows to shareholders. This agency problem is of similar nature as the agency problem in the DO structure, where the entrenched manager is able to, due to the separation of ownership and control, pursue projects in line with his private benefits rather than projects that maximize firm value.

To illustrate the agency problem in the CMS structure, Bechuck et al. (2000) considers the following example, with a CMS controller who is concerned with maximizing her utility. The CMS controller chooses between pursuing a value destroying project to extract private benefits or to pay out cash. To see how this tradeoff is evaluated by the CMS controller, consider an asset that the CMS controller can purchase in order to expand the company (Bebchuk et al., 2000). For the purpose of this thesis, the asset considered will be another firm, which the CMS controller has an interest in acquiring, motivated by her private benefits, despite it being a negative NPV transaction. The mathematical demonstration of the agency cost put forth by Bebchuk et al. (2000), with our alteration to the example by considering the acquisition of a firm as opposed to a generic asset, follows below.

Consider an acquisition that produces the value V, which consists of private benefits (*B*) and the cash flows (*S*). The CMS controller might pay *P* for the firm, an amount that exceeds the present value of the acquisition, in order to obtain the private benefit *B* that the acquisition yields. The decision whether to pay out cash to receive  $\alpha^*P$ , or use the cash (*P*) to acquire the other firm will depend upon:

α: the controlling owner's fraction of cash flow rightsV: the sum of cash flows generated from the acquisition (S+B)B: the size of the private benefits

It therefore follows that the CMS controller will choose to expand the firm through an acquisition if:

(1) 
$$\propto (V-B) + B > \propto P$$

Or, alternatively if:

(2) 
$$V > P - \left(\frac{1-\alpha}{\alpha}\right)B$$

All else equal, the probability that the CMS controller will make the costly decision to pursue a value-destructive acquisition increases as the controlling owner's fraction of cash flow rights ( $\alpha$ ) decreases. Furthermore, as  $\alpha$  declines there is a disproportionately stronger increase in the potential agency costs.<sup>10</sup> The sharp increase in the potential agency costs result from: [1] an increase in the number of inefficient decisions; and [2] an increase in the magnitude of the inefficiency.<sup>11</sup> However, Bebchuk et al. (2000) stress that whether the potential agency costs increase at a sharply increasing rate as  $\alpha$  declines depend on two constraints; legal and reputational. Holmén and Knopf (2004), on the other hand, argues that the decision whether to extract private benefits and expropriate minority shareholders might be constrained in the first place.

#### 2.5 Constraints on minority expropriation

#### 2.5.1 The capital market as a constraining force

Rational investors will demand a higher cost of capital due to the anticipated agency cost of the CMS structure. However, this disciplining mechanism by the capital market can only be enabled if information on ownership structures is available to investors (Faccio, Lang, and Young, 2001). As such, the ability of the capital market to price the agency cost of CMS structures, and thereby limit minority expropriation, is contingent on the existence of transparency of ownership structures. Consequently, in countries where transparency is high, CMS controllers who do not have the intent to expropriate minority shareholders have the incentive to signal that to the market<sup>12</sup>. One way of sending a credible signal to the market is by committing the firm to pay out high dividends. Faccio et al. (2001) find that for firms where the CMS controller can be readily identified by investors, the dividend rate is higher. In this way, a credible signal is sent to the market that excessive cash will not be kept in the firm for private benefit extraction. Another way for the CMS controller to send a credible

<sup>&</sup>lt;sup>10</sup> It follows from equation (2) that the CMS controller will make the inefficient decision whenever *P* is in the range  $[V, V + ((1 - \alpha)/\alpha)B]$ . The following example is provided by Bebchuk et al. (2000): If  $\alpha$  declines from  $\alpha$ =0.5 to  $\alpha$ =01, it follows that the range for which the CMS controller will choose an inefficient decision increases from (V, V+B) to (V, V+9B). Hence, it follows that the number of inefficient decisions increases sharply as alpha decreases.

<sup>&</sup>lt;sup>11</sup> This is a continuation of the example put forth by Bebchuk et al. (2000). Consider a situation where *B* constitutes only 5 percent of V. In this situation, if  $\alpha$ =0.5, the CMS controller will pay a price of 5 percent above the value of the target company. However, if  $\alpha$  = 0.1, the CMS controller will overpay by as much as 45 percent.

<sup>&</sup>lt;sup>12</sup> The need for signaling the commitment of not expropriating minority shareholders is expected to be less important in countries where legal protection is strong, i.e. private benefits of control are limited (Faccio et al., 2001). See section 2.5.2 about legal protection of minority shareholders.

signal to the market is by holding a larger fraction of the firm's equity than what is required for control. This serves as a credible guarantee that the value of shares will be maximized, as the CMS controller will suffer a larger cost due to her higher equity stake if she were to make decisions in line with private benefits of control but at the expense of firm value. As such, the CMS controller has the incentive to hold relatively more low-vote shares<sup>13</sup> as a way of signaling to the market the lower (or negligible) agency cost of the CMS structure, thereby reducing the cost of capital when new equity is issued. In addition to the signaling effect, firm value maximizing CMS controllers may want to increase their equity stakes to reap the benefits from share price increases (Bergrstöm and Rydqvist, 1990). However, CMS controllers who do in fact expropriate the minority, will establish a negative reputation in the capital market. CMS controllers thereby bear an indirect cost from engaging in expropriative behavior (Jensen and Meckling, 1976; Bebchuk et al., 2000).

#### 2.5.2 Legal protection of minority shareholders

According to La Porta et al. (2000), legal protection of minority shareholders is an important constraint on the efficiency of insider's minority expropriation. As legal protection of minority shareholders increases, the range of opportunities to extract private benefits available to the CMS controller decreases. Hence, private benefits of control diminish as legal protection increases, and less minority expropriation is therefore expected in countries with stronger legal protection. However, according to the traditional "law and economics" perspective on financial contracting, legal rules of investors are not necessary. As rational investors would punish firms that expropriate minority shareholders, a firm that issues securities has the incentive to limit expropriation in private contracts with investors (Jensen and Meckling, 1976). Given that these private contracts are enforced, regulation becomes superfluous (Stigler, 1964; Easterbrook and Fischel, 1996). However, La Porta et al. (2000) argue that enforcement of private contracts through the court system can be too costly, as courts in many countries are either unable or unwilling to invest sufficient resources to validate the facts in elaborate contracts. Therefore, government-enforced regulation is a more efficient alternative. La Porta et al. (2000) also find evidence that private contracting is not sufficient in protecting minority shareholders against expropriation.

Given the importance of legal protection of minority shareholders as a mitigating factor on the extent of minority expropriation, it becomes relevant to consider how strongly

<sup>&</sup>lt;sup>13</sup> Low-vote shares are the shares with the inferior voting right in a dual class structure.

Sweden performs on this matter. La Porta et al. (1998) develops an antidirector rights index<sup>14</sup> that captures the extent of minority shareholder protection, where Sweden scores three out of six, with a score of six indicating the highest possible legal protection. To put Sweden's score into perspective, it can be compared to the score of other countries in which studies on minority expropriation has been performed. At one extreme we have Canada that scores high on the antidirector rights index (five out of six), with no strong support for the existence of minority expropriation<sup>15</sup>. By contrast, Bigelli and Mengoli (2004) find strong support for minority expropriation in Italy, a country at the other extreme with a score of one out of six on the antidirector index. These empirical findings support the theory presented by La Porta et al. (2000), which states that stricter legal protection of minority shareholders makes the expropriation technology less efficient by constraining the discretionary power of the CMS controller. Therefore, stricter legal protection reduces the private benefits of control and as such the incentive to expropriate minority shareholders. Since Sweden is perfectly in between the two extremes of legal investor protection, one might expect that the extent of expropriation is somewhere in between the two extremes.

#### 2.5.3 Extralegal institutions as a constraint on minority expropriation

Even if CMS controllers are only moderately constrained by legal protection of minority shareholders and therefore might face ample opportunities to extract private benefits of control, there might be other factors that constrain them from doing so. Extralegal protection such as the press (Zingales, 2000), tax compliance, and social norms (Coffee, 2001) has been identified to discourage minority expropriation by CMS controllers. According to Zingales (2000), reputation is highly influential in disciplining the controlling shareholder from expropriative behavior. Since there is a strong connection between what is written in the press and a company's reputation, the fear of being embarrassed in the press

<sup>&</sup>lt;sup>14</sup> The index aggregates the shareholder rights on six different dimensions. The index gives a country 1 if the minority protection is good on the specific dimension and 0 otherwise. Hence, the index ranges from 0 to 6 with 6 indicating the highest protection possible and 0 the lowest. According to La Porta et. al (1998): "The index is formed by adding 1 when (1) the country allows shareholders to mail their proxy vote to the firm, (2) shareholders are not required to deposit their shares prior to the general shareholders' meeting, (3) cumulative voting or proportional representation of minorities in the board of directors is allowed, (4) an oppressed minorities mechanism is in place, (5) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10 percent (the sample median), or (6) shareholders have preemptive rights that can be waived only by a shareholders' vote". La Porta et al. (1998) page 1123.

<sup>&</sup>lt;sup>15</sup> Ben-Amar and André (2006) find no support for the existence of minority expropriation in Canada, whereas Attig, Fischer and Gadhoum (2004) and Bozec and Laurin (2004) only find certain limited forms of expropriation in Canada.

becomes a powerful deterrent. Dyck and Zingales (2004) study private benefits of control by making an international comparison based on 39 countries. In their study, Sweden is ranked number five in terms of newspaper circulation, where newspaper circulation captures the extent of diffusion of the press. Dyck and Zingales (2004) document that the press, as captured by newspaper circulation, serves as a constraining force on minority expropriation. As such, the press is possibly a relevant constraining force in Sweden. Furthermore, transparency of ownership structure is especially high in Sweden, as the complete ownership structure of Swedish listed firms is available in public record (Holmén and Knopf, 2004). Hence, expropriative behavior may be further reduced in Sweden.

Some scholars (e.g. Mahoney and Sanchirico, 2001; Rock and Wachter, 2002) have suggested that social norms can serve as an effective mechanism to govern corporate behavior, and in certain situations might be of even greater importance than corporate law in influencing decision-making. Coffee (2001) studies specifically the power of social norms in constraining private benefits of control. He acknowledges the challenge of finding a suitable proxy that captures social norms. Coffee (2001) uses national crime rates as a proxy for the norm of law compliance, hypothesizing that low crime rates result in low minority expropriation. However, Coffee (2001) recognizes that this proxy might not be valid, since serious crime (at least the types measured by crime victimization studies) and corporate opportunism are of very different nature and are engaged in by people from different classes in society. Dyck and Zingales (2004) test the impact of social norms on constraining the CMS controller from engaging in expropriative behavior by using Coffee's (2001) crime rate proxy. Although the result indicates that countries with worse norms, as proxied by crime rates, have higher private benefits of control, the result was not significant. The Scandinavian countries have low crime rates, indicating high social norms according to Coffee's (2001) proxy. However, we have some reservations with respect to the ability of this proxy to accurately capture the social norms that potentially are influential in constraining minority expropriation. Thus, we are uncertain as to whether there are social norms in Sweden that are able to mitigate the extent of minority expropriation.

#### 2.5.4 Blockholders and Contestability of the CMS controller's control position

Previous literature suggest that the presence of large shareholders in addition to the CMS controller - *blockholders* - either can help protect minority shareholders from expropriation through monitoring of the CMS controller, or further minority expropriation by forming a

controlling coalition with the CMS controller to share the private benefits of control (e.g. Pagano and Röell, 1998; Faccio et al., 2001; Maury and Pajuste, 2005). Faccio et al. (2001) find that the presence of blockholders reduces expropriation in Europe, in line with the monitoring effect of blockholders, whereas it increases minority expropriation in Asia, in line with the colluding effect of blockholders. Underlying factors that determine whether blockholders will have a monitoring- or a colluding effect have not been studied extensively. However, Maury and Pajuste (2005) find that the identity of the blockholder is an important determinant. Specifically, they find that for family-controlled firms, higher voting rights in the hands of non-family blockholders increases firm value. As an explanation to their result, the authors suggest that family blockholders collude with the CMS controller to share in the private benefits of control, whereas non-family blockholders assume a monitoring role and thereby reduce minority expropriation.

Moreover, previous studies have identified the contestability of the CMS controller's control position to be an important determinant of the extent of private benefit extraction by the CMS controller (Volpin, 2002; Bloch and Hege, 2003; Maury and Pajuste, 2005). Contestability of control relates to the ability of blockholders to challenge the CMS controller's control position, and it prevails whenever a blockholder has the ability to supersede the CMS controller as the *ultimate owner* by purchasing more stock, and thereby obtaining more voting rights. Given that the blockholders have the incentive to monitor the CMS controller, as opposed to collude with the CMS controller, they will challenge a CMS controller's control position if the CMS controller engages in private benefit extraction. Thus, the more contestable the CMS controller's control position is, the lower the likelihood of private benefit extraction. However, the presence of blockholders can also harm firm performance since a lack of agreement on the course of direction of the firm can result in inefficient investment decisions (Gomes and Novaes, 2005).

#### 2.6 Previous literature

The first section (2.6.1) introduces the methods employed by previous studies to examine minority expropriation. The second section (2.6.2) presents the results of previous studies that examine minority expropriation through M&A.

#### 2.6.1 Methods of examining minority expropriation in previous studies

Prior studies have used a variety of methods to capture the economic consequences of the CMS structure. Several scholars investigate whether separation between voting rights and cash flow rights results in value destroying M&A, motivated by the CMS controller's private benefits of control (e.g. Bae, Kang and Kim, 2002; Bigelli and Mengoli, 2004; Holmén and Knopf, 2004; Ben-Amar and André, 2006; Yen and André, 2007). The aim of these studies has been to shed light on the agency conflict between the CMS controller and minority shareholders, where M&A transactions represent an opportunity for the CMS controller can engage in M&A transactions to enable a transfer of wealth from a firm where she has low cash flow rights to a firm where she has higher cash flow rights, i.e. *tunneling* (e.g. Johnson, La Porta, Lopez-de-Silanes and Shleifer, 2000; Bae, Kang, and Kim, 2002; Bigelli and Mengoli, 2004). Alternatively, the CMS controller might overpay for the target company to obtain other types of private benefits of control (Shleifer and Vishny, 1997).

Studies on minority expropriation by means of M&A commonly adopt the traditional market based event study methodology to capture the value created for the shareholders of the acquiring firm, as represented by the market reaction to the acquisition upon announcement (e.g. Holmén and Knopf, 2004; Bigelli and Mengoli, 2004 & Ben-Amar and André, 2006). Thereby, this approach implicitly assumes that stock prices immediately reflect the value created or destroyed in the transaction, i.e that the market is efficient in the semi-strong form<sup>16</sup>. However, following the work by Healy, Palepu, and Ruback (1992), another stream of literature argues that the nature of the short-term market performance methodology may not fully reflect the full value created or destroyed in M&A transactions. These researchers suggest that a better approach would be to take a longer-term perspective, for example by examining the effect from the transaction on operating cash flow return<sup>17</sup> as put forth by Healy et al. (1992). According to these academics, this methodology would better reflect value creation and capture its drivers. Out of the studies that focus specifically on M&A transactions undertaken by CMS structured firms, only Yen and André (2007), to the best of our knowledge, use operating cash flow return to capture the value creation of M&A.

<sup>&</sup>lt;sup>16</sup> According to the semi-strong form of market efficiency, all publicly available information should be reflected in stock prices.

<sup>&</sup>lt;sup>17</sup> Operating cash flow return is operating cash flow divided by market value of assets, where operating cash flow is represented by EBITDA.

Another stream of literature has focused on measuring the private benefits of control that potentially arise in CMS structured firms by estimating the effect on firm value (e.g. Claessens et al., 2002; La Porta et al., 2002; Cronqvist and Nilsson, 2003) or by estimating a control premium (e.g. Nenova, 2003). The control premium measures the value of control-block votes relative to the market value of the firm, where the control-block represents the parties in control of the firm (Nenova, 2003). Bergström and Rydqvist (1990) studies specifically if dual class shares are used by Swedish firms as a means of expropriating minority shareholders, and do not address other means of achieving a separation between voting rights and cash flow rights. Dimitrov and Jain (2006) also focus solely on dual class shares by investigating whether dual class recapitalizations are value-enhancing or value-destructive corporate initiatives.

#### 2.6.2 Results of previous studies on minority expropriation through M&A

Previous empirical studies show mixed results of the economic consequences of the CMS structure. The mixed results seem to be explained by country-specific factors, such as legal investor protection and extralegal institutions, which is in line with theory on the constraints on private benefits of control. Evidence from Korea, Italy and English-origin countries support the view that CMS controllers use M&A to expropriate minority shareholders. Bae, Kang and Kim (2002) examine whether firms belonging to Korean business groups (chaebols) use acquisitions as a means to transfer wealth to CMS controllers via tunneling. Consistent with the tunneling hypothesis, the minority shareholders lose out on acquisitions made by chaebol-affiliated firms as the stock price on average falls, whereas the CMS controller benefits on average as the acquisition increases the value of other firms within the group. Bigelli and Mengoli (2004) use a sample of Italian listed firms and find that acquisitions are undertaken by CMS controllers to extract private benefits of control. When restricting the sample to only include CMS structured firms with dual class shares, a significant negative return for non-voting shares is reported whilst the voting shares enjoy significant positive returns. The negative market reaction of the non-voting shares indicates that the acquisition on average has been overpaid whilst the positive return for the voting shares reflects the private benefits captured by the CMS controller. When the sample is restricted to acquisitions undertaken within pyramidal groups, the market reaction seems to indicate that the CMS controller sets the price so as to transfer wealth from the firm where she has a smaller fraction of the cash flow rights to the firm where she has a large fraction of cash flow rights. Yen and André (2007) examine the long term operating performance<sup>18</sup> of acquiring firms, using a sample of 287 acquisitions in English-origin countries other than the US. They find evidence of greater value destructive M&A for higher levels of separation between voting rights and cash flow rights.

The empirical evidence of minority expropriation in firms with a CMS structure documented by Bigelli and Mengoli (2004) for Italian firms and by Bae et al. (2002) for Korean firms is to some extent expected when considering the country specific constraints on minority expropriation, discussed in section 2.5.2. Both Italy and Korea are classified as countries with low investor protection as measured by the antidirector rights index put forth by La Porta et al. (1999). Furthermore, Nenova (2003) documents a high control premium, in these countries (28.9% in Korea and 29.4% in Italy), indicating that private benefits of control are significant in these countries.

The study by Yen and André (2007) can be criticized as it aggregates all eleven English-origin countries<sup>19</sup> with the exception of the U.S., and as such fails to account for the large discrepancy in country-specific factors, such as legal investor protection and extralegal institutions. For example, based on La Porta et al.'s 1998 antidirector rights index<sup>20</sup>, Thailand scores 2 and Israel scores 3, whereas the other countries show stronger legal investor protection with scores of either 4 or 5. Thus, the result in Yen and André's (2007) study might not be applicable to all countries within their sample. Furthermore, the fact that Nenova (2003) reports a control premium of 23.2% in Australia and only 2.8% in Canada suggests a large discrepancy in private benefits of control between these countries, which indicates that the result of Yen and André (2007) is not applicable to all countries in their sample. Additionally, based on the lack of empirical evidence on minority expropriation in Canada, as Ben-Amar and André (2006) document that separation between voting rights and cash flow rights has no effect on acquiring firm performance, it seems that the result for English-Origin countries reported by Yen and André (2007) at least is not applicable to Canada, since Yen and André (2007) instead confirm that separation negatively affects acquiring firm performance.

<sup>&</sup>lt;sup>18</sup> In the study by Yen and André (2007) long term operating performance is measured over a period of three years after the M&A transaction. <sup>19</sup> Yen and André (2007) group together 11 English-origin countries (Australia, Canada, India, Ireland, Israel,

Malaysia, New Zealand, Singapore, South Africa, Thailand and United Kingdom).

<sup>&</sup>lt;sup>20</sup> "Antidirector rights measure how strongly the legal system favors minority shareholders against managers or dominant shareholders in the corporate decision- making process, including the voting process" (La Porta et al. 1998, page 1127).

In countries with better protection of minority shareholders, either through legal rules or extra-legal institutions, evidence of minority expropriation has been limited, both by studies examining the market reaction to acquiring firms with a CMS structure (e.g. Ben-Amar and André, 2006) and studies directly investigating minority expropriation through for example tunneling or by bailing out weak affiliates (e.g. Holmén and Knopf, 2004). Further, evidence of private benefits of control are limited in these countries, as reflected by the low control premium<sup>21</sup> (Nenova, 2003). Both Sweden and Canada exhibit low control premiums; 1.04% and 2.76%, respectively. Nenova (2003) documents that control premiums can range from being close to zero (as in Finland) to almost 30% (as in Italy). The explanations behind the low control premiums in Canada and Sweden, however, seem to be of different nature, as Canada is characterized by strong legal protection whereas Sweden's legal protection is of only medium strength<sup>22</sup>. The lower control premium in Sweden might then be explained by stronger extralegal institutions constraining private benefits of control (Holmén and Knopf, 2004).

In line with the low control premium in Canada and Sweden, empirical studies on minority expropriation through M&A transactions generally find limited evidence of its existence in these countries (Ben-Amar and André, 2006; Holmén and Knopf, 2004). Ben-Amar and André (2006) do not find that a separation between voting rights and cash flow rights negatively affects acquiring firm performance in Canada. However, they document that an increase in cash flow rights in the hands of the CMS controller negatively affects performance, a result consistent with the view that as the large shareholder's wealth invested in the firm increases, she might be incentivized to undertake less risky projects or undertake value-destructive diversifying mergers. Similar to Yen and André (2007), Ben-Amar and André (2006) also document a non-monotonic relationship between equity ownership and acquiring firm performance. However, it is of the exact opposite kind. In the case of Englishorigin countries (Yen and André, 2007), minority expropriation prevails in CMS structured firms, and an increase in the equity ownership of the CMS controller has a positive effect on acquiring firm performance. Contrary, in the case of Canada (Ben-Amar and André, 2006), limited evidence of minority expropriation is documented in CMS structured firms, and as

<sup>&</sup>lt;sup>21</sup> The control premium measures the value of control-block votes relative to the market value of the firm, where the control-block represents the parties in control of the firm (Nenova, 2003). As such, the control premium serves as a proxy for the extent of private benefits of control.

<sup>&</sup>lt;sup>22</sup> Canada scores 5 out of 6 and Sweden scores 3 out of 6 on La Porta et al.'s 1998 antidirector rights index, where 6 indicates the strongest legal investor protection.

equity ownership of the CMS controller increases, acquiring firm performance instead decreases.

Holmén and Knopf (2004) find limited evidence of minority expropriation, by documenting that acquiring firms with a CMS controller<sup>23</sup> are more likely to engage in diversifying mergers and experience lower acquiring firm returns. by means of tunneling, diversifying mergers and bailing out weak affiliates in Sweden. They suggest that Sweden's strong extra-legal institutions might explain why they only find limited evidence of minority expropriation in Sweden. Somewhat contradicting the results of Holmén and Knopf (2004), Cronqvist and Nilsson (2003) find a significant agency cost of the CMS controller, estimating it to be between 6% to 25% of firm value (Tobin's q) for the median firm in their sample. However, Nenova (2003) estimate private benefits of control to be almost insignificant in Sweden, as proxied by the control premium of 1.04% for Sweden, suggesting that there is no incentive for the CMS controller to expropriate the minority. Furthermore, Bergström and Rydqvist (1990) argue that their finding – that CMS controllers have larger equity ownership than required for control - is inconsistent with the idea that CMS controllers have the intent to expropriate the minority. However, as we have commented before, the CMS controller might increase her equity stake simply to signal to the market that she does not have the intent to expropriate the minority, in order to obtain a low cost of capital. Nonetheless, based on the studies on Swedish data, it is evident that there is an inconsistency in findings. Hence, the aim of this study is to add evidence that can help resolve this empirical question.

<sup>&</sup>lt;sup>23</sup> Holmén and Knopf (2004) define the CMS controller of the acquiring firm as being a 'dual owner'. The dual owner is an insider of the acquiring firm, who also holds shares in the target firm.

#### Table 1: Summary of previous research

Researcher and year of	Research Findings	Method	Time Period	Country of			
publication				Study			
M&A				1			
Bae, Kang and Kim (2002)	Evidence of minority expropriation through tunneling	M&A: Event study methodology for market reaction (CAR)	1981 – 1997	Korea			
Holmén and Knopf (2004)	Limited evidence of shareholder expropriation	M&A: Event study methodology for stock market reaction (CAR)	1985 – 1995	Sweden			
Bigelli and Mengoli (2004)	Evidence of minority expropriation	M&A: Event study methodology for stock market reaction (CAR)	1989 - 1996	Italy			
Ben-Amar and André (2006)	Limited evidence of shareholder expropriation	M&A: Event study methodology for stock market reaction (CAR)	1998 - 2002	Canada			
Yen and André (2007)	Separation of ownership and voting rights leads to greater value destruction (indicating minority expropriation)	M&A: Long term operating performance of acquiring firms as measured by OCFR*	1997 – 2001	English-origin countries other than the US			
Other	Other						
Bergström and Rydqvist (1990)	CMS controllers own much more equity than required for control, a finding inconsistent with the expropriationg hypothesis.	Difference between the actual equity fraction held by CMS controllers, and the minimum equity fraction required for control	1968, 1972, 1977, 1981, 1986	Sweden			
Claessens et al. (2002)	Find that a CMS structure is associated with lower market values (indicating minority expropriation)	Firm Value: market-to-book ratio of assets	1996	East Asia			
Nenova (2003) The value of corporate voting rights, specifically of the control block of votes, varies widely across countries		Control Premium**	1997	Cross-country (18 countries)			
Cronqvist and Nilsson, 2003 Estimated agency costs of CMS controllers are 6%-25% of firm value for the median firm		Firm Value: Tobin's Q	1991 –1997	Sweden			
Dimitrov and Jain (2006) Dual-class recapitalizations are shareholder value enhancing corporate initiatives		Dual-class recapitalization: Event study methodology for stock market reaction (BHAR***)	1979 –1998	U.S.			

 OCFR stands for operating cash flow return. OCFR is operating cash flow divided by market value of assets, where operating cash flow is represented by EBITDA. \*\* The control premium is the proxy for private benefits of control. It is measured as the value of control-block votes divided by firm value. \*\*\* BHAR stands for Buy-and-hold abnormal returns

# 3. Hypotheses

Although Sweden has strong extra-legal institutions, there is no strong evidence confirming its ability to limit minority expropriation. We therefore have some reservation with respect to the ability of the extra-legal institutions to compensate for the medium legal investor protection in Sweden. Hence, we expect minority expropriation to prevail in Sweden to some extent. However, we acknowledge that the CMS controller faces a trade-off between private benefit extraction and firm value maximization, where the incentive to pursue private benefits increases as the level of separation between voting rights and cash flow rights in the hands of the CMS controller increases. Thus, we expect that the CMS controller will pursue private benefits and expropriate the minority only when the level of separation is high.

Hence, our first hypothesis is:

(1) The presence of a CMS controller has a negative effect on acquiring firm performance when the separation between voting rights and cash flow rights in the hands of the CMS controller is high.

Since the incentive to extract private benefits of control increases as the separation between voting rights and cash flow rights increases, we expect that the extent of minority expropriation is increasing with the level of separation between voting rights and cash flow rights.

Hence, our second hypothesis is:

(2) As the separation between voting rights and cash flow in the hands of the CMS controller increases, acquiring firm performance decreases

As private benefits of control are low in Sweden, as indicated by the low control premium (Nenova, 2003), we expect that blockholders are less likely to collude since there are few private benefits to share amongst the colluding parties. Instead, we expect a monitoring effect in line with the finding by Faccio et al. (2001), where blockholders in Europe were found to

reduce minority expropriation by monitoring the CMS controller. Hence, our first hypothesis with respect to the effect of blockholders is:

#### (3) The presence of blockholders has a positive effect on acquiring firm performance

Since previous studies have documented that contestability of control affects the extent of private benefit extraction, it is expected that for ownership structures where the CMS controller's control position is contested, acquiring firm performance is stronger. Thus, our second hypothesis with respect to the effect of blockholders is:

(4) Contestability of control has a positive effect on acquiring firm performance

## 4. Method

# 4.1 Operationalization of Research Question

The operationalization of our research question involves running four multiple regression analyses, which relate the ownership structure of the acquiring firm to the extent of value creation for the acquiring firm (i.e. acquiring firm performance). Acquiring firm performance is evaluated both in the short term and in the long term. Hence, one short run event study and one long run event study are performed. The dependent variable in the multiple regression models serves to capture acquiring firm performance and is represented by acquirer Cumulative Abnormal Return (CAR) in the short run event study, and Buy-and-Hold Abnormal Returns (BHAR) as well as CAR in the long run event study. See section 4.2.1 for an outline of the short run event study methodology employed to measure investors' expectation of shareholder value effects at the point of announcement. See section 4.2.2 for an outline of the long run event study methodology used to measure the long run shareholder value effects.

With regards to ownership structures, two different sets of independent variables are used to capture the effect of the acquirer's ownership structure on acquiring firm performance: [1] Independent variables that capture the separation of voting rights and cash flow rights in the hands of the CMS controller; and [2] independent variables that capture the effect of having blockholders present in the ownership structure. See section 4.3.1.1 for the

methodology used to trace the ultimate owner as well as how separation between voting rights and cash flow rights is measured. See section 4.3.2 for the methodology used to identify blockholders and how contestability of control is measured. In section 4.4 we elaborate upon the motivation behind our chosen control variables for the multiple regression analysis. Lastly, in section 4.5 we state how we will test our hypotheses.

#### 4.2 Dependent Variables

#### 4.2.1 Short run aggregated abnormal return

Most studies on the relationship between acquiring firm performance and ownership structures use the traditional market based event study methodology (Franks and Harris, 1989; Limmack, 1991; Sudarsanam, 1996; Andrade, Mitchell and Stafford, 2001; Goergen and Renneboog, 2004). According to Andrade et al. (2001), measuring the market reaction at the announcement of a M&A transaction is the most reliable way to assess the value creation or destruction of M&A activity. The market reaction is captured in the aggregated abnormal return around announcement. The chosen aggregated abnormal return metric in this thesis is the Cumulative Abnormal Return (CAR), which is commonly used in short run event studies (e.g. Foster, 1979; Bernard and Thomas, 1989; Bartov, Lindahl and Ricks, 1998; Ben-Amar and André, 2006). Finally, CAR is employed as the dependent variable in the multiple regressions to test hypotheses 1- 4.

#### 4.2.1.1 Short-run Event Study Methodology

An event study measures the impact of a specific event on the value of a firm by using financial market data (MacKinlay, 1997). For the purpose of this study, the relevant event is the announcement date of an M&A transaction. The event study methodology is based on the premise that market efficiency prevails, meaning that security prices immediately reflect the effects of an event that has implications for the firm. Hence, by using security prices observed over a relatively short period of time, a measure of an event's economic impact can be designed (MacKinlay, 1997). Generally, a standard event study consists of: [1] an estimation window; and [2] an event window (see Figure 3). We follow the standard event study methodology presented by MacKinlay (1997).

#### Figure 3: Event Study Design



#### 4.2.1.2 Design of the Short-Run Event Study

The relevant event for the purpose of this thesis is the announcement of a M&A transaction. In order to capture the impact of the event, a measure of abnormal return (AR) is required. To calculate the abnormal return, the normal return of the firm over the event window is deducted from the actual ex post return of the firm over the event window. The normal return is defined as the expected return conditioned on the non-occurrence of the event (MacKinlay, 1997). For each firm i at date t in the event window, the abnormal return is calculated as follows:

$$AR_{i,t} = R_{i,t} - E(R_{i,t})$$

 $AR_{i,t}$ ,  $R_{i,t}$  and  $E(R_{i,t})$  are the abnormal return, actual return and normal return respectively for firm *i*, where *t* represents the unit of time in days. When modelling the normal return, scholars commonly choose between the constant mean return model and the market model. The strength of the constant mean return model resides in its simplicity. The benefit of the market model on the other hand is the increase in precision that it offers. The market model reduces the variance of the abnormal return, as it eliminates the part of the return that is related to variation in the market's return. Thus, the ability to detect the economic consequences of the event is improved (MacKinlay, 1997). Therefore, we choose the market model over the constant mean return model. Furthermore, the market model is chosen over any multifactor model as these models rarely offer any significant improvements (MacKinlay, 1997). The market model relates the return of security i to the return of the market portfolio as follows:

(4) 
$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

 $R_{i,t}$  and  $R_{m,t}$  are the returns on security *i* and the market portfolio at time *t*, respectively. As indicated by equation (4), the return on security *i* at time *t* is explained by the three parameters  $\alpha$ ,  $\beta$  and  $\varepsilon$ .  $\alpha$  for firm *i* denotes the intercept of the firm-specific return, which is unexplained by the market portfolio.  $\beta$  for firm *i* indicates the sensitivity of the return of security *i* to the variance of the market portfolio.  $\varepsilon$  for firm *i* is an error term that captures the part of the return which can neither be explained by the intercept nor by the market beta.

As a proxy for the market portfolio we use the OMXSPI index. The choice of market index is motivated by the need for the index to be representative of the market portfolio applicable to our sample firms. Hence, we require a Swedish index and we further require that the index is broad enough in order not to introduce a bias towards certain industries. The return on the index is calculated as follows:

(5) 
$$R_{index,t} = \frac{P_{index,t}}{P_{index,t-1}} - 1$$

In order to obtain the estimated model parameters ( $\alpha$  and  $\beta$ ) for the market model, we run the following OLS regression over the estimation window (see section 4.2.1.3 for estimation window):

(6) 
$$R_{i,t} = \hat{\alpha}_{i,t} + \hat{\beta}_i R_{index,t}$$

 $R_{i,t}$  and  $R_{index,t}$  denote the actual return for security *i* and the return of the market index, respectively, at time *t* during the estimation window. Using the estimated model parameters, we then predict the expected return for each security *i* during the event window, in line with equation (7).

(7) 
$$E(R_{i,t}) = \hat{\alpha}_i + \hat{\beta}_i R_{index,t}$$

We thereafter calculate AR of each security i by deducting the normal return (i.e. expected return) of security i from the actual return of security i (see equation 3). CAR is then calculated by aggregating the abnormal returns over the event window as follows:

(8)

$$CAR_{i,t_{1},t_{2}} = \sum_{t_{1}}^{t_{2}} AR_{i,t}$$

#### 4.2.1.3 Event Window and Estimation Window

CAR is estimated for two different event windows, in accordance with previous studies. The relevant event, i.e. the announcement of the M&A transaction, occurs on day zero in the event window (t = 0). One narrow event window of three days<sup>24</sup> (days -1 to +1) is employed, as it is a typical event window for capturing the value effects of M&A transactions in short run event studies (Andrade et al., 2001; Ben-Amar & André, 2006). Additionally, one wide event window of 11 days (days -5 to +5) is nonetheless employed to capture the effect of potential pre-announcement leakage and potential post-announcement corrections (Bradley, Desai, and Kim, 1988; Holmén and Knopf, 2004). The abovementioned event window definitions will allow for comparison with prior work, as both event windows are commonly used in previous studies (e.g. Holmén and Knopf, 2004; Ben-Amar & André, 2006).

After having identified the relevant event (i.e. the announcement of a M&A transaction) and after having defined the event window, the estimation window can be chosen. The estimation window is the period in which the parameters  $\alpha$  and  $\beta$  used to calculate the normal return in the event window are estimated (MacKinlay, 1997). Consequently, it is important that the estimation window does not overlap with the event window, as the model parameter estimates should be unconditioned on the event. In order to capture the effect of the event in the abnormal return (AR<sub>i,t</sub>), it is important that only the actual return (R<sub>i,t</sub>) is conditioned on the event. Therefore, the estimation window has to end at

<sup>&</sup>lt;sup>24</sup> Both for the event window and the estimation window the relevant unit of time is trading days and not calendar days, as security prices can only change as a result of trades. Therefore, both the estimation window and the event window will be defined as trading days relative to the announcement day. As such, *days* will be used in place of trading days throughout this thesis. To illustrate how days are denoted numerically in the event window, consider a transaction that is announced on a Friday. As Monday is the following trading day, that Monday will be denoted +1 days, representing the relative trading day of +1 rather than the relative calendar day of +3.

 $t = -12^{25}$ . Since no common praxis is established with respect to the length of the estimation window, we choose an estimation window of 250 trading days in accordance with MacKinlay (1997). Thus, our estimation window becomes (days -262 to -6).

Category	Main assumption
Expected return model	Market model
Aggregated abnormal return metric	Cumulative Abnormal Return (CAR)
Estimation window (days)	(days -262 to -6)
Event window (days)	(days - 1, +1); days (-5 to +5)

Table 2: Main Assumptions short run event study

#### 4.2.2 Long-run aggregated abnormal return

The short-run event study methodology relies on the assumption of market efficiency (Tuch and O'Sullivan, 2007). With the aim of presenting results that are not solely based on an assumption of market efficiency, this paper also performs a long run event study. The long run event study measures the shareholder value effects of the M&A transaction, as measured by aggregated abnormal return, over a longer horizon following the announcement date. The conduction of a short run- as well as a long run event study should enable us to say something about market efficiency (Kothari and Warner, 1997), although testing for market efficiency does not form part of the purpose of this study. Rather than being reliant on the assumption of market efficiency in relation to M&A announcements, the current study challenges it. This section outlines the methodology used to perform the long run event study and is structured in the same way as the section on short run event studies. First, the design of the long run event study will be discussed as well as the specific choices made. Second, the chosen expected return models will be outlined. Third, the estimation and event window will be specified. Section 6.4 discusses the issues with long run event studies.

#### 4.2.2.1 Design of the Long Run Event study

In line with Kothari and Warner (1997), we employ two commonly used procedures of cumulating abnormal returns, yielding two types of aggregated abnormal return measures: [1] CAR; and [2] Buy-and-Hold abnormal return (BHAR). Researchers have recommended

 $<sup>^{25}</sup>$  The estimation window has been chosen to ensure that it does not overlap with our longer event window of 11 days (days -5 to +5).

BHAR over CAR since an approach of additive cumulation creates a systematic positive bias due to the bid-ask spread (e.g., Roll, 1983; Blume and Stambaugh, 1983; Conrad and Kaul, 1993). However, BHAR has its own methodological issue as long run BHAR, unlike CAR, is significantly right-skewed. Despite the different methodological issues of CAR and BHAR, Kothari and Warner (1997) find that both procedures of cumulating abnormal returns yield similar test results<sup>26</sup>. Nonetheless, we choose to employ both procedures of aggregating abnormal returns for robustness testing of our result.

CAR is calculated the same way as in the short run event study (see equation 8), with the difference being the unit of time. For the purpose of brevity, the equation for abnormal return with the relevant unit of time for the long run event study is provided in Appendix (see equation 19). In the long run event study, we use monthly returns as opposed to daily returns which we use in the short run event study. BHAR is calculated as the difference between the realized buy-and-hold return and the normal buy-and-hold return (Barber and Lyon, 1997):

(9)

$$BHAR_{i,t_1,t_2} = \prod_{t_1}^{t_2} [1 + R_{i,t}] - \prod_{t_1}^{t_2} [1 + E(R_{i,t})]$$

#### 4.2.2.2 Event window

In a long run event study, post-event abnormal returns are typically studied over a multi-year event window. It is important that the event window is long enough to ensure that the postmerger integration process has occurred in order to evaluate the effects of the acquisition (Colombo et al., 2007). Furthermore, it is desirable that the event window is sufficiently long for there to be enough quarterly reports released to investors, in order for the actual effects of the M&A transaction to be priced by investors, and thus reflected in the stock price. However, longer event windows increase the risk of having model parameter estimates that are not representative of the expected return development in the event window, as the probability that the company has made business model changes increases. As such, the estimated expected return would be unrepresentative of the 'new' normal return of the firm (Lyon, Barber and Tsai, 1999). The above trade-off analysis has resulted in the decision to

<sup>&</sup>lt;sup>26</sup> Kothari and Warner (1997) show that the rejection frequency of the null hypothesis of no abnormal performance is similar for long run BHAR and long run CAR, for simulated events.

use a 36 months long event window, which is also in line with previous studies (e.g. Kothari and Warner, 1997; Rau and Vermaelen, 1998; Mitchell and Stafford, 2000; Ikenberry et al., 2000; Alexandridis et al., 2006; André et al., 2007) rather than a five-year or a two-year event window which has also been used in previous studies<sup>27</sup>. The event window starts in the month of the event (i.e. the M&A announcement), and stretches over 36 months following the event. As such, BHAR and CAR are calculated over this 36-month period (see equation 10 and 11). To mitigate the effect of survival bias, we follow the same procedure as Kothari and Warner (1997) and include firms that have not survived the entire 36-month period by instead calculating BHAR and CAR over the *n* months it survived<sup>28</sup>. In order to calculate the monthly returns, we have retrieved share prices for the acquiring firm for the day of the announcement and for the same date number for each month forward up until t = 36. In the cases where the date number coincides with a weekend or bank holiday, the nearest following price has been used. The same procedure has been applied to the estimation window, where we have used prices one month prior to the announcement date, and if this date number coincides with a weekend or bank holiday, the nearest following price has been used.

(10)

$$BHAR_{i,t_1,t_2} = \prod_{t_1=1}^{t_2=36} [1 + R_{i,t}] - \prod_{t_1=1}^{t_2=36} [1 + E(R_{i,t})]$$

(11)

$$CAR_{i,t_1,t_2} = \sum_{t_1=1}^{t_2=36} AR_{i,t_1}$$

#### 4.2.2.3 Estimation window

According to Kothari and Warner (1997), it is important that the estimation window is long enough to include a sufficient amount of observations in order to obtain reliable expected return estimates in the event window<sup>29</sup>. At the same time, a long estimation window risks

<sup>&</sup>lt;sup>27</sup> Five years has been used by e.g. Loughran and Vijh (1997) and two years has been used by e.g. Sudarsanam and Mahate (2003) and Aw and Chatterjee (2004). <sup>28</sup> When calculating BHAR and CAR, we exclude firms that survived less than 1 year during the event window.

<sup>&</sup>lt;sup>29</sup> More specifically, a fewer number of observations in the estimation window implies larger discrepancies between the variability of residuals and predictions errors, which in turn implies an increased volatility of the

introducing the undesirable feature of survival bias and results in more stringent requirements on data availability (Kothari and Warner, 1997). Kothari and Warner (1997) perform tests with both a 24-month and a 48-month estimation window and does not find any difference in conclusions based on the length of the estimation windows. To avoid model parameter estimates that are unrepresentative of the expected return development in the event window (Lyon et al., 1999), and to minimize survival bias, we choose the shorter (24-month) estimation window.

#### 4.2.2.4 Expected Return model

To estimate security-specific abnormal returns the existing literature has commonly used any of the following four models: [1] the market adjusted model; [2] the market model; [3] the capital asset pricing model (CAPM); and [4] the Fama-French three-factor model (FF) (Kothari and Warner, 1997). Recognizing that neither model is free from methodological issues with respect to long run event studies, we have chosen to adhere to the FF-model as it has the highest explanatory power out of the two asset pricing models (CAPM and FF). Specifically, Fama and French (1992, 1993) show that the FF-model, which is an expanded version of CAPM that accounts for size and book-to-market factors, is a model of higher validity and usefulness than CAPM. Additionally, following the work of Fama and French (1992, 1993), the literature on event studies has started to account for both size and book-tomarket factors (Kothari and Warner, 1997). For robustness tests, we also use the market adjusted model as expected return model. As we also have chosen two different methods of cumulating abnormal returns, we end up with four different long run aggregated abnormal return measures: [1] BHAR with the expected return model being the FF-model (FAMABHAR); [2] CAR with the expected return model being the FF-model (FAMACAR); [3] BHAR with the expected return model being the market adjusted model (MARKETBHAR); and [4] CAR with the expected return model being the market adjusted model (MARKETCAR).

#### 4.2.2.5 Estimating Expected Return

The Fama-French three-factor model is a multiple factor model that uses three different risk factors, one market factor and two firm-specific factors: [1] return to the market portfolio

market return in the event window compared to the estimation window, and higher prediction error variability as a result (Kothari and Warner, 1997).
over the risk-free rate; [2] firm size as captured by the SMB factor (Small Minus Big); and [3] book-to-market of the firm as captured by the HML-factor (High Minus Low) (Fama and French, 1993). The method of constructing the SMB and HML factors is explained in Table 7 in Appendix. Based on the Fama-French three-factor model, the expected return for firm i at time t in the event window is estimated as follows:

(12) 
$$R_{i,t} - R_{f,t} = \alpha_i + \beta_{1,i} (R_{m,t} - R_{f,t}) + \beta_{2,i} SMB_t + \beta_{3,i} HML_t + \varepsilon_{i,t}$$

R<sub>i,t</sub> is the return on security *i* at time *t*, R<sub>f,t</sub> is the risk-free rate and R<sub>m,t</sub> is the market return at the same point in time *t*, respectively. We use monthly observations as opposed to daily or weekly observations, in part because it contains less noise and in part because it reduces the rebalancing bias (Barber and Lyon, 1997). As proxy for the risk-free rate we use the Swedish 10-year government bonds and as proxy for the market return we use the OMXSPI index, representing the local market index of the acquiring firms. SMB<sub>t</sub> is the difference in the returns of value-weighted portfolios of small stocks and big stocks in month *t*. HML<sub>t</sub> is the difference in the returns of value-weighted portfolios of high book-to-market stocks and low book-to-market stocks in month *t* (Fama and French, 1993). We use the SMB- and HML-factors applicable to Europe<sup>30</sup>, retrieved from the Fama-French database. The coefficient estimates  $\widehat{b_{1,t}}$ ,  $\widehat{b_{2,t}}$ ,  $\widehat{b_{3,t}}$  are obtained by regressing security *i*'s monthly excess return on the monthly market excess return, *SMB<sub>t</sub>*, and *HML<sub>t</sub>* (see equation 13). These estimates are then used in the estimation model of expected return for stock *i*.  $\widehat{b_{1,t}}$ ,  $\widehat{b_{2,t}}$ ,  $\widehat{b_{3,t}}$  represent the estimated sensitivity of stock *i* to changes in the risk-premium, SMB- and HML-factor, respectively.

(13) 
$$R_{i,t} - R_{f,t} = \widehat{\alpha_{i}} + \widehat{b_{1,i}} \Big( R_{m,t} - R_{f,t} \Big) + \widehat{b_{2,i}} SMB_{t} + \widehat{b_{3,i}} HML_{t} + \varepsilon_{i,i}$$

When using the market adjusted model instead of the Fama-French three-factor model as our expected return model, the expected return of security i is proxied by the expected return of the market (see equation 14). As such, the market adjusted model does not account for any firm specific factors.

(14) 
$$E[R_{i,t}] = R_{m,t}$$

<sup>&</sup>lt;sup>30</sup> Ideally, we would have preferred to use SMB- and HML-factors applicable to Sweden. However, the Fama-French database does not contain such data. An alternative would have been to construct the factors ourselves, but it has been concluded that for the purpose of this thesis, the magnitude of improvement does not compensate for the increased complexity and time-consuming process.

### 4.3 Independent Variables

This section outlines the independent variables used in the multiple regression models. The independent variables used in this study can be grouped into two different categories: [1] separation between voting rights and cash flow rights in the hands of the CMS controller (section 4.3.1), [2] the effect of blockholders (section 4.3.2). Table 3 summarizes all independent variables.

#### 4.3.1 Separation of Voting Rights from Cash Flow Rights

In line with Faccio and Lang (2002), Claessens et al. (2002) and Ben-Amar and André (2006), we use the methodology introduced by La Porta et al. (1999) to measure the voting rights and cash flow rights held by the *ultimate owner* (i.e. the controlling owner in the CS structure or the CMS controller in the CMS structure). Ultimate ownership is based on voting rights, as we want to trace ultimate control. We trace the ultimate owner by analyzing both direct ownership and indirect ownership held through the control of other listed companies, i.e. a *control chain<sup>31</sup>*. Once the ultimate owner has been identified, we identify her share of cash flow rights in order to measure the separation between voting rights and cash flow rights in the hands of the ultimate owner. Thereby, we can distinguish between the ultimate owner in the CS structure (no separation) and the CMS controller in the CMS structure (separation prevails).

#### 4.3.1.1 Tracing the ultimate owner

In line with La Porta et al. (1999) we do not attempt to measure total *voting power* but rather *voting concentration*. This is because measuring total voting power would require us to capture interactions between large allied shareholders, as they could vote together, whereas voting concentration measures the amount of voting rights held by a single shareholder<sup>32</sup>. As data on allied shareholders is not available to us, we cannot capture such collective voting.

To identify whether a firm has an ultimate owner, a cutoff point for control needs to be decided upon. In line with La Porta et al. (1999), Claessens et al. (2000), Faccio et al. (2001) and Claessens et al. (2002), we use two different cutoff points. An ultimate owner exists if a shareholder, through her direct and indirect holdings, holds more than: [1] 20

<sup>&</sup>lt;sup>31</sup> 'Control chain', 'pyramidal structure' and 'pyramidal group' are used interchangeably in this thesis.

 $<sup>^{32}</sup>$  In the case of ultimate owners that are families, we group all family members together and view them as one single shareholder.

percent of the votes; or [2] 10 percent of the votes. As there can only be one ultimate owner, the owner with the largest number of voting rights in the firm (above the cutoff) will be identified as the ultimate owner. In the case of a control chain, when we have identified a corporation that potentially could be the ultimate owner (voting rights above the cutoff), we then look for a *controlling owner* (voting rights above the cutoff) in that corporation and so on, until no single owner with voting rights above the cutoff can be identified. The last controlling owner in this control chain is identified as the ultimate owner. In the case of family ownership, we view the shareholdings of family members collectively, as one single owner, in line with La Porta et al., (1999). Hence, once a family has been identified as a controlling that family will be seen the owner, as ultimate owner.

The motivation for the 20 percent cutoff is that 20 percent of the votes is usually sufficient to have effective control (La Porta et al., 1999). The 10 percent cutoff is used because: [1] it represents a significant share of votes (La Porta et al., 1999); and [2] for comparability reasons, since most studies within the field of corporate governance have also used a 10 percent cutoff (e.g. La Porta et al., 1999; Claessens et al., 2002; Faccio and Lang, 2002; Ben-Amar and André, 2006).

In line with previous studies (e.g. La Porta et al., 1999; Claessens et al., 2002) we use information on pyramidal structures, cross shareholdings and dual class shares to identify the separation between voting rights and cash flow rights in the hands of the ultimate owner. In accordance with La Porta et al. (1999) we say that a pyramidal structure exists if the following two requirements are fulfilled: [1] the firm has an ultimate owner; and [2] there is at least one listed company in between the firm and its ultimate owner. We say that a dual class structure exists if the firm has issued shares with differential voting rights. Finally, similar to La Porta et al. (1999) we say that cross shareholdings exist if firm B holds shares in firm A and firm A is the ultimate owner of firm B (see figure 4). In the case of a pyramidal structure, a cross shareholding exists if a sample firm X owns shares in its ultimate owner or in companies along the control chain. Due to data limitations<sup>33</sup>, cross shareholdings can only be identified in the cases where the ultimate owner is a publicly listed company.

<sup>&</sup>lt;sup>33</sup> The database 'Holdings' as well as the book series 'Ägarna och Makten' from which we obtain ownership data only covers Swedish companies that are *listed*.

#### Figure 4: Cross shareholding



In line with Faccio and Lang (2002) and Ben-Amar and André (2006), ultimate voting rights are measured as the weakest link along the control chain. The weakest link is best illustrated by an example (see Figure 5). Assume that we have a shareholder X who holds 30% of the votes in Firm A, which in turn holds 20% of the votes in Firm B. We would then say that shareholder X controls 20% of Firm B indirectly, representing the weakest link along the control chain. Shareholder X's cash flow rights in Firm B are calculated as the product of the cash flow ownership stakes along the control chain. For simplicity, we have assumed that both firms have one-share-one-vote structures, meaning that cash flow ownership in firm B is 6% ( $30\% \times 20\%$ ). Refer to Table 8 in Appendix for an illustrative example of how cash flow rights and voting rights in the hands of the ultimate owner in one of our sample companies are calculated.

#### Figure 5: Pyramidal Structure



# 4.3.1.2 Operationalization of measuring separation between voting rights and cash flow rights

We distinguish between ultimate owners that are outsiders and insiders of the acquiring firm, as insiders can initiate M&A transactions in their own interest or attempt to block M&As that are unaligned with their interests (Holmén and Knopf, 2004). Thus, we require the CMS controller of the acquiring firm to also be an insider. We define insiders as being the chief executive officer (CEO) of the firm or being a member of the board. This approach differs slightly from the one used by Ben-Amar and André (2006) who consider only the CEO and the chairman of the board to be insiders. We have adapted their approach based on the definition used by Holmén and Knopf (2004), who classify the CEO and all board members as insiders.

Once the CMS controller (i.e. the ultimate owner in a CMS structure) has been identified, we calculate the difference between voting rights and cash flow rights in the hands of the CMS controller. Three different variables are used to capture this separation. The methodology used is the same as the one used by Claessens et al. (2002), Faccio and Lang (2002), Bigelli and Mengoli (2004), and Ben-Amar and André (2006). First, a dummy variable (*DumSep*) is used that takes the value of one if voting rights exceed cash flow rights in the hands of the CMS controller, zero otherwise. Second, in order to identify those firms in which separation in the hands of the CMS controller is high, we use a dummy variable (*SepHigh*) that equals one if separation exceeds the median level of separation, zero otherwise. Third, we use continuous variable (*Separation*) that measures the difference between voting rights and cash flow rights in the hands of the CMS controller.

#### 4.3.2 Blockholders and Contestability of Control

We include two variables to capture the effect of blockholders on the extent of minority expropriation. Similar to Ben-Amar and André (2006), we use a continuous variable called *Blockholder*. Blockholders are defined as other larger shareholders, in addition to the ultimate owner, holding at least 5% of the voting rights<sup>34</sup>. Since we expect that having blockholders present in the ownership structure results in a monitoring effect (as opposed to a colluding effect), the expected sign of the variable *Blockholder* is positive. The second variable (*Log\_Herfindahl Differences*) measures the relative size of the three largest shareholders, and serves as a proxy for the contestability of the CMS controller's control position. This variable

 $<sup>^{34}</sup>$  5% of voting rights has been used to identify large shareholders by La Porta et al. (1999), Claessens et al. (2000) and Faccio et al. (2001).

is included as contestability of the CMS controller's control position is expected to constrain the CMS controller's control, and thus the extent of private benefit extraction (Maury and Pajuste, 2005). Log Herfindahl differences takes the voting rights of the CMS controller as well as the individual blockholders into consideration. The measure 'Herfindahl differences' is defined as the sum of squares of the differences between the voting rights of the first and the second largest shareholder, and the voting rights of the second and the third largest shareholder, in line with Maury and Pajuste (2005).<sup>35</sup> In order to control for skewness, we use the logarithm of the 'Herfindahl differences' measure as our variable in the multiple regression. The expected sign of this variable is negative, since a more uneven<sup>36</sup> distribution of votes between the largest three shareholders indicates lower contestability of the CMS controller's control, and thus greater opportunity for private benefit extraction.

Table 3							
Independent Variable Definitions							
Independent Variables	Expected Sign	Variable Description					
Dum_Sep	+	DumSep = 1 if there is a separation between voting rights and cash flow rights, 0 otherwise					
SepHigh	-	SepHigh = 1 if the level of separation exceeds the median level of separation, 0 otherwise					
Separation	+	Difference between voting rights and cash flow right					
Blockholders	+	Sum of voting rights held by blockholders					
Log_Herfindahl Diff.	+	The logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder.					
This table presents definition the difference between voting rights and cash flow rights in the acquiring firm. Table 9 ii	s of our independent va grights and cash flow r the hands of the CMS Appendix provides a	ariables. For all variables where we refer to separation (or ights), we refer to the extent of separation between voting controller, where the CMS controller is also an insider of more extensive reporting of both dependent, independent					

and control variables along with their respective data sources.

 $<sup>^{35}</sup>$  As an illustrative example, consider a case where the CMS controller has 40% of the votes, the second largest shareholder has 30% of the votes, and the third largest blockholder has 20% of the votes. The Herfindahl differences measure thus becomes  $0.02 [(0.4-0.3)^2 + (0.3-0.2)^2]$ .

<sup>&</sup>lt;sup>36</sup> As the distribution of votes amongst the three largest shareholders becomes more uneven, the logarithm of Herfindahl differences becomes higher.

# 4.4 Control Variables

This section outlines the control variables used in the multiple regression models. The control variables have been chosen in line with previous studies (e.g. Holmén and Knopf, 2004; Bigelli and Mengoli, 2004; Ben-Amar and André, 2006) to allow for comparisons of our result with these studies. See Table 4 for control variable descriptions.

### 4.4.1 Relative Size of Acquiring firm (*Relative Size*)

The gains to relatively large acquirers may come out statistically insignificant when measured as abnormal returns, since the gain to the acquirer would constitute a small fraction of the acquirer's size (Asquith, Bruner and Mullins, 1983). Jarrell and Poulsen (1989) confirm the result of Asquith et al. (1983) whereas other researchers do not document a significant relationship between relative size and acquiring firm abnormal return (Travlos, 1987; and Lang et al., 1991). To account for a potential relative size effect, we include a relative size variable (*Relative Size*) measured as the logarithm of the ratio between purchase price and market capitalization of the acquiring firm.

## 4.4.2 Target Firm Listing (Listed)

As our sample includes both public and private targets it becomes necessary to control for the public status of the target firm. Previous studies document that the acquiring firm enjoys greater value effects from acquiring private firms, as opposed to public firms (e.g. Chang, 1998; Fuller, Netter and Stegemoller, 2002; Conn et al., 2005; Faccio, McConnell and Stolin, 2005). Chang (1998) proposes three hypotheses to explain this phenomenon. First, according to 'the limited competition hypothesis', the takeover market is less competitive for privately held targets due to the higher information and search cost resulting from the scarcity of public information on privately held targets. The less competitive the takeover market the greater the likelihood of underpayment, and thereby positive bidder returns, ceteris paribus (Chang, 1998). Second, according to 'the monitoring hypothesis', the acquisition of private firms through common stock exchanges commonly gives rise to outside blockholders, since private firms by definition are owned by a small group of shareholders (Chang, 1998; Fuller et al., 2002). These outside blockholders can effectively monitor management, and thus increase firm value (Shleifer and Vishny, 1986). The greater the relative size of the target to the bidder, the greater the likelihood of blockholder formation and a positive monitoring effect (Fuller et al., 2002). Third, according to 'the information hypothesis', the willingness of target shareholders to hold a substantial number of shares in the bidding firm when stock is used as payment method, signals positive information about the bidding firm, which results in a positive stock price reaction to the bidder proposal (Chang, 1998). To capture the effect of target firm listing status, we include a dummy variable (Listed) that assumes a value of one if the target firm is listed on a stock exchange, and zero otherwise.

#### 4.4.3 Relatedness of Activities (Related)

Within the diversification literature, relatedness of the activities of the acquiring- and target firm has been identified as a key factor being linked to the extent of value creation from M&A (Datta, Pinches and Narayanan, 1992). Specifically, researchers have argued that synergies are more easily achieved in related acquisitions as opposed to unrelated or conglomerate transactions (Salter and Weinhold, 1979; Lang, Stulz and Walking, 1994). Lubatkin (1983, 1987) and Singh and Montgomery (1987) have proposed three additional positive wealth effects of related acquisitions: merger-related economies of scale, economies of scope and market power economies. However, other researchers have proposed arguments in favor of conglomerate acquisitions having more positive wealth effects for the bidding firm. These include cheaper access to capital (Steiner, 1975), increased income stability, decreased probability of bankruptcy and higher market value of debt of the combined group (Higgins and Schall, 1975; Leontiades, 1986; Lewellen, 1971). To capture the effect of relatedness of the activities of the acquiring- and target firm, we include a dummy variable (*Related*) that assumes a value of one if the acquiring firm and the target firm have the same two-digit main industry code.

#### 4.4.4 Mode of Payment (CASH)

According to financial theory (e.g. Myers and Majluf, 1984), the chosen method of financing a project may signal relevant information to the market, under the assumption of asymmetric information where the manager has inside information about the intrinsic value of the firm. In situations where the firm is overvalued (i.e. the market value of the firm exceeds the intrinsic value of the firm), the manager's preferred mode of financing a project is through a common stock exchange offering. In the opposite case where the firm is undervalued, the manager will prefer to finance the project with cash. As such, a stock exchange offering will be interpreted by market participants as bad news<sup>37</sup> about the true value of the bidding firm whereas a cash offering will be interpreted as good news (Myers and Majluf, 1984). Given that such signaling effects are of importance, the change in the acquiring firm's stock price at announcement reflects not only the gain or loss from the acquisition (weighted by the probability of the bidding proposal being realized) but also the signaling effects (Travlos, 1987). Thus, all else equal, acquiring firms that pay in cash will have higher announcement returns.

Consistent with this theory, previous studies document that the mode of payment is an important factor that affects the extent of value creation in M&A transactions (Andrade, Mitchell and Stafford, 2001; André, Ben-Amar and L'Her, 2000; and Conn et al., 2005). More specifically, studies have shown a positive relationship between pure cash settlement and value creation in M&A transactions as represented by the market reaction to M&A (Travlos, 1987; Huang and Walking, 1987; Sudarsanam and Mahate, 2003). To capture the information effect of the chosen mode of payment on the bidding firm's return, we include a dummy variable (*CASH*) that takes on the value of one if the transaction is paid entirely in cash.

#### 4.4.5 Cross Border Transactions (Cross border)

The effect of cross-border transactions on acquiring firm performance has been two-parted in the literature. Eun, Kolodny and Scheraga (1996) and Cakici, Hessel and Tandon (1991) find that non-U.S. firms acquiring in the U.S. market enjoy 2% abnormal returns on average. Eun, Kolodny and Scheraga note that cross-border transactions should create value for both acquiring and target firms when the combined firm can exploit market imperfections in outside markets. However, cultural differences and integration costs could undermine the potential gains from exploiting market imperfections. Conn et al. (2005) document that cross-border acquisitions by UK firms on average yield lower announcement and long run returns. Eckbo and Thornburn (2000) investigate Canadian targets and find that U.S. acquirers obtain lower returns than Canadian acquirers. Similarly, André, Kooli and L'Her (2004) find that cross-border acquisitions by Canadian firms result in lower acquiring firm performance in the long run. To capture the effect of cross-border transactions, we include a dummy variable (*Cross border*) that equals one if the transaction is cross-border, and zero otherwise.

<sup>&</sup>lt;sup>37</sup> The theoretical position of Myers and Majluf (1984) with respect to stock issues is supported empirically by DeAngelo, DeAngelo and Rice (1984).

Control Variable Definitions								
A. Target Firm Characteristics								
Relative Size	+	Log of the ratio between purchase price and market capitalization of the acquiring firm	Ben-Amar and André (2006), Holmén and Knopf (2004)**, Yen and André (2007)***, Bigelli and Mengoli (2004)***					
Listed	-	Listed = 1 if target firm is listed on a stock exchange, 0 otherwise	Ben-Amar and André (2006)**, Bigelli and Mengoli (2004)*					
B. Transaction Characteristics								
Mode of payment (CASH)	+	CASH = 1 if it is a pure cash offer, 0 otherwise.	Ben-Amar and André**, Holmén and Knopf (2004), Yen and André (2007), Bigelli and Mengoli (2004)					
Related	+	Related = 1 if acquiring and target have the same 2-digit SIC code, 0 otherwise	Ben-Amar and André (2006), Yen and André (2007), Holmén and Knopf (2004), Bigelli and Mengoli (2004)					
Cross border	+	Cross border = 1 if cross- border transaction, 0 otherwise	Ben-Amar and André***, Yen and André (2007)					
This table presents definitions of our control variables. Table 9 in Appendix provide a more extensive								

#### Tabla 4

reporting of both dependent, independent and control variables along with their respective data sources.

# 4.5 Hypothesis testing

#### 4.5.1 Hypothesis 1

To test our first hypothesis - whether the presence of a CMS controller has a negative effect on acquiring firm performance when the separation between voting rights and cash flow rights in the hands of the CMS controller is high - we run a multiple regression on acquiring firm aggregated abnormal return<sup>38</sup> (AAR), against the dummy variable SepHigh and a set of control variables.

<sup>&</sup>lt;sup>38</sup> We run the regression using as the dependent variable: 1) *3-day CAR*; 2) *11-day CAR*; 3) *FAMACAR*; 4) FAMABHAR; 5) MARKETCAR; 6) MARKETBHAR

Regression model 1 for acquiring firm aggregated abnormal return is expressed as:

(15)  $AAR_{i} = \beta_{1}SepHigh_{i} + \beta_{2}RelativeSize_{i} + \beta_{3}Listed_{i} + \beta_{4}Related_{i} + \beta_{5}Cash_{i} + \beta_{6}Crossborder_{i}$ 

Where:
i: indicates transaction i
$AAR_i = Aggregated \ abnormal \ return$
$SepHigh_i = 1$ if the level of separation in the hands of the Insider is above the median (i.e. 'high')
$RelativeSize_i = Log of the ratio between purchase price and market capitalization of the acquirer$
Listed <sub>i</sub> = if the target firm is listed on stock exchange, 0 otherwise
Related <sub>i</sub> = 1 if the acquirer and target firm have same 2 digit SIC code, 0 otherwise
$Cash_i = 1$ if it is a pure cash offer, 0 otherwise
Crossborder <sub>i</sub> = 1 if the transaction is a cross – border transaction, 0 otherwise

The null hypothesis states that there is no relationship between high levels of separation in the hands of the CMS controller and acquiring firm aggregated abnormal return. The alternative hypothesis states that there is a negative relationship between high levels of separation and acquiring firm aggregated abnormal return, which would suggest a negative value for the coefficient ( $\beta_1$ ).

H<sub>0</sub>:  $\beta_1 = 0$  H<sub>1</sub>:  $\beta_1 < 0$ 

#### 4.5.2 Hypothesis 2

Given that a high level of separation has a negative impact on acquiring firm performance, we want to examine the magnitude of this relationship. To test our second hypothesis - whether acquiring firm performance decreases as the separation between voting rights and cash flow rights in the hands of the CMS controller increases - we run a multiple regression on acquiring firm aggregated abnormal return (AAR) against a continuous variable that captures the extent of separation in the hands of the CMS controller (*Separation*) and a set of control variables.

The regression model 2 for acquiring firm aggregated abnormal return is expressed as:

(16)  $AAR_i = \beta_1 Separation_i + \beta_2 RelativeSize_i + \beta_3 Listed_i + \beta_4 Related_i + \beta_5 Cash_i + \beta_6 Crossborder_i$ 

Where:

 $i: indicates\ transaction\ i$ 

Separation<sub>i</sub> = Voting rigths less cash flow rights in the hands of the CMS controller  $AAR_i$ , RelativeSize<sub>i</sub>, Listed<sub>i</sub>, Related<sub>i</sub>, Cash<sub>i</sub>, Crossborder<sub>i</sub> are defined as in Model 1 The null hypothesis states that there is no relationship between the extent of separation in the hands of the CMS controller and acquiring firm aggregated abnormal return. The alternative hypothesis states that there is a negative relationship between the extent of separation and acquiring firm aggregated abnormal returns, which would suggest a negative value for the coefficient ( $\beta_1$ ).

H<sub>0</sub>: 
$$\beta_1 = 0$$
 H<sub>1</sub>:  $\beta_1 < 0$ 

#### 4.5.3 Hypothesis 3

Given that there is a negative relationship between the level of separation and acquiring firm performance, we want to test our third hypothesis. To test Hypothesis 3 - whether the presence of blockholders has a positive effect on acquiring firm performance by monitoring the CMS controller - we extend model 2 by including a continuous variable that captures the total amount of voting rights in the hands of blockholders (*Blockholders*).

Regression model 3 for acquiring firm aggregated abnormal return is expressed as:

(17)  $AAR_i = \beta_1 Separation_i + \beta_2 Blockholders_i + \beta_3 RelativeSize_i + \beta_4 Listed_i + \beta_5 Related_i + \beta_6 Cash_i + \beta_7 Crossborder_i$ 

Where: i: indicates transaction i Separation<sub>i</sub> = Voting rigths less cash flow rights in the hands of the CMS controller Blockholders<sub>i</sub> = Sum of votes in the hands of blockholders AAR<sub>i</sub>, RelativeSize<sub>i</sub>, Listed<sub>i</sub>, Related<sub>i</sub>, Cash<sub>i</sub>, Crossborder<sub>i</sub> are defined as in Model 1

The null hypothesis states that there is no relationship between the amount of voting rights in the hands of blockholders and acquiring firm aggregated abnormal return. The alternative hypothesis states that there is a positive relationship between the amount of voting rights in the hands of blockholders and acquiring firm aggregated abnormal returns, which would suggest a positive value for the coefficient ( $\beta_2$ ).

H<sub>0</sub>: 
$$\beta_2 = 0$$
 H<sub>1</sub>:  $\beta_2 > 0$ 

#### 4.5.3 Hypothesis 4

Given that there is negative relationship between the level of separation and acquiring firm performance, we also want to test whether higher contestability of the CMS controller's control position has a positive effect on acquiring firm performance. To test Hypothesis 4 we extend model 2 by including a continuous variable that captures the amount of contestability of control (*Log\_Herfindahl Differences*). As a result of the way *Log\_Herfindahl Differences* is constructed, we expect a negative coefficient estimate, as this implies that a more equal distribution of voting rights amongst the largest shareholders (lower *Log\_Herfindahl Differences*) has a positive effect on acquiring firm performance.

Regression model 4 for acquiring firm aggregated abnormal return is expressed as:

(18)  $AAR_i = \beta_1 Separation_i + \beta_2 Log_HerfindahlDiff_i + \beta_3 RelativeSize_i + \beta_4 Listed_i + \beta_5 Related_i + \beta_6 Cash_i + \beta_7 Crossborder_i$ 

Where:

i: indicates transaction i Separation<sub>i</sub> = Voting rigths less cash flow rights in the hands of the CMS controller  $Log_HerfindahlDiff_i$  = the logarithm of the sum of squares of the differences in voting rights between the largest and second largest, and the second and third largest shareholder  $AAR_i$ , RelativeSize<sub>i</sub>, Listed<sub>i</sub>, Related<sub>i</sub>, Cash<sub>i</sub>, Crossborder<sub>i</sub> are defined as in Model 1

The null hypothesis states that there is no relationship between the extent of contestability of control and acquiring firm aggregated abnormal return. The alternative hypothesis states that  $Log\_Herfindahl Differences$  has a negative effect on aggregated abnormal returns, which would suggest a negative value for the coefficient ( $\beta_2$ ).

H<sub>0</sub>:  $\beta_2 = 0$  H<sub>1</sub>:  $\beta_2 < 0$ 

# 4.6 Data Processing and Sample Selection

We follow the same sample selection procedure as Ben-Amar and André (2006). The data sample of Swedish M&A is obtained from Thompson Reuter's database. The sample meets the following criteria: [1] Observations are for the time period 2003 - 2013; [2] Acquiring

firms are Swedish listed companies; [3] Deals include completed and uncompleted<sup>39</sup> mergers or acquisitions of majority stakes; [4] Acquiring firms with several M&A transactions during the period are included; [5] Only transactions with a deal value greater than or equal to US\$10 million are included; [6] Transactions undertaken by the same acquirer within the same 11-day event window are excluded<sup>40</sup>; [7] Only transactions undertaken by acquiring firms with available ownership data from Modular Finance Holdings or from the book series 'Ägarna och Makten' are included.

A first sample consisting of 223 transactions and 197 acquiring firms resulted from our primary screening criteria. As a further screening criteria, an ultimate owner must pertain to the ownership structure of the acquiring firm, since our independent variables serve to capture the extent of separation between voting rights and cash flow rights in the hands of the ultimate owner. Hence, all transactions undertaken by acquiring firms with a dispersed ownership structure drop out of our sample (14 observations). Furthermore, we require that the ultimate owner of the acquiring firm also is an insider (i.e. part of the board of directors or CEO), as insiders can initiate M&A transactions in line with their private benefits. This requirement is in line with previous studies (e.g. Holmén and Knopf, 2004; Ben-Amar and André, 2006). A total of 100 observations drop out of our sample as a result of this screening criterion. The 109 observations that remain (hereafter referred to as our Baseline sample) are limited to fall into the category of family firms. This bias towards family firms is a result of: [1] data limitations on ownership structure of private and foreign firms; [2] data limitations on insiders (see section 6.4 for an elaboration on the reason for the family firm bias). Our sample is then further reduced due to lack of share price data required for: [1] the short run event study in order to measure 3-day CAR and 11-day CAR; and [2] the long run event study in order to measure 36-month CAR and 36-month BHAR. Additionally, missing data for some of our control variables further reduce our sample size. A Final sample size of 62 transactions is used in the multiple regressions with: [1] 3-day CAR as dependent variable; and [2] 11-day CAR as dependent variable. A Final sample size of 58 transactions is used in the regressions with: [1] 36-month CAR as dependent variable; and [2] 36-month BHAR as dependent variable. Refer to table 9 in Appendix for an overview of the effect of our

<sup>&</sup>lt;sup>39</sup> Uncompleted deals are only included in the short-run event study and are considered to be withdrawn after the short-run event window. This is motivated by the fact that the short-run event study captures market participants expectation of the value created through the transaction whereas the long-run event study serves to capture actual acquiring firm performance, and the acquiring firm is not an acquiring firm if the deal is not completed.

<sup>&</sup>lt;sup>40</sup> These observations are excluded to avoid biased CAR- estimates since it will not be possible to isolate the effect of each transaction in the case of overlapping event periods.

selection criteria on the final sample size. See Table 10 and of Table 11 in Appendix for information on the annual number of transactions, the average value per transaction and the annual total value of all transactions for our baseline and final sample. Our baseline and final sample match quite well with respect to the average value per transaction over the period 2003 - 2013, which is US\$ 248 million for the former and US\$ 228 million for the latter. Furthermore, Graph 1 in the Appendix shows that our baseline and final sample size follow a similar distribution of percentage number of transactions over the period 2003-2013. This indicates that our reduction in sample size for the final regressions has not introduced a bias toward a specific year, if compared to the baseline sample. Table 12 and Table 13 in the Appendix reports the number of transactions by acquiring firm industry, and shows that both our baseline and final sample have a bias toward manufacturing and financial services (see also graph 2 in the Appendix).

# 5. Descriptive Statistics and Results

# 5.1 Descriptive Statistics

The results discussed in this section will primarily refer to 3-day CAR as our measure of acquiring firm performance, as 3-day CAR is the dependent variable used in our multiple regressions reported in section 5.2. Please refer to table 14 in Appendix for an exhaustive reporting on descriptive statistics for all our measures of acquiring firm performance for our *Baseline* as well as *Final* sample, and table 15 in Appendix for descriptive statistics for our family and non-family sample. It is important to note that Table 14 and Table 15 are not directly comparable as the variables *Cash flow rights, Voting rights* and *Separation* reported in Table 14 only include firms where the CMS controller is an insider whereas the variables *Cash flow rights, Voting rights* and *Separation* reported in table 15 are representative for CMS controllers regardless of whether they are insiders or not<sup>41</sup>.

The descriptive statistics for our *Baseline* and *Final* sample reported in table 14 indicate that Swedish M&A transactions on average created value for shareholders of the acquiring firm over the period 2003-2013. The average *3-day CAR* around announcement is

<sup>&</sup>lt;sup>41</sup> Due to data limitations with regards to insider data (reported in section 6.4), our baseline and final sample are restricted to firms with an ultimate owner that is a family. However, in table 15 in Appendix we only want to compare families to non-families, regardless of whether the ultimate owner is an insider, as we want to identify whether there are any important differences between family and non-family firms. We can only compare the two group when we remove the requirement of the ultimate owner being an insider, since the insider variable, again, due to data limitations, does not exist for non-family firms.

positive (average = 1.20%) and significant at the 1% level. This result is consistent with both European studies (e.g. Dumotier and Pecherot, 2000; Bohmer, 2000; Bigelli and Mengoli, 2004) and Canadian studies (e.g. Eckbo and Thornburn, 2000; Ben-Amar and André, 2006) that report positive abnormal returns around the announcement for acquiring firm shareholders. By contrast, our result differs from studies on U.S. and UK M&A that instead tend to find negative or insignificant acquiring firm abnormal returns around announcement (e.g. Bruner, 2002; Alexandridis et al., 2010). It is plausible that the difference in ownership structure of American and British firms versus Canadian and European firms (other than British) explain this difference in acquiring firm value creation. As ownership structures in Canada and Sweden (and other European countries) exhibit high ownership concentration, it is expected that the principal-agent conflict between owners and managers is mitigated. As such, the number of value destructive M&A motivated by for example managerial empire building preferences is expected to be lower in countries such as Sweden (and other European countries) and Canada. By contrast, U.S. and UK firms are characterized by dispersed ownership, and thus, according to theory (e.g. Shleifer and Vishny, 1986), the managerowner conflict is expected to be more prevalent there. However, this plausible relationship has not been tested in this study and is only based on theory, as we only investigate Swedish M&A transactions.

Since we have a bias toward family owned firms in our final sample, we want to understand whether there are any important differences between family owned- and non-family owned firms. Table 15 in Appendix shows that higher levels of separation between voting rights and cash flow rights is more prevalent in family firms. Family firms have a mean separation of 18.7% and non-family firms have a mean separation of 8.3%, the difference being statistically significant at the 1% level. Whereas the capital ownership does not differ between the two groups, voting rights do. The ultimate owner of family firms holds on average 39.8% of the voting rights whereas the ultimate owner of non-family firms holds 29.3% of the voting rights, the difference being statistically significant at the 1% level. Thus, the higher level of separation for family firms stems from the higher share of voting rights. This suggests that family firms ought to have a larger fraction of either dual class shares, cross shareholdings or pyramidal structures or a combination of the three, which is exactly what the data reports<sup>42</sup>. 73.1% of family firms are dual class firms, which can be compared to 37.7% of non-family firms being dual-class firms, the difference being statistically significant

 $<sup>^{42}</sup>$  We have not reported cross-shareholdings as only an insignificant number of observations (1 out of 62) appeared to use cross shareholdings as a means to obtain separation.

at the 1% level. Cronqvist and Nilsson (2003) report somewhat higher statistics for the amount of family owned firms being dual class firms ( $90\%^{43}$ ). Further, we find that family firms use pyramidal structures in 79.7% of the cases, whereas non-family firms use pyramid structures in 46.4% of the cases, the difference being statistically significant at the 1% level. This result can be contrasted to Holmén and Knopf (2003) who document that 54.5% of their total sample (including both family and non-family firms) use pyramidal structures, which is somewhere in between our findings for family and non-family firms.

All our measures of aggregated abnormal return for the acquiring firm suggest that family firms on average generate more positive abnormal returns. However, we do not find a statistically significant difference in the amount of positive abnormal returns obtained by acquiring firm shareholders when the acquiring firm is family-owned versus non-family owned<sup>44</sup>. This result can be compared to Ben-Amar and André's (2006) study on Canadian M&A, which shows that family firms generate greater positive abnormal returns. Further, whereas Ben-Amar and André (2006) find that separation between voting rights and cash flow rights is almost exclusively a family-firm phenomenon in Canada, we find that separation is a more widespread characteristic of Swedish firm's ownership structure, as it prevails in non-family firms as well. However, we do find that separation is a more distinctive characteristic of family firms, as represented by a higher mean separation for family firms (18.7% compared to 8.3%). This result is consistent with the result of Cronqvist and Nilsson (2003), who find that separation is a characteristic of all types of CMS firms, not only family owned CMS firms. Further, in line with our results, they document that the level of separation is higher for family firms.

Since we use our *Final* sample in the multiple regressions, we want to understand whether it is representative of our *Baseline* sample, or if data losses have introduced specific biases. Based on the relative differences in means of our variables between the two samples, we have identified four variables with noteworthy differences: [1] *11-day CAR* (36.8% lower for *Final* sample); [2] the dummy *Listed* (42.5% more listed companies in *Final* sample); [3]

<sup>&</sup>lt;sup>43</sup> Cronqvist and Nilsson (2003) report statistics for family firms in two different categories; 'Founder' and 'Non-founder' families. As we do not use this distinction but classify both types of firms as 'Family', we have calculated the weighted-average of the two groups.

<sup>&</sup>lt;sup>44</sup> There is a statistical significant difference in the average long-run (36 months) abnormal stock return between family firms and non-family firms, based on two (out of six) of our measures for acquiring firm performance. 36-month CAR (BHAR) with the market adjusted model as expected return model shows that family firms generate greater positive abnormal returns, statistically significant at the 5% level (10% level). However, the other four measures of acquiring firm performance suggests no statistically significant difference in positive abnormal stock return between family and non-family firms. Based on this result, we cannot draw any conclusion about a statistically significant difference in abnormal stock returns between the two groups.

Blockholders (22.7% lower for Final sample); and [4] Log Herfindahl Differences (16.6% higher for *Final* sample). In total, we do not consider the reduced sample to be a noteworthy problem for generalizability of our results since our main explanatory variables (SepHigh, Separation, Blockholders and Log Herfindahl Differences) are almost unaffected by the data losses. However, we acknowledge that the difference in 11-day CAR could be an area of concern as it is reduced by as much as 36.8% (from 1.9% to 1.2%).

The descriptive statistics for our final sample show that the ultimate owner on average holds 23.6% of the cash flow rights and 46.4% of the voting rights (see table 14 in Appendix)<sup>45</sup>. This result can be contrasted to the result of Cronqvist and Nilsson (2003), who find significantly higher averages for the amount of voting rights (61.0%) and cash flow rights (37,9%) held by ultimate owners that are classified as families<sup>46</sup>. This difference in result might be due to differences in: [1] method of measuring voting rights and control rights in the hands of the ultimate owner<sup>47</sup>; [2] differences in time period of study<sup>48</sup>; [3] differences in sample<sup>49</sup>; or [4] measurement error. Based on our definition of control (>10% and >20%), we see that the ultimate owner holds more voting rights than required for control (46.4% > cutoff), which implies that the ultimate owner holds more cash flow rights than required for control. This finding is consistent with Bergström and Rydqvist's (1990) finding for Swedish listed firms. They interpret this result as an indication of the ultimate owner's intent not to

<sup>&</sup>lt;sup>45</sup> Using 20% of votes as definition of control does not alter our conclusions. Average cash flow ownership in the hands of the ultimate owner becomes 24.4% (instead of 23.6%), and average voting rights becomes 47.9% (instead of 46.4%). This consistency in results for the two cut-offs can be explained by the fact that only three observations (out of 62) are lost when we change our cut-off for control to 20% instead of 10%. It is worth noting that for our Baseline sample, only 14 out of 109 observations represents ultimate owners with voting rights between 10% and 20%. Apparently, based upon our sample, high levels of voting rights is an inherent characteristic of firms that have an ultimate owner that is a *family* and an *insider* in Sweden.

<sup>&</sup>lt;sup>46</sup> Cronqvist and Nilsson (2003) report statistics for family firms in two different categories; 'Founder' and 'Non-founder' families. As we do not use this distinction but classify both types of firms as 'Family', we have calculated the weighted-average of the two groups. <sup>47</sup> We account for separation that is achieved through the use ofeither dual class shares, pyramid structures,

cross-shareholdings, or any combination of the three. By contrast, Cronqvist and Nilsson (2003) only consider dual class shares out of these three. This is expected to have an effect on both the measurement of voting rights and cash flows rights. This can be illustrated by the following example where firm A represents the acquiring firm. Consider that the ultimate owner controls firm A through a pyramid structure. The ultimate owner holds 20% of the votes in firm B which in turn holds 30% of the votes in firm A. Assume that firm A is a dual class firm with a vote ratio of 1:10, meaning each B-share has 1/10 of the vote of the A-share. Cronqvist and Nilsson (2003) would consider B to be the ultimate owner and would report voting rights of 30%. We would, instead, account for the pyramid structure and consequently report voting rights of 20% in line with the weakest link (see section 4.3.1.1). With regards to the cash flow rights, Cronqvist and Nilsson (2003) would report 3% [30%\*(1/10)] under the assumption that firm B only holds A shares. We would report 0.06% [3%\*0,2]. This example offers a potential explanation as to why we report lower averages for the amount of voting rights and cash flow rights held by the ultimate owner. <sup>48</sup> Cronqvist and Nilsson (2003) uses a sample of firms between 1991-1997.

<sup>&</sup>lt;sup>49</sup> For example, our sample only includes firms with a strategy that includes growth via M&A, whereas Crongvist and Nilsson (2003) do not have this restriction.

expropriate minority shareholders, because if she had the intent to expropriate she would be concerned with achieving control whilst minimizing her cash flow rights. However, they also offer another possible explanation, which is that the ultimate owner has an incentive to hold more cash flow rights than required for control in order to avoid being discounted in the market by signaling to the market that the intent is not to expropriate the minority.

### 5.2 Results

#### 5.2.1 Hypothesis 1

To test our first hypothesis - whether the presence of a CMS controller has a negative effect on acquiring firm performance when the separation between voting rights and cash flow rights in the hands of the CMS controller is high - we run a multiple regression on acquiring firm 3-day CAR, against the dummy variable SepHigh (see Model (1) Table 5). Note that the control variable Crossborder has been omitted from Model (1), as well as the remaining regression models. The exclusion of *Crossborder* is motivated by the fact that the dummy variable turned out to be very insignificant and it also reduced the adjusted R-squared when it was included in the regression models<sup>50</sup>. The coefficient estimate for SepHigh is -0.033, significant at the 5% level, thus supporting our hypothesis that high levels of separation has a negative impact on the extent of value creation to the acquiring firm's shareholders. The interpretation of the coefficient is that on average, firms with high levels of separation have 3.3% lower 3-day CAR than firms with low levels of separation<sup>51</sup>. The adjusted R-squared for model (1) is 27.2%, which means that our model is able to explain 27.2% of the variation in 3-day CAR. It is interesting to note that if we drop the variable SepHigh in model (1), our adjusted R-squared decreases from 27.2% to 14.1%. This result suggests that high levels of separation is able to explain much (13.1%) of the variation in 3-day CAR. To strengthen our result that the level of separation has to be high for there to be a negative effect on acquiring firm performance, we also tested a modified version of Model (1), where the dummy variable SepHigh was replaced with the dummy variable *DumSep*. This dummy variable only captures whether separation exists. *DumSep* did not show up significant, result suggesting that the mere presence of separation is not what affects acquiring firm performance. Rather, the level of separation must be high for there to be a negative effect.

<sup>&</sup>lt;sup>50</sup> The exclusion of *Crossborder* did not have any effects on the other variables (i.e. no omitted variable bias), such as sign changes, and it could therefore be omitted from the model.

<sup>&</sup>lt;sup>51</sup> Note that since we only include acquiring firms with a CMS structure (i.e. separation exists), acquiring firms classified as having low levels of separation do not include acquiring firms with zero separation.

However, when *11-day CAR* is used as dependent variable (see model (1) Table 16 in Appendix) we are not able to show that high levels of separation can explain the variation in 11-day CAR, as *SepHigh* is no longer significant<sup>52</sup>. Further, the adjusted R-squared is only 20.3%, which can be compared to the 27.2% of Model (1) with *3-day CAR* as dependent variable. This is not necessarily evidence that contradicts our hypothesis, as it might be the case that conflicting events during the longer event-window interfere with the effect of the M&A transaction<sup>53</sup>. Thus, *SepHigh* would no longer be able to explain the variation in CAR, as the variation in CAR would also be affected by other events, that might be unrelated to the level of separation. Other possible explanations will be discussed in section 6.1 (Evaluation of Results).

The results of the short run event study relies upon the assumption of an efficient market. Our long-run event studies challenge this assumption. By using long-run acquiring firm aggregated abnormal return in Model (1), we test whether high levels of separation can explain the *actual*<sup>54</sup> value created from the deal. We find support for our hypothesis from the regression models for which we use *FAMABHAR* and *MARKETBHAR* as the dependent variable (see Table 18 and 20 in Appendix). The regression model for *FAMABHAR* shows a coefficient of -0.352, and the regression model for *MARKETBHAR* shows a coefficient of -0.284, both significant at the 10% level. However, for our two remaining long run regression models, we do not obtain significant results for *SepHigh*, although the coefficient estimate shows up with the expected sign (see Table 17 and 19 in Appendix).

In total, high separation can explain the variation in *3-day CAR*, *FAMABHAR* and *MARKETBHAR*. Thus, we find support for our hypothesis - that the presence of a CMS controller has a negative effect on acquiring firm performance when the separation between voting rights and cash flow rights is high.

#### 5.2.2 Hypothesis 2

To test our second hypothesis – whether acquiring firm performance decreases as the separation between cash flow and voting rights in the hands of the CMS controller increases

<sup>&</sup>lt;sup>52</sup> The result is to some extent expected following an analysis of the Pearson correlation between *SepHigh* and *11-day CAR*, which is only - 0.0794 with a p-value of 0.427. <sup>53</sup> This could, of course, be checked by manually investigating whether other information about the acquiring

<sup>&</sup>lt;sup>35</sup> This could, of course, be checked by manually investigating whether other information about the acquiring firms have been released during the 11-day event period. A random selection of transactions for which *3-day CAR* and *11-day CAR* deviate significantly have been examined to identify whether conflicting events have occurred (see section 6.1)

<sup>&</sup>lt;sup>54</sup> By *actual performance*, we refer to the performance of the acquiring firm after the transaction has gone through, and the effects of the transaction are being reflected in the financial statements of the acquiring firm.

- we run a multiple regression on acquiring firm 3-day CAR, against the continuous variable Separation (see model (2) Table 5). The coefficient estimate for Separation is -0.187, significant at the 1% level, thus supporting our hypothesis that as the level of separation increases, acquiring firm performance decreases. The interpretation of the coefficient is that a one-percentage increase in the level of separation reduces 3-day CAR by 18.7%. The adjusted R-squared for model (2) is 33.2%. When 11-day CAR is employed as the dependent variable, the results, again, appear weaker compared to 3-day CAR (see model (2) Table 16 in Appendix). Separation is not significant but has the predicted (negative) sign. In addition, adjusted R-squared is lower (22.8%) than when 3-day CAR is used as the dependent variable.

Our regression models for long run aggregated abnormal return with *FAMACAR*, *FAMABHAR* and *MARKETBHAR* as the dependent variable show result that support our hypothesis (see model (2) Table 17 – 18 and 20 in Appendix). However, we do not obtain significant results for *MARKETCAR* (see model (2) Table 19 in Appendix). In total, we find quite conclusive evidence for hypothesis 2 - that acquiring firm performance decreases as the separation between cash flow and voting rights in the hands of the CMS controller increases - as three out of our six regression models support this hypothesis.

#### 5.2.3 Hypothesis 3

As we find support for hypothesis 2, we want to test whether the presence of blockholders has a positive effect on acquiring firm performance, through a monitoring effect on the CMS controller (Hypothesis 3). To test hypothesis 3, we extend model (2) to also include the continuous variable *Blockholders*. The coefficient estimate for *Blockholders* is 0.162, significant at the 1% level (see model (3) Table 5). Hence, a one percentage increase in voting rights held by blockholders increase *3-day CAR* by 16.2%. The result thus supports our hypothesis that the presence of blockholders reduces the extent of minority expropriation. Furthermore, adjusted R-squared of model (3) is 39.2%, representing an increase of 6.0% compared to model (2). However, when *11-day CAR* is used as the dependent variable we do not obtain significant results on the effect of blockholders, but the coefficient estimate has the expected (positive) sign. Furthermore, the strength of the regression model is lower than when *3-day CAR* is used as the dependent variable.

Out of our regression models for long-run aggregated abnormal return, we find support for our hypothesis on the effect of blockholders when *MARKETCAR* and *MARKETBHAR* are used as the dependent variable. The regression model for *MARKETCAR* 

shows a coefficient estimate of 1.006 and the regression model for *MARKETBHAR* shows a coefficient estimate of 1.732, both significant at the 10% level (see Table 19 –20 in Appendix). It is clear that model (3) is not able to explain the variation in *MARKETCAR* and *MARKETBHAR* to the same extent as it is able to explain the variation in *3-day CAR*, since the adjusted R-squared is 60% lower for the regression on *MARKETCAR* and 44% lower for the regression on *MARKETBHAR*.

Taken as a whole, our results lend support for the hypothesis that the presence of blockholders has a positive effect on acquiring firm performance, both as captured by the market's expectation (*3-day CAR*) and as captured by long-run performance (*MARKETCAR* and *MARKETBHAR*).

#### 5.2.4 Hypothesis 4

In model (4), we test whether higher contestability of the CMS controller's control position has a positive effect on acquiring firm performance. We therefore extend model (2) to include the continuous variable  $Log\_Herfindahl$  Differences, which captures the extent of contestability of control<sup>55</sup> As previously explained, higher values for this variable imply lower contestability, and thus an increase in  $Log\_Herfindahl$  Differences is expected to have a negative effect on acquiring firm performance. The coefficient estimate is -0.041, significant at the 1% level, when 3-day CAR is used as the dependent variable (see model (4) Table 5). The result thus supports our hypothesis that lower (higher) levels of contestability of control has a negative (positive) effect on acquiring firm performance. It is noteworthy that the significant level of the variable *Separation* is reduced from 1% to 10% if comparing model (4) to model (2). One plausible explanation for this observed effect is the high Pearson correlation between *Separation* and *Log\\_Herfindahl Differences* (0.496\*\*\*)<sup>56</sup>.

The result when using *11-day CAR* as the dependent variable in model (4) offers some support for our Hypothesis on the effect of contestability of control (see model (4) Table 16 in Appendix). However, adjusted R-squared is considerably lower (74% lower) when *11-day CAR* is used as the dependent variable compared to when *3-day CAR* is used. With respect to our long run aggregated abnormal return metrics, no model lends support to our fourth hypothesis. In sum, *Log\_Herfindahl Differences* is only able to explain the variation in *3-day* 

<sup>&</sup>lt;sup>55</sup> *Log\_HerfindahlDiff* captures the effect of blockholders, although the measure focuses on contestability rather than the pure number of votes in the hands of blockholders. Consequently, we do not include the variable *Blockholders*, since there is a high correlation between the two variables (0.695, significant at the 1% level).

<sup>&</sup>lt;sup>56</sup> The high correlation between *Separation* and *Log\_HerfindahlDiff* is expected, as both variables include the number of votes held by the ultimate owner.

*CAR* and *11-day CAR*. We therefore conclude that our evidence of higher contestability of the CMS controller's control position having a positive effect on acquiring firm performance is limited.

Table 5: Multiple Regression on 3-day CAR									
Multivariate OLS Regressions									
	Predicted Sign	Model (1)	Model (2)	Model (3)	Model (4)				
CAR (-1, +1)									
SepHigh	_	-0.033**							
Separation	_		-0.187***	-0.153***	-0.099*				
Blockholders	+			0.162***					
Log_Herfindahl Diff.	_				-0.041***				
Relative Size	+	0.040***	0.037***	0.027**	0.035***				
Listed	_	-0.038***	-0.039***	-0.043***	-0.046***				
Related	+/	-0.038**	-0.040**	-0.033**	-0.038***				
Mode of Payment (CASH)	+	0.017	0.023*	0.015	0.016				
Constant		0.103***	0.122***	0.094***	0.071***				
Adjusted R-squared		0.272	0.332	0.392	0.439				
F-statistic		4.93	6.05	6.61	7.81				
Observations		62	62	62	62				

This table provides results for our multivariate OLS regressions. The dependent variable is 3-day CAR. The models are numbered in accordance with the number of the hypothesis that they test. Observations consist of acquiring firms with a CMS structure, where the CMS controller is an Insider and classified as a Family. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log\_Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. Listed is a dummy variable that quals one if the target firm is listed, zero otherwise. Related is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment(CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise. Year- and industry dummies have been included in the regression model when they have proved to be significant. Reported significance levels are based on a one-sided significance level except for the variable *Related*. Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*, respectively.

# 6. Discussion

This section discusses the validity and reliability of our results in the light of the methodological choices made. It discusses the sensitivity of our results to the application of specific estimation models as well as how well the underlying assumptions of these models appear to hold. This section also discusses the ability to extend our results beyond the specific sample. Furthermore, alternative interpretations and contradictions of our results are discussed.

# 6.1 Evaluation of results

We find evidence that acquiring firms with higher levels of separation between voting- and cash flows rights in the hands of the CMS controller, experience a worse market reaction following the announcement of M&A transactions. We further find evidence of these firms performing worse in the long run, as measured by long run aggregated abnormal return. Our result also confirms that the negative effect on acquiring firm performance only results from high levels of separation. Thus, it is not separation *per se* that causes inferior acquiring firm performance. This result suggests that the negative entrenchment effect kicks in first for high levels of separation. An interpretation of our result suggests that acquiring firms with a CMS structure undertake acquisitions motivated by private benefits, at the detriment of firm value creation, when the level of separation is high.

Our results offer weaker support for our hypotheses concerning the effect of blockholders (Hypothesis 3-4). When considering the number of votes in the hands of blockholders, we find that an increase in their share of votes has a positive effect on acquiring firm performance, as captured both by short-run and long-run aggregated abnormal return (Hypothesis 3). This result suggests that as blockholders gain more influence through voting power, they are able to discipline the CMS controller from making decisions in line with private benefits. However, we find weaker support<sup>57</sup> for the idea that higher contestability of the CMS controller's control position results in stronger acquiring firm performance. Taken together, our result on the effect of blockholders suggests that the voting power of blockholders is more influential in mitigating minority expropriation than contestability amongst large shareholders for the ultimate control position. An interpretation of this result suggests that the influence of large blockholders, which is increasing with the number of

<sup>&</sup>lt;sup>57</sup> The effect of contestability can only be validated by the two short run regression models.

votes held by blockholders, is more successful at restricting the CMS controller from pursuing private benefits than the threat of a blockholder taking over the CMS controller's ultimate control position.

As we cannot present conclusive evidence for any of our hypotheses when accounting for the result of all our short-run and long run regression models, the robustness of our results needs to be evaluated. By conclusive evidence, we refer to the fact that when we account for the result of all of our short-run and long run regression models, they do not all support our hypotheses at a significant level. However, all regression models lend some support to our hypotheses in the sense that we always obtain the expected signs for the coefficient estimates of our explanatory variables that test our hypotheses<sup>58</sup>.

With respect to our regression models for short run aggregated abnormal return, only 3-day  $CAR^{59}$  offers support for our hypotheses. Due to the significant difference in results for the two short run abnormal return metrics, we have investigated to what extent 3-day CAR and 11-day CAR deviate from each other. As a first step, we investigated means and percentiles of the two metrics and could conclude that 3-day CAR and 11-day CAR were quite similar in that respect. As this investigation did not provide a plausible explanation for the difference, we investigated the difference between the absolute value of 3-day CAR and the absolute value of 11-day CAR (see graph 3 in Appendix). It is evident from the graph that there are differences between the two metrics for some observations. There are two potential explanations as to why 3-day CAR and 11-day CAR would differ: [1] overreaction or underreaction by the market; [2] conflicting events during the 11-day event period. Explanation [1] relates to market inefficiency.

The first potential explanation is an overreaction (or underreaction) by the market, which is then corrected for during the 11-day event window. If this is the explanation, we would have a case of market inefficiency, as the market does not react with correct magnitude to the news about the transaction. Given that explanation [1] is accurate, *11-day CAR* is the measure that captures the actual market expectation, and is hence the measure that is suitable for our short run regression models. However, the fact that we get support for our hypotheses from both our long run regression models and the regression models for *3-day CAR*, suggest that explanation [1] is not the correct one. The second explanation concerns potential

<sup>&</sup>lt;sup>58</sup> The explanatory variables that test our hypotheses are: *SepHigh, Separation, Blockholders,* and *Log\_HerfindahlDiff* 

<sup>&</sup>lt;sup>59</sup> The exception is evidence in support of Hypothesis 4 when we use *11-day CAR* as the dependent variable, with *Log\_HerfindahlDiff* being significant at the 10%-level (see Model (4) Table 16).

conflicting events that would be captured in the longer event-window, and as such influence 11-day CAR. Given that explanation [2] is accurate, the representative measure of the market reaction to the news about the M&A transaction is 3-day CAR. We have investigated whether explanation [2] is valid by examining some of our observations where we have identified a particularly large deviation between 3-day CAR and 11-day CAR. As a result, we have identified conflicting events that potentially could explain the deviation (see discussion in relation to Graph 3 in Appendix). However, we cannot know whether for each specific deviation the conflicting events are the reason for the divergence, as it is impossible to isolate the effect whenever there are multiple events occurring during the event window. Additionally, as we have not investigated all cases where there is a significant divergence, we cannot be sure that conflicting events exist in all cases. Nonetheless, since we have discarded explanation (1) as a plausible explanation, we are inclined to believe that conflicting events are present even in the cases that we have not specifically investigated. Thus, we consider 3-day CAR (and not 11-day CAR) to be the reliable measure of the market's expectation.

The long run models, on the other hand, serve to capture the actual performance of the acquiring firm. As such, we are able to see whether the market expectation is realized. The fact that all our long-run regression models do not offer support for our hypotheses is not necessarily a cause for concern as the models generally yield different results in the literature (Kothari and Warner, 1997). The question rather concerns which model is most suitable for generating valid long run aggregated abnormal return metrics (see section 6.3). There are four potential concerns with respect to long-run event studies that might give rise to invalid aggregated abnormal return metrics: [1] changes in strategy and/or business risk; [2] conflicting events; [3] the ability to capture the expected return; and [4] invalidity in the methods of calculating aggregated abnormal return. Given that there is a change in strategy and/or business risk, the normal performance estimate would become unrepresentative of the normal performance in the event window. As a result, the abnormal return would be invalid. The second concern relates to conflicting events, which would imply that the abnormal performance is the result of other events in addition to the researched event (i.e. the M&A transaction). Hence, our aggregated abnormal return would be unrepresentative of the effects from the M&A transaction. Concern [3] relates to the ability to capture the normal performance (i.e. expected return) of the firm, and as such relates to the validity of the expected return models. The final concern is the validity of the chosen method of aggregating the abnormal return. These concerns will be discussed in an individual section below (see section 6.3).

# 6.2 Evaluation of method

This section discusses the ability of our chosen method to test whether separation between voting rights and cash flow rights in the hands of a CMS controller results in minority expropriation. When attempting to capture minority expropriation by examining M&A transactions, the inherent assumption is that a CMS controller has the intent to pursue private benefits in relation to M&A transactions, and as such expropriate the minority by making value destructive M&A. However, we do not attempt to discern whether the CMS controller has actual private benefits to extract from M&A transactions. These private benefits are simply presumed to prevail. Therefore, it could be the case that firms with a CMS structure, with the separation between voting rights and cash flow rights being high, simply take worse M&A decisions, as opposed to intentionally pursuing value destructive M&A motivated by private benefits. However, we question the reliability of this explanation, as there is no theory that could explain why firms with high separation consistently would underperform other firms in the absence of minority expropriation. One potential drawback with the chosen method of investigating minority expropriation is that some CMS controllers might not use M&A as a means to extract private benefits due to the significant public attention in relation to M&A. Hence, we might not fully capture the extent to which firms engage in minority expropriation.

# 6.3 Measuring Aggregated abnormal return

A prerequisite for validity of the findings in this study is that the dependent variable - aggregated abnormal return - is estimated properly. Hence, the validity of our results is contingent on the adequacy of the model employed to estimate expected returns as well as the methodology applied to cumulate abnormal returns. The regression models in the long run event studies yield different results, which raises the question of what factors possibly can explain this difference. The difference can be the result of either the different models applied to estimate expected returns or the methodology used to cumulate aggregated abnormal return, or a combination of both. The validity of the chosen expected return models is elaborated on in section 6.3.1. The validity of the two procedures of cumulating abnormal returns is elaborated on in section 6.3.2. General concerns with long run event studies are discussed in section 6.3.3.

#### 6.3.1 Measuring expected return

Different models of estimating expected return can yield large discrepancies in expected return estimates, in the case of long run event studies (e.g., Ball, 1978, p. 112; Fama, 1991, p. 1602). An invalid estimate of the expected return would in turn invalidate the abnormal return measure. Consequently, the result of long run event studies is potentially quite sensitive to the choice of expected return model. Previous research has documented that asset-pricing models introduce bias and could lead to misleading findings (Kothari and Warner, 1997; Lyon et al., 1999; Jegadeesh and Narasimhan, 2009). We therefore acknowledge that such bias could be present when the Fama-French three-factor model has been used to estimate expected returns and hence could affect our results that are based on this model. We also recognize that our choice to use SMB and HML factors applicable to Europe, retrieved from the Fama-French database, could further reduce the validity of our expected return estimates. Ideally, we would have preferred to construct the factors ourselves based on Swedish data such that they would be more representative of our sample of acquiring firms. However, we concluded that the magnitude of improvement does not compensate for the increased complexity and time-consuming process in obtaining these values.

We also have some reservations with respect to the validity of the expected return proxy used in the market adjusted model. The benefit of the market adjusted model resides in its simplicity. However, this same simplicity also represents its drawback. The market adjusted model assumes that the market portfolio is representative of the expected return of the firm. This assumption implies that all firms would have the same covariation with the market return, which seems like an unreasonable assumption based on finance theory that recognizes that each firm has its own systematic risk. Notwithstanding the discussion above, Kothari and Warner (1997) concludes that the choice of expected return model to calculate abnormal returns does not drive test misspecification of the long run event study.

However, by analyzing the adjusted R-squared of our long run regression models, it is evident that the difference in explanatory power of our regression models actually derives from the chosen expected return model to a large extent. The average adjusted R-squared of regression models 1-4 increases by 61%<sup>60</sup> when changing the expected return model from the

 $<sup>^{60}</sup>$  The increase in the average adjusted R-squared of regression models 1-4 when changing the expected return model from the market adjusted model to the Fama-French three factor model, holding the procedure of cumulating abnormal returns (BHAR) constant is calculated by first calculating the average adjusted R-squared for models 1-4 when *FAMABHAR* is the dependent variable (26%+30%+30.7%+29.8%)/4=29.1%. As a second

market adjusted model to the Fama-French three factor model, holding the procedure of cumulating abnormal returns (BHAR) constant. Similarly, the average adjusted R-squared of regression models 1-4 increases by 64% when changing the expected return model from the market adjusted model to the Fama-French three factor model, holding the procedure of cumulating abnormal returns (CAR) constant.

With respect to the short run event studies, we have applied the market model to estimate expected return. Once again, the validity of the abnormal return is in part contingent on the validity of the expected return. For validity reasons, it is usually beneficial to employ several models for robustness testing. However, MacKinlay (1997) stresses that using multifactor models in short run event studies does not offer significant improvements compared to the market model (one factor model). Considering MacKinlay's claim and the extensive data work required to accomplish this thesis, in addition to performing the short-run event study, we have concluded that the magnitude of the gains from employing multifactor models does not motivate the inclusion of such models in the short run event study.

#### 6.3.2 Cumulating abnormal return

As already highlighted in section 4.2.2.1, both BHAR and CAR have their respective methodological concerns, which potentially can reduce their validity as proxies for long run acquiring firm performance. Whereas CAR has a systematic positive bias due to the bid-ask spread, BHAR is instead highly skewed to the right. Both of these biases can lead to an over rejection of the null hypothesis of no abnormal performance. However, Kothari and Warner (1997) report that the frequency of over rejections in their study is very similar for BHAR and CAR. Hence, based on that alone, we cannot conclude that our result from any one of our regression models (model 1-4) has higher validity resulting from the procedure of cumulating abnormal returns.

Nonetheless, our result from the long run regression models suggest that the differences in explanatory power in part derives from the method of cumulating abnormal returns. The average adjusted R-squared of regression models 1-4 increases by 40%<sup>61</sup> when

step, the average adjusted R-squared for models 1-4 when *MARKETBHAR* is the dependent variable is calculated (16.1%+19%+22%+16.4%)/4=18.1%. In the final step, the increase is calculated as (29.1%-18.1%)/18.1%=61%

<sup>&</sup>lt;sup>61</sup> The increase in the average adjusted R-squared of regression models 1-4 when changing the method of cumulating abnormal returns from CAR to BHAR, holding the expected return model (the Fama-French three-factor model) constant, is calculated by first calculating the average adjusted R-squared for models 1-4 when *FAMABHAR* is the dependent variable (26%+30%+30.7%+29.8%)/4=29.1%. As a second step, the average adjusted R-squared for models 1-4 when *FAMACAR* is the dependent variable is calculated

changing the method of cumulating abnormal returns from CAR to BHAR, holding the expected return model - the Fama-French three-factor model - constant. Similarly, the average adjusted R-squared of regression models 1-4 increases by 42% when changing the method of cumulating abnormal returns from CAR to BHAR, holding the expected return model - the market adjusted model- constant.

Considering that our long-run regression models are more successful in explaining aggregated abnormal return when the Fama-French three-factor model is used as the expected return model, we place more confidence in *FAMACAR* and *FAMABHAR*. Further considering that our long-run regression models are more successful in explaining aggregated abnormal return when *BHAR* is used as the method of cumulating abnormal returns, we believe *FAMABHAR* to be the superior proxy for long-run acquiring firm performance. However, the fact that all long run regression models provide support for at least one hypothesis and also yield coefficient estimates with the expected sign in cases where the coefficient estimates are not significant, indicates that our finding is fairly robust.

#### 6.3.3 General concerns with long run event studies

Kothari and Warner (1997) show that long run abnormal performance, both positive and negative, is persistent following simulated events. In addition to the biases that follow from the employed procedures of cumulating abnormal returns, survival bias is introduced as a result of the data availability requirement in the estimation period as well as in the event window. Requiring return data in the estimation window creates pre-event survival bias, which might cause abnormal performance following events to be systematically positively biased (Jain, 1982; Brown, Goetzmann and Ross, 1995). The systematic biases that potentially requirement are nonetheless disregarded as a cause for concern for the purpose of answering our research question. As we investigate the *relationship* between separation and acquiring firm abnormal performance, we believe that our findings are not particularly impacted by these biases since they are *systematic*. As such, these biases are expected to influence the long run aggregated abnormal return of each firm to the same extent, and should therefore not have an impact on the observed relationship.

# 6.4 Measuring ownership structures

<sup>(18.4%+22.3%+21.7%+21%)/4=20.9%</sup>. In the final step, the increase is calculated as (29.1%-20.9%)/20.9%=40%.

The validity of our result relates to our ability to accurately identify the ultimate owner of the acquiring firm, and as a next step, to accurately capture the amount of voting rights and cash flow rights held by the ultimate owner. This process has involved extensive manual work, and is thus susceptible to human errors. In cases where we have identified a private firm or a foreign firm as the largest shareholder of the acquiring firm, data limitations with respect to ownership structure of private- and foreign firms could potentially have prevented us from identifying the true ultimate owner of the acquiring firm, thus resulting in misclassifications. For the purpose of clarity, consider the following example that potentially could be the case for one of our sample firms. Suppose a private company (firm A) is the largest shareholder of acquiring firm B. We would like to trace the ultimate owner of firm A but are restricted from doing so as we do not have ownership data on private companies. Thus, we are forced to classify firm A as the ultimate owner. However, it could be the case that firm A actually has an ultimate owner itself. If this is the case, classifying firm A as the ultimate owner would constitute a misclassification. This example also holds for foreign firms where we also lack available ownership data. However, we require that the ultimate owner is an insider. For the purpose of identifying whether the ultimate owner is also an insider, we need to have identified an individual or a family that is the ultimate owner, as we only have insider data on individuals (provided by Swedish FSA). As data limitations on ownership structure for private and foreign companies restricts us from identifying these individuals, these firms ultimately become omitted from our final sample. Consequently, our sample becomes biased toward family owned firms.

Insider data limitations further contribute to a systematic bias towards family firms. Consider the following example where, again, firm A is the largest shareholder of acquiring firm B. Once again, we would trace the ultimate owner of firm A. However, consider now the case of firm A having a DO structure, thus being the ultimate owner of acquiring firm B. As we have the requirement that the ultimate owner of the acquiring firm also should be an insider of the acquiring firm, we need to understand whether firm A has an *insider* (i.e. CEO or on the board of directors) that also is an insider in firm B. To this end, we would need to manually cross-check a list of insiders in both firm A and firm B, to see whether we can identify a dual insider. It has been concluded that the additional contribution of this thesis that would result from not being restricted to only family firms is not sufficient to justify this additional time-consuming work.

Another source for potential misclassification of the ultimate owner is lack of data on shareholder alliances, i.e. shareholders that vote together. Given data availability, we would have classified allied shareholders as one ultimate owner, just like we do with family members. However, the lack of such data leaves us to disregard such ultimate owners. Hence, there are two potential misclassifications that result: 1) we would incorrectly identify the largest shareholder (with voting rights above the cutoff<sup>62</sup>) as the ultimate owner, despite there being a shareholder alliance that is the ultimate owner, or 2) in the absence of one large shareholder, we would incorrectly classify the firm as a DO-structure, despite there being a shareholder alliance that is the ultimate owner.

# 6.5 Sample bias

The representativeness of the sample for the population is given by 1) the size of the sample and 2), the extent of which the sample is subject to biases. As mentioned under section 4.6, our baseline sample is biased towards Manufacturing firms and Financial Services firms. However, it is important to note that the final sample has a very similar distribution between the industries, as indicated by Graph 2 in Appendix. Hence, we do not appear to have any within-sample<sup>63</sup> bias with respect to industry. Moreover, the average deal size of our final sample is very similar to the average deal size of our baseline sample, implying that we do not have a within-sample bias with respect to deal size. It has to be highlighted that our final sample only contains 62 observations, which represents 24% of the number of M&A transactions that fulfil our first screening criteria (263).

# 6.6 Generalizability

The possibility to extend our results outside the sample used in this study is dependent on the extent to which our sample is considered representative of the population - i.e. Swedish public family-owned firms with a separation between voting rights and cash flow rights in the hands of a CMS controller. As theory suggests that country-specific factors such as legal regimes and extralegal institutions are important factors influencing the extent of minority expropriation, we believe that our findings should not be extended to firms outside of

 $<sup>^{62}</sup>$  The cutoff used to identify an ultimate owner is motivated in section 4.3.1.1.

<sup>&</sup>lt;sup>63</sup> Within-sample bias concerns whether there is a difference between our baseline sample and our final sample.

Sweden. Although previous studies<sup>64</sup> on acquisitions suggest that the abnormal return of the acquiring company following the acquisition is dependent on the time period studied, we do not have a reason to believe that the relationship between ownership structure and acquiring firm performance is subject to such dependence. Factors that would alter the generalizability of our findings over time are of course changes in aspects that are believed to affect minority expropriation, such as changes in legal and extra-legal institutions, but not factors related to time per se such as the state of the economic cycle. Consequently, our results are considered generalizable with respect to time. Importantly, our findings might not be generalizable to CMS structured firms with a CMS controller that is classified as non-family. Nonetheless, given that family-owned firms is the most prevalent ownership form in Sweden<sup>65</sup>, our findings can still be considered generalizable to the vast majority of Swedish firms.

One aspect impacting the possibility to generalize our results is that we only capture firms with a strategy of growing through M&A activities. Consequently, this aspect raises the question of whether our finding, that high separation results in minority expropriation and is increasing with the level of separation, can be extended to companies that use other means to expropriate the minority. As theory suggest that the important determinant of the extent of minority expropriation is the extent of separation between voting rights and cash flows rights, as well as the constraining forces from legal- and extralegal institutions, we have reason to believe that our findings are generalizable to other types of expropriation<sup>66</sup>.

# 6.7 Regression model specifications and robustness tests

The OLS regression model is the best linear unbiased estimator if the following assumptions hold; *i*) the relationship between independent variables and the dependent variable is linear, *ii*) the sample is a random sample of the population, *iii*) no independent variable is a constant

<sup>&</sup>lt;sup>64</sup> Studies on acquisitions during the 1950s and 1960s have generally found positive returns of the acquiring company. Franks and Harris (1989) studied acquisitions in the UK between 1955 and 1985 and found that the acquiring firms could gain more from M&A activities in the 1950s and 1960s. Bradley et al. (1988) studies acquisitions made by US firms between 1963-1984 and report that returns to acquiring companies have decreased over time. According to Tuch and O'Sullivan (2007), studies performed after this time period generally document that the return to the acquiring company is negative or insignificant. The return pattern of acquiring firms has been found to be negative in recent years in the UK and US (Alexandridis et al., 2010). <sup>65</sup> La Porta et al. (1999)

<sup>&</sup>lt;sup>66</sup> However, we recognize that the *strength* of the relationship might be different by investigating other means of expropriation, such that as separation increases, it has an even stronger (weaker) effect on minority expropriation. Some means of expropriating the minority might be easier than other and hence used more frequently by firms. M&A might not be the most common way to expropriate the minority as a considerable amount of public attention is associated with the announcement. Hence, it is plausible that stronger relationships between the extent of separation and the extent of minority expropriation can be captured by means of investigating other forms of minority expropriation.

and the independent variables are not perfectly correlated, iv) no important variables are omitted in the model, v) the variance of error terms is constant (homoscedasticity of variance) and the error terms have a conditional mean of zero (exogeneity). However, if one or more of the above assumptions are violated, biased or inconsistent coefficients will result (Newbold et al., 2010). Therefore, we perform tests for the assumptions and if an assumption does not appear to hold, we attempt to correct for it to any extent possible. Assumptions *iii*) of multicollinearity and v) of heteroscedasticity which require specific testing and analysis are further discussed below. Assumption *i*) is identified to hold as evidenced by analyzing a graph of the relationship between the independent variables and the dependent variable.

#### 6.7.1 Multicollinearity

Multicollinearity occurs when independent variables are highly correlated with each other, which means that one (or more) independent variable(s) can explain the variation in other independent variables included in the regression model. Multicollinearity does not reduce the predictive power of the regression model but rather affects the validity of the coefficient estimates for other independent variables. It therefore becomes troublesome to isolate each independent variable's effect on the dependent variable. In order to investigate whether our sample is subject to multicollinearity, we calculate the variance inflation factor (VIF) for all models (see table 21-26 in Appendix). The lowest possible value for VIF is one, and represents the case of no multicollinearity. The VIF value represents how much the variance of each coefficient estimate is inflated due to multicollinearity. For example, a VIF value of 1.7 for an independent variable means that the variance of the coefficient estimate for that particular variable is 70% higher than it would have been had there been no multicollinearity. Our obtained VIF values indicate that multicollinearity is not a problem, as no independent variable has a VIF value above 2<sup>67</sup>.

#### 6.7.2 Heteroscedasticity

Heteroscedasticity is said to be present when the variance of the error terms is non-constant. Because heteroscedasticity affects the variance of coefficient estimates, it makes the OLS standard errors unreliable. Heteroscedasticity therefore invalidates the overall significance of

<sup>&</sup>lt;sup>67</sup> There is no collective agreement with regards to a cut-off value for VIF that would indicate a problem with multicollinearity. In general, 2.5 is suggested by some scholars while others take a less conservative approach and suggest higher values. However, as any VIF value above 1 can might be sufficient to make a coefficient estimate insignificant and (or) lead to misleading interpretations about its effect on the dependent variable.

the OLS regression, as captured by the F-test (Wooldridge, 2012). In order to examine whether heteroscedasticity is present in our sample, we perform a Breush-Pagan Cook-Weisberg test. The null hypothesis of the Breusch-Pagan Cook-Weisberg test states that all residuals have the same variance (homoscedasticity), and the alternative hypothesis states that the variance of the error terms differs amongst observations (heteroscedasticity). We cannot reject the null hypothesis of homoscedasticity in our sample for regression models 1 - 4 for which the dependent variable is: (1) *3-day CAR*; (2) *FAMACAR*; and (3) *MARKETCAR* (see Table 27, 29 and 31 in Appendix). However, for the regression models where *11-day CAR*, *FAMABHAR* and *MARKETBHAR* are used as the dependent variable, we reject the null hypothesis (see table 30 and 32 in Appendix). To correct for the identified heteroscedasticity, we use robust standard errors for the regressions models where *11-day CAR*, *FAMABHAR* and *MARKETBHAR* are used as the dependent variable, me reject the null hypothesis (see table 30 and 32 in Appendix). To correct for the identified heteroscedasticity, we use robust standard errors for the regressions models where *11-day CAR*, *FAMABHAR* and *MARKETBHAR* are used as the dependent variable.

# 7. Conclusion and Suggestions for Future Research

This study has examined minority expropriation by means of M&A. Specifically, we have investigated the effect of a separation between voting rights and cash flow rights in the hands of a controlling owner on acquiring firm performance in Sweden. The main finding is that as separation between voting rights and cash flow rights in the hands of the controlling owner increases, acquiring firm performance decreases, both in the short run and in the long run. This result suggests that the CMS controller uses M&A transactions to extract private benefits, and as such expropriate the minority shareholders. Although a majority of our short run- and long run regression models support the negative relationship between separation in the hands of a controlling owner and acquiring firm performance, we do not obtain significant results for all models. Hence the results should be interpreted with some care.

A further investigation of the effect of separation on acquiring firm performance reveals that the negative effect on acquiring firm performance only results from high levels of separation. Hence, the result suggests that it is not separation *per se* that causes inferior acquiring firm performance. This result suggests that the negative entrenchment effect of a CMS controller kicks in first for high levels of separation. An interpretation of our result suggests that, from a corporate governance perspective, investors and regulators might not need to be concerned about the mere existence of separation between voting rights and cash flow rights in the hands of the controlling owner, but rather when separation reaches high levels. Our study further documents that having blockholders present in the ownership structure has a positive effect on acquiring firm performance, both in the short run and in the long run. As such, the result indicates that blockholders in Sweden adhere to a monitoring role and thereby are able to discipline the CMS controller from making acquisitions motivated by private benefits, at the expense of minority shareholders. However, we find limited to insignificant evidence of contestability of the CMS controller's control position having a mitigating effect on minority expropriation.

An interesting venue for future research would be to perform a similar study to the one conducted in this paper, but comparing the aggregated abnormal return of low vote shares and high vote shares in CMS structured firms with dual class shares, following M&A announcements. As such, this approach would provide an increased understanding of the size of the private benefits of control obtained by the CMS controller, as reflected in the return of the high-vote shares (expected to be positive), and the cost of minority expropriation to the minority shareholders, as reflected in the return of the low-vote shares (expected to be negative). As we find that the negative effect on acquiring firm performance only results from high levels of separation, an interesting area for future research would be to explore at what level of separation it starts to have a negative effect on acquiring firm performance, i.e. attempting to document an inflexion point. Furthermore, in this study, we have been restricted to only investigate CMS controllers that are classified as families. It might however be the case that other types of CMS controllers engage in minority expropriation to a different extent. The idea that different types of CMS controllers can have different effects on value creation is intriguing, and left for future researchers to explore.

# REFERENCES
- Alchian, A.A. & Demsetz, H., 1972, 'Production, information costs and economic organization', *American Economic Review*, 62(5), pp. 777 795.
- Amihud, Y. & Lev, B. (1981), 'Risk Reduction as Managerial Motive for Conglomerate Mergers', *Bell Journal of Economics*, 12, pp. 605–17.
- Andrade, G., Mitchell, M. & Stafford, E. (2001), 'New evidence and perspectives on mergers', *Journal of Economic Perspectives*, 15(2), pp. 103-120.
- Asquith, P., Bruner, R. F. & Mullins Jr, D. W. (1983), 'The gains to bidding firms from merger', *Journal of Financial Economics*, 11(1-4), pp. 121–139.
- Attig, N., Fischer, K. & Gadhoum, Y. (2004), 'On the determinants of pyramidal ownership: Evidence on dilution of minority interests', EFA 2004 Maastricht Meetings Paper No. 4592 (http://www.ssrn.com/abstract=434201).
- Avery, C., Chevalier, J. A. & Schaefer, S. (1998), 'Why Do Managers Undertake Acquisitions? An Analysis of Internal and External Rewards for Acquisitiveness', *Journal of Law, Economics and Organizations*, 14, pp. 24–43.
- Aw, M. S. B. & Chatterjee, R. A. (2004), 'The performance of UK firms acquiring large cross-border and domestic takeover targets', *Applied Financial Economics* 14(5), pp. 337 – 349.
- Bae, K. H., Kang, J. K. & Kim, J. M. (2002), 'Tunneling or value added? Evidence from mergers by Korean business groups', *The Journal of Finance*, 57(6), pp. 2695 2740.
- Barber, B. M. & Lyon, J. D. (1997), 'Detecting long-run abnormal stock returns: The empirical power and specification of test statistics', *Journal of Financial Economics*, 43(3), pp. 341–372.
- Bartov, E., Lindahl, F. W. & Ricks, W. E. (1998), 'Stock price behavior around announcement of write-offs', *Review of Accounting Studies*, 3(4), pp. 327 346.

Baumol, W.J. (1959), 'Business Behavior, Value and Growth' (MacMillan, New York, N.Y.).

- Bebchuk, L. A., Kraakman, R & Triantis, G. (2000), 'Stock Pyramids, Cross-ownership, and Dual Class Equity: The Creation and Agency Costs of Separating Control from Cash Flow Rights', in Randall K. Morck, ed.: *Concentrated Corporate Ownership* (University of Chicago Press, Chicago, IL).
- Ben-Amar, W. & André, P. (2006), 'Separation of Ownership from Control and Acquiring Firm Performance: The Case of Family Ownership in Canada', *Journal of Business Finance & Accounting*, 33(3) & (4), pp. 517 – 543.

- Bergström, C. & Rydqvist, K. (1990), 'Ownership of equity in dual-class firms', *Journal of Banking & Finance*, 14(2 -3), pp. 255 269.
- Berle, A., Means, G. (1932), 'The Modern Corporation and Private Property' (MacMillan, New York, N.Y.).
- Bernard, V. L. & Thomas, J. K. (1989), 'Post-earnings-announcement drift: delayed price response or risk premium?', *Journal of Accounting research*, pp. 1-36.
- Bigelli, M. & Mengoli, S. (2004), 'Sub-Optimal Acquisition Decision under a Majority Shareholder System', *Journal of Management and Governance*, 8(4), pp. 373 405.
- Bloch, F. & Hege, U. (2003). 'Multiple shareholders and control contests', Unpublished manuscript.
- Blume, M. E. & Stambaugh, R. F. (1983), 'Biases in computed returns: An application to the size effect', *Journal of Financial Economics*, 12(3), pp. 387–404.
- Bozec, Y., & Laurin, C. (2004). Concentration des droits de propriété, séparation entre participation au capital et contrôle des votes et performance opérationnelle des sociétés: une étude canadienne. *Finance, contrôle, stratégie*, 7(2), pp. 123 64.
- Bradley, M., Desai, A. & Kim, E. H. (1988), 'Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms', *Journal of Financial Economics*, 21(1), pp. 3 – 40.
- Claessens, S., Djankov, S., Fan, J. P. & Lang, L. H. (1999), 'On expropriation of minority shareholders: evidence from East Asia'
- Claessens, S., Djankov, S., Fan, J. P. & Lang, L. H. (2000), 'The Separation of Ownership and Control in East Asian Corporations', *Journal of Financial Economics*, 58(1-2), pp. 81–112.
- Claessens, S., Djankov, S., Fan, J. P. & Lang, L. H. (2002), 'Disentangling the incentive and entrenchment effects of large shareholdings', *The journal of finance*, 57(6), pp. 2741 2771.
- Coffee, J. (2001), 'Do norms matter? A cross-country examination of private benefits of control', *University of Pennsylvania Law Review*, 149(6), pp. 2151 2177.
- Colombo, G., Conca, V., Buongiorno, M. & Gnan, L. (2007), 'Integrating cross-border acquisitions: A process-oriented approach', *Long range planning*, 40(2), pp. 202 222.

Conn, R. L., Cosh, A., Guest, P. M., & Hughes, A. (2005). The impact on UK acquirers of domestic, cross-border, public and private acquisitions. *Journal of Business Finance & Accounting*, *32*(5-6), 815-870.

- Conrad, J. & Kaul, G. (1993), 'Long-Term Market Overreaction or Biases in Computed Returns?', *The Journal of Finance*, 48(1), pp. 39 63.
- Cronqvist, H. & Nilsson, M. (2003), 'Agency costs of controlling minority shareholders', *Journal of Financial and Quantitative analysis*, 38(4), pp. 695 719.
- Datta, D. K., Pinches, G. E. & Narayanan, V. K. (1992), 'Factors influencing wealth creation from mergers and acquisitions: A meta-analysis', *Strategic management journal*, 13(1), pp. 67 – 84.
- Demsetz, H. & Lehn, K. (1985), 'The structure of corporate ownership: Causes and consequences', *Journal of Political Economy*, 93(6), pp. 1155 1177.
- Donaldson, G. (1984), 'Managing Corporate Wealth'(Praeger, New York)
- Dimitrov, V. & Jain, P. C. (2006), 'Recapitalization of one class of common stock into dualclass: Growth and long-run stock returns', *Journal of Corporate Finance*, 12(2), pp. 342 – 366.
- Dyck, A. & Zingales, L. (2004), 'Private benefits of control: An international comparison', *The Journal of Finance*, 59(2), pp. 537 600.

Faccio, M., McConnell, J. J. & Stolin, D. (2006), 'Returns to acquirers of listed and unlisted targets', *Journal of Financial and Quantitative Analysis*, 41(1), pp. 197-220.

- Faccio, M., & Lang, L. H. (2002), 'The ultimate ownership of Western European corporations', *Journal of Financial Economics*, *65*(3), pp. 365 395.
- Faccio, M., Lang, L. H. P. & Young, L. (2001), 'Dividends and Expropriation', *American Economic Review*, 91(1), pp. 54 78.
- Fama, E. F. & French, K. R. (1993), 'Common risk factors in the returns on stocks and bonds', *Journal of Financial Economics*, 33(1), pp. 3 56.
- Fama, E. F. & Jensen, M. C. (1985), 'Organizational forms and investment decisions', *Journal of financial Economics*, 14(1), pp. 101 119.
- Firth, M. (1991), 'Corporate Takeovers, Stockholder Returns and Executive Rewards', *Managerial and Decision Economics*, 12(6), pp. 421 – 428.

Franks, J. R. & Harris, R. S. (1989), 'Shareholder wealth effects of corporate takeovers: the UK experience 1955–1985', *Journal of financial Economics*, 23(2), pp. 225 – 249.

French, K. R. (2018). *Fama French Factors*. Retrieved April 15th, 2018, from http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\_library.html

- Fuller, K., Netter, J. & Stegemoller, M. (2002), 'What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions', *The Journal of Finance*, 57(4), pp. 1763–1763
- Goergen, M. & Renneboog, L. (2004), 'Shareholder wealth effects of European domestic and cross-border takeover bids', *European Financial Management*, 10(1), pp. 9–45.
- Gomes, A. & Novaes, W. (2005), 'Sharing of control as a corporate governance mechanism', manuscript, Wharton School and University of Washington. CARESS working paper 01 -06.
- Healy, P. M., Palepu, K. G., & Ruback, R. S. (1992), 'Does corporate performance improve after mergers? *Journal of Financial Economics*, 31(2), pp. 135 175.

Higgins, R. C., & Schall, L. D. (1975). Corporate bankruptcy and conglomerate merger. *The Journal of Finance*, *30*(1), 93-113.

- Hitt, M., Harrison, J., Ireland, R D., & Best, A. (1998), 'Attributes of successful and unsuccessful acquisitions of US firms', *British Journal of Management*, 9(2), pp. 91 114.
- Holmén, M. & Knopf, J. D. (2004), 'Minority shareholder protections and the private benefits of control for Swedish mergers', *Journal of Financial and Quantitative Analysis*, 39(1), pp. 167 191.
- Jarrell, G. A. & Poulsen, A. B. (1989), 'The returns to acquiring firms in tender offers: Evidence from three decades', *Financial management*, 18, pp. 12 19.
- Jensen, M. C. (1986), 'Agency Costs of Free Cash Flow, Corporate Finance and Takeovers', *American Economic Review*, 76(2), pp. 323 329.
- Jensen, M. C. (1993), 'The modern industrial revolution, exit, and the failure of internal control systems', *the Journal of Finance*, 48(3), pp. 831--880.
- Jensen, M. C. & Meckling, W. H. (1976), 'Theory of the firm: Managerial behavior, agency costs and ownership structure', *Journal of financial economics*, 3(4), pp. 305 360.

- Jensen, M. C. & Murphy, K. J. (1990), 'Performance pay and top-management incentives', *Journal of political economy*, 98(2), pp. 225 264.
- Johnson, S. La Porta, R., Lopez-de-Silanes, F. & Shleifer, A. (2000), 'Tunneling', *American economic review*, 90(2), pp. 22 27.
- Kothari, S. P. & Warner, J. B. (1997), 'Measuring long-horizon security price performance', *Journal of Financial Economics*, 43(3), pp. 301–339.

Lang, L. H., Stulz, R., & Walkling, R. A. (1991). A test of the free cash flow hypothesis: The case of bidder returns. *Journal of Financial Economics*, 29(2), 315-335.

Lang, L. H., & Stulz, R. M. (1994). Tobin's q, corporate diversification, and firm performance. *Journal of political economy*, *102*(6), 1248-1280.

- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R. (1998), 'Law and Finance', *The Journal of political economy*, 106(6), pp. 1113 1155.
- La Porta, R., Lopez-de-Silanes, F. & Shleifer, A. (1999), 'Corporate ownership around the world', *The journal of finance*, 54(2), pp. 471 517.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R. (2000), 'Investor protection and corporate governance', *Journal of financial economics*, 58(1), pp. 3 27.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R. (2002), 'Investor protection and corporate valuation', *The journal of finance*, 57(3), pp. 1147 1170.
- Lehn, K., Netter, J. & Poulsen, A. (1990), 'Consolidating corporate control: Dual-class recapitalizations versus leveraged buyouts, *Journal of Financial Economics*, 27(2), pp. 557 580.

Leontiades, M. (1986). The rewards of diversifying into unrelated businesses. *Journal of Business Strategy*, *6*(4), 81-87.

Lewellen, W. G. (1971). A pure financial rationale for the conglomerate merger. *The Journal of Finance*, *26*(2), 521-537.

Loughran, T. & Vijh, A. M. (1997), 'Do long-term shareholders benefit from corporate acquisitions?', *The Journal of Finance*, 52(5), pp.1765 – 1790.

Lubatkin, M. (1983). Mergers and the Performance of the Acquiring Firm. *Academy of Management review*, 8(2), 218-225.

Lubatkin, M., & O'Neill, H. M. (1987). Merger strategies and capital market risk. *Academy of Management Journal*, *30*(4), 665-684.

- Lyon, J. D., Barber, B. M. & Tsai, C. L. (1999), 'Improved methods for tests of long-run abnormal stock returns', *The Journal of Finance*, 54(1), pp. 165 201.
- MacKinlay, A. C. (1997), 'Event studies in economics and finance', *Journal of Economic Literature*, 35(1), pp. 13 39.
- Mahoney, P. G. & Sanchirico, C. W. (2001), 'Competing Norms and Social Evolution: Is the Fittest Norm Efficient?', *University of Pennsylvania Law Review*, 149(6), pp. 2027 – 2062.
- Manne, H. G. (1965), 'Mergers and the market for corporate control', *Journal of Political economy*, 73(2), pp. 110 120.
- Maury, B., & Pajuste, A. (2005), 'Multiple Large Shareholders and Firm Value', *Journal of Banking and Finance*, 29(7), pp. 1813 1834.
- Myers, S. C. & Majluf, N. S. (1984), 'Corporate financing and investment decisions when firms have information that investors do not have', *Journal of Financial Economics*, 13(2), pp. 187-221.
- Nenova, T. (2003), 'The value of corporate voting rights and control: A cross-country analysis. *Journal of Financial Economics*, 68(3), pp. 325 531.
- Pagano, M. & Röell, A. (1998), 'The choice of stock ownership structure: Agency costs, monitoring, and the decision to go public', *The Quarterly Journal of Economics*, 113(1), 1pp. 87 – 225.
- Rau, P. R. & Vermaelen, T. (1998), 'Glamour, value and the post-acquisition performance of acquiring firms1', *Journal of Financial Economics*, 49(2), pp. 223 253.
- Rock, E. & Wachter, M. (2002), 'Meeting by signals, playing by norms: Complementary accounts of nonlegal cooperation in institutions, *U. Rich. L Rev.*, 36, pp. 423.
- Roll, R. (1983), 'On computing means returns and the small firm premium', *Journal of Financial Economics*, 12(3), pp. 371 386.
- Shleifer, A. & Vishny, R. W. (1986), 'Large Shareholders and Corporate Control', *Journal of Political Economy*, 94, pp. 461 488.
- Shleifer, A. & Vishny, R. W. (1989), 'Management entrenchment: The case of managerspecific investments', *Journal of Financial Economics*, 25(1), pp. 123–139.
- Shleifer, A. & Vishny, R. W. (1997), 'The limits of arbitrage', *The Journal of Finance*, 52(1), pp. 35 -- 55.

Singh, H., & Montgomery, C. A. (1987). Corporate acquisition strategies and economic performance. *Strategic Management Journal*, 8(4), 377-386.

- Stulz, R. (1988), 'Managerial control of voting rights: Financing policies and the market for corporate control', *Journal of Financial Economics*, 20, pp. 25 54.
- Sudarsanam, S. (1996), 'Large shareholders, takeovers and target valuation', *Journal of Business Finance & Accounting*, 23(2), pp. 295 314.
- Sudarsanam, S. & Mahate, A. A. (2003), 'Glamour acquirers, method of payment and postacquisition performance: the UK evidence', *Journal of Business Finance & Accounting*, 30(1-2), pp. 299 – 342.
- Travlos, N. G. (1987), 'Corporate takeover bids, methods of payment, and bidding firms' stock returns', *The Journal of Finance*, 42(4), pp. 943-963
- Tuch, C. & O'Sullivan, N. (2007), 'The impact of acquisitions on firm performance: A review of the evidence', *International Journal of Management Reviews*, 9(2), pp. 141 170.
- Volpin, P. (2002), 'Governance with Poor Investor Protection: Evidence from Top Executive Turnover', *Journal of Financial Economics*, 64(1), pp. 61 90.
- Williamson, O. E. (1964), 'The economics of discretionary behavior: Managerial objectives in a theory of the firm', (Prentice-Hall, Englewood Cliffs, NJ).
- Yen, T. Y. & André, P. (2007), 'Ownership structure and operating performance of acquiring firms: The case of English origin countries', *Journal of Economics and Business*, 59(5), pp. 380 – 405.
- Zhang, G. (1998), 'Ownership Concentration, Risk Aversion and the Effect of Financial Structure on Investment Decisions', *European Economic Review*, 42(9), pp. 1751 – 1778.
- Zingales, L. (2000), 'In search of new foundations', *Journal of Finance*, 55(4), pp. 1623 1653.

### **Newspaper articles:**

Svenska Dagbladet, "Gardell till attack mot Wallenberg: "Omoraliskt"" published April 18th, 2018

Available at: <u>https://www.svd.se/gardell-till-attack-mot-wallenberg-omoraliskt</u> [Accessed May 5th, 2018]

## Appendix

### Table 6: Wordlist

	Wordlist
Word used in thesis	Definition
Agency cost I	The agency cost between managers and owners
Agency cost II	Agency cost between the controlling owner and minority shareholders
Blockholder	A large shareholder other than the controlling owner. The cutoff in this thesis is that the blockholder should have at least 5% of the voting rights
CMS controller	CMS controller refers to a controlling shareholder who holds more voting rights than cash flow rights
Controlling owner	The largest shareholder of a firm, with voting rights above the cutoff of $10\%$
Control chain	We say that a pyramidal structure exists if the following two requirements are fulfilled: [1] the firm has an ultimate owner; and [2] there is at least one listed company in between the firm and its ultimate owner
Control Premium	The control premium measures the value of control-block votes relative to the market value of the firm, where the control-block represents the parties in control of the firm. As such, the control premium serves as a proxy for the extent of private benefits of control.
Cross shareholdings	We say that cross shareholdings exist if firm B holds shares in firm A and firm A is the ultimate owner of firm B (see figure 4).
Dual class shares	Shares with differential voting rights
Dual class structure	We say that a dual class structure exists if the firm has issued shares with differential voting rights
Entrenchment effect	Arises e.g. when a manager makes excessive investments in assets that are complementary to his specific knowledge and abilities. As his specific knowledge then is needed in order to extract the highest value from the manager-specific investments, it makes it difficult for the manager to be replaced. As a result, the manager not only increases his job security but also places himself in a position to extract higher wages and larger perquisites
Incentive effect	Arises when a shareholder has a sufficiently large equity stake (cash flow rights) to care about profit maximization
Minority expropriation	When the controlling shareholder takes decisions in line with private benefits of control at the expense of minority shareholders
Minority Shareholders	All shareholders other than the controlling owner
Private benefits of control	Benefits that the controlling owner enjoys. Private benefits of control include e.g. tunneling, i.e. transfer of wealth from firms where the CMS controller has low cash flow rights to firms where he has higher cash flow rights, and keeping control within the family for family CMS structured firms
Pyramidal structure	We say that a pyramidal structure exists if the following two requirements are fulfilled: [1] the firm has an ultimate owner; and [2] there is at least one listed company in between the firm and its ultimate owner
Tunneling	Transfer of wealth from firms where the CMS controller has low cash flow rights to firms where he has higher cash flow rights
Ultimate owner	The controlling owner in the CS structure or the CMS controller in the CMS structure
Voting concentration	Measures the amount of voting rights held by a single shareholder
Voting power	Voting power includes the total voting rights of several allied shareholders, who vote together

(19) 
$$AR_{i,t} = R_{i,t} - E(R_{i,t})$$

 $AR_{i,t}$ ,  $R_{i,t}$  and  $E(R_{i,t})$  are the abnormal return, actual return and normal return respectively for firm *i*, where *t* represents the unit of time in months.

Fama French Factors							
Size factor	Valuation factor	Portfolio number					
	Value (High)	1					
Small	Neutral (Medium)	2					
	Growth (Low)	3					
	Value (High)	4					
Big	Neutral (Medium)	5					
	Growth (Low)	6					

 Table 7: Fama French Factors

SMB and HML are believe to be proxies for (unknown) risk factors in the market which help explain returns of securities. SMB and HML are constructed by first dividing the total market into six portfolios (as illustrated in this table) based on size and valuation. Size is measured by the market capitalization of the firm, and the valuation factor is based on the Book-to-Market ratio of the firm. The SMB factor represents the difference between the average return of small portfolios (1-3) and the average return of big portfolios (4-6). The HML factor represents the difference between the average return of small portfolios (3 and 6).

### Table 8

Illustrative example of calculation of cash flow rights and voting rights in a pyramidal structure:



Cash flow rights are denoted 'C' and voting rights are denoted 'V'.

The figure above illustrates a pyramid structure as part of the ownership structure for one of our sample companies (Proact IT Group), with the Stillström family as its ultimate owner. In this example, the cut-off used for control is 10% of the votes. When we use 20% of the votes as cut-off for control, we would classify the ownership structure of Proact IT Group as dispersed (i.e. no ultimate owner exists). The cash flow rights held by the ultimate owner are calculated as follows:

 $\begin{bmatrix} C_{\text{Thalamus}} & * & C_{\text{Traction}} & * & C_{\text{Stillström-sphere}} \end{bmatrix} + \begin{bmatrix} C_{\text{Thalamus}} & * & C_{\text{Traction}} & * & C_{\text{Petter o bolag}} \end{bmatrix} + \begin{bmatrix} C_{\text{Thalamus}} & * & C_{\text{Traction}} & * & C_{\text{Petter o bolag}} \end{bmatrix} + \begin{bmatrix} C_{\text{Thalamus}} & * & C_{\text{Stillström-sphere except for Traction}} \end{bmatrix}$ 

[10.88% \* 34.7% \* 74.1%] + [10.88% \* 34.7% \* 3.9%] + [10.88% \* (38.7% - 34.70%)]

The voting rights (VR) held by the ultimate owner are calculated in accordance with the weakest link in the control chain. The voting rights along the chain of control held by the Stillström family are: 78.1%; 40.7%; 10.88%. Thus, the voting rights held by the Stillström family in Proact IT Group becomes 10.88%, which is the weakest link in the chain of control.

The data used for analyzing the ownership structure of Proact IT Group has been retrieved from the database 'Holdings' and the book 'Ägarna och Makten (2003)'. The methodology used here to capture the cash flow rights and voting rights held by the ultimate owner is applied consistently for all ownership structures where a pyramid structure prevails.

Гable	9
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Sample Size and Selection Method									
	Selection Method		Sa	ample Size					
Step	Criteria	Source	Data loss	Data loss %	Obs.				
1.	M&A transactions meeting the following criteria: (1) Observations are for the time period 2003 - 2013; (2) Acquiring firms are Swedish listed companies; (3) Deals include completed and uncompleted mergers or acquisitions of majority stakes; (4) Acquiring firms with several M&A transactions during the period are included; (5) Only transactions with a deal value greater than or equal to US\$10 million are included	Thompson Reuter's deal screener			263				
2.	Transactions made by the same acquirer within the same eleven day event period are excluded;		8	3,0%	255				
3.	Onwership data available in Holdings and (or) the book series 'Ägarna och Makten'	Holdings and 'Ägarna och Markten'	32	12,5%	223				
4.	Ultimate owner (votes > 10%) exists		14	6,3%	209				
5.	The ultimate owner is an insider*	Finansinspektionen (Swedish FSA)	100	48%	109				

### Short-Run Event Study and Final Regression

6A[1].	Short run event-study, missing share price for calculation of CAR	Finbas & Datastream	7	6,4%	102
6A[2]	Control variable: Relative Size	Thompson Reuter's deal screener and Datastream	7	6,9%	95
6[A]3.	Control Variable: Cash	Thompson Reuter's deal screener	33	34,7%	62

### Long-Run Event Study and Final Regression

6B[1].	Long run event-study, missing share price for calculation of CAR (BHAR)	Datastream	19	17,4%	90			
6B[2]	Control variable: Relative Size	Thompson Reuter's deal screener and Datastream	0	0	90			
6B[3]	Control Variable: Cash	Thompson Reuter's deal screener	32	35,6%	58			
* The ultimate owner is an insider if he is the CEO and (or) part of the board of directors.								

Sample (total) by Year											
Panel A:	Panel A: Number and Value of Transactions										
	Number of	Number of	Average Value	Total Value							
Year	Transactions	Firms	(million USD)	(million USD)							
2003	20	19	87	1740							
2004	13	12	210	2729							
2005	20	18	394	7887							
2006	37	31	187	6918							
2007	33	28	412	13174							
2008	16	15	271	4329							
2009	13	13	111	1439							
2010	16	14	221	3535							
2011	23	21	256	5897							
2012	15	12	178	2677							
2013	17	14	398	6770							
Total	223	197	2725	57097							

Table 10

The table above reports descriptive statistics for the transactions in our *baseline* sample over the time period 2003- 2013 on a year-by-year basis.

	Table 11
	Sample (final) by Year
Panel A: Number and Value	ue of Transactions

Year	Number of Transactions	Number of Firms	Average Value (million USD)	Total Value (million USD)
2003	3	3	78	233
2004	4	4	194	777
2005	5	5	109	543
2006	7	6	152	1061
2007	7	6	259	1811
2008	4	4	625	2501
2009	6	6	86	514
2010	6	4	283	1696
2011	9	9	402	3614
2012	4	4	46	186
2013	7	6	277	1942
Total	62	57	2510	14878

The table above reports descriptive statistics for the transactions in our *final* sample over the time period 2003- 2013 on a year-by-year basis.









Table 12:	Sample	(total)	by	Industry
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Table 12: Sample (total	l) by Indu	stry										
SIC Codes	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Between 1 and 19 Natural Resources	2	0	0	3	1	2	1	0	2	0	1	12
Between 20 and 39 Manufacturing	7	4	6	9	11	5	5	8	6	8	8	77
Between 40 and 49 Transportation	0	1	3	8	4	3	1	1	5	0	2	28
Between 50 and 59 Consumer and Wh	0	0	0	2	1	1	0	0	2	1	0	7
Between 60 and 69 Financial Services	5	5	5	7	7	2	6	3	4	0	5	49
Between 70 and 89 Services	6	3	6	8	9	3	0	4	4	6	1	50
Total	20	13	20	37	33	16	13	16	23	15	17	223
The table above reports (	The table above reports descirptive statistics for the transactions in our baseline sample over the time period 2003- 2013 on a year by year and industry basis.											

### Table 13: Sample (final) by Industry

Table 13: Sample (final) by Industry												
SIC Codes	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Between 1 and 19 Natural Resources	1	0	0	0	0	1	1	0	1	0	1	5
Between 20 and 39 Manufacturing	0	0	3	2	1	1	2	3	3	2	3	20
Between 40 and 49 Transportation	0	1	0	0	2	1	1	0	0	0	0	5
Between 50 and 59 Consumer and Wh	0	0	0	0	3	1	0	0	1	1	0	6
Between 60 and 69 Financial Services	2	1	2	3	0	0	2	3	2	0	2	17
Between 70 and 89 Services	0	2	0	2	1	0	0	0	2	1	1	9
Total	3	4	5	7	7	4	6	6	9	4	7	62
The table above reports descirptive statistics for the transactions in our baseline sample over the time period 2003- 2013 on a year by year and industry basis.												

### Table 14: Descriptive Statistics Final and Baseline Sample

	Ľ	Descriptiv	ve Statistics						
Final SampleBaseline SampleVariablesMeanSt. DevObservationsMeanSt. DevObservationsMeanSt. Dev									
Variables	Mean	St. Dev	Observations	Mean	St. Dev	Observations			
	Acq	uiring Fir	m Performance						
3-day CAR	0.012***	0.065	62	0.016	0.066	102			
11-day CAR	0.012	0.078	62	0.019	0.080	102			
FAMACAR	0.222***	0.597	58 (1)	0.234	0.596	88			
FAMABHAR	0.347***	0.858	58 (1)	0.332	0.861	88			
MARKETCAR	0.168***	0.479	58 (1)	0.172	0.474	88			
MARKETBHAR	0.238**	0.741	58 (1)	0.244	0.732	88			
		Ownershi	p Structure						
Cash flow rights	0.236	0.163	62	0.224	0.159	109			
Voting rights	0.464	0.189	62	0.425	0.192	109			
Separation	0.219	0.130	62	0.205	0.136	107 (2)			
Blockholders	0.075	0.114	62	0.097	0.126	109			
Log_Herfindahl Diff.	-0.889	0.586	62	-1.066	0.775	109			
Dual Class	0.806	0.398	62	0.779	0.416	109			
Pyramids	0.871	0.338	62	0.826	0.381	109			
		Control	Variables						
Cash	0.661	0.477	62	0.581	0.497	74			
Crossborder	0.339	0.477	62	0.385	0.489	109			
Listed	0.419	0.497	62	0.294	0.458	109			
Related	0.565	0.499	62	0.559	0.499	109			

Relative size - 1.027 0.769 62 -1.045	0.824	98
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This table shows descriptive statistics for our baseline sample and our final sample. Variable description: Cash flow rights = amount of cash flow rights held by the CMS controller; Voting rights = amount of voting rights held by the CMS controller; *Separation* = the differences between the amount of voting rights and cash flow rights in the hands of the CMS controller; *Blockholders* = the amount of voting rights held by other large shareholders; Log Herfindahl Differences = the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder; *Dual class* = 1 if dual class structure, 0 otherwise; Pyramids = 1 if pyramidal structure, 0 otherwise; Mode of Payment(CASH) =1 if the transaction is entirely paid with cash, 0 otherwise.; Crossborder = 1 if the transaction is crossborder, 0 otherwise; *Listed* = 1 if the target firm is listed, 0 otherwise; *Related* = 1 if the acquiring- and target firm have the same 2-digit SIC code, 0 otherwise; *Relative Size* = the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm.(1) The reason for loosing four observations (nr of observations fall from 62 to 58) is due to missing share prices for long-run event study. (2) We have removed observations for which separation is negative (i.e. cash flow rights exceeds voting rights). Reported significance levels are based on a one-sided ttest with the null hypothesis stating that aggregated abnormal return is zero. Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*.

			Descrip	otive S	tatistic	cs		
		Fami	ily	Ν	Von-Fan	nily		
		St.	-		St.	2	Mean	4 4 4
Variables	Mean	Dev	Observations	Mean	Dev	<b>Observations</b>	Difference	t-stat
			Acquiring	Firm Pe	erforma	ince		
3-day CAR	0.014	0.072	129	0.007	0.056	66	0.006	0.624
11-day CAR	0.020	0.078	129	0.008	0.071	66	0.011	0.986
FAMACAR	0.204	0.582	106	0.089	0.514	53	0.115	1.222
FAMABHAR	0.283	0.828	106	0.135	0.614	53	0.148	1.155
MARKETCAR	0.137	0.474	106	- 0.001	0.433	53	0.146	1.876**
MARKETBHAR	0.190	0.713	106	0.011	0.539	53	0.172	1.552*
			Owner	ship Sti	ructure			
Cash flow rights (1)	0.215	0.153	138	0.210	0.172	69	0.005	0.193
Voting rights (1)	0,398	0.187	138	0,293	0.159	69	0.105	3.997***
Separation (1)	0.187	0.137	135 (2)	0.083	0.118	64 (2)	0.104	5.2428***
Blockholders	0.110	0.132	138	0.135	0.115	69	- 0.024	1.289*
Log_Herfindahl Diff.	- 1.141	0.749	138	- 1.535	0.803	69	0.394	3.479***
Dual Class	0.731	0.444	138	0.377	0.488	69	0.355	5.241***
Pyramids	0.797	0.404	138	0.464	0.502	69	0.333	5.152***
			Cont	rol Vari	iables			
Cash	0.542	0.501	96	0.630	0.488	46	- 0.089	- 0.997
Crossborder	0.399	0.491	138	0.362	0.484	69	0.036	0.503
Listed	0.283	0.452	138	0.304	0.464	69	- 0.022	- 0.324
Related	0.551	0.499	138	0.507	0.504	69	0.043	0.589
Relative size	- 1.008	0.819	138	- 1.451	1.066	57	0.442	3.027***

#### **Table 15: Descriptive Statistics Family- and Non-Family Firms**

This table shows descriptive statistics for family owned and non-family owned acquiring firms. (1) Note that the variables Cash flow rights, Voting rights and Separation have note been defined for an insider. In order for us to be able to compare the two samples family and non-family, the requirement that the CMS controller is an insider cannot be met. If we require that the CMS controller is an insider, it follows that the CMS controller has to be a family due to data limitations (see section 6.5 for a discussion on why this is the case) (2) There are fewer observations for the variable Separation if compared to the variables Cash flow rights and Voting rights This is because we have eliminated negative values for Separation. Variable description: Cash *flow rights* = amount of cash flow rights held by the CMS controller; *Voting rights* = amount of voting rights held by the CMS controller; Separation = the differenes between the amount of voting rights and cash flow rights in the hands of the CMS controller; *Blockholders* = the amount of voting rights held by other large shareholders; Log Herfindahl Differences = the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder; *Dual class* = 1 if dual class structure, 0 otherwise; *Pyramids* = 1 if pyramidal structure, 0 otherwise; *Mode of Payment(CASH)* = 1 if the transaction is entirely paid with cash, 0 otherwise; Crossborder = 1 if the transaction is crossborder, 0 otherwise; Listed = 1 if the target firm is listed, 0 otherwise; Related = 1 if the acquiring- and target firm have the same 2-digit SIC code, 0 otherwise; Relative Size = the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. The reported t-tests are for one-sided t-tests of the mean difference between the two samples.Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*.

Multivariate OLS Regressions										
Predicted Sign Model (1) Model (2) Model (3) Model (4)										
CAR (-5, +5)										
SepHigh	_	-0.010								
Separation	_		-0.089	-0.075	-0.029					
Blockholders	+			0.069						
Log_Herfindahl Diff.	_				-0.028*					
Relative Size	+	0.059***	0.059***	0.055***	0.058***					
Listed	_	-0.036**	-0.035**	-0.036**	-0.040***					
Related	+	-0.033	-0.038*	-0.034	-0.036*					
Mode of Payment (CASH)	+	0.030*	0.035*	0.032*	0.031*					
Constant		0.096***	0.111***	0.010***	0.076**					
Adjusted R-squared		0.203	0.228	0.223	0.253					
F-statistic		2.53	2.75	2.31	2.52					
Observations		62	62	62	62					

Table 16 Multiple Regression on 11-day CAR

This table provides results for our multivariate OLS regressions. The depdendent variable is 11-day CAR. The models are numbered in accordance with the number of the hypothesis that they test. Observations consist of acquiring firms with a CMS structure, where the CMS controller is an *Insider* and classified as a *Family*. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. *SepHigh* is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. *Separation* is a continuous variable, measured as the difference between voting rights and cash flow rights. *Blockholders* is a continuous variable, measured as the sum of voting rights in the hands of blockholders. *Blockholders* is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. *Relative Size* is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. *Listed* is a dummy variable that equals one if the target firm is listed, zero otherwise. *Related* is a dummy variable that equals one if the target firm is listed, zero otherwise.

acquiring- and target firm have the same 2-digit SIC code, zero otherwise. *Mode of Payment (CASH)* is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise. Reported significance levels are based on a one-sided significance level except for *Related*. Year- and industry dummies have been included in the regression model when they have proved to be significant. Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*, respectively.

Multivariate OLS Regressions									
	Predicted Sign	Model (1)	Model (2)	Model (3)	Model (4)				
FAMACAR									
SepHigh	_	-0.161							
Separation	_		-1.07**	-0.945**	-1.211**				
Blockholders	+			0.551					
Log_Herfindahl Diff.	_				0.059				
Relative Size	+	0.190*	0.190*	0.172*	0.187*				
Listed	_	0.044	0.037	0.017	0.052				
Related	+	0.124	0.103	0.112	0.105				
Mode of Payment (CASH)	+	0.495***	0.514***	0.486***	0.524***				
Constant		0.058	0.233	0.167	0.299				
Adjusted R-squared		0.184	0.223	0.217	0.210				
F-statistic		3.18	3.67	3.22	3.13				
Observations		58	58	58	58				
Firms									

Table 17: Multiple Regression on I	FAMACAR
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This table provides results for our multivariate OLS regressions. The dependent variable is FAMACAR. The models are numbered in accordance with the number of the hypothesis that they test. Observations consist of acquiring firms with a CMS structure, where the CMS controller is an *Insider* and classified as a Family. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. *Blockholders* is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. *Relative Size* is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. *Listed* is a dummy variable that quals one if the target firm is listed, zero otherwise. *Related* is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment (CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise. Reported significance levels are based on a one-sided significance level except for Related. Year- and industry dummies have been included in the regression model when they have proved to be significant. Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*, respectively.

Multivariate OLS Regressions								
		Model Model						
	Predicted Sign	(1)	Model (2)	(3)	Model (4)			
FAMABHAR								
SepHigh	-	-0.352*						
Separation	_		-1.936***	-1.666**	-2.323***			
Blockholders	+			1.158				
Log_Herfindahl Diff.	_				0.167			
Relative Size	+	0.300**	0.266*	0.228*	0.259*			
Listed	-	-0.101	-0.109	-0.150	-0.066			
Related	+	0.216	0.215	0.235	0.221			
Mode of Payment (CASH)	+	0.703***	0.720***	0.661***	0.748***			
Constant		0.266	0.439*	0.300	0.625*			
Adjusted R-squared		0.260	0.300	0.307	0.298			
F-statistic		5.25	6.40	5.15	5.01			
Observations		58	58	58	58			

Table 18: Mult	iple Regression	on FAMABHAR
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This table provides results for our multivariate OLS regressions. The dependent variable is FAMABHAR. The models are numbered in accordance with the number of the hypothesis that they test. Observations consist of acquiring firms with a CMS structure, where the CMS controller is an Insider and classified as a Family. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. Listed is a dummy variable that quals one if the target firm is listed, zero otherwise. *Related* is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment(CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise. Reported significance levels are based on a one-sided significance level except for Related. Year- and industry dummies have been included in the regression model when they have proved to be significant. Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*, respectively. Robust standard errors have been used to correct heteroscedasticity.

Multivariate OLS Regressions									
	Predicted Sign	Model (1)	Model (2)	Model (3)	Model (4)				
MARKETCAR									
SepHigh	_	-0.073							
Separation	_		-0.301	-0.097	-0.255				
Blockholders	+			1.006*					
Log_Herfindahl Diff.	_				-0.020				
Relative Size	+	0.198**	0.210**	0.184*	0.211**				
Listed	_	-0.117	-0.090	-0.131	-0.095				
Related	+	0.140	0.114	0.133	0.113				
Mode of Payment (CASH)	+	0.4623***	0.483***	0.444***	0.481***				
Constant		0.076	0.111	0.003	0.089				
Adjusted R-squared		0.117	0.125	0.158	0.109				
F-statistic		2.54	2.63	2.71	2.16				
Observations		58	58	58	58				

### Table 19: Multiple Regression on MARKETCAR

This table provides results for our multivariate OLS regressions. The dependent variable is MARKETCAR. The models are numbered in accordance with the number of the hypothesis that they test. Observations consist of acquiring firms with a CMS structure, where the CMS controller is an Insider and classified as a Family. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. *Listed* is a dummy variable that quals one if the target firm is listed, zero otherwise. Related is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment(CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise. Reported significance levels are based on a one-sided significance level except for Related. Year- and industry dummies have been included in the regression model when they have proved to be significant. Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*, respectively.

Multivariate OLS Regressions									
	Predicted Sign	Model (1)	Model (2)	Model (3)	Model (4)				
MARKETBHAR									
SepHigh	_	-0.284*							
Separation	-		-1.265**	-0.913*	-1.387**				
Blockholders	+			1.732*					
Log_Herfindahl Diff.	-				0.052				
Relative Size	+	0.347**	0.321**	0.274**	0.318**				
Listed	-	-0.281*	-0.243*	-0.313**	-0.231*				
Related	+	0.201	0.188	0.221	0.190				
Mode of Payment (CASH)	+	0.719***	0.744***	0.676***	0.751***				
Constant		0.292	0.362	0.176	0.421				
Adjusted R-squared		0.161	0.180	0.220	0.164				
F-statistic		2.91	3.68	2.70	3.01				
Observations		58	58	58	58				

### **Table 20: Multiple Regression on MARKETBHAR**

This table provides results for our multivariate OLS regressions. The dependent variable is

MARKETBHAR. The models are numbered in accordance with the number of the hypothesis that they test. Observations consist of acquiring firms with a CMS structure, where the CMS controller is an *Insider* and classified as a Family. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. *Listed* is a dummy variable that quals one if the target firm is listed, zero otherwise. *Related* is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment(CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise. Reported significance levels are based on a one-sided significance level except for *Related*. Year- and industry dummies have been included in the regression model when they have proved to be significant. Significance at the 10%, 5% and 1% levels are indicated by \*, \*\*, and \*\*\*, respectively. Robust standard errors have been used to correct for heteroscedasticity.





The graph above illustrates the difference between the absolute value of *3-day CAR* and the absolute value of *11-day CAR*. For transactions numbered 28, 33 and 50 the difference between our two short-run aggregated return metrics is especially high. Observation 28 represents MTG's announcement to acquire Nova Group Bulgaria. Observation 33 represents Peab's announcement to acquire Annehem Fastigheter. Obersvation 50 represents Cloetta's announcement to acquire Leaf International BV. With respect to Peab's acquisition of Annehem Fastigheter there are some plausible conflicting events around the announcement (April 17<sup>th</sup> 2009). It was announced on May 5<sup>th</sup> 2009 that the founder and CEO of Peab (Mats O Paulsson) would leave the company. Although this event occurs after the 11-day event window, it is plausible that there has been news leakage to the market. Additionally, on April 16<sup>th</sup> Peab signed a substantial contract agreement (concerning Friends arena in Stockholm Sweden). Furthermore, the quarterly report for the first quarter of 2009 was released in the beginning of April.

Variance Inflation Factor (VIF) for multiple regressions on 3-day CAR								
	Model (1)		Model (2)		Model (3)		Model (4)	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
SepHigh	1.42	0.703						
Separation			1.42	0.704	1.49	0.670	1.72	0.583
Blockholders					1.25	0.800		
Log_Herfindahl Diff.							1.31	0.766
Relative Size	1.63	0.612	1.72	0.583	1.93	0.518	1.72	0.581
Listed	1.07	0.931	1.10	0.906	1.12	0.891	1.14	0.879
Related	1.33	0.754	1.31	0.762	1.36	0.733	1.32	0.760
Mode of Payment (CASH)	1.50	0.665	1.48	0.675	1.52	0.656	1.50	0.665
Acquiring Industry 1	1.28	0.779	1.30	0.771	1.30	0.770	1.30	0.768
Mean VIF	1.37		1.39		1.43		1.43	

## Table 21: Variance Inflation Factor (VIF) 3-day CAR Inflation Factor (VIF) 2

This table presents the variance inflation factor (VIF) of the OLS regressions (models 1-4) when 3-day CAR is the dependent variable. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. *SepHigh* is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. *Separation* is a continuous variable, measured as the difference between voting rights and cash flow rights. *Blockholders* is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. *Log\_Herfindahl Diff*. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. *Relative Size* is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. *Listed* is a dummy variable that quals one if the target firm is listed, zero otherwise. *Mode of Payment (CASH)* is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise.

Table 22. Variance innation Factor (VIF) 11-uay CAN										
Variance Inflation Factor (VIF) for multiple regressions on 11-day CAR										
	Model (1)		Model (2)		Model (3)		Moo	del (4)		
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF		
SepHigh	1.42	0.703								
Separation			1.42	0.704	1.49	0.670	1.72	0.583		
Blockholders					1.25	0.800				
Log_Herfindahl Diff.							1.31	0.766		
Relative Size	1.63	0.612	1.72	0.583	1.93	0.518	1.72	0.581		
Listed	1.07	0.932	1.10	0.906	1.12	0.891	1.14	0.879		
Related	1.33	0.754	1.31	0.762	1.36	0.733	1.32	0.760		
Mode of Payment (CASH)	1.50	0.665	1.48	0.675	1.52	0.656	1.50	0.665		
Acquiring Industry 1	1.28	0.779	1.30	0.771	1.30	0.770	1.30	0.768		
Mean VIF	1.37		1.39		1.43		1.43			
This table presents the variance infl	ation fact	This table presents the variance inflation factor (VIF) of the OLS regressions (models 1-4) when 11-								

### Table 22: Variance Inflation Factor (VIF) 11-day CAR

*day CAR* is the dependent variable. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. *SepHigh* is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log\_Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the acquiring firm. Listed is a dummy variable that quals one if the target firm is listed, zero otherwise. Related is a dummy variable that equals one if the target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment (CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise.

Table 23: Variance Inflation Factor (VIF) FAMACAR								
Variance Inflation Factor	(VIF)	for mu	ltiple	regressi	ions o	n FAM	ACAF	ξ
	Moo	del (1)	Мо	del (2)	Mod	del (3)	Moc	del (4)
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
SepHigh	1.48	0.676						
Separation			1.42	0.703	1.51	0.660	1.76	0.568
Blockholders					1.17	0.854		
Log_Herfindahl Diff.							1.35	0.738
Relative Size	1.59	0.630	1.63	0.614	1.68	0.600	1.63	0.613
Listed	1.06	0.947	1.08	0.923	1.12	0.896	1.14	0.874
Related	1.56	0.641	1.46	0.685	1.47	0.682	1.46	0.685
Mode of Payment (CASH)	1.61	0.621	1.56	0.642	1.62	0.619	1.58	0.632
Year 1 (2003)	1.06	0.940	1.08	0.930	1.13	0.889	1.08	0.922
Mean VIF	1.39		1.37		1.38		1.43	

This table presents the variance inflation factor (VIF) of the OLS regressions (models 1-4) when FAMACAR is the dependent variable. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log\_Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the acquiring firm. Listed is a dummy variable that quals one if the target firm is listed, zero otherwise. Related is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment (CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise.

Variance Inflation Factor (VIF) for multiple regressions on FAMABHAR								
	Mod	del (1)	Moc	del (2)	Moc	lel (3)	Mod	lel (4)
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
SepHigh	1.48	0.676						
Separation			1.42	0.703	1.51	0.660	1.76	0.568
Blockholders					1.17	0.854		
Log_Herfindahl Diff.							1.35	0.738
Relative Size	1.59	0.627	1.63	0.614	1.68	0.595	1.63	0.613
Listed	1.06	0.947	1.08	0.923	1.12	0.896	1.14	0.874
Related	1.56	0.641	1.46	0.685	1.47	0.682	1.46	0.685
Mode of Payment (CASH)	1.61	0.621	1.56	0.642	1.62	0.619	1.58	0.632
Year 1 (2003)	1.06	0.940	1.08	0.930	1.13	0.889	1.08	0.922
Mean VIF	1.39		1.37		1.38		1.43	

### Table 24: Variance Inflation Factor (VIF) FAMABHAR

This table presents the variance inflation factor (VIF) of the OLS regressions (models 1-4) when FAMABHAR is the dependent variable. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. Listed is a dummy variable that quals one if the target firm is listed, zero otherwise. Related is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment(CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise.

Variance Inflation Factor (	variance inflation Factor (VIF) for multiple regressions on MARKETCAR							
	Moo	del (1)	Мос	del (2)	Мос	lel (3)	Moo	del (4)
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
SepHigh	1.48	0.676						
Separation			1.45	0.688	1.52	0.657	1.81	0.553
Blockholders					1.12	0.896		
Log_Herfindahl Diff.							1.36	0.735
Relative Size	1.56	0.640	1.62	0.618	1.65	0.606	1.62	0.616
Listed	1.05	0.950	1.07	0934	1.11	0.900	1.12	0.890
Related	1.56	0.642	1.47	0.678	1.48	0.674	1.48	0.678
Mode of Payment (CASH)	1.54	0.650	1.50	0.668	1.53	0.653	1.51	0.663
Mean VIF	1.44		1.42		1.40		1.48	

# Table 25: Variance Inflation Factor (VIF) MARKETCAR Same Inflation Factor (VIE) for multiple regressions on MARKET

This table presents the variance inflation factor (VIF) of the OLS regressions (models 1-4) when 11day CAR is the dependent variable. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log\_Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. Listed is a dummy variable that quals one if the target firm is listed, zero otherwise. Related is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment(CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise.

Variance Inflation Factor (VIF) for multiple regressions on MARKETBHAR								
	Moo	del (1)	Moo	del (2)	Mo	del (3)	Mo	del (4)
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
SepHigh	1.56	0.640						
Separation			1.45	0.688	1.52	0.657	1.81	0.553
Blockholders					1.12	0.896		
Log_Herfindahl Diff.							1.36	0.735
Relative Size	1.56	0.640	1.62	0.618	1.65	0.606	1.62	0.616
Listed	1.05	0.950	1.07	0.934	1.11	0.900	1.12	0.890
Related	1.56	0.642	1.47	0.678	1.48	0.674	1.48	0.678
Mode of Payment (CASH)	1.54	0.650	1.50	0.668	1.53	0.653	1.51	0.663
Mean VIF	1.44		1.42		1.40		1.48	

### Table 26: Variance Inflation Factor (VIF) MARKETBHAR

This table presents the variance inflation factor (VIF) of the OLS regressions (models 1-4) when *MARKETBHAR* is the dependent variable. For all variables where we refer to separation, we refer to the extent of separation between voting rights and cash flow rights in the hands of the CMS controller. SepHigh is a dummy variable that equals one if the level of separation exceeds the

median level of separation, zero otherwise. Separation is a continuous variable, measured as the difference between voting rights and cash flow rights. Blockholders is a continuous variable, measured as the sum of voting rights in the hands of blockholders. Blockholders are defined as other large shareholders with more than 5% of the voting rights. Log\_Herfindahl Diff. is a continuous variable, measured as the logarithm of the sum of squares of the differences in voting rights between the largest and second largest shareholder, and the second largest and third largest shareholder. Relative Size is a continuous variable measured as the logarithm of the ratio between the purchase price and market capitalization of the acquiring firm. Listed is a dummy variable that quals one if the target firm is listed, zero otherwise. Related is a dummy variable that equals one if the acquiring- and target firm have the same 2-digit SIC code, zero otherwise. Mode of Payment(CASH) is a dummy variable that equals one if the transaction is entirely paid with cash, zero otherwise.

### Table 27: Heteroscedasticity 3-day CAR

Test for Heteroskedasticity for multiple regressions on 3-day CAR						
	Model (1)	Model (2)	Model (3)	Model (4)		
Chi-två	0.15	0.08	0.09	0.24		
This table presents results for the Breusch-Pagan Cook-Weisberg test.						

### Table 28: Heteroscedasticity 11-day CAR

Test for Heteroskedasticity for multiple regressions on 11-day CAR						
	Model (1)	Model (2)	Model (3)	Model (4)		
Chi-två	4.48***	4.13**	4.28**	4.86**		
This table presents results for the Breusch-Pagan Cook-Weisberg test.						

### Table 29: Heteroscedasticity FAMACAR

Test for Heteroskedasticity for multiple regressions on FAMACAR						
	Model (1)	Model (2)	Model (3)	Model (4)		
Chi-två	0.06	0.14	0.17	0.15		
This table presents results for the Breusch-Pagan Cook-Weisberg test.						

### Table 30: Heteroscedasticity FAMABHAR

Test for Heteroskedasticity for multiple regressions on FAMABHAR							
	Model (1)	Model (2)	Model (3)	Model (4)			
Chi-två	3.40*	4.54**	6.24**	5.06**			
This table presents results for the Breusch-Pagan Cook-Weisberg test.							

### Table 31: Heteroscedasticity MARKETCAR

Test for Heteroskedasticity for multiple regressions on MARKETCAR

	Model (1)	Model (2)	Model (3)	Model (4)				
Chi-två	1.43	0.87	1.89	0.92				
This table presents results for the Breusch-Pagan Cook-Weisberg test.								

Table 32: Heteroscedasticity MARKETBHAR						
Test for Heteroskedasticity for multiple regressions on MARKETBHAR						
	Model (1)	Model (2)	Model (3)	Model (4)		
Chi-två	12.23***	9.30***	17.14***	9.10***		
This table presents results for the Breusch-Pagan Cook-Weisberg test.						