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Dual-class share structure in the context of M&As:

An empirical analysis of deals from Swedish public acquirers during 2001-2015

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Abstract

In a sample of 665 firm-year observations of 206 Swedish public acquirers listed on NASDAQ Stockholm or NGM during the period 2001–2015, the thesis discusses the prevalence of dual-class structure and evaluates its effects on M&A decisions and performance. During the observation period, the percentage of dual-class companies has slightly declined from 57.7% in 2001 to 51.0% in 2015. Dual-class structures are particularly common in industries with family ownership such as Industrials and Technology. In terms of deal characteristics, the probability of including cash in the deal consideration significantly increases in the divergence between cash flow and voting rights as measured by the wedge. Accordingly, dual-class shareholders are more averse to corporate decisions that potentially dilute their votes, such as including shares in the consideration for M&A deals. Against expectations, we find a negative relationship between dual-class structure and transaction value and an insignificant effect of dual-class structure on M&A performance measured by cumulative abnormal announcement returns (CAR). Conclusively, we do not find evidence that shareholders in dual-class companies consume private benefits through M&A deals.

Key words: Dual-class share structure, Mergers and acquisitions, Active ownership, Minority expropriation

JEL Classifications: G30, G32, G34

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1 Motivation and research question

Ever since stock markets allowed dual-class structures, they have split investor sentiments among opponents and advocates of the "one share-one vote" principle. Correspondingly, stock markets diverge in their policies with respect to dual-class structures: Some stock markets ban dual-class listings, such as the Stock Exchange of Hong Kong, whereas dual-class companies account for approximately two-thirds of all listings[1] on the Stockholm Stock Exchange. In a nutshell, the effect of dual-class share structure on companies' value creation is a highly debated issue in academia, corporate world and policy-making, where discussions have circulated around arguments of shareholder equality and long-term orientation. The mixed acceptances and implications intrigue our interests to shed light on such ownership structure by disentangling the relationship between acquirers' dual-class structure and mergers and acquisitions (M&As) decisions and performance.

Dual-class structures imply that corporations issue two or more share classes and attribute different voting and cash flow rights to distinct share classes. For this reason, they have been regarded as a popular mechanism for families or founders to establish or maintain control within a listed corporation. From a theoretical perspective, the net influence of dual-class share structure on investment decisions is inconclusive (Adams and Ferreira, 2008; Burkart and Lee, 2008): On the one hand, creating a wedge between votes and capital by introducing superior and inferior voting shares has been linked to minority expropriation and private benefits (Bebchuk et al., 2000). On the other hand, entrenched shareholders often found in dual-class companies can monitor management more efficiently and pursue long-term interests in the company (Jordan et al., 2016). The ambiguous theoretical implications prompt us to examine the effects of dual-class structure on M&As in an empirical analysis of data on the Swedish market.

From an empirical perspective, we identify Sweden as a suitable market to evaluate the relationship between dual-class share structure and M&A without suffering from too small sample sizes: In Scandinavia, particularly in Sweden, control-enhancing mechanisms such as dual-class share structure paired with a governance system of active ownership are deeply anchored in corporate governance culture (Cronqvist and Nilsson, 2003). Compared to the US market, where most research on corporate governance and M&As has been performed, dual-class structure is more prevalent in Sweden and thus more representative of the overall economy.

[1] In the sample of companies listed on the Stockholm Stock Exchange during period of 1991–1997, Cronqvist and Nilsson (2003) find that 75.7% of the firms have a dual-class structure.

This thesis will address following research question: *Inasmuch does a dual-class structure of an acquirer affect its M&A decisions and performances in Sweden?* In persuasion of potential answers to the research question, we analyze the M&A decisions and performance of single- and dual-class companies listed on the NASDAQ Stockholm or NGM in the period of 2001–2015. First we study the effects of acquirers' ownership structures on making M&A payment choices and then delve into the question whether M&As represent channels of private benefits for controlling shareholders in dual-class acquiring firms. Finally, we examine whether the voting premium captures the private benefits potentially extracted from M&A deals.

Our study aims to raise new perspectives in the long-standing discussion of dual-class structures through following contributions to existing literature: First and foremost, it explores the research topic in a Swedish setting, which has not yet received proportional academic attention despite the high prevalence of dual-class share structures. To the best of our knowledge, this thesis is the first study with the ambition to link dual-class structures to deal considerations in Swedish M&A deals. Secondly, we determine an observation period of 15 years, which covers the development of the financial crisis. The long horizon benefits the thesis with more comprehensive data, generating higher validity of the results. Lastly, we apply a very holistic approach to investigate the question whether M&As generate private benefits in dual-class acquirers by linking M&A performance to both different ownership variables and to the voting premium as a proxy of private benefits.

In analyzing the research question, the thesis proceeds as follows: Section 2 provides a theoretical review of ownership structure, giving particular attention to the prevalence of dual-class companies in Sweden. Section 3 lists the hypotheses developed on the basis of the previous section. Section 4 describes the dataset and empirical methodology. Section 5 presents the empirical results and Section 6 concludes the thesis.

2 Theoretical framework and literature review

2.1 Ownership structure and corporate governance

2.1.1 Principal-agent conflicts in different ownership structures

Coase (1937) defines the boundaries of the for-profit corporations from an institutional viewpoint as the comparison between the costs of using market and using direct authority. Business organizations evolve if benefits of aggregating activities on an organizational level outweigh costs associated therewith. Thus, corporations could be regarded as the display of a variety of corporate governance structures, often resulting from the maximization of firm value subject to different constraints, such as the nature and complexity of business activities, the need and availability of resources, and the institutional and competitive environments. On the other hand, Berle and Means (1932) establish the theoretical foundation of a modern corporation: a widely dispersed owner base and separated control in the hands of professional managers. Indeed, in the US such a structure is prevalent in the majority of companies listed on the stock markets AMEX, NASDAQ, and NYSE (Gompers et al., 2010).

In line with a dispersed ownership structure, control is often concentrated at the levels of management and board of directors in the Anglo-American corporate governance system. In such setting, the ownership and control is separated and secured through a contractual relationship, i.e. an agency relationship, where the principal (the shareholder of a company) authorizes the agent (the manager of the company) to perform on her behalf organizational and managerial decisions of the company (Jensen and Meckling, 1976). Since both parties do not necessarily have aligned interests, the major governance problem stemmed from such separation is the so-called principal-agent problem when the two parties' interests diverge and the agent acts to maximize her own utility at the costs of the principal. As a result, agency problems provide a broad set of potential explanations for non-optimal resource allocations in terms of firm value maximization.

In contrast to Anglo-America, Europe has a tradition of concentrated corporate ownership. According to Faccio and Lang (2002)'s research on 5,232 corporations in 13 Western-European countries, only 37% of them are widely held. In a less dispersed ownership structure, which is more prevalent in European and Asian markets (Bennedsen and Nielsen, 2010; La Porta et al., 1999; Nenova, 2003), the principal-agent problem may be less of a concern. Instead, governance problems are shifted towards the conflict between controlling shareholders and minority shareholders, which is commonly referred to as the minority expropriation problem (Cronqvist and Nilsson, 2003). Specifically, controlling shareholders could misuse their power in order to

consume private benefits of control for themselves on the expenses of minority shareholders, such as utilizing company funds or diverting investment decisions that do not add value to minority shareholders. This concern is especially at large in markets with lax minority shareholder protection (Bebchuk et al., 2000).

2.1.2 Minority expropriation and controlling minority structures

It remains ambiguous whether controlling ownership structures mitigate or exacerbate corporate governance conflicts from a theoretical perspective (Burkart and Lee, 2008). Explicitly, the choice between dispersed and concentrated ownership structures represents a trade-off between two dimensions of corporate governance effects, i.e. incentive and entrenchment effects (Bennedsen and Nielsen, 2010; Claessens et al., 2002, Cronqvist and Nilsson, 2003).

On the one hand, as controlling shareholders can impose more power and supervision on management than dispersed shareholders, it potentially leads to better decisions in terms of shareholder value. According to Claessens et al. (2002), an incentive effect of controlling ownership is defined when controlling owners are more inclined to encourage shareholder value maximization due to their higher control stake. In this case, minority shareholders can be regarded as free riders, which benefit from enhanced value creation without actively engaging in the process. On the other hand, controlling shareholders might exert their power to generate private benefits at the expense of minority shareholders. Claessens et al. (2002) describe this as an entrenchment effect when controlling shareholders involve in value-destroying activities such as family empire building in order to promote their own interests.

Bebchuk et al. (2000) define a "controlling-minority structure (CMS)" as an ownership structure that permits a controlling minority shareholder to control a firm while holding only a small stake of its equity. The radical separation of control and cash flow right is mainly established through three different corporate structures: dual-class structures, stock pyramids and cross-ownership ties (Adams and Ferreira, 2008; Bebchuk et al., 2000; Cronqvist and Nilsson, 2003; Maury and Pajuste, 2011). As these structures allow some shareholders to exercise substantial control over firms' resource allocation bearing only a fraction of economic consequences, minority expropriation problem could be easily aggravated.

Nevertheless, controlling minority shareholders' motivation to shun expropriating activities and legal restriction could limit minority expropriation (Cronqvist and Nilsson, 2003): First, controlling minority shareholders are likely to concern reputational costs as most prominent

users of CMS are often renowned or wealthy families, such as Wallenberg family in Sweden (La Porta et al., 1999). Since these families tend to grow holding pyramids and family wealth gradually over generations, they would limit their appropriating activities to assure benefits for their offspring. In order to maintain friendly relationships with the local government and even compete with foreign capital inflows, keeping reputation has become crucial (Masulis et al., 2011). Second, legislation and legal protection of minority shareholders limit the scope of minority expropriation. In some European countries including Sweden[2], the maximum ratio between two classes of shares was reduced to 1:10, thereby scaling down costs associated with disproportionate voting rights (Swedish Companies Act, 2005).

2.1.3 Dual-class structure

Among control-enhancing mechanisms that potentially aggravate minority expropriation, we are particularly intrigued by dual-class share structures. A dual-class share structure creates a wedge between control and cash flow rights by splitting common stock into superior and inferior voting classes and is among the most evident ways of establishing disproportionate ownership. Owners of the superior class are commonly insiders of the firm, such as founders and their families, and the wedge between their voting and cash flow rights could be wide (Adams and Ferreira, 2008).

Prevalence of dual-class structure has been varying depending on both cross-sectional and time series dimensions. Concerning the time dimension, stock markets' supportive or preventive actions with respect to dual-class issues have differed substantially over time and simultaneously with public scrutiny. For example, Lauterbach and Pajuste (2016) link dual-class unifications to media sentiment and find that negative media coverage of dual-class structures plays a central role in initiating unifications. The NYSE discarded the "one share-one vote" principle in 1986, thereby encouraging issues of inferior voting stock, and Europe followed suit in terms of implementing more lenient regulation for dual-class issues. The trend was reversed during the last decade as regulatory discussion of enforcing a "one share-one vote" principle in the European Union peaked around 2006. Given that the economic justification was deemed too weak for regulatory enforcement, the Commission withdrew proposals for such legislation in October 2007 (Financial Times, 2007). Nonetheless, there has been a clear trend towards dual-class unifications and recapitalizations, where companies with dual-class structure decided to

[2] According to Franks et al. (2012), Sweden is highly ranked among European countries in terms of investor protection, financial development and takeover activities. These factors may all limit minority expropriation from controlling shareholders.

abandon their superior voting share class[3]. This movement has gone along with decreasing popularity of dual-class IPOs in Europe (Braggion and Giannetti, 2017; Maury and Pajuste, 2011).

Regarding cross-sectional variation, occurrence of dual-class structures has been found to be both country- and industry-specific. First, cross-country differences can be linked to regulatory environments, investor protection and development of capital markets (Nenova, 2003). For example, stock markets in Hong Kong and Belgium do not allow dual-class listings while on the Stockholm Stock Exchange dual-class listings are particularly prevailing with equivalence to around two-thirds of the companies listed (Adams and Ferreira, 2008). Second, Gompers et al. (2010) disentangle industrial variation of the dual-class prevalence. Specifically, dual-class share structures are most common in media and publishing industries in the US market. They are also widespread in family and dynastic firms, where reputation of families is closely tied to the company. For instance, family-owned firms account for 87% of dual-class shares of 613 Canadian firms from 1998 to 2005 (King and Santor, 2008).

When deciding upon a dual-class structure, it is most likely based on balancing benefits and costs associated with it. Specifically, in terms of an optimization problem, a dual-class structure should be implemented when potential benefits are large and costs small. Benefits to owners of the superior voting stock mainly occur in the form of private benefits of control and are expected to be somewhat reflected in the voting premium (Zingales, 1994). Dual-class structures can also be beneficial for all shareholders if they shed management from short-term market pressure, which may impair the implementation of promising long-term projects. Hence, for high-growth companies or firms with long-term projects that require immense upfront R&D expenditures dual-class structures could be optimal (Jordan et al., 2016). Furthermore, dual-class companies may be advantageous if they allow shareholders to oversee and control management decisions more efficiently (Bebchuk and Kastiel, 2017). Costs associated with dual-class share structure mainly arise when the price of the inferior voting stock is discounted by anticipated expropriation or weaker performance. Additional to financing costs, reputational costs can occur particularly in times of negative media sentiment towards dual-class shares (Lauterbach and Pajuste, 2016).

[3] In a sample of 493 firms over the period of 1996–2002 in seven European countries, Maury and Pajuste (2011) find that the fraction of dual-class firms decreased from 43% to 29%.

Maury and Pajuste (2011) raise a new perspective by linking the benefits of dual-class structures to the lifecycle of the firm. Explicitly, dual-class share structures are beneficial in early stages of companies' listing as they allow founders with superior leadership skills and knowledge of the companies to direct shortly after IPOs, where long-term oriented high-growth projects are most likely to occur. However, as firms become more established, benefits vanish and outweighed by costs. In such case, controlling shareholders have incentives to keep dual-class structures even if such structures are no longer favorable for the value-creation processes, making minority expropriation more likely to arise in this stage. (Bebchuk and Kastiel, 2017; Maury and Pajuste, 2011).[4]

Voting premium between superior and inferior stock classes has been commonly used as a proxy for the market valuation of private benefits of control in dual-class companies (Claessens et al. 2002, Giannetti and Laeven, 2009; Nenova, 2003).[5] Ehrhardt and Nowak (2001) categorize private benefits based on "pecuniary" and "transferable" dimensions supported by empirical evidences of 105 IPOs from German family-owned firms. Pecuniary private benefits, also commonly labeled as "tunneling", include excessive compensation, asset transfers at non-market terms to related parties, insider trading and issuing shares at diluted prices. For example, controlling shareholders are more likely to represent on the board and to take management roles in the company, making executive compensation a channel for extracting private benefits (Amoako-Adu et al., 2011; Masulis et al., 2009). In contrast, non-pecuniary private benefits comprise social benefits of ownership, reputation and prestige, which are not necessarily related to the wealth of either controlling or minority shareholders (Ehrhardt and Nowak, 2001).

2.2 Corporate investment decisions in the context of ownership structure

M&As are some of the most important investment decisions companies take with the intention to pursue growth strategies. M&As are regarded as external growth strategies to acquire resources, and can be contrasted to internal growth strategies that develop resources organically. Generating synergies in order to achieve growth is the most commonly cited intention of M&As. Other

[4] Franks et al. (2012) develop a model where family firms evolve into widely held corporations in the later stages of lifecycle in countries with strong investor protection and developed financial markets. However, it does not seem to hold in Sweden, as dual-class structures and family ownership are still prevalent in established firms such as Ericsson.

[5] Due to the variety of confounding factors such as liquidity, media sentiments, and regulatory environment, disentangling private benefits from the voting premium may be challenging. Liquidity discounts affect the price difference between low- and high-voting shares, since high-voting shares are usually not as liquid as low-voting shares. Media sentiment has also been associated to the voting premium (Lauterbach and Pajuste, 2015). The sampling period 2001–2015 of this thesis covers a period of high media attention for dual-class shares due to the European Commission's proposal of a "one share-one vote" principle (Financial Times, 2007).

motives are operational diversification, market power, tax considerations, and empire building (Berk and DeMarzo, 2014).

Merger waves usually occur in clusters and are pro-cyclical. Industry shocks, liquidity cycles and market valuations have been identified as the main drivers of merger waves (Harford, 2005; Rhodes-Kropf, M. and Viswanathan, S., 2004). According to Harford (2005), M&A activity peaks when there is economic motivation for asset reallocation paired with low transaction costs. Economic incentives mostly originate from industry shocks that demand for institutional reorganization while liquidity patterns drive the transaction costs and thus the clustering patterns. Alternatively, merger waves can be related to market valuations, as there is a positive correlation between M&A activity and periods of high stock market valuations (Shleifer and Vishny, 2003).

The success of M&As in increasing shareholder value has been mixed and can be impeded by several factors including ownership structure. M&As thus represent an ideal setting for our analysis as they are among the largest investment decisions that can lead to heightened conflicts of interest between different stakeholders, i.e. management, controlling shareholders and minority shareholders. The conflicts could easily evolve into concerns such as agengy problems and minority expropriations as described previously. For example, empire building is one of the most prominent agency conflicts in the context of M&As. It is commonly triggered by aspiration for status, power, and compensation, and motives companies to engage in value-destructive deals in order to widen the control sphere (Jensen, 1986; Stulz, 1990).

It remains unclear whether dual-class structures mitigate or intensify incentives of such strategy: On the one hand, controlling owners can oversee management more efficiently and thus mitigate risks of empire building by executives.[6] On the other hand, controlling owners themselves can approve M&As and engage in family empire building strategies that do not necessarily maximize total shareholder value (Sraer and Thesmar, 2007). As they bear less financial losses should the deals fail, minority expropriation could be of a larger concern with dual-class listing. Moreover, dual-class lsitings can incentivize empire building by executives, as management could be less subject to discipline from the market of corporate control (Masulis et al., 2007).[7]

[6] Amoako-Adu et al. (2011) find that management compensation is higher in the dual-class compared to single class sample of Canadian firms, putting the controlling shareholders' monitoring power over management into question.
[7] Masulis et al. (2009) find that as the insiders' voting and cash flow rights divergence widens, acquiring companies experience lower CAR and are more likely to experience negative CAR, possibly due to concerns over empire building.

2.3 The Swedish case

The Swedish corporate governance model has very particular characteristics in addition to concentrated ownership widely found in continental Europe and East Asia (Claessens et al., 2002; Faccio and Lang, 2002; La Porta et al., 1999). Specifically, controlling shareholders are often actively involved in corporate decision-making processes, and exercise control in by taking board positions and management functions (Carlsson, 2007). This corporate governance setting has been prevalent in private and family firms all across the world, yet not as prevailing in public corporations as in Sweden. As active shareholders have to keep providing capital to maintain significant voting power, it becomes costly for active shareholders especially after going public. Hence, control-enhancing mechanisms such as dual-class share structures are popularly employed to allow shareholders to stay in control while supplying a fraction of capital (Bebchuk et al., 2000; Carlsson, 2007; La Porta et al., 1999)[8].

Even though Sweden has high prevalence of dual class share structure, the voting premium is among the lowest in the world (Nenova, 2003; Dyck and Zingales, 2004). Holmén (2011) reports that the mean and median wedges between cash flow and voting rights have been basically stable around 10% since 1993. Accordingly, Holmén and Knopf (2004) do not find any clear evidence of tunneling through significant wealth transfers from minority shareholders to the controlling shareholders in Sweden. However, as the voting premium only captures the pecuniary private benefits, it is expected to be underestimated (Ehrhard and Nowak, 2001)[9]. Another potential explanation for the low voting premium is that Sweden's norms and extralegal institutions protect minority shareholders from minority expropriation through M&As (Cronqvist and Nilsson, 2003). The high stock market participation of Swedish households could also keep down the voting premium, since the general sentiment of dual-class structures in the Swedish investment community is positive (Carlsson, 2007).

[8] The Swedish stock market has a high proportion of companies with disproportionate ownership: Explicitly, La Porta et al. (1999) discover that Sweden is the only country with top-threes in the categories of i) least book capital required to control over 20% of the votes, ii) the incidence of cross-shareholdings and iii) frequency of pyramids in firms.

[9] Private benefits consumed by family-owned companies are to a large extent non-pecuniary and non-transferable even after ownerships shift, such as social status and political network (Ehrhardt and Nowak, 2001).

3 Hypotheses

Theoretical implications of dual-class share structure on company performance are ambiguous, and therefore it seems promising to empirically evaluate potential effects (Adams and Ferreira, 2008; Burkart and Lee, 2008). Admittedly, as dual-class structure and performance may be contemporaneously related, it has been proven challenging to establish a causal relationship between them (Adams and Ferreira, 2008; Giannetti and Laeven, 2009; Masulis et al., 2009). As a consequence, selection bias, reverse causality and omitted variable bias are inherent concerns in the research question. We expect to mitigate endogeneity concerns to some extent as the research question focuses on a specific aspect of performance, i.e. M&A performance. [10]

With the intent to shed light on the influence of dual-class structures on M&A performance, we identified the Swedish market as a suitable research target for following reasons: Dual-class share structures are commonly used in Sweden and therefore have higher relevance in this market in comparison to other markets such as the US[11]. However, despite the wide adoption of dual-class structure, the voting premium of Swedish companies has decreased since 1993 and is among the lowest in the world (Holmén 2011). As the voting premium is regarded as a proxy for controlling shareholders' private benefits of control, a low voting premium may indicate that minority expropriation is limited. By directly linking the voting premium to M&A performance, we build up a setting, which allows testing this proposition.

The thesis will first evaluate whether the dual-class share structure among Swedish public acquirers is implemented with the impact from firm-specific characteristics, such as industry and family ownership. Comparison of these characteristics between single-class and dual-class acquirers is further performed in order to disentangle the relationship. In a second line of research, we assess M&A deals in terms of deal characteristics including method of payment and transaction value. Finally, the thesis aims to explore the relationship between dual-class share and M&A performance to understand whether such ownership structure deteriorates shareholder value with inferior M&A performance. In line with these broad objectives, the thesis is devoted to testing following hypotheses in an empirical analysis:

We aim to detach the rationale behind the decision of a corporation to adopt the dual-class structure. Explicitly, dual-class structures have been commonly related to companies with

[10] A more detailed discussion of potential estimation problems follows in Section 4.5.
[11] Gompers et al. (2010) report that their sample of dual-class companies on the stock exchanges AMEX, NASDAQ and NYSE covers about 6% of the listing and 8% of the market capitalization. In contrast, about half of the acquirers in our sample from NASDAQ Stockholm and NGM are listed with two or more share classes.

strong founder identities or family ownerships. In order to limit cash flow risk but ensure voting power, creating a wedge between voting and cash flow rights may be particularly attractive for these groups of shareholders (Carlsson, 2007). In the US, dual-class structures have been particularly common in certain industries such as communications and publishing (Gompers et al., 2010). It is important to notice that family ownership or strong founder identities might be prevalent in these industries, and thus trigger the adoption of such governance structure. Conclusively, the first hypothesis can be stated as follows:

H1: The adoption of a dual-class structure is related to other ownership characteristics such as family ownership and prevalence of dual-class structure varies across industries.

In general, the financing decision of M&As represents a trade-off between corporate control concerns and bankruptcy risks. On one hand, equity-financed deals may lead to dilution of major shareholders' votes and cause a loss in corporate control. On the other hand, due to limited liquid assets in most bidding corporations, acquisitions paid in cash are often financed by debt, which increases the probability of financial distress. Hence, relevant considerations for the method of payment are the importance to keep the corporate control for major shareholders and acquiring company's debt capacity (Faccio and Masulis, 2005). All else equal, we assume that active owners with a higher wedge between voting and capital rights are more concerned about potential dilution of control. Moreover, share payments in M&As have been found to create negative announcement cumulative abnormal returns due to the signal effect that the acquirers might consider their own shares to be overvalued (Moeller et al., 2004). If shareholders in the acquiring company can actively interfere in investment decisions, approval of methods of payments, which would potentially decrease the value of their holdings, is less likely. Hence, the second hypothesis is as follows:

H2: The probability for all cash payment in M&A deals increases with acquirer's wedge between voting and cash flow rights of the largest shareholder.

Since M&As may represent a possibility for minority expropriation, we expect that controlling shareholders at dual-class companies might lead or approve larger acquisitions on average in order to extract private benefits of controls. For instance, family empire-building strategies are expected to be more common in dual-class companies and may lead to larger transaction values in terms of acquirer's size as measured by total assets. As a matter of fact, the measure does not consider whether larger relative transaction values stem from higher synergies and intrinsic target value, or overpayment and empire building. Since only the latter case implies private benefits, the lacking distinction impedes economic interpretations of the hypothesis test.

Specifically, it is necessary to combine the outcome of this hypothesis tests with results from M&A performance regressions to make conclusions about economic implications. Notwithstanding, the third hypothesis is defined as follows:

H3: The relative transaction value increases in the wedge between voting and cash flow rights of the largest shareholder.

From a theoretical point of view, the effect of acquirer's dual-class structure on M&A performance is ambiguous: On the one hand, dual-class acquirers' M&As can be perceived to mainly benefit shareholders of the superior voting class and hence followed by negative stock market reactions as measured by the inferior voting class returns (Masulis et al., 2009). On the other hand, if entrenched shareholders have a higher stake in the company, they are expected to influence managements' decisions and block value-destroying M&A deals to avoid empire building by management. Moreover, many controlling shareholders are also expected to hold a long-term perspective in the company, which should be reflected in their M&A decisions.

Conclusively, we expect the negative performance to outweigh in the short-run. When applying a short-term event study setting, only short-run impact on performance is captured and the positive effects of larger shareholders' entrenchment unfold in the long run. The forth hypothesis is therefore defined as follows:

H4: Short-term M&A performance measured by acquirer's cumulative abnormal returns is decreasing in the wedge between voting and cash flow rights of the largest shareholder.

Controlling shareholders could benefit themselves through channels such as M&As. As the voting premium is often viewed as a proxy for private benefits of control extracted by controlling shareholders in dual-class companies (Zingales, 1994), one can expect to see a higher voting premium should the stock market discover minority expropriation at a given firm. If the voting premium accurately captures private benefits, we can expect a negative relationship between the voting premium and M&A performance. Accordingly, hypothesis five is stated as follows:

H5: Short-term M&A performance measured by acquirer's cumulative abnormal returns is decreasing in the voting premium between shares with superior and inferior voting rights.

4 Data and Methodology

4.1 Dataset and Sampling Criteria

Our sample comprises 665 M&A deals from 206 firms listed on the regulated Swedish stock markets (NASDAQ Stockholm and NGM) between 2001 and 2015. Information is extracted from various databases including SDC Platinum, the series *Owners and Power in Swedish listed companies* by Sundqvist and Sundin, and Thomson Reuters' Datastream.

First of all, data on M&A transaction is compiled from SDC Platinum, which contains acquirer and target characteristics, announcement and effective dates, and deal characteristics, i.e. transaction value and method of payment. The SDC Platinum database defines public companies via their listing on either *Aktietorget, First North, NASDAQ Stockholm,* or *NGM*, and their predecessors. Second, ownership data is collected from Modular Finance's publications *Owners and Power in Swedish listed companies* (Sundqvist and Sundin), which is a yearly updated series that provides ownership information on the 25 largest shareholders of each company listed on NASDAQ Stockholm and NGM[12]. We follow Sundqvist and Sundin's method and group affiliated entities into sphere as one owner in respect to the Swedish institutional settings. For example, Lundberg sphere is considered as one joint shareholder. Finally, share price data as well as data on various control variables, is gathered from Thomson Reuters' Datastream.

Following sampling restrictions were applied on the SDC Platinum sample:

1. Only completed acquisitions are considered[13]
2. Only acquisitions, where key transaction data was available (dates, transaction volumes, method of payment), are included
3. Only transactions, where the absolute control threshold was crossed (less than 50% holding before transactions) and which resulted in 100% ownership of the target, enter into the sample
4. Only deals, where no other acquisition from the same acquirer was announced on the same day, are included
5. Only deals with transaction value over USD 1m are considered

The sample is further narrowed by data constraints. Explicitly, the sample is restricted to companies listed on regulated exchanges, as ownership data is only available for NGM and

[12] Ownership information of companies listed on NGM is only available until year 2009.
[13] In order to access deal characteristics for evaluation, i.e. transaction value and method of payment, incomplete deals are eliminated from the sample.

NASDAQ Stockholm. Moreover, share price data has to be available for the whole estimation period in order to be considered, and control variable data has to be accessible on both announcement and effective dates. When compiling our dataset, we also consider whether the announcement date is a trading day. If not, share price from the next trading day is used when calculating CAR.

In our dataset, no sample restriction is imposed on an industry basis. Previous research sometimes excludes industries such as financial, real estate or utilities as these industries are subject to different regulations and often differ in terms of profitability and acquisition strategies. However, we believe these differences are negligible in the Swedish market. Explicitly, financial institutions are often closely linked to industrial spheres through cross-ownership structures (Report on the Proportionality Principle in the European Union, 2007). Moreover, as the thesis does not make extensive use of accounting data in the analysis, the differences in the profitability are not very relevant in our setting. In order to mitigate the issue of outliers such as banks with large balance sheet, the natural logarithm is calculated and used throughout the thesis.

4.2 Variables

The following section is intended to provide an overview of the variables used in the empirical analysis. Specifically, it includes definitions and relevance of the variables, grouped by their function in regressions, i.e. dependent, independent and control variables.

4.2.1 Dependent Variables

Voting premium

The voting premium is calculated based on the relative difference between the prices of superior and inferior voting shares adjusted for the ratio of voting rights attributed to different share classes. Precisely, we used following formula to calculate the voting premium:

$$Voting\ Premium = \frac{P_S - P_I}{P_I - rP_S}$$

where P_S is the price of the superior voting share, P_I is the price of the inferior voting share and r is the ratio between inferior and superior shares' voting rights. Accordingly, the voting premium is only defined for companies, which had both share classes publicly listed on NASDAQ Stockholm or NGM.

Method of payment

We define two different dummies based on how the M&A deals are transacted: all cash payment and payment including some shares. The method of payment is an important characteristic of M&A deal structure, which is probably affected by ownership characteristics. For example, a share payment is less likely to be well accepted by acquiring shareholders due to potential dilution of their voting power. Faccio and Masulis (2005) also find that share payment to public targets in M&A deals are generally followed by negative announcement returns.

Transaction value ratio

We constructed a ratio, which expresses transaction value in terms of acquirer's total asset, to capture the relative deal size. Specifically, the ratio is defined as follows: $\frac{Log(Transaction\ value)}{Log(Total\ assets)}$. In order to unify currency units, the transaction value data from SDC Platinum is converted from USD into SEK by the announcement date exchange rates. Furthermore, to reduce the variability of observations from large outliers such as the merger between Telia Company AB and Sonera Oyj with transaction over USD 6bn, a logarithmic transformation is performed. Apart from testing whether relative transaction value as a dependent variable is influenced by dual-class share structure, log(Transaction value) also used as a control variable in the method of payment regression. For the M&A performance regressions, relative deal size (transaction value in terms of acquirer's market value) is included as a control, since stock markets tend to react stronger to large deal announcements (Moeller et al., 2004).

Acquirer's cumulative abnormal returns

In order to measure value creation or destruction of M&As, we capture market reaction following deal announcements and implement an event study. Acquirers' CARs are calculated as the cumulative difference between expected and realized returns during a 3-day event window around the announcement date. We expect CARs to reflect how the market values the deals at announcement date in efficient markets[14].

4.2.2 Independent Variables

Wedge

A dual-class share structure establishes diverging cash flow and voting rights, which is captured by the wedge defined as the difference between voting and cash flow rights of the largest

[14] According to Andrade et al. (2001), CARs are the most reliable measure of value creation from M&As. Nonetheless, the application is highly disputed since underlying assumptions of market efficiency, non-anticipation and no confounding events are not likely to hold in every setting. A more comprehensive overview of the CAR calculation and implication is presented in Section 4.5.2.

shareholders at an acquiring company. Precisely, the wedge is calculated as a number in the interval [0,1). For firms with single class share, this difference is set to be 0, even if shareholders have deviated cash flow and voting rights due to buyback agreements.

Ratio

We follow Claessens et al. (2002) and Masulis et al. (2009) and construct a supplementing variable by dividing the voting rights by cash flow rights of the largest shareholder. For single class share structure, the ratio is then equal to 1. It gradually increases in the divergence between cash flow and voting rights of the largest shareholder widens. Compared to the wedge, the ratio "penalizes" acquirers, where the largest shareholder has a low capital stake in the company.[15]

Dual-class dummy

A binary variable captures whether an acquirer has adopted a dual-class share structure when the M&A deal is announced. The dummy variable is equal to 1 for acquirers with more than one class of common stock. Accordingly, it is set 0 for acquirers with a single share class even if the shareholders might own different voting and cash flow right due to share repurchase agreements.

Additional ownership variables

We set up additional ownership variables in order to perform robustness tests and evaluate the correlation among ownership characteristics. First, we distinguish absolute and controlling owner if its largest shareholder owns more than 50% and 20% of total voting rights, respectively. Moreover, a multiple blockholder dummy is defined when a company has more than one controlling shareholder who holds at least 20% of the votes. A threshold of 20% voting rights is intended to capture the significant influence over corporate decisions exerted by the shareholders. A dummy for dispersed ownership equals 1 if the largest shareholder of an acquiring firm holds no more than 10% of the votes, and 0 otherwise. Lastly, other dummies regarding the largest shareholder's profile, i.e. financial institution, investment company or individual and/or family office, are created.

[15] For example, a 10% wedge can result from a shareholder holding 10% of the capital and 20% of the votes, yielding a ratio of 2; it may instead originate from a shareholder holding 40% of the capital and 50% of the votes with a ratio of 1.25. Hence, the ratio accounts for the percentage of capital held by the largest shareholder, whereas the wedge only considers the absolute difference between voting and cash flow rights.

4.2.3 Control variables

Acquirer size

Acquirers' total assets are used as proxies for the effect of size[16] in our regressions. Due to the substantial heterogeneity of acquirers in terms of size, logarithmic transformation is implemented with the aim to reduce variability. Controlling for size in our regressions is important for following reasons: First, companies of different size are expected to have different profiles in terms of growth opportunities and resource accessibilities. Acquirer size is thus expected to largely affect variables such as method of payment and transaction value. Moreover, Moeller et al. (2004) have found that part of the abnormal returns is attributed to different acquirer profiles, as large acquirers on average have lower CARs than small acquirers.

Acquirer age

Expressed in years, age is defined as the time period ranging from an acquirer's first trading day on public stock market to the announcement date of a M&A deal. Being in different stages of business lifecycle can affect a firm's investment strategy and resource allocation. Controlling for acquirer's age allows us to reveal its effect on M&A decisions and performance. For instance, companies at their growth phrase are more likely to conduct M&A deals yet mature companies might have more resource to support large investments. Moreover, Maury and Pajuste (2011) link costs and benefits of dual-class structures to companies' lifecycle, and hence age. This potentially creates a gap in M&A performance among growing and established dual-class acquirers.

Acquirer leverage

Acquirer's leverage is defined as (Total debt/ Common equity)*100[17]. Stulz (1990) shows in a theoretical model that optimal financing policies in terms of leverage can mitigate under- and overinvestment incentives. As a result, we expect leverage to affect M&A decisions, specifically by its consequences for managerial discipline, bankruptcy risk and financial constraints. Because higher leverage usually implies limited cash resources and other financial constraints, it may be negatively related to all cash payments and transaction value (Faccio and Masulis, 2005). However, if creditor control is efficiently employed as a tool to avoid empire building and negative NPV deals, leverage can be aligned with better M&A performance.

[16] Total assets are defined as the sum of total current assets, long-term receivables, investment in unconsolidated subsidiaries, other investments, net PPE and other assets (WC02999). Slightly varying definitions may apply to banks, financial and insurance companies.

[17] The definition follows WC0831, and total debt is defined as the sum of long-term debt, short-term debt and the current portion of long-term debt.

Acquirer market-to-book

Acquirer's market-to-book ratio captures the value of unrecorded assets in the company and accounting biases due to prudent valuation. Precisely, when a market-to-book ratio exceeds 1, the market identifies additional asset value that is not fully reflected in balance sheet definitions. Market-to-book ratio has been related to M&As in following contexts: Acquirers with high market-to-book ratios have more investment incentives as the shares become more valuable, making it easier to finance the deals with shares. Moreover, high market-to-book ratios may mark high market valuations, which could spur merger waves (Rhodes-Kropf and Viswanathan, 2004).

Acquirer industry

Since the industry classification reported in SDC Platinum is overmuch detailed for our purpose, we define acquirer industry according to the categorization used by NASDAQ Stockholm. For companies currently not listed on NASDAQ Stockholm, either on NGM or delisted, we manually complete the data based on specified categories. The classification distinguishes between nine different industries: Basic materials, consumer goods, consumer services, financials, health care, industrials, oil and gas, technology and telecommunications.

Deal-specific dummies

To better capture the deal characteristics, we define dummy variables for domestic acquisitions, i.e. if the target was also Swedish; and for horizontal acquisitions, i.e. if the target and acquirer belong to the same industry. For the industry classification, we categorize the acquirer and target industries based on the Fama-French 12-industry portfolio[18].

4.3 Descriptive Statistics

The following section is devoted to providing an overview of the sample in terms of its quantitative and qualitative characteristics. The first subsection presents summary statistics of the previously described variables. The second subsection indicates correlations among main variables, which is particularly relevant when identifying suitable explanatory variables and

[18] The Fama-French 12-industries portfolio distinguishes between Consumer Non-Durables (1), Consumer Durables (2), Manufacturing (3), Oil, Gas and Coal Extraction and Products (4), Chemicals and Allied Products (5), Business Equipment (6), Telephone and Television Transmission (7), Utilities (8), Wholesale, Retail and Some Services (9), Healthcare, Medical Equipment and Drugs (10), Finance (11), and Other (12). We assign acquirers and targets to the industries based on the primary SIC Code reported by SDC Platinum.
We do not use the same industry classification for acquirer industry and industry-specific dummy for following reasons: First, assigning targets to the industry categories used by NASDAQ Stockholm seems too cumbersome, as it requires manual research for all targets. Second, using the Fama-French 12 industry portfolio for the acquirer industry results in many companies being classified as "Other", which does not allow for meaningful comparisons.

controls in the subsequent empirical analysis. The third subsection gives an overview about the M&A deals included in the sample by grouping them by year and industry.

4.3.1 Sample summary statistics

Dual-class acquirers completed 53.4% of the 665 deals included in the full sample. The largest shareholder on average owns 21.3% of cash flow rights and 30.9% of voting rights, resulting in the divergence measured by a mean wedge of 9.6% and a mean ratio of 1.69. The finding indicates the prevalence of CMS in our sample, which is aligned with previous researches (La Porta et al., 1999; Cronqvist and Nilsson, 2003). The average vote concentration of 30.9% by the largest shareholder is in conformity with the number reported by Giannetti and Laeven (2009). Accordingly, our sample indicates that dispersed ownership structure, which is widely implemented in the US, is not prevailing in the Swedish setting.

Around 30.4% of the deals are financed entirely through cash, yet 17.6% of the deals are paid partly with acquirer's shares. However, 50.5% of all 665 deals included in our sample have unknown consideration structure reported in SDC Platinum.[19] The average transaction value is USD 114m, equivalent to SEK 858m converted by the exchange rate at the announcement dates. On average, the 206 acquirers in the sample completed 3 deals during the observation period. Securitas AB concluded 34 transactions in the sample, yielding the highest number of deals by a single acquirer, and 76 acquirers are listed with only one deal. The deals in our sample have an average return of 1.4% on the announcement date and a 1.9% CAR over a 3-day event window.

When it comes to acquirer characteristics, the large standard deviation and divergence between mean and median indicate that the sample is very heterogeneous. For example, the mean book value of total assets is SEK 58,653m yet the median yields a value of SEK 6,890m, reflecting outliers such as Nordea Bank AB with large balance sheet of over SEK 3,000bn. Consequently, logarithmic transformation is meant to reduce the variability in the data when running regressions. Furthermore, acquirers in have a mean market capitalization of SEK 20,619m and have been listed 14 years on the stock market prior to the announcement. The mean leverage equals to 122.6% and the mean market-to-book ratio is 2.354.

16.5% and 65.7% of the deals are announced when the acquirer has an absolute shareholder (over 50% voting rights) and a controlling shareholder (over 20% voting rights), respectively. In 10.5% of the cases, there are more than one controlling shareholders in the

[19] Section 5.1.2 discusses more descriptive statistics for the deal consideration in a restricted sample, where 336 observations with unknown consideration are excluded.

acquiring firm at announcement. In comparison, only 13.2% of the deals were announced under a dispersed ownership structure without any shareholder owning more than 10% voting rights. These findings again confirm the wide implementation of concentrated ownership in the Swedish public market. Moreover, investment management companies, such as private equity funds, hedge funds and pension funds, are some of the most active players in Swedish equity market since 44.7% of the M&A deals captured in our sample have investment management companies as the largest shareholders. Last but not least, the largest shareholder is an individual or a family office in 58.8% of the deals, showing a strong family-ownership characteristics shared among Swedish acquirers.

Moreover, we look into other control variable on the deals. Explicitly, relative deal size, calculated by dividing transaction value with acquirer's market value at the announcement date, has a mean of 51% yet a median of 5.4%, a divergence mainly driven by large merger deals such as the merger of Telia Company AB and Sonera Oyj in 2002. 46.8% of the deals have Swedish targets and 26.5% are horizontal acquisitions when acquirer and target belong to the same industry classification.

Additionally, Figure 3 in the appendix presents a time-series path of the equal-weighted voting premium in the period of 2000–2016.[20] In line with Holmén (2011), we find an average equal-weighted voting premium of 9.79%, and a slightly lower median of 8.00%. Both Panels indicate a peak in 2011, which can be related to the negative sentiment towards dual-class shares (Braggion and Giannetti, 2013, Lauterbach and Pajuste, 2016). Specifically, the voting premium has been surging since 2005, when the discussions about implementing a one share-one vote law in the European Union emerged, and declined to fluctuating around the mean since 2011.

[20] The equal-weighted voting premium is preferred to the value-weighted equivalent in our analysis for following reason: Compared to the other companies in the sample, Ericsson's market capitalization is considerably larger and results in the value-weighted voting premium mirroring Ericsson's developments.

	(1) Mean	(2) Standard deviation	(3) Median
Explanatory Variables			
Dual	0.532	0.499	1.000
Capital owned by largest shareholder	21.3%	15.0%	17.6%
Votes owned by largest shareholder	30.9%	19.6%	28.3%
Wedge	9.6%	12.4%	0.1%
Ratio	1.693	1.138	1.005
Explained Variables			
All cash	0.304	0.460	0.000
Some shares (shares incl. hybrid)	0.176	0.381	0.000
Transaction Value (mUSD)	114.095	358.624	20.746
Transaction Value	857.884	312.752	157.128
Log Transaction Value	5.114	1.760	5.057
Frequency	3.228	3.993	2.000
Announcement Return	0.014	0.049	0.007
CAR3Market	0.019	0.061	0.008
Acquirer characteristics			
Age	13.985	15.066	10.852
Leverage (in %)	122.6%	223.8%	69.6%
Market-to-book	2.354	2.665	1.840
Total assets	85653	470441	6890
Log total assets	8.711	2.172	8.838
Acquirer ownership			
Absolute shareholder	0.165	0.372	0.000
Controlling shareholder	0.657	0.475	1.000
Multiple controlling shareholders	0.105	0.307	0.000
No major shareholder	0.132	0.339	0.000
Investment management company	0.447	0.498	0.000
Financial institution	0.039	0.194	0.000
Family	0.588	0.493	1.000
Deal characteristics			
Relative Deal Size	0.510	4.363	0.054
Swedish target	0.468	0.499	0.000
Horizontal Acquisition	0.265	0.441	0.000

Table 1: Descriptive statistics of full M&A sample, in mSEK if not otherwise stated

4.3.2 Correlations

Variables	Wedge	Ratio	Dual	Cash	Shares	Value	CAR	Industry	Horizont	Swedish	Absolute	Controlling	Multiple	Dispersed	Investment	Financial	Family	MTB	Leverage	Assets	Age
Wedge	1.00																				
Ratio	0.65	1.00																			
Dual	0.73	0.57	1.00																		
Cash	0.02	0.04	0.03	1.00																	
Shares	-0.17	-0.16	-0.14	-0.30	1.00																
Value	0.04	0.01	-0.03	0.05	0.04	1.00															
CAR	-0.07	-0.07	-0.05	-0.05	0.07	0.05	1.00														
Industry	0.01	0.11	0.07	0.06	0.10	-0.23	-0.02	1.00													
Horizontal	0.07	0.02	0.10	-0.12	0.06	-0.17	-0.06	0.12	1.00												
Swedish	-0.18	-0.23	-0.12	-0.16	0.16	-0.09	-0.03	-0.15	-0.07	1.00											
Absolute	0.50	0.07	0.29	0.09	-0.04	0.07	-0.02	0.01	-0.04	0.03	1.00										
Controlling	0.50	0.26	0.46	0.06	-0.12	0.07	-0.03	0.04	0.05	-0.18	0.32	1.00									
Multiple	0.03	0.06	0.18	0.04	-0.07	-0.12	0.09	0.11	-0.12	0.01	-0.07	0.24	1.00								
Dispersed	-0.30	-0.23	-0.40	-0.09	0.10	-0.04	0.03	0.00	0.04	0.12	-0.17	-0.54	-0.13	1.00							
Investment	0.06	0.10	-0.02	-0.01	-0.06	0.02	-0.13	-0.03	0.04	-0.17	-0.10	-0.03	-0.17	0.07	1.00						
Financial	0.03	0.17	0.00	0.04	-0.07	0.10	-0.04	-0.09	-0.03	-0.06	-0.09	-0.05	-0.07	-0.03	0.08	1.00					
Family	0.36	0.26	0.38	0.01	0.00	-0.07	-0.02	0.12	0.04	-0.02	0.22	0.28	0.11	-0.25	-0.07	-0.23	1.00				
MTB	-0.02	0.05	-0.05	0.03	0.04	-0.11	-0.08	0.08	-0.01	-0.11	0.01	0.03	-0.02	-0.03	-0.01	-0.03	0.06	1.00			
Leverage	-0.14	-0.13	-0.13	-0.10	-0.10	0.09	-0.06	-0.19	0.01	0.07	0.04	-0.03	-0.05	0.00	-0.06	0.19	-0.08	0.41	1.00		
Assets	0.20	0.22	0.13	0.04	-0.29	0.49	-0.23	-0.23	-0.02	-0.18	0.03	0.15	-0.11	-0.08	0.21	0.25	-0.07	-0.17	0.33	1.00	
Age	0.23	0.40	0.33	0.07	-0.11	0.16	-0.13	0.06	-0.03	-0.09	-0.01	0.15	0.04	-0.15	0.14	0.18	0.14	0.00	0.09	0.35	1.00

Table 2: Full-sample Pearson correlations between variables

Table 2 indicates full sample correlation among variables. In general, the variables of interest, i.e. all cash or some share payment, transaction value and CAR, are weakly correlated with main explanatory variables, i.e. wedge, ratio and dual-class dummy. The highest correlations are found among ownership variables, since they are by definition very closely related. For example, the strong negative correlation of -0.54 between controlling and dispersed ownership can be deducted from the fact that only observations, where the largest shareholder owns votes within the interval (10%, 20%), create a correlation coefficient different from -1. Family ownership is positively correlated with dual-class structure with a correlation coefficient of 0.38. The low correlation of all cash with some shares of -0.30 can be explained by the fact that 50.5% of the observations have unknown consideration. For the use of controls, main explanatory variables are positively correlated with total assets and age. With a coefficient of 0.49, transaction value is positively correlated with total assets, which indicates that larger acquirers complete larger deals.

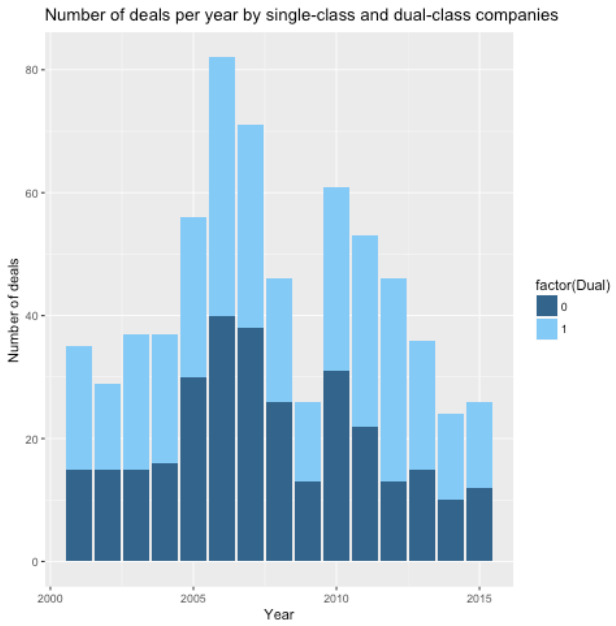
4.3.3 M&A activity of Swedish public acquirers

Figure 1 shows the distribution of M&A deals across years and industries. Panel (a) indicates the yearly distribution of deals categorized by single- and dual-class acquirers. On average, the sample includes 43 deals per year. The number of deals completed by single- and dual-class acquirers reveals a common trend with a peak in 2006 and a bottom in 2009. The pattern indicates an M&A wave around 2006 and reduced M&A activity in response to predicaments after the financial crisis unfolded in mid-2007. Since market valuations were high prior to the financial crisis, the peak in 2006 confirms Rhodes-Kropf and Viswanathan (2004)'s argument that M&A waves correspond to periods with high market valuations. It is not possible to deduct substantial differences in the amount of deals closed by single- and dual-class acquirers before the financial crisis from Panel (a). Yet, dual-class acquirers completed relatively more M&A deals after the financial crisis, particularly in 2011 and 2012. Panel (a) also indicates a bottom in M&A activity in 2014 and 2015, which is expected to be partly attributable to limitations in ownership data. Explicitly, deals made by acquirers listed on both NASDAQ Stockholm and NGM are included prior to 2009, yet only deals from acquirers that are publicly traded on NASDAQ Stockholm entered our dataset after 2009.

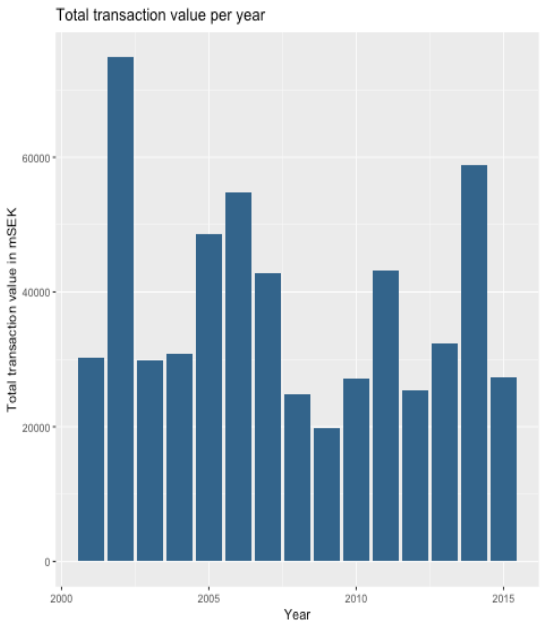
Panel (b) of Figure 1 depicts the yearly distribution of total transaction value in mSEK. When comparing it to Panel (a), the number of deals and transaction value do not seem to display similar annual patterns. The only communality is the bottom in 2009 triggered by the financial crisis. Apart from this, transaction values are highest in 2002 and 2014, which are years with large individual transactions.[21] Although 2006 and 2007 record the highest M&A activity in terms of deals completed by public acquirers, they only score somewhat above average in terms of transaction value.

Panel (c) demonstrates that M&A activity is unequally distributed across industries. The most active industries are Industrials, Financials and Technology, whereas Basic Materials' and Oil & Gas' M&A activities are negligible. This finding also reflects the industry composition of the Swedish stock market, which is dominated by industrial companies such as Atlas Copco, Ericsson or Electrolux. Moreover, real estate and property development companies are included as financials in our sample and therefore drive up the amount of deals conducted by this specific industry.

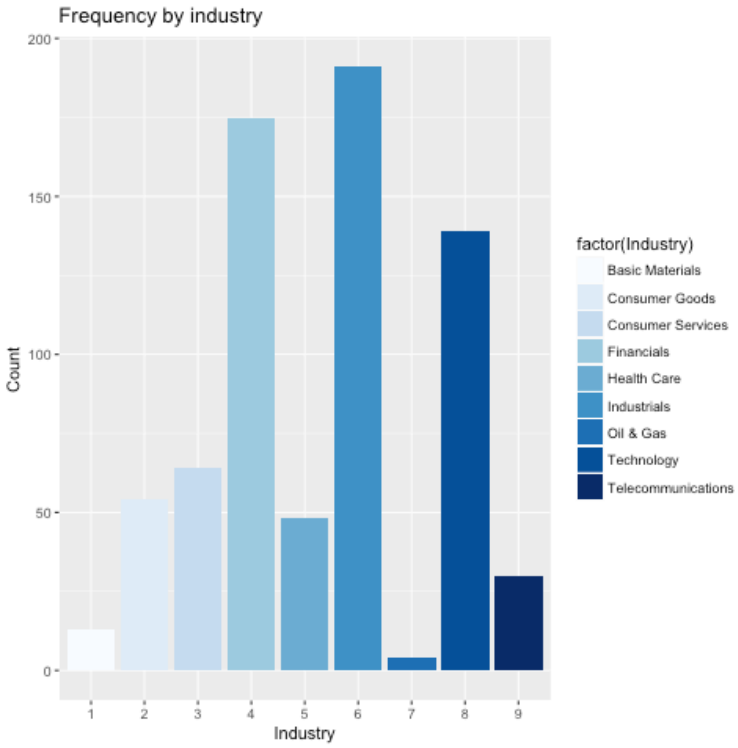
[21] Explicitly, Telia Company AB and Sonera Oyj merged with a transaction value of USD 6,330bn in 2002 and Alfa Laval AB, Meda AB and SSAB AB completed deals over USD 1bn in 2014.



Panel (a): Number of deals per year



Panel (b) Transaction value per year



Panel (c): Number of deals per acquirer industry

This figure presents bar charts grouping the deals by year or by industry. Panel (a) illustrates the yearly distribution of the amount of deals, and the color indicates whether acquirers have a single- (dark-blue) or dual-class structure (light-blue). Panel (b) shows the yearly distribution of transaction values in mSEK. Panel (c) illustrates the industry distribution of deals and the colors represent 9 different industries as categorized by NASDAQ Stockholm.

Figure 1: M&A deals of Swedish public acquirers per year and industry

4.4 Empirical Methodology

This section is designated to describing the methodology applied in the empirical analysis. Firstly, it presents the tools for testing the hypotheses as referred to in Section 3. Secondly, it digs deeper in the procedure to calculate M&A performance measures, i.e. CARs. Specifically, the second subsection elaborates on the specification of the event study performed in order to measure the CARs attributable to the deal announcement date.

4.4.1 Regression analysis

In order to tackle the research question and test the hypotheses, we use different regression specifications. We relied on ordinary least squares estimation for both continuous and binary dependent variables. Specifically, for the method of payment regressions, where the outcome is binary, we estimated a linear probability model.[22] We run the regression models in three specifications, the first one without fixed effects, the second with year-fixed effects and the third with year- and industry fixed effects. Year-fixed effects cover variation in the dependent variable that occur over time and cannot be explained by other controls. Accounting for industry-fixed effects captures differences in M&A decisions and performance across industries. For all regressions, we adjusted standard errors for heteroskedasticity and acquirer clustering.

When assuming that ownership structure is endogenously determined, endogeneity and sample selection biases become implicit concerns in empirical analyses (Adams and Ferreira, 2008; Cronqvist and Nilsson, 2003; Masulis et al., 2009). Explicitly, we expect that company performance attracts specific ownership structures (reverse causality), and factors outside of the scope of the analysis affect both ownership structure and other explanatory factors (omitted variable bias). Both cases impede establishing causal relationships in regression analysis, since estimators are biased and standard errors invalid. In fact, Demsetz and Lehn (1985) have argued that it will always be difficult to uncover the underlying relationship with reduced-form empirical analysis in the scope of ownership structure with firm value and performance. Empirical analyses on dual-class shares have tried to overcome these issues by using of instrumental variables, including potentially omitted variables as controls and correcting for sample selection bias. Nonetheless, conclusions drawn based on empirical analysis have been limited and the problem of establishing causality in this setting has been in the center of attention in result interpretations.

[22] Compared to logit or probit model, linear probability models have the drawback that the outcome could be a probability outside the interval of [0,1], which does not allow logical interpretations. However, given the fact that the means for the variables all cash and some shares are 61.1% and 35.5%, the chance to obtain a negative or large probability is modest. Linear probability models also posses the advantage that the coefficients obtained are straightforward to interpret.

In order to test hypothesis 1, we rely on t-tests and descriptive statistics, since is not possible to establish a causal effect between dual-class structure and other firm characteristics in regression analysis. Clearly, when running regressions of dual-class dummy on other ownership characteristics, contemporaneous effects between these variables make regressions spurious. In order to evaluate the difference in the means of variables between the single- and dual-class samples, we compute two-sample t-test statistics. Moreover, we group the deals by industry to evaluate whether prevalence of dual-class structure and family ownership varies across industries.

The baseline linear probability model used to test hypothesis 2 is specified as follows:

$$Payment\ dummy = \alpha + \beta_1 * Wedge + \beta_2 * Log(Total\ assets) + \beta_3 * Markettobook + \beta_4 * Leverage + \\ + \beta_5 * Log(Transaction\ value) + \beta_6 * DummySwedishTarget + \beta_7 * DummySameIndustry + \varepsilon$$

The payment dummy is either defined as an all cash or some shares dummy. For the baseline results, we focused on the all cash dummy.

The baseline OLS regression used to test hypothesis 3 is specified as follows:

$$\frac{Log(Transaction\ value)}{Log(Total\ assets)} = \alpha + \beta_1 * Wedge + \beta_2 * Log(Total\ assets) + \beta_3 * Markettobook + \\ + \beta_4 * Leverage + \beta_5 * Age + \beta_6 * DummyAllCash + \beta_7 * DummySwedishTarget +$$

To test hypothesis 4, following OLS regression is specified:

$$CAR = \alpha + \beta_1 * Wedge + \beta_2 * Log(Total\ assets) + \beta_3 * Markettobook + \beta_4 * Leverage + \beta_5 * Age + \\ + \beta_6 * Log(Transaction\ value) + \beta_7 * DummyAllCash + \beta_8 * DummySwedishTarget + \\ + \beta_9 * DummySameIndustry + \beta_{10} * DummyAllCash * DummySwedishTarget + \varepsilon$$

The baseline OLS regression designed to test hypothesis 5 is specified as follows:

$$CAR = \alpha + \beta_1 * Voting\ premium + \beta_2 * Log(Total\ assets) + \beta_3 * Markettobook + \beta_4 * Leverage + \\ + \beta_5 * Age + \beta_6 * Log(Transaction\ value) + \beta_7 * DummyAllCash + \beta_8 * DummySwedishTarget + \\ + \beta_9 * DummySameIndustry + \beta_{10} * DummyAllCash * DummySwedishTarget + \varepsilon$$

4.4.2 Event study design

Event studies have been among the most popular ways to measure M&A performance based on stock market data. Advantages are manifold: In contrast to accounting measures of performance, event studies are forward-looking. Moreover, event studies are straightforward to implement and most likely not severely constraint by data availability. Despite their popularity, event studies have some drawbacks. Specifically, they rely on the assumptions of market efficiency, non-anticipation of the event, and no confounding events, which are hard to guarantee simultaneously. In the setting of our empirical analysis, these assumptions may be questioned for following reasons: On the NASDAQ Stockholm and NGM, trading volumes are comparatively low and the business community is closely connected, which makes it possible that some of the M&As have already been anticipated by some market participants prior to announcement. Moreover, we only impose one restriction on the sample to mitigate noise from confounding events, i.e. deals are not allowed to overlap on the same announcement dates from the identical acquirers. Due to large number of events, we are not able to control for confounding events that could have generated abnormal returns during the event window.

Event studies rely on measuring abnormal returns attributable to an event accumulated over a specified event window. Based on the length of the event window, short- and long-term event studies can be distinguished. The M&A performance study conducted in this study is based on short-term event windows for following reasons: First, in the long run, there are several confounding events, which introduce noise when attributing abnormal returns to the announcement event defined. Second, the definition of expected returns is more crucial in the long run, which demands reliable estimation methods. However, finding reliable return models is troublesome, since returns should not be predictable if the market efficiency hypothesis holds.

Abnormal returns are defined as the difference between expected and realized returns. In order to model expected returns, we used two different approaches, i.e. a mean and market model. The mean return model assumes that the expected return in the event window equals the mean return over the estimation window. The market model assumes that the expected return is the defined by the stocks' historical co-movement with the market. Specifically, we defined the market return by the OMX30 index return, and estimated the regression coefficient based on estimation window data. The estimation period was set between 250 and 10 days prior to the announcement date reported in the SDC database. To avoid that anticipation of the event confounds the estimation window returns, the estimation window ended 10 days prior to announcement.

We choose a 3-day event window for base specifications, and test the robustness with 5 and 11 days event windows around the announcement date.[23] When defining the event window, following considerations have to be balanced: On the one hand, choosing a short event window makes noise and confounding events less likely to occur. On the other hand, a longer horizon captures all reactions attributable to the event and allows for some error in the announcement date reported at SDC. We expect that the risk of confounding events is severe and that the market incorporates new information such as an M&A announcement relatively fast in the stock price, so a short event window of 3 days in the baseline regression is deemed sufficient.

In order to make the estimates of the event study reliable for M&A performance analysis, we test whether CARs estimated are statistically significantly[24] different from 0. Results are reported in Table 13 in the appendix, and indicate that the null hypothesis of a CAR=0 can be rejected for all CAR measures. Moreover, we also evaluated the correlation among estimates based on the two CAR models, i.e. mean and market model. Since Table 13 in the appendix reports a very high positive correlation among different model estimates, the result section only includes estimates based on the market model.

[23] If the announcement date reported by SDC is not a trading day (15 observations), we transfer the event day to the next trading day.
[24] If not otherwise indicated, we use a threshold of 10% in order to define statistical significance.

5 Results

This section is devoted to presenting and discussing the results obtained in the empirical analysis. The first subsection displays main results with the wedge as the main explanatory variable and is structured based on the hypotheses described in Section 3. The second subsection indicates robustness tests using alternative main explanatory variables and samples.

5.1 Main results

5.1.1 Dual-class structure

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total number of companies	156	163	169	170	167	171	169	177	174	163	158	155	155	154	153
Number of dual-class companies	90	88	96	93	92	91	82	86	85	80	79	79	81	81	78
Number of single-class companies	66	75	73	77	75	80	87	91	89	83	79	76	74	73	75
Percentage of dual-class companies	57.7%	54.0%	56.8%	54.7%	55.1%	53.2%	48.5%	48.6%	48.9%	49.1%	50.0%	51.0%	52.3%	52.6%	51.0%
Percentage of single-class companies	42.3%	46.0%	43.2%	45.3%	44.9%	46.8%	51.5%	51.4%	51.1%	50.9%	50.0%	49.0%	47.7%	47.4%	49.0%
Number of dual-class companies with voting ratio < 1:10	3	2	3	3	4	4	2	3	3	4	4	3	4	3	3
Number of dual-class-companies with voting ratio = 1:10	85	85	91	88	87	86	79	82	81	75	74	75	76	77	74
Number of dual-class-companies with voting ratio > 1:10	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1
Percentage of capital owned by the largest shareholder	24.1%	23.5%	23.9%	24.0%	22.9%	22.6%	23.2%	22.0%	23.4%	23.1%	23.4%	23.0%	23.3%	24.5%	23.8%
Percentage of votes owned by the largest shareholder	34.3%	33.1%	33.1%	32.7%	32.5%	31.8%	31.6%	30.4%	32.0%	31.0%	31.7%	30.7%	31.7%	32.7%	31.9%

This table gives an overview of the yearly variation in the prevalence of dual-class structures among Swedish public acquirers in the period of 2001- 2015. Rows (1)–(5) show the number of acquirers with single- or dual-class structure in absolute (Row 1–3) and relative terms (Row 4–5). Moreover, Rows (6)–(8) show the distribution of acquirers with different voting ratio in absolute terms. Lastly, Row 9 and 10 indicate the mean percentages of capital and votes of acquirers in the sample over the observation period.

Table 3: Descriptive statistics of share classes per year

Table 3 indicates that there is little yearly variation in the ownership dataset. The percentage of dual-class companies has remained steady at around 50%, first decreasing gradually before hitting bottom in 2007 and slightly increasing afterwards. Despite different sampling criteria, it may be interesting to note the relative decrease of dual-class companies compared to Cronqvist and Nilsson (2003), who observed a percentage 75.7% in their sample between 1991 and 1997. When it comes to the voting ratio between superior and inferior voting shares in dual-class companies, 1:10 is the most common ratio with only a few exceptions such as a ratio of 1:100 at Hufvudstaden and 1:1000 at Ericsson until 2004[25]. Finally, it is important to note that availability of ownership data may affect some of the results obtained. Explicitly, the total number of companies is lowest in the last years of the sample, which could be partly attributable to the fact that *Owners and Power in Swedish listed companies* excluded NGM data from 2010 onwards.

Table 3 allows us to conclude that acquirers are relatively stably and equally distributed among single- and dual-class companies, which encourages a comparison of sample means across single- and dual-class companies. Table 4 presents the arithmetic means of the variables in three different samples, i.e. the full sample, a single-class sample including only deals of single-class acquirers and a dual-class sample with all deals of dual-class acquirers. Moreover, column (4) indicates the test statistic for a two-sample t-test. The null hypothesis under the t-test is that the difference between the means of the single-class sample and dual-class sample is equal to 0.

In the full sample, dual-class acquirers completed about 53.2% of the deals. This percentage meets approximately expectations raised by Table 3 on ownership data.[26] The largest shareholder holds 21.0% of the capital and votes in the single-class sample, and 21.5% of the capital corresponding to 39.5% of the votes in the dual-class sample. The null hypothesis of equal average capital owned by the largest shareholder among the samples cannot be rejected, whereas the null of equal votes held by the largest shareholder can be rejected.

For the deal characteristics, the sample mean of some shares payment equals 23.2% in the single class and 12.4% in the dual-class sample. Based on a two-sample t-test, the null hypothesis of equal means of the some shares dummy can be rejected. The average raw announcement day return equals 1.8% and 1.0% in the singles and dual-class samples, respectively. The difference in means is significantly different from 0, which indicates that the single-class acquirers have on

[25] Ericsson changed its voting ratio between two share classes in response to the enforcement of the Swedish Companies Act (2005) stipulating following rule: "No share may carry voting rights which are more than ten times greater than the voting rights of any other share." (Chapter 4, Section 5).

[26] The fact that the percentage is slightly higher than 50% can be attributed to that dual-class companies in the sample with available ownership data on average make slightly more acquisitions than their single-class equivalents.

average a higher announcement day return than acquirers in the dual-class sample. However, since raw returns may be explained by higher expected returns of the single-class companies, it is necessary to evaluate the CAR. The difference in means between the samples of the CAR is not significantly different from 0.

Regarding acquirer characteristics, the average acquirer in the full sample has been listed for 14 years. Dual-class acquirers are on average 10 years older than single-class acquirers. Since most of the oldest Swedish companies such as Atlas Copco, Electrolux, Ericsson, Svenska Handelsbanken, etc. have implemented dual-class structures, these outliers may substantially push this result. The leverage for single- and dual-class acquirers equals 155% and 94%, respectively. The t-test indicates that on average, dual-class acquirers are less leveraged than single-class acquirers. Leverage brings about more discipline, creditor influence and higher bankruptcy risk, and entrenched shareholders as often found in dual-class companies may be averse to all of these consequences.

Summary statistics for acquirer size in terms of total assets reveals some interesting properties of the dataset: It includes five mergers of Nordea Bank AB, which has an average of SEK 4,695bn in total assets and substantially increases the mean of the full sample and the single-class sample. When including Nordea Bank AB's deals, the average total asset is significantly different across the single- and dual-class samples at 10%. When excluding it, full and single-class sample mean decrease and significance disappears. Logarithmic transformation substantially mitigates the outlier problem. The significant difference in means of log total assets indicates that dual-class shareholders are larger in size on average. Size difference could be associated with the fact that private benefits of control may be more valuable in large companies.

The t-test indicates that dual-class structure is related to other owner characteristics. The average percentage of absolute, controlling, multiple controlling and family owners is significantly higher in the dual-class sample than in the single-class sample. This indicates that dual-class structures are used as a mean to get control in a company, and particularly often implemented by families. The dual-class sample includes significantly fewer acquirers with dispersed ownership than the single-class sample, which confirms the aforementioned observation.

	(1) Full sample mean	(2) Single-class sample mean	(3) Dual-class sample mean	(4) T-test statistic
Explanatory Variables				
Dual	0.532			
Capital owned by largest shareholder	21.3%	21.0%	21.5%	-0.416
Votes owned by largest shareholder	30.9%	21.0%	39.5%	-13.948 ***
Wedge	9.6%			
Ratio	1.693			
Explained Variables				
All cash	0.304	0.286	0.314	0.769
Some shares (shares incl. hybrid)	0.176	0.232	0.124	3.610 ***
Transaction Value (mUSD)	114.095	128.384	101.542	0.931
Transaction Value	857.884	983.928	747.150	0.933
Log Transaction Value	5.114	5.162	5.072	0.660
Announcement Return	0.014	0.018	0.010	1.978 *
CAR3Market	0.019	0.023	0.016	1.398
Acquirer characteristics				
Age	13.985	8.697	18.631	-9.471 ***
Leverage	122.6%	154.7%	94.4%	3.395 ***
Market-to-book	2.354	2.491	2.234	1.189
Total assets	85653	123268	52606	1.837 .
Total assets without Nordea	50737	48573	52606	-0.228
Log total assets	8.711	8.410	8.975	-3.356 ***
Acquirer ownership				
Absolute shareholder	0.165	0.051	0.266	-8.035 ***
Controlling shareholder	0.657	0.424	0.862	-13.028 ***
Multiple controlling shareholders	0.105	0.045	0.158	-4.983 ***
No major shareholder	0.132	0.277	0.006	10.534 ***
Investment management company	0.447	0.457	0.438	0.484
Financial institution	0.039	0.039	0.040	-0.054
Family	0.588	0.386	0.766	-10.642 ***
Deal characteristics				
Relative Deal Size	0.510	0.898	0.169	2.021 *
Swedish target	0.468	0.534	0.410	3.219 **
Horizontal Acquisition	0.265	0.215	0.308	-2.728 **

This table presents the sample means of full sample and two subsamples. Column (1)–(3) show the means of different variables in varied samples and Column (4) reports T-test for the means between single-class and dual-class sample. Values are indicated in mSEK if not otherwise stated.

Note: $^{*}p<0.1$ $^{**}p<0.05$ $^{***}p<0.01$

Table 4: Sample means and t-test for difference of means in single- and dual-class samples

Regarding deal characteristic, the relative deal size of single-class and dual-class acquirers is 89.8% and 16.9% of their market value. Large outliers such as a few deals with transaction value over 1bn USD make the mean a very noisy measure of these differences. On average, acquirers in the dual-class sample target fewer domestic companies, which may be related to the age and size effects. Specifically, since many dual-class companies have been established for a long time and are sizable, they have probably undergone substantial internationalization, which is also reflected in their acquisition strategy. On average, dual-class companies in the sample make more horizontal acquisitions, i.e. target more companies in the same industry.

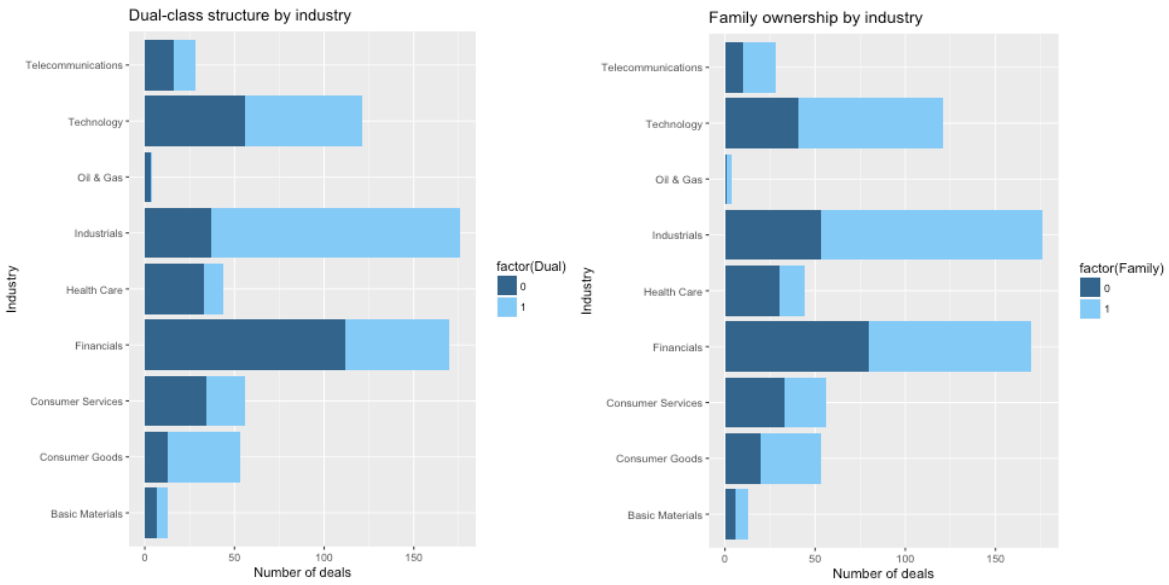
The two-sample t-tests indicate that differences among single-class and dual-class acquirers exist both in terms of ownership characteristics and deal structure. Nonetheless, it is not possible to draw any conclusions about the origin of these differences based on the t-tests. For example, industry distribution could substantially affect the results obtained. Hence, it is worth investigating the industry composition of the sample when comparing the M&A deals of single- and dual-class acquirers.

Figure 2 allows comparing ownership characteristics such as dual-class share structure and family ownership by industry. First of all, the similar structure of Panel (a) and Panel (b) indicate that dual-class structures and family ownership are prevalent in approximately the same industries. Specifically, industries with a large number of dual-class acquirers are also more likely to have a family as the acquirers' largest shareholder, and conversely industries with few dual-class acquirers are less likely to be dominated by family ownership.

The largest number of deals was within Industrials, Financials and Technology. Dual-class acquirers with family ownership account for about two thirds of industrial acquirer's deals. Hence, in absolute terms, dual-class structure and family ownership is by far most prevalent in industrial companies of our sample. For financials, single-class acquirers completed the majority of deals, and family owners were the largest shareholders of approximately half of the acquirers. Within technology deals, dual-class acquirers closed about half of the deals, and more than the majority of acquirers were family-owned. Based on deal classifications, family ownership and dual-class structures seem to be least rife in the health care and consumer services industries.

To conclude, Figure 2 indicates that dual-class structure and family ownership are unequally distributed across industries. This distribution could explain some of the results

obtained in the t-tests in Table 4. For example, it can be assumed that financials and industrials have different acquisition strategies and company characteristics such as asset composition. The industry distribution in Figure 2 may reflect that both dual-class structures and family ownership are more valuable in certain industries than in others. Specifically, strong founder identities in technology companies may important for both reputation and progress of the firm.



Panel (a) Dual-class structure

Panel (b): Family ownership

This figure shows bar charts of the amount of deals by industry and the colors illustrate ownership characteristics of the acquirer. In Panel (a), the color indicates whether an acquirer has a dual-class structure at the announcement date. The dark-blue bar represents single-class acquirers and the light-blue bar represents dual-class acquirers. In Panel (b), the color illustrates family ownership. The dark-blue bar depicts acquirers without family owners, and the light-blue bar depicts acquirers with a family or an individual as the largest shareholder.

Figure 2: Ownership characteristics by industry

5.1.2 Method of payment

The subsequent section analyzes whether the divergence between voting and cash flow rights introduced by dual-class structures affects the probability of using different types of payment in M&As.

As discussed in Section 4.3, the full sample based on SDC Platinum M&A deals contains 336 observations, for which the consideration is unknown. Since we constructed dummies based on whether the payment was fully made in cash or included some shares, we suspected that these 336 observations could distort results. Hence, we excluded them from the sample for the method of payment analysis, yielding a new sample with 329 deals of 161 public acquirers. In a first line of analysis, we split the restricted sample based on single- and dual-class acquirers to obtain

sample descriptive statistics and t-test results. The single-class restricted sample contains 166 deals of 88 acquirers, and the dual-class restricted sample includes 163 deals of 74 acquirers.

In the restricted sample, on average 61.1% of the deals were paid in cash, and 35.6% paid with some shares. The remaining 3.3% of deals have a consideration labeled as "other". The finding is in line with previous research: In a sample of European M&A deals between 1997 and 2000, Faccio and Masulis (2005) report an average 83.3% cash payment. Franks et al (2012) point out that Swedish capital markets are among the most-developed equity markets in Europe. Since equity issuances are easier to implement in advanced financial markets, share payment is expected to be more common in Sweden than in the European average.

The average cash payment equals 53.6% in the single class sample and 68.1% in the dual-class sample. The difference in mean is significantly different from 0. On average, 43.4% of the deals in the single-class sample and 27.0% of the deals in the dual-class sample included some share payment, and the means are significantly different from each other.

	(1) Full sample mean	(2) Standard deviation	(3) Median	(4) Single-class sample mean	(5) Dual-class sample mean	(6) T-test	
All cash	0.611	0.488	1	0.536	0.681	-2.714	**
Some shares	0.356	0.479	0	0.434	0.270	3.149	**

This table shows the summary statistics for two types of payment method on deals included in our sample: all cash and some shares. On deals whose methods of payment are reported in SDC Platinum are included in the restricted sample. For both methods, a dummy variable is defined. Specifically, all cash dummy equals to 1 when the deal is financed merely by cash and vice versa. Column (4)– (5) present the sample mean of these two dummy variables in single- and dual-class samples. The T-test statistic for the means between two samples is reported in Column (6).

Note: $^{*}p<0.1$ $^{**}p<0.05$ $^{***}p<0.01$

Table 5: Summary statistics and t-test of restricted sample

The scatterplots in Figure 4 of the appendix allow evaluating the relationship between the wedge and method of payment variables of interest in a univariate setting. For the all cash dummy, Panel (a) shows that observations with a small wedge are concentrated more in the lower-left corner of the scatterplot, which indicates that consideration other than all cash payments is more likely to be used by acquirers with smaller wedges. In contrast, observations with a higher wedge are more concentrated in the upper right corner of the plot (all cash dummy is equal to 1). A positive relationship between wedge and all cash dummy signals that dual-class shareholders, especially those who have wider wedge between their cash flow and voting rights, are more likely to favor all cash deals. The significant coefficient of the wedge in the all cash dummy univariate regression equals 0.767%. The scatterplots of some shares payment dummies against the wedge show opposite concentrations. For example, observations with the some shares

dummy equal to 1 are concentrated in the upper-right corner of the figure, which indicates that lower wedge acquirers favor some shares payments. Thus, we can conclude from the scatterplots that the method of payment is related to the wedge. In a next step of analysis, it is necessary to evaluate whether this significant relationship holds when controlling for acquirer and deal characteristics.

Table 6 presents regression estimates of a linear probability model of all cash and some shares dummy on the wedge between voting and cash flow rights held by the largest shareholder in the restricted sample. Column (1) indicates that increasing the wedge by 1% significantly raises the probability for all cash payments by 0.435%, all else equal. In terms of significance, this estimate is robust to including year-and industry-fixed effects, but it decreases in magnitude. Specifically, when only including year-fixed effects, the corresponding increase amounts to 0.417%, and when including both year- and industry-fixed effect, the estimated increase yields 0.357%. The economic intuition behind this is that shareholders with a higher wedge between voting and capital rights are more reluctant to corporate decisions, which potentially dilute their votes, such as issuing new shares to finance M&As. Dilution is particularly a concern if the largest shareholder holds votes in the range of 20-60% (Faccio and Masulis, 2005), which is common in our sample as indicated by descriptive statistics in Table 1 and 3.

Acquirer size as measured by the natural logarithm of total assets significantly increases the probability of all cash payments by approximately 10.2%, which is robust to fixed effects in significance and magnitude. A rationale behind this result is that larger acquirers have more cash available to finance acquisitions out of their pocket. In contrast, deal size, which is captured by the natural logarithm of transaction value, significantly reduces the probability for all cash payment. Specifically, a unit increase in log(Transaction value) decreases the probability by 8.9%, all else equal. When including fixed effects, this coefficient increases in magnitude. This could be explained by acquirers' financial constraints when transacting larger deals.

All else equal, domestic and horizontal acquisitions (within the same industry) decrease the probability of all cash payment by 21.4% and 15.4%, respectively. These results are robust to including fixed effects in significance and magnitude. This could be explained by the intuition that acquirer's shareholders may be more familiar with both domestic targets and targets in the same industry. Indeed, Carlsson (2007) reports that Swedish households have high stock market participation. Hence, they may be more supportive towards deal considerations including some

share payment, since they can evaluate deal consequences more accurately. Also, share deals may be easier to administer in a domestic context with shared currency and regulation.

For all cash payments, the intercept in the baseline regression is significantly different from 0, and the estimated probability is 35%[27]. Somewhat strikingly, we do not find significant coefficients for leverage. From economic intuition, we would have expected a negative relationship between all cash payment and leverage. Explicitly, since acquirers probably do not have the cash needed to finance an acquisition on hand (Faccio and Masulis, 2005), cash payment is often linked to taking on debt. More leveraged acquirers are constraint in terms of potential bankruptcy risks and by covenants on their existing debt.

	Dependent variable:					
	(1) All cash	(2) All cash	(3) All cash	(4) Some shares	(5) Some shares	(6) Some shares
Wedge	0.435**	0.417**	0.357*	-0.509**	-0.490**	-0.434**
	(0.208)	(0.204)	(0.209)	(0.206)	(0.204)	(0.211)
Acquirer characteristics						
Log (Total assets)	0.102***	0.101***	0.096***	-0.088***	-0.086***	-0.080***
	(0.015)	(0.015)	(0.016)	(0.015)	(0.015)	(0.016)
Market-to-book	-0.001	-0.008	-0.009	0.007	0.014	0.015
	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)	(0.013)
Leverage	-0.0001	-0.0001	-0.0001	0.00001	-0.00003	0.00004
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Deal characteristics						
Log (Transaction value)	-0.089***	-0.091***	-0.093***	0.077***	0.078***	0.080***
	(0.016)	(0.015)	(0.016)	(0.016)	(0.016)	(0.016)
Swedish target	-0.214***	-0.211***	-0.213***	0.219***	0.215***	0.223***
	(0.049)	(0.048)	(0.051)	(0.049)	(0.048)	(0.051)
Non-diversifying acquisition	-0.154***	-0.167***	-0.174***	0.152***	0.170***	0.174***
	(0.056)	(0.056)	(0.059)	(0.056)	(0.056)	(0.059)
Constant	0.350***			0.567***	0.626***	0.798***
	(0.119)			(0.118)	(0.161)	(0.223)
#of deals	329	329	329	329	329	329
#of distinct acquirers	161	161	161	161	161	161
Year-fixed effects	No	Yes	Yes	No	Yes	Yes
Industry-fixed effects	No	No	Yes	No	No	Yes

This table indicates the estimates of an OLS regression of method of payment dummies on the wedge. In Column (1)–(3), the dependent variable is an all cash dummy, which equals to 1 if the deal was entirely paid in cash. In Column (4)–(6), the dependent variable is a dummy for some share payment, which equals to 1 if the consideration included some share payment (all shares and hybrids). Within the same dependent variable, the first column results are without fixed effects, the second include only year-fixed effects, and the third include both year- and industry-fixed effects.

Note: *p<0.1 **p<0.05 ***p<0.01

Table 6: Method of payment regression in restricted sample

[27] The insignificant intercepts are removed in the fixed effects regressions reported in Column (2) and (3) of Table 6.

Column (4)–(6) report linear probability model estimates for some share payments as the dependent variables. The coefficient estimates mirror the all cash estimates both in significance and magnitude. Specifically, a 1% increase in the wedge decreases the probability for some share payment by 0.509%, which is robust to including fixed effects.

To conclude, the relationship between all cash payment and the wedge between largest shareholder's cash flow and voting rights remains significant after controlling for a variety of deal and acquirer characteristics. The magnitude of the coefficients of the wedge decreases when including controls, and remains stable for some shares regression.

5.1.3 Transaction value

The following section examines the relationship between the transaction value and the divergence between cash flow and voting rights held by the largest shareholder. Transaction value in relative terms expressed by the ratio $\frac{Log(Transaction\ value)}{Log(Total\ assets)}$ is intended to capture the relative deal size.

The scatterplots in Figure 5 of the appendix link the relative transaction value to the wedge. Since log(Transaction value) and log(Total assets) are positively correlated with a coefficient of 0.49 as shown in Table 2, it is necessary to control for log(Total assets) to reveal a relationship between the wedge and transaction value. The scatterplots in Figure 5 indeed show that the relative transaction value is negatively linked to the wedge, and the coefficient estimates in a univariate regression indicate that increasing the wedge by 1% significantly decreases the transaction value ratio by around 0.002, all else equal.

Table 7 presents the results of regressions of the transaction value ratio on the wedge between voting and cash flow rights held by the largest shareholder. Increasing the wedge by 1% decreases relative transaction value by 0.002, all else equal. The estimate decreases in magnitude when introducing fixed effects. Accordingly, we find some evidence against hypothesis three, which states that the relative transaction value increases in the wedge between cash flow and voting rights. Although the null hypothesis of a wedge coefficient equal to 0 can be rejected, the results are debatable with respect to economic significance and interpretation.

Acquirer's market-to-book ratio is positively related to the relative transaction value. All else equal, a unit increase in market-to-book ratio corresponds to an increase in relative transaction value by 0.008. A 1% increase in leverage significantly decreases transaction value ratio by approximately 0.01. That is, all else equal, higher leveraged firms significantly make

smaller deals. The cutback in transaction value attributable to leverage can be referred to the higher risk of bankruptcy and more governance discipline highly leveraged firms are exposed to. For example, the higher bankruptcy risk decreases the budget available for investments and higher leverage is likely to be associated with stricter disciplines imposed by creditors through debt covenants, which restrict capital expenditure and investment activities.

In terms of deal characteristics, all cash deal increases the relative transaction value by 0.04 and the transaction value ratio decreases by about 0.06 for horizontal acquisitions, i.e. acquisitions within the same industry. In such circumstance, the price paid to acquire a target has to be measured against organic growth opportunities generated internally and is more likely to be compressed. As the horizontal acquisition and diversifying acquisition are mutually exclusive, it is reasonable to expect a positive relationship between relative transaction value and diversifying acquisitions. The finding can thus be interpreted economically that companies invest more in diversifying acquisitions, as they constitute valuable external growth opportunities into new industries. However, this also potentially indicates overvaluation of the diversifying targets due to the fact that acquirers are less informed about targets' industries. Moreover, the interaction term between all cash deal and Swedish target captures the effect of these two variables beyond their individual effects. Specifically, all else equal, Swedish targets combined with all cash payment decreases the relative transaction value by 0.1.

Conclusively, although we find a significantly negative relationship between wedge and relative transaction value, it is still open to doubt for following reasons: Firstly, low economic significance of the wedge coefficient undermines the effect found to some extent. Moreover, we cannot pin down the economic justification why transaction value is decreasing in the wedge, since relative transaction value could be related to either private benefits or growth opportunities and targets' fundamental value: Explicitly, the results obtained could be attributable to the proposition that dual-class companies have fewer growth opportunities or that active owners could block management empire-building strategies. As such, our results do not allow for inference whether the lower transaction value is beneficial or detrimental to minority shareholder's value. Hence, it is necessary to combine the results obtained in this section with the subsequent M&A performance analysis in order to interpret the results in the light of the question whether acquisitions represent a channel for controlling shareholders with diverging cash flow and voting rights to extract private benefits.

Another impediment to our analysis is that we did not control for whether targets were public or private, which is expected to be particularly severe when taking relative transaction value as the dependent variable. Specifically, Officer (2007) estimated the private target discount in the US to 15% to 30%. Hence, the decline of relative transaction value in the wedge could also be attributable to the supposition that companies with higher wedge are more likely to acquirer private targets.

	Dependent variable:		
	(1) $\frac{Log(Transaction\ value)}{Log(Total\ assets)}$	(2) $\frac{Log(Transaction\ value)}{Log(Total\ assets)}$	(3) $\frac{Log(Transaction\ value)}{Log(Total\ assets)}$
Wedge	-0.189***	-0.175***	-0.139**
	(0.059)	(0.060)	(0.062)
Acquirer characteristics			
Market-to-book	0.008***	0.007**	0.008***
	(0.003)	(0.003)	(0.003)
Leverage	-0.0001***	-0.0001***	-0.0001***
	(0.00004)	(0.00004)	(0.00004)
Age	-0.001	-0.001*	-0.001
	(0.0005)	(0.0005)	(0.0005)
Deal characteristics			
Swedish target	0.030*	0.030*	0.031*
	(0.017)	(0.017)	(0.018)
All-cash deal	0.039*	0.032	0.034*
	(0.020)	(0.021)	(0.020)
Non-diversifying acquisition	-0.059***	-0.056***	-0.041**
	(0.016)	(0.016)	(0.017)
Swedish target * all-cash deal	-0.106***	-0.105***	-0.102***
	(0.031)	(0.032)	(0.031)
Constant	0.625***	0.624***	0.671***
	(0.017)	(0.033)	(0.059)
Year-fixed effects	No	Yes	Yes
Industry-fixed effects	No	No	Yes
#of observations	665	665	665
#of distinct acquires	206	206	206

This table shows OLS estimates of log (Transaction value)/ log(Total assets) on the wedge. Column (1) results are without fixed effects, Column (2) includes only year-fixed effects, and Column (3) contains both year- and industry-fixed effects.

Note: *p<0.1 **p<0.05 ***p<0.01

Table 7: Transaction value regression in full M&A sample

5.1.4 Performance

The subsequent section is devoted to evaluating the effect of the divergence between voting and cash flow rights on the CARs attributable to the deal announcement. In the first line of analysis, the scatterplots in Figure 6 of the appendix indicate that there is a negative relationship between the wedge and the CAR estimated by the market model during a 3-day event window. Specifically, in a univariate regression, a unit increase in the wedge significantly decreases the CAR by 0.035%.

Table 8 presents regression estimates for CAR based on the market model with different event windows, i.e. 3, 5 and 11 days. Even though a significantly negative effect is observed in the univariate regression, significance vanishes when controlling for acquirer and deal characteristics. Interestingly, the direction of the effect changes from univariate to multivariate regression. When increasing 1% in the wedge between the largest shareholder's cash flow and voting rights, the CAR increases by 0.001% in a 3-day event window. However, the wedge coefficient is neither statistically nor economically significant in the multivariate regression. The following paragraphs are based on results from 3-day event window baseline regression if not otherwise specified.

For acquirer characteristics, the estimations indicate that the CAR is significantly negatively related to acquirer's log(Total assets). Specifically, a unit increase in log(total assets) decreases CAR by 0.8%, all else equal. This confirms the size effect found by Moeller et al. (2004) that larger acquirers are expected to have lower abnormal announcement returns. Market-to-book ratio also significantly decreases the CAR, where a unit increased in market-to-book ratio corresponds to 0.4% decrease in CAR. Acquirers with high market-to-book ratio have more incentives to execute M&A strategies in order to exploit the high valuation momentum, which might result in critiques from their own shareholders and suspects from the public market.

Leverage significantly increases CAR in all specifications, leading to a 0.3% increase in CAR for 1% increase in leverage. A potential explanation for the finding is that leverage imposes higher bankruptcy risk and thus stricter discipline when making investment decisions. For example, as creditors usually demand covenants, potential M&A deals are examined carefully and value destructive deals are more likely to be blocked in firms with higher leverage. However, more rigid creditor control and financial constraints implied by leverage could also lead to foregone acquisition opportunities. All results are robust for different event windows as well as year-fixed effect and industry-fixed effect.

When evaluating the deal characteristics, relative deal size significantly increases CAR in all samples and specifications. A 1% increase in relative deal size corresponds to a 0.2% increase in CAR, all else equal. CAR decreases in response to Swedish targets' acquisition in the full sample, although the decrease is not significant in the subsamples and when including both year- and industry-fixed effects. Similarly, horizontal acquisitions are followed by a decrease in CAR of 0.9%. The rationale behind these results could be that shareholders expect fewer synergies and acquisition gains on average when acquiring targets with similar characteristics such as same market or industry. Growth potential through acquisition is probably perceived highest when targets with different characteristics are acquired.

Interestingly, the coefficient for some share payment is positive in the CAR regression and significance holds approximately in the different sample specifications. In the full sample, including share payment in the regression increases CAR by 2.2%, all else equal. This is somewhat contrary to expectations from previous findings (Moeller et al. 2004), which indicate a negative announcement return due to share payment on average. However, when including the interaction term of Swedish targets and some share payment, CAR decreases significantly by 2.7%.

We cannot reject the null hypothesis of no effect of the wedge on CARs based on the estimates obtained. Based on the corporate governance evaluation of Swedish firms, we expected two opposing effects, where it was not clear which outweighed from a theoretical perspective. On the one hand, higher wedge could indicate fewer value-destructive acquisitions, since active owners are expected to effectively block management empire-building strategies. On the other hand, value-destructive acquisitions may be more likely for higher wedges if acquisitions represent a channel for controlling shareholders to extract private benefits.

Conclusively, our results indicate that based on the sample, we do not find any support for the hypothesized theory of more value-destructive acquisitions in dual-class companies. Specifically, the relative transaction value is significantly decreasing in the divergence between voting and cash flow rights. Paired with in insignificant estimates in the M&A performance regression, we can conclude that there is no evidence for dual-class shareholders extracting private benefits through detrimental acquisitions.

	Dependent variable:								
	(1) CAR[-1; +1]	(2) CAR[-1; +1]	(3) CAR[-1; +1]	(4) CAR[-2; +2]	(5) CAR[-2; +2]	(6) CAR[-2; +2]	(7) CAR[-5; +5]	(8) CAR[-5; +5]	(9) CAR[-5; +5]
Wedge	0.001	0.001	0.005	0.011	0.008	0.011	0.024	0.021	0.024
	(0.020)	(0.020)	(0.020)	(0.024)	(0.024)	(0.025)	(0.029)	(0.030)	(0.031)
Acquirer characteristics									
Log (Total assets)	-0.008***	-0.007***	-0.006***	-0.008***	-0.007***	-0.006***	-0.009***	-0.008***	-0.007***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Market-to-book	-0.004***	-0.004***	-0.005***	-0.005***	-0.005***	-0.005***	-0.008***	-0.008***	-0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)
Leverage	0.00003**	0.00003**	0.00004**	0.00004**	0.00004**	0.00005***	0.0001**	0.0001**	0.0001***
	(0.00001)	(0.00001)	(0.00001)	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)
Age	-0.0002	-0.0002	-0.0003	-0.0003	-0.0003	-0.0003	-0.0003	-0.0003	-0.0003
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0003)	(0.0003)
Deal characteristics									
Relative deal size	0.002***	0.002***	0.002***	0.001	0.001	0.001	0.002**	0.002**	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Swedish target	-0.016***	-0.016***	-0.012**	-0.017**	-0.017**	-0.014*	-0.026***	-0.025***	-0.019**
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)	(0.009)	(0.009)	(0.009)
All cash	-0.005	-0.008	-0.008	-0.005	-0.007	-0.006	-0.006	-0.008	-0.007
	(0.006)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.010)	(0.010)	(0.010)
Non-diversifying acquisition	-0.011**	-0.011**	-0.013**	-0.011*	-0.011*	-0.012*	-0.012	-0.011	-0.011
	(0.005)	(0.005)	(0.005)	(0.006)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)
Swedish target * all cash	-0.004	-0.003	-0.003	-0.004	-0.002	-0.004	-0.011	-0.010	-0.011
	(0.010)	(0.010)	(0.010)	(0.013)	(0.013)	(0.013)	(0.015)	(0.015)	(0.015)
Constant	0.111***	0.104***	0.110***	0.107***	0.090***	0.117***	0.133***	0.102***	0.128***
	(0.013)	(0.016)	(0.023)	(0.016)	(0.020)	(0.029)	(0.019)	(0.024)	(0.035)
#of deals	665	665	665	665	665	665	665	665	665
#of distinct acquirers	206	206	206	206	206	206	206	206	206
Year-fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Industry-fixed effects	No	No	Yes	No	No	Yes	No	No	Yes

This table presents the OLS regression estimates of CAR with varying event windows. The CAR in Column (1)–(3) is based on a 3-day event window, in Columns (4)–(6) on a 5-day event window, and in Columns (7)–(9) on a 11-day event window. All CARs are estimated with a market model, where Index OMX 30 is used as market return and the estimation window ranges from -250 to -10 days. Within the same specification, the first column results are without fixed effects, the second includes only year-fixed effects, and the third includes both year- and industry-fixed effects.

Note: *p<0.1 **p<0.05 ***p<0.01

Table 8: 3-day CAR regression in full M&A sample

5.1.5 Voting Premium

This section is intended to evaluate the link between voting premium and M&A performance as measured by CAR. We first create a subsample of acquisitions completed by acquirers, which have both share classes listed during the estimation and event window. As most of the Swedish dual-class firms publicly trade only the low-voting class shares, this restriction considerably reduced sample size to 101 deals made by 25 acquirers. Descriptive statistics for the voting premium and CAR in the subsample are indicated in Table 9. Additionally, a two-sample t-test for the mean of the CAR in negative and positive voting premium samples is presented. The null hypothesis of equal means in both samples cannot be rejected at a reasonable significance, which suggests that if any, the relationship between voting premium and the CAR is weak.

	(1) Sample mean	(2) Standard deviation	(3) Median	(4) Negative voting premium mean	(5) Positive voting premium mean	(6) T-test
Voting Premium	3.86%	11.67%	0.65%			
CAR [-1;+1]	1.34%	4.83%	0.33%	1.43%	1.29%	0.123

Table 9 presents the descriptive statistics for voting premium and CAR [-1; +1] in the voting premium sample. Column (6) shows the t-test for the means in negative voting premium and positive voting premium subsamples.

Table 9: Descriptive statistics of voting premium and t-test for two subsamples

In the scatterplots in Figure 7 of the appendix, we link the voting premium to the wedge, the key explanatory variable in the previous analyses. A positive relationship between wedge and voting premium is displayed in Panel (a), where a higher wedge indicates a higher voting premium. This is in line with the findings by Hauser and Lauterbach (2004), who find that the marginal price of vote is increasing with the wedge in share unifications. As the divergence between cash flow and voting rights of the largest shareholder widens, it is reasonable for other investors to demand a discount associated to the low-voting shares. Explicitly, a wide divergence might reflect greater incentives for the largest shareholder to consume private benefits, and in anticipation of such behavior, a higher voting premium puts a price on the expected private benefits. Nonetheless, in our sample the correlation between voting premium and wedge is not as distinct as expected, and vanishes when excluding the assumed outliers.

Figure 8 in the appendix depicts the relationship between the voting premium and CAR. Panel (a) shows a significantly negative relationship between these variables, yet the coefficient on the wedge gets insignificant when excluding the four outlier as done in Panel (b). We conclude that sample size impedes reliable tests of Hypothesis 5, as the univariate regression indicates that outliers can turn insignificant into significant results.

Table 10 presents estimates of a multivariate OLS regression of the CAR on the voting premium. Columns (1) and (2) are based on the full sample, and Columns (3) and (4) are from a restricted sample which excludes the four outliers. For both samples, the first column CAR comes from a 3-day event window and the second column from a 5-day event window based on market model. In the full sample, we find an insignificantly negative relationship between the voting premium and the CAR, where a 1% increase in the voting premium leads to a 0.047% decrease of the CAR. This finding hints that investors anticipate M&A to be a channel for minority expropriation in companies with higher voting premium. The result is smaller in magnitude when calculating CAR based on a 5-day event window.

	Dependent variable:			
	(1) CAR[-1; +1]	(2) CAR[-2; +2]	(3) CAR[-1; +1]	(4) CAR[-2; +2]
Voting Premium	-0.047	-0.027	0.112**	0.143**
	(0.039)	(0.044)	(0.049)	(0.058)
Acquirer characteristics				
Log (Total assets)	-0.010***	-0.010**	-0.006**	-0.005*
	(0.003)	(0.004)	(0.003)	(0.003)
Market-to-book	-0.004	-0.002	-0.002	-0.0004
	(0.004)	(0.005)	(0.003)	(0.004)
Leverage	0.00002	0.00001	0.00001	-0.00000
	(0.00002)	(0.00002)	(0.00002)	(0.00002)
Age	-0.0001	-0.0002	-0.0002	-0.0003
	(0.0002)	(0.0002)	(0.0001)	(0.0002)
Deal characteristics				
Relative deal size	0.014	0.010	0.015	0.011
	(0.020)	(0.022)	(0.016)	(0.019)
Swedish target	0.018	0.017	0.004	0.003
	(0.012)	(0.014)	(0.010)	(0.012)
All cash	0.003	0.002	0.005	0.004
	(0.011)	(0.012)	(0.009)	(0.010)
Non-diversifying acquisition	-0.047***	-0.043**	-0.027**	-0.022
	(0.016)	(0.018)	(0.013)	(0.015)
Swedish target * all cash	-0.019	-0.030	-0.001	-0.011
	(0.021)	(0.024)	(0.017)	(0.020)
Constant	0.123***	0.125***	0.072**	0.073**
	(0.035)	(0.040)	(0.029)	(0.035)
#of deals	101	101	97	97
#of distinct acquirers	25	25	24	24

This table presents estimates of an OLS regression of the CAR (with varying event windows of 3 and 5 days) on the voting premium in two different samples. Column (1) and (2) are based on the full voting premium sample, and Column (3) and (4) are based on a restricted sample excluding 4 outliers identified from the scatterplots.

Note: *p<0.1 **p<0.05 ***p<0.01

Table 10: 3-day CAR regression on the voting premium

However, it becomes obvious that the previously identified outliers push the negative coefficient on the voting premium. Hence, when excluding outliers, the coefficient turns positive and significant. In such circumstance, a 1% increase in the voting premium corresponds to an increase in CAR by 0.112% and 0.143% in a 3-day and 5-day event window respectively. Since the economic interpretation is dubious in this case, we conclude that the voting premium sample size is to small to deduct any effects from this regression. For the other control variables included in the regressions, results are similar to the regression of CAR on the wedge, with the exception of the dummy variable "Swedish target", whose sign reverses in the voting premium regression.

5.2 Robustness

5.2.1 Alternative main explanatory variables

In order to further identify what motivates the results presented in Section 5.1, we altered the main explanatory variables for robustness tests to include the ratio between the largest shareholder's voting and cash flow rights, the dual-class dummy and a dummy for controlling shareholder when the largest shareholder holds at least 20% of the votes.

Regarding the method of payment, the all cash dummy is plotted against the ratio as an alternative measure of divergence between voting and cash flow rights in Panel (a) of Figure 9. The scatterplot indicates that observations are strongly concentrated on the left half of the figure and it is not possible to detect obvious differences in all cash payment among observations with low and high ratio. The insignificant estimates reported in columns (1)–(3) of Table 14 confirm that the relationship between the ratio and all cash dummy is weak. Although the results obtained in Section 5.1.2 are not robust to the ratio as the main explanatory variable, this does not invalidate the previously drawn conclusions.[28]

Columns (4)–(6) indicate estimates using the dual-class dummy as the main explanatory variable. All else equal, a dual-class structure increases the probability of all cash payments by 9.5%, a result which is robust to year-fixed effects, yet not to both year- and industry-fixed effects. The effect is larger than in the wedge regression, yet comparability is limited due to the fact that wedge is defined as a continuous variable in contrast to the binary dual-class variable.

[28] Section 5.1.2 concludes that the probability of all cash payment is increasing in the wedge between voting and capital rights, since shareholders with a higher wedge are more reluctant to corporate decisions that potentially dilute their votes, such as issuing new shares to finance M&As. This relationship is not expected to hold for the ratio variable. While the wedge is an absolute measure of divergence, the ratio puts the divergence in relation to the capital held by the largest shareholder. As referred to in Section 4.2.2, ratio penalizes observations of low capital holding. However, this penalty does not reflect how vulnerable shareholders are to dilution. For example, assuming the same wedge of 10%, arguably votes are more valuable when crossing the threshold of 50% than 20% yet the ratio is smaller in the first case (~1.25) than in the second case (~2).

Columns (7)–(9) present estimates for regression using controlling shareholder dummy as main explanatory variable. A controlling shareholder significantly increases the probability for all cash payment by 10.3%, all else equal and the results are robust to including fixed effects. The strong effect for controlling shareholders confirms our previous proposition that the effect of the wedge stems from largest shareholders' reluctance to potential dilution of votes, an effect that is particularly severe when the largest shareholder owns 20% to 60% of voting rights (Faccio and Masulis, 2005), which falls in our definition of controlling shareholder.

In terms of relative transaction value, the scatterplot in Panel (b) of Figure 9 indicates that the regression line steepens when taking the ratio as an alternative measure of divergence between cash flow and voting rights. Accordingly, Columns (1)–(3) of Table 15 in the appendix show that the results in Section 5.1.3 are robust to the ratio. A unit increase in the ratio significantly decreases the transaction value ratio by 0.03. This coefficient is economically more significant than the wedge coefficient, which may be partly driven by outliers[29]. Alternatively, different properties of the wedge and ratio as described previously could explain the higher magnitude and significance of the ratio coefficient compared to the wedge.

Columns (4)–(6) report results of the regression with dual-class dummy as the main explanatory variable. A dual-class structure significantly decreases the relative transaction value by 0.01, which still contradicts to our hypothesis. Columns (7)–(9) show that regression estimates become insignificant and small in magnitude when employing the controlling shareholder dummy as a main explanatory variable. Hence, the proposition that dual-class companies are more likely to have controlling owners, which in turn extract private benefits from larger acquisitions, does not seem to motivate our results.

With respect to CAR, Panel (c) of Figure 9 suggests that the relationship between the ratio and CAR is even weaker than the previously examined relation between wedge and CAR. Table 16 in the appendix presents OLS estimates for the CAR regression on a 3-days event window. For all alternative ownership variables used, the coefficient remains insignificant. Hence, the robustness tests confirm the conclusion that there is no significant relationship between ownership variables, such as wedge, ratio, dual-class as well as controlling dummy, and the announcement CARs.

[29] The scatterplots in Panel (b) and (c) of Figure 9 include outliers with a high ratio. Specifically, the sample contains a deal completed by Ericsson in 2004, when the company still had a 1:1000 voting ratio between inferior and superior voting classes. Hence, the high ratio of 12.5 from this deal stands out.

5.2.2 Alternative subsamples

This section presents robustness checks in three subsamples created for transaction value and CAR estimations. We benefit from the fact that our observation period covers the financial crisis, and create pre- and post-financial crisis samples. The pre-financial crisis sample includes all observations up to 2008, and the post-financial crisis sample contains observations after 2008. Since the financial crisis did not hit Sweden until 2008, it is regarded as a reasonable year to split our sample. Additionally, we create another subsample with only dual-class firms, resulting in 354 observations and 101 acquirers, in order to shed light on the effect of the divergence between cash flow and voting rights among dual-class companies.

For both transaction value and CAR, we assume that different effects could be found in the pre- and post-crisis samples. Industry shocks, liquidity and market valuations have been identified as important triggers of M&As activity (Harford, 2005). Therefore, the financial crisis is expected to leave strong traces on the Swedish M&A activity in the period of 2001–2015. Specifically, before the financial crisis market valuations were high with an obvious M&A wave, as referred to in Section 4.3.3. In contrast, after the financial crisis liquidity was scarce, and the temporary collapse of financial markets brought about borrowing constraints, uncertainty and new regulations. The financial crisis also meant an industry shock to the banking industry, and mergers activities have been spurred by consolidations of banks in the US. However, this effect is negligible in Sweden[30]. Instead, given the fact that Swedish banks have been traditionally large players in capital market and a major source of financing (Hogfeldt, 2005), the hit on banking industry inevitably reduced the M&A activities in Sweden. Given these observations, the financial crisis could have affected M&A transaction value and CAR up to the end of our observation period. The relationship between the wedge and the dependent variables could have weakened after the financial crisis, since other factors linked to liquidity constraints and uncertainty explain more of the variation in the dependent variables.

Table 11 reports insignificant differences between the sample means of transaction value in the pre- and post-financial crisis samples. The scatterplots in Panel (b) and (c) of Figure 5 illustrate that the fitted line is marginally steeper in the pre-crisis sample than in the post-crisis sample. For the 3-day CAR, Table 11 shows that the difference in means is significantly deviating from 0. Explicitly, the t-test indicates that the CAR was significantly higher in the pre-

[30] The Riksbank reacted to the financial crisis by providing emergency support to troubled banks such as Carnegie Investment Bank and Kaupthink Bank Sverige, and then selling these banks to private investors (Molin, 2009). Besides these actions, it is not possible to identify changes in the landscape of the banking industry triggered by the financial crisis.

crisis sample. The lower CAR after the financial crisis can be related to uncertainty and liquidity constraints due to the financial crisis, which made investors in acquiring companies antagonistic towards investments and thus M&A deal announcements. Alternatively, it can be explained by a general downturn in returns triggered by the crisis. The scatterplots in Panel (b) and (c) of Figure 6 confirm the difference in the CAR among pre- and post-financial crisis samples. Whereas the fitted line steepens in the pre-crisis sample compared to the full sample, it flattens in the post-crisis sample.

Table 17 in the appendix presents results for the regression of the relative transaction value on the wedge in the three different samples described previously. Columns (1)–(3) display estimates in the pre-financial crisis sample. All else equal, 1% increase in the wedge corresponds to a 0.003 decrease in the relative transaction value. The magnitude of the coefficient is somewhat larger than in the full sample presented in Table 7, and also robust to both year- and industry fixed effects. In contrast, significance and magnitude decrease in the post-financial crisis sample reported in columns (4)–(6). Consequently, the negative relationship observed in the full sample is mainly driven by observations before the financial crisis in 2008. The insignificant effect after 2008 could be attributable to liquidity constraints and uncertainty due to the financial crisis. Alternatively, different industry compositions could explain some of the differences among the subsamples[31].

Columns (7)–(9) report estimates for the dual-class sample. The wedge coefficient is insignificant and small in magnitude, indicating that the divergence between cash flow and voting rights of the largest shareholder within the dual-class sample does not prompt our results. The ambiguous effects in the post-financial crisis and dual-class samples validate the concerns brought up in the economic interpretations of coefficients in Section 5.1.3.

Lastly, Table 18 in the appendix presents results for the CAR regression in the three alternative sample specifications. All wedge coefficients are insignificant and the sign varies among different specifications. Columns (1)–(3) report estimates for the pre-financial crisis, where the sign of the wedge coefficient is negative as hypothesized. In the post-financial crisis sample reported in columns (4)–(6), the coefficient turns in sign and increases in magnitude. In the dual-class sample as reported in columns (7)–(9) the coefficient still remains insignificant and positive. Hence, there is no effect between CAR and wedge among observations with exclusively

[31] In the pre-financial crisis sample, 23% of the deals were completed by financial, 22% by technology, and 22% by industrial acquirers. In the post-financial crisis, 33% of the deals were made by industrial, 29% by financial, and 13% by technology acquirers.

dual-class acquirers. To conclude, we did not find any evidence to support the hypothesis of a negative relationship between CAR and the divergence of cash flow and voting rights.

	(1) Full sample mean	(2) Standard deviation	(3) Median	(4) Pre-crisis sample mean	(5) Post-crisis sample mean	(6) T-test	
Wedge	9.61%	12.43%	0.10%	9.21%	10.19%	-1.009	
Log(Transaction value)	5.114	1.760	5.057	5.066	5.184	-0.857	
3-day CAR	1.90%	6.11%	0.77%	2.24%	1.40%	1.834	*

This table shows summary statistics for the wedge and two dependent variables, i.e. transaction value and 3-day CAR. Columns (4)–(5) present the sample means of the variables in the pre- and post-crisis subsamples. The t-test statistic for the means between two subsamples is reported in Column (6).

Note: $^{*}p<0.1$ $^{**}p<0.05$ $^{***}p<0.01$

Table 11: Summary statistics and t-test of pre-crisis and post-crisis samples

6 Conclusion

6.1 Summary

In a sample of 665 firm-year observations from 206 Swedish public acquirers listed on the NASDAQ Stockholm or NGM during the period 2001–2015, the thesis evaluates the consequences of dual-class structures on M&A decisions and performance. From a theoretical perspective, the effect of dual-class structures is ambiguous: Dual-class structures could be associated to higher growth opportunities, long-term orientation of shareholders and motivations for value maximization, known as an incentive effect of active ownership. On the other hand, concerns of minority expropriation aggravate in so-called controlling minority structures, causing the entrenchment effect (Bennedsen and Nielsen, 2010; Claessens et al., 2002). In an M&A setting as presented in this analysis, a common example for the entrenchment effect is family empire building from the controlling shareholders. Whereas the incentive effect is expected to improve M&A performance and therefore raise CAR, the entrenchment effect should deteriorate M&A performance. In the light of inconclusive theoretical implications, an empirical analysis of the sample seems particularly promising.

In the Swedish setting examined in this study, dual-class structures are deeply entrenched in a corporate governance system of active ownership. In order to exert controls in listed corporations, active owners, commonly referred to as Spheres, have been implementing control-enhancing mechanisms, such as dual-class structures. The wide adoption of dual-class structures in Swedish listed companies makes this study especially relevant and representative on the Swedish market. In the first line of analysis, we relate dual-class companies to industry characteristics and family ownership. We find that dual-class structures are particularly common in industries with strong family ownership, such as Technology and Industrials. In line with an observed negative media sentiment, which spurred unifications during the observation period (Braggion and Giannetti, 2017; Lauterbach and Pajuste, 2016), the percentage of dual-class companies in our sample has slightly declined from 57.7% in 2001 to 51.0% in 2015.

In the second line of analysis, we delve into deal characteristics such as method of payment and transaction value. Resulting from reluctance to dilution of votes triggered by the issue of new shares, cash payment is expected to be more acceptable from shareholders in a dual-class acquiring firm. Accordingly, we find that the probability of all cash payment significantly increases in the divergence between cash flow and voting rights measured by the wedge. Nonetheless, our results deviate against expectation and indicate that relative transaction value significantly decreases in the wedge between cash flow and voting rights. It is challenging to

derive economic implications from this outcome, since the measure transaction value does not account for targets' intrinsic value. Notwithstanding, the fact that the results obtained contradict hypothesis 3 indicates that empire-building strategies cannot be strongly related to dual-class companies and the divergence between cash flow and voting rights.

Ultimately, we aim to empirically evaluate the incentive and entrenchment hypotheses in an M&A setting. We find that CAR as M&A performance measure is not significantly related to the divergence between voting and cash flow rights. Hence, we do not find evidence that M&A deals are perceived as channels for minority expropriation, and the proposition of an entrenchment effect of controlling ownership in dual-class companies can not be validated in our sample.

6.2 Limitations and discussion

Our study is subject to following limitations, which are either related to concerns inherent in the research question and hypotheses, or to sampling restrictions given data availability:

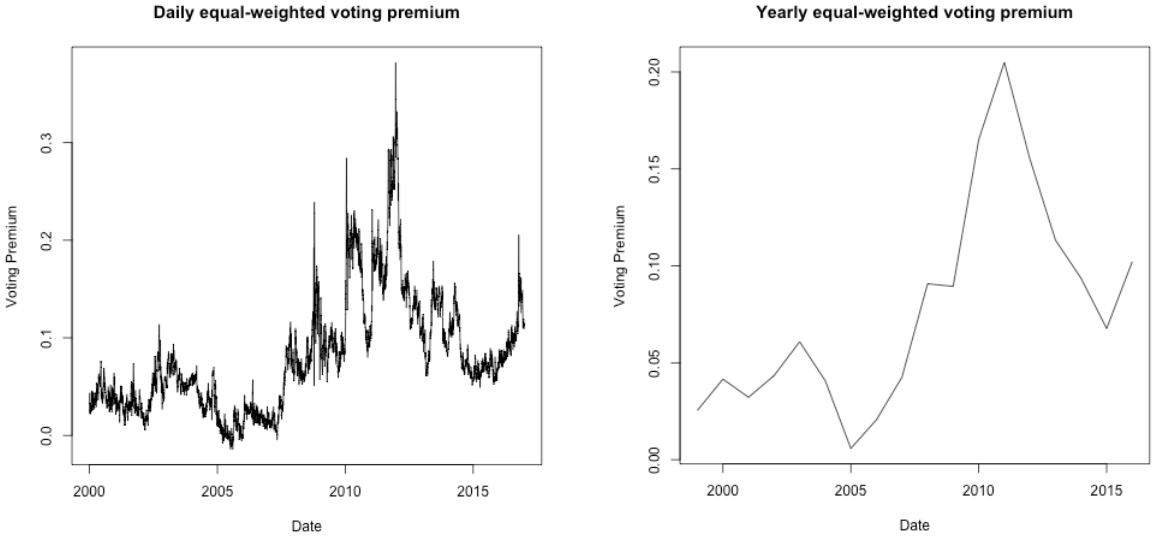
First and foremost, external validity is considerably limited. Due to the very specific corporate governance system, institutional framework and regulatory environment in Sweden, all conclusions drawn can only be applied in this setting. Specifically, the fact that dual-class structures are deeply embedded in corporate cultures and generally positively accepted by Swedish capital markets (Carlsson, 2007) makes the setting very unique. In other countries with lower investor protection or different corporate governance and legal systems, the results are not expected to hold.

Second, endogeneity is a major concern in our study, since it may induce upward bias to coefficient estimates and thereby make them invalid. A potential source of endogeneity comes from omitted variable bias, such as the targets' listing status at the point of announcement. Due to data constraints on targets' listing status and insufficient evidence of its relevance in the Swedish market, we decide to take the risk of omitting this variable in order to maintain an adequate sample size. Additionally, reverse causality may lead to biases, since ownership and performance are contemporaneously determined. Remedies to these concerns, which has been recently applied in corporate finance studies, are the use of instrumental variables (Bach, 2016) or natural experiments (Giannetti and Laeven, 2009). Nonetheless, coming up with a relevant and exogenous instrument is deemed to be challenging especially in the scope of ownership structure. In the light of constantly improving data availability, finding an instrument to assess the bias of OLS estimates attributable to endogeneity presents a promising avenue for future research.

Third, this study only covers short-term M&A performance measured by CAR. Extending the event window does not seem promising to capture the long-term effects on M&A performance, as estimates become noisy due to confounding events and estimation problems arise when addressing expected return. It however remains interesting to disentangle the long-term M&A performance using different measures, such as accounting performance indicators.

Lastly, limitations in data availability for the voting premium restrict the scope of our analysis. Even though estimating the relationship between the voting premium and CAR is a viable analysis to determine the private benefits related to a M&A deal of a dual-class acquirer, our estimations are not reliable as a result of small sample size. We thereby encourage further research to re-evaluate this relationship using a suitable sample. Expanding the observation period, loosening some sampling restrictions that we have imposed, or including acquirers that have only one class listed are some means to achieve an extended samples. In the latter case, an alternative measure for voting premium is necessary, and option pricing can be of a potential direction.

Appendix



(a) Daily voting premium (b) Yearly voting premium

Figure 3 presents the equal-weighed voting premium in a time series from 2001 to 2016, based on the 25 acquirers that have both high- and low-voting shares listed on Stockholm Stock Exchange. If a company is not listed during the whole period, its weight is set to 0 in years where data is not available.

Figure 3: Equal-weighed voting premium in a time series

	(1) Mean	(2) T-test	
Market Model			
3-day event window	0.019	8.0277	***
5-day event window	0.019	6.5367	***
11-day event window	0.024	6.8981	***
Mean Model			
3-day event window	0.019	7.5862	***
5-day event window	0.019	6.2114	***
11-day event window	0.022	5.7201	***
Raw Return			
Announcement day	0.013	7.175	***

This table presents the mean and t-test for CAR with different event windows and estimation methods. Explicitly, there are two methods used to estimate CARs: A market model, where Index OMX30 represents the market return and expected returns are calculated based on the coefficient on the market return (CAPM approach); and a mean model, where expected returns equal the means of the acquirers' returns in the estimation window [-250; -10]. The t-test statistic of the null hypothesis that the sample mean is equal to 0 is reported in Column (2).

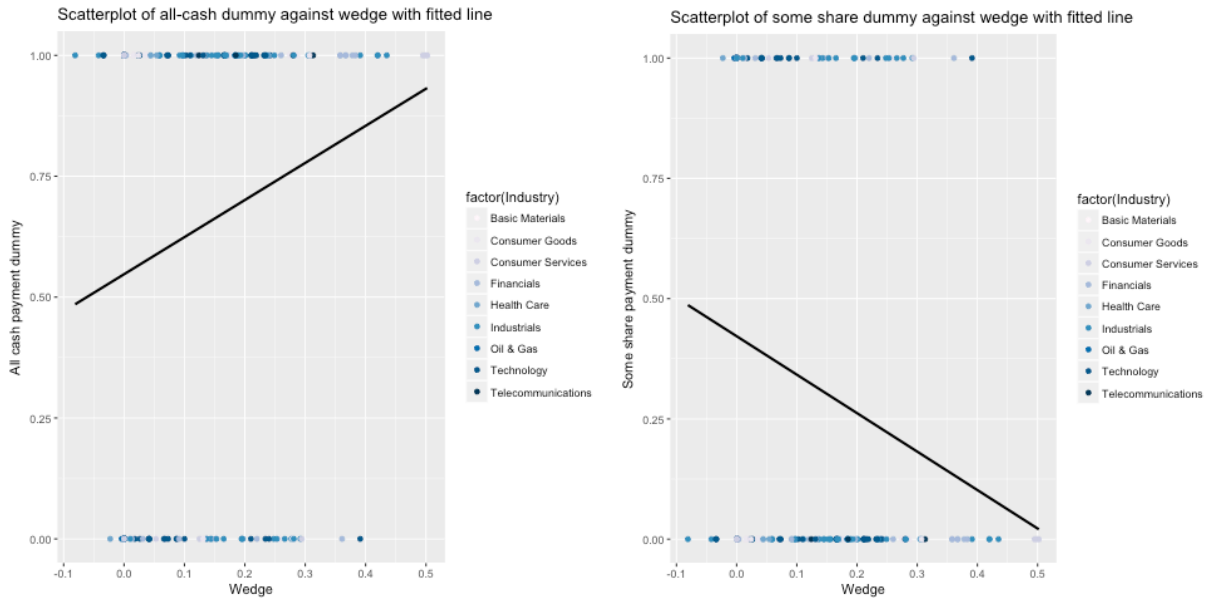
Note: $^{*}p<0.1$ $^{**}p<0.05$ $^{***}p<0.01$

Table 12: T-test of means of CAR with varying event windows and estimation methods

Variables	Announcement Return	CAR3 Market	CAR5 Market	CAR11 Market	CAR3 Mean	CAR5 Mean	CAR11 Mean
Announcement Return	1.00						
CAR3 Market	0.35	1.00					
CAR5 Market	0.32	0.86	1.00				
CAR11 Market	0.24	0.71	0.79	1.00			
CAR3 Mean	0.37	0.96	0.81	0.70	1.00		
CAR5 Mean	0.33	0.82	0.95	0.77	0.85	1.00	
CAR11 Mean	0.25	0.65	0.74	0.93	0.69	0.79	1.00

This table presents the correlation between CAR estimates with varied event windows, i.e. 3 days, 5 days and 11 days, and two different estimation methods, i.e. market and mean models.

Table 13: Return correlations

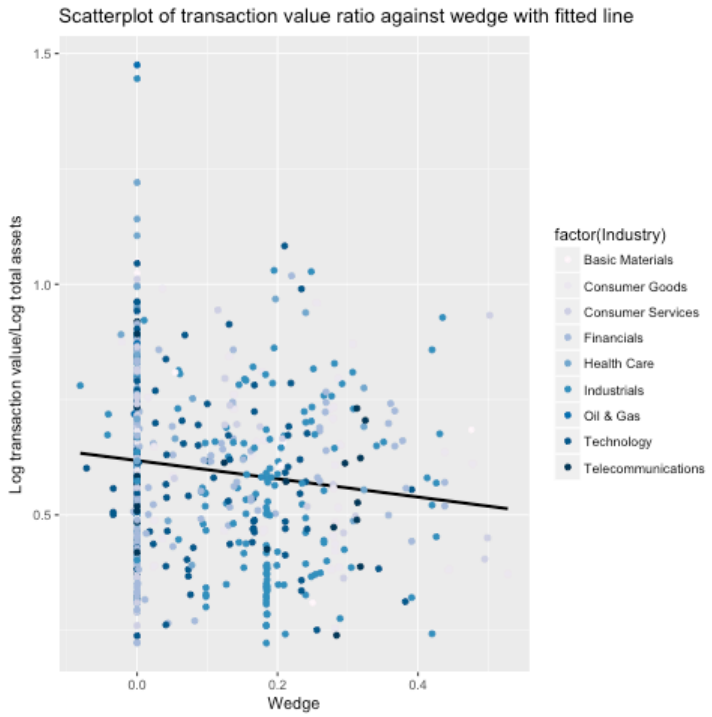


Panel (a): All cash dummy

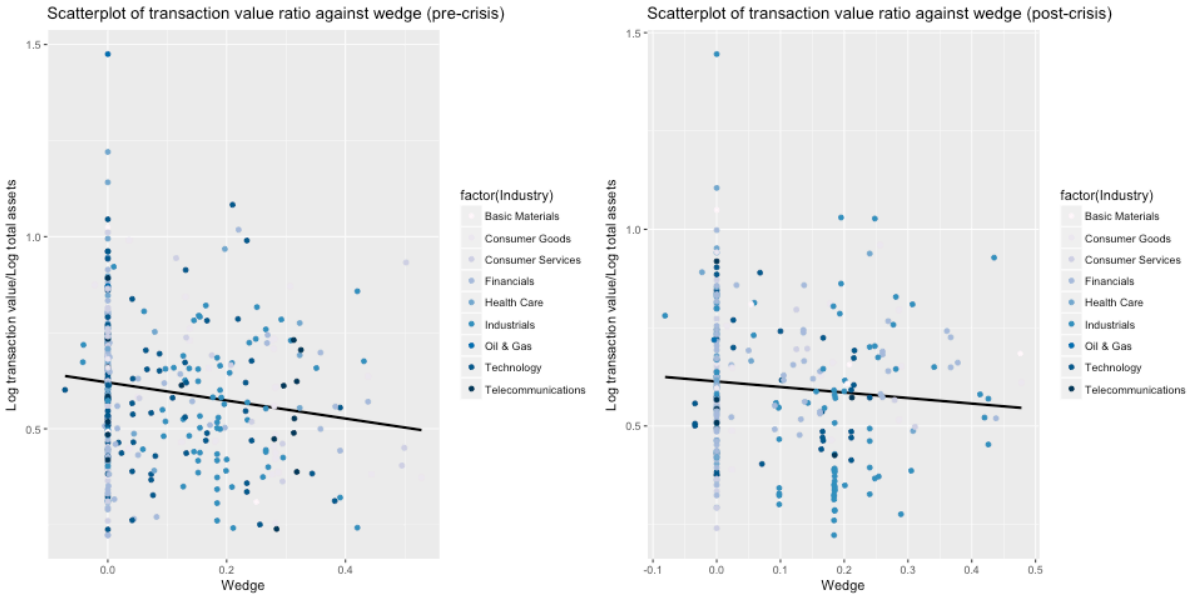
Panel (b): Some shares dummy

This figure presents the scatterplot of method of payment dummies (all cash and some shares) against the wedge in the restricted sample of 329 deals and 161 acquirers where payment information is reported in SDC Platinum. The line represents the fitted line based on univariate OLS estimates. Colors of plots represent 9 different industries categorized in NASDAQ Stockholm.

Figure 4: Scatterplots of method of payment dummies against wedge in restricted sample



Panel (a): Full sample

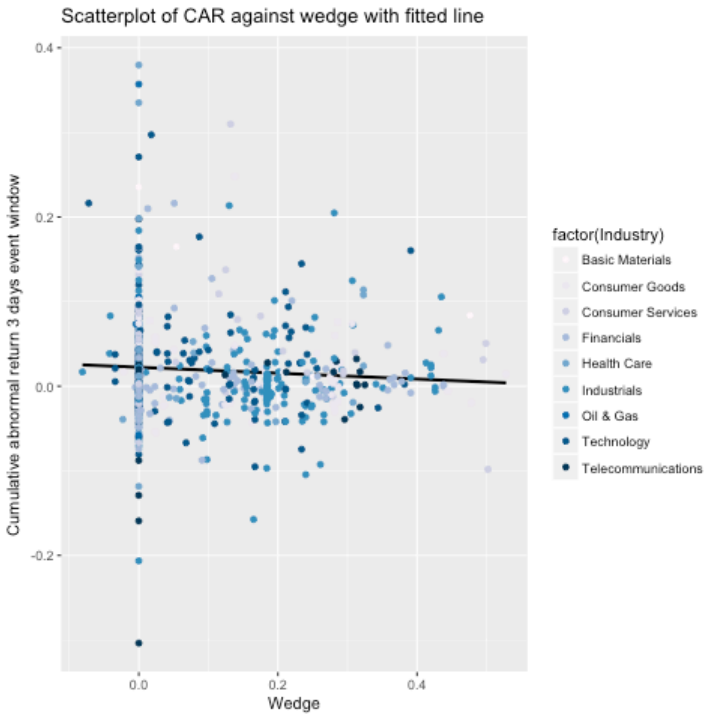


Panel (b): Pre-crisis sample

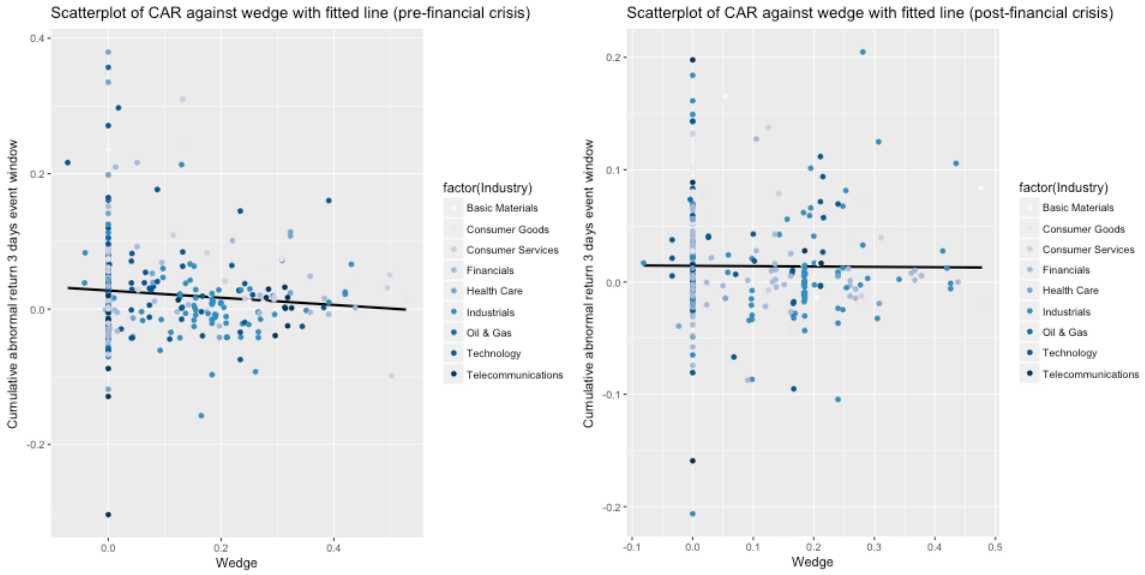
Panel (c): Post-crisis sample

This figure shows the scatterplots of the ratio between log(Transaction value) and log(Total assets) against the wedge. Panel (a) presents a scatterplot of the full sample, which is then divided into pre- and post-financial crisis subsamples in Panel (b) and (c), respectively. The line represents the fitted line based on univariate OLS estimates. Colors of plots represent 9 different industries categorized in NASDAQ Stockholm.

Figure 5: Scatterplots of relative deal size ratio against wedge



Panel (a): Full sample

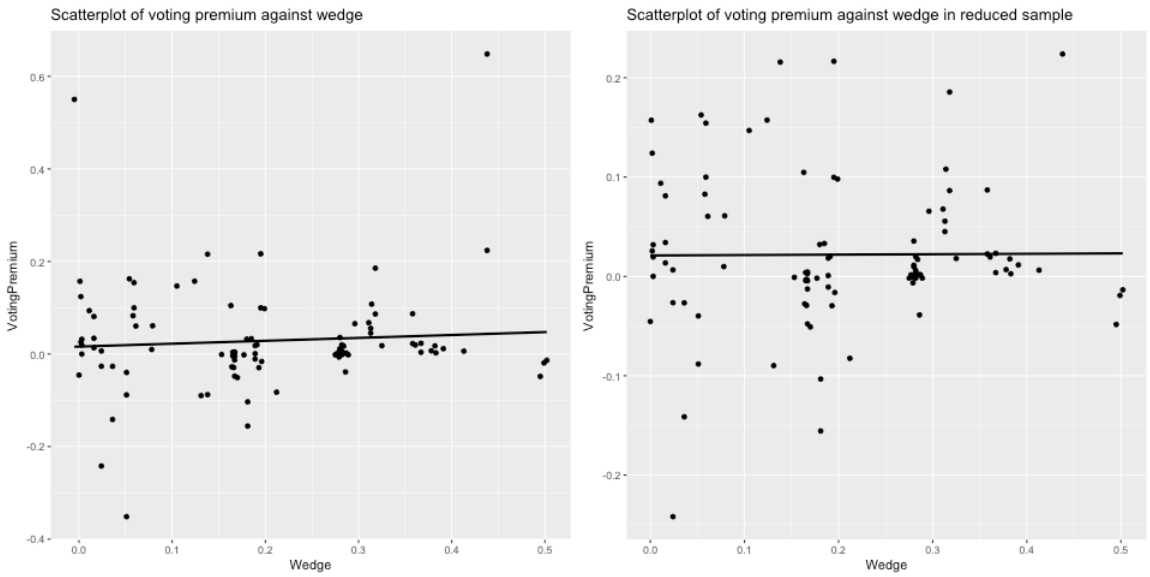


Panel (b): Pre-crisis sample

Panel (c): Post-crisis sample

This figure shows the scatterplots of 3-day CAR against the wedge. Scatterplot of the full sample is presented in Panel (a). Panel (a) presents a scatterplot of the full sample, which is then divided into pre- and post-financial crisis subsamples in Panel (b) and (c), respectively. The line represents the fitted line based on univariate OLS estimates. Colors of plots represent 9 different industries categorized in NASDAQ Stockholm.

Figure 6: Scatterplots of 3-day CAR against wedge in different samples

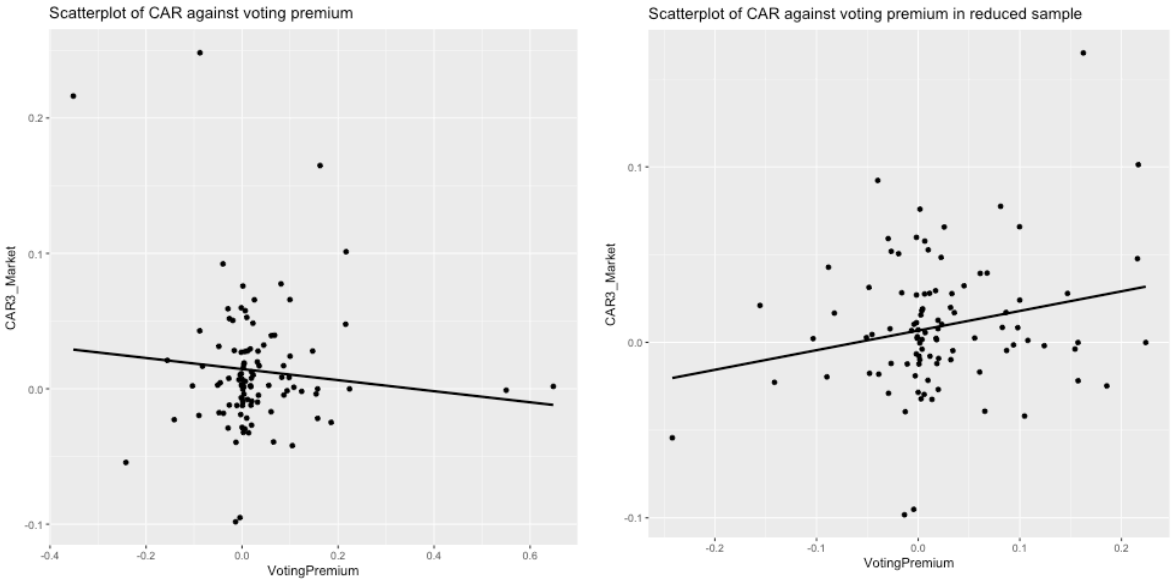


Panel (a) Full sample

Panel (b): Sample without outliers

This figure shows scatterplots of the voting premium against the wedge. Scatterplots for the full sample and a subsample excluding four outlier observations are presented in Panel (a) and Panel (b), respectively. The fitted line is based on OLS estimation in a univariate setting.

Figure 7: Scatterplots of voting premium against the wedge

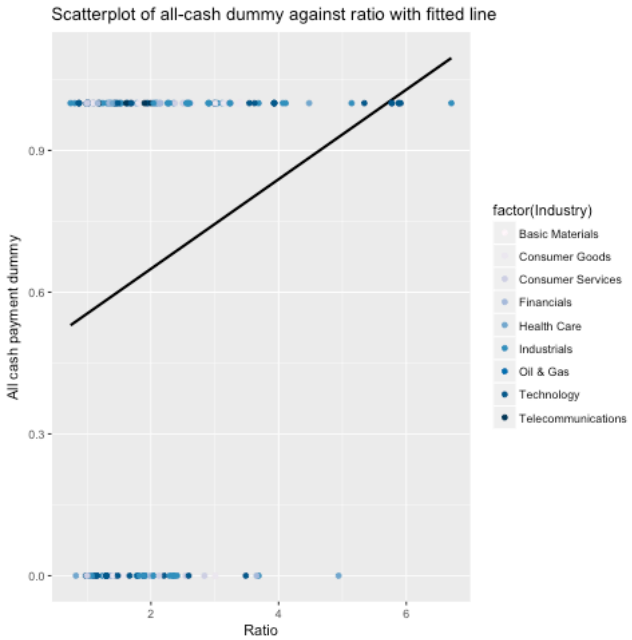


Panel (a) Full sample

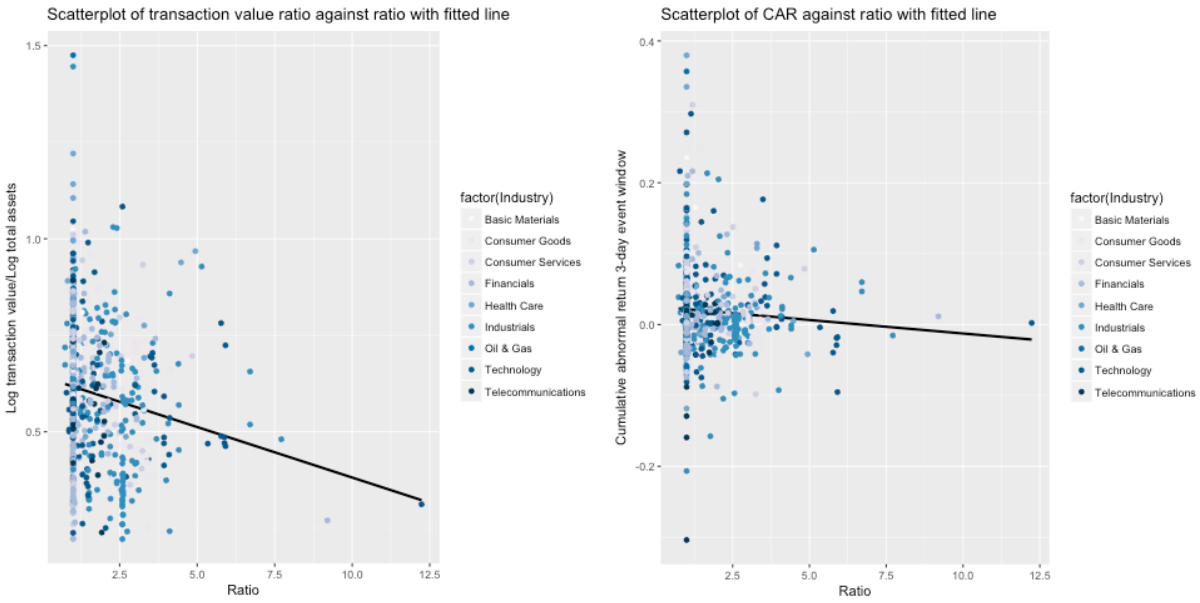
Panel (b): Sample without outliers

Figure 8 shows the scatterplots of the 3-day CAR against the voting premium. Scatterplots for the full sample and a subsample excluding four outlier observations are presented in Panel (a) and Panel (b), respectively. The fitted line is based on OLS estimation in a univariate setting.

Figure 8: Scatterplots of 3-day CAR against the voting premium



Panel (a): All cash dummy against ratio in restricted sample



Panel (b): Transaction value ratio

Panel (c): 3-day CAR

This figure shows the scatterplots of different dependent variables against the ratio between the largest shareholder's voting and cash flow rights. Panel (a) presents the scatterplot for the all cash dummy against the ratio in the restricted payment sample. Panel (b) displays the scatterplot of the relative deal size ratio against the ratio. Panel (c) exhibits a scatterplot of the 3-day CAR against the ratio. The line represents the fitted line based on univariate OLS estimates. Colors of plots represent 9 different industries categorized in NASDAQ Stockholm.

Figure 9: Scatterplots of varying dependent variables against the ratio

	Dependent variable:								
	(1) All cash	(2) All cash	(3) All cash	(4) All cash	(5) All cash	(6) All cash	(7) All cash	(8) All cash	(9) All cash
Main explanatory variables									
Ratio	0.031	0.025	0.029						
	(0.025)	(0.024)	(0.025)						
Dual				0.095*	0.083*	0.079			
				(0.050)	(0.049)	(0.051)			
Controlling							0.103**	0.107**	0.099*
							(0.050)	(0.050)	(0.051)
Acquirer characteristics									
Log (Total assets)	0.104***	0.104***	0.094***	0.103***	0.103***	0.095***	0.105***	0.104***	0.097***
	(0.016)	(0.015)	(0.017)	(0.015)	(0.015)	(0.016)	(0.015)	(0.015)	(0.016)
Market-to-book	-0.003	-0.009	-0.010	0.001	-0.007	-0.007	-0.0004	-0.008	-0.008
	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)	(0.013)
Leverage	-0.0002	-0.0001	-0.0002	-0.0001	-0.0001	-0.0001	-0.0002	-0.0001	-0.0002
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Deal characteristics									
Log (Transaction value)	-0.088***	-0.090***	-0.092***	-0.087***	-0.089***	-0.091***	-0.092***	-0.094***	-0.095***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.015)	(0.016)
Swedish target	-0.212***	-0.210***	-0.214***	-0.218***	-0.214***	-0.219***	-0.217***	-0.214***	-0.216***
	(0.050)	(0.049)	(0.051)	(0.049)	(0.048)	(0.051)	(0.049)	(0.048)	(0.051)
Non-diversifying acquisition	-0.142**	-0.156***	-0.161***	-0.154***	-0.169***	-0.175***	-0.144**	-0.160***	-0.168***
	(0.056)	(0.056)	(0.059)	(0.057)	(0.057)	(0.059)	(0.056)	(0.056)	(0.058)
Constant	0.320***	0.172	-0.063	0.318***	0.178	-0.070	0.311***	0.136	-0.104
	(0.120)	(0.161)	(0.223)	(0.119)	(0.161)	(0.222)	(0.119)	(0.161)	(0.221)
#of deals	329	329	329	329	329	329	329	329	329
#of distinct acquirers	161	161	161	161	161	161	161	161	161
Year-fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Industry-fixed effects	No	No	Yes	No	No	Yes	No	No	Yes

This table shows the OLS egression estimates of all cash dummies on ownership-related main explanatory variables in a restricted sample including only deals with known consideration reported in SDC Plantium. In columns (1)–(3), the main explanatory variable is the ratio between voting and cash flow rights held by the largest shareholder. In column (4)–(6), the main explanatory variable is a dual-class dummy, which equals to 1 if the acquirer has a dual-class structure. In column (7)–(9), the main explanatory variable is a dummy, which equals to 1 if the acquirer has a controlling shareholder with more than 20% of votes. Within the same explanatory variables, the first column is without fixed effects, the second includes only year-fixed effects, and the third includes both year- and industry-fixed effects.

Note: *p<0.1 **p<0.05 ***p<0.01

Table 14: Robustness of method of payment regression using different ownership-related explanatory variables

	Dependent variable:								
	(1) Transaction value ratio	(2) Transaction value ratio	(3) Transaction value ratio	(4) Transaction value ratio	(5) Transaction value ratio	(6) Transaction value ratio	(7) Transaction value ratio	(8) Transaction value ratio	(9) Transaction value ratio
Main explanatory variable									
Ratio	-0.030***	-0.029***	-0.026***						
	(0.007)	(0.007)	(0.007)						
Dual				-0.047***	-0.047***	-0.036**			
				(0.015)	(0.015)	(0.016)			
Controlling							-0.013	-0.009	0.0003
							(0.015)	(0.015)	(0.016)
Acquirer characteristics									
Market-to-book	0.009***	0.008***	0.009***	0.008***	0.007**	0.008**	0.007**	0.007**	0.008**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Leverage	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)	(0.00004)
Age	-0.0002	-0.0002	-0.00003	-0.001	-0.001	-0.0004	-0.001**	-0.001**	-0.001
	(0.001)	(0.001)	(0.001)	(0.0005)	(0.001)	(0.001)	(0.0005)	(0.0005)	(0.0005)
Deal characteristics									
Swedish target	0.026	0.025	0.027	0.033*	0.032*	0.034*	0.035**	0.033*	0.034*
	(0.017)	(0.017)	(0.018)	(0.017)	(0.017)	(0.018)	(0.017)	(0.018)	(0.018)
All-cash payment	0.038*	0.030	0.033	0.040**	0.032	0.034*	0.040**	0.032	0.034*
	(0.020)	(0.021)	(0.020)	(0.020)	(0.021)	(0.020)	(0.020)	(0.021)	(0.021)
Non-diversifying acquisition	-0.061***	-0.058***	-0.044***	-0.057***	-0.054***	-0.041**	-0.062***	-0.060***	-0.045***
	(0.016)	(0.016)	(0.017)	(0.016)	(0.016)	(0.017)	(0.016)	(0.016)	(0.017)
Swedish target * all-cash	-0.106***	-0.106***	-0.102***	-0.105***	-0.105***	-0.102***	-0.106***	-0.104***	-0.102***
	(0.031)	(0.032)	(0.031)	(0.031)	(0.032)	(0.031)	(0.032)	(0.032)	(0.031)
Constant	0.651***	0.653***	0.693***	0.628***	0.628***	0.673***	0.616***	0.612***	0.657***
	(0.019)	(0.034)	(0.059)	(0.018)	(0.033)	(0.059)	(0.019)	(0.035)	(0.060)
#of deals	665	665	665	665	665	665	665	665	665
#of distinct acquirers	206	206	206	206	206	206	206	206	206
Year-fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Industry-fixed effects	No	No	Yes	No	No	Yes	No	No	Yes

This table shows the OLS egression estimates of log(Transaction value)/log(Total assets) on ownership-related main explanatory variables in the full sample. In columns (1)–(3), the main explanatory variable is the ratio between voting and cash flow rights held by the largest shareholder. In column (4)–(6), the main explanatory variable is a dual-class dummy, which equals to 1 if the acquirer has a dual-class structure. In column (7)–(9), the main explanatory variable is a dummy, which equals to 1 if the acquirer has a controlling shareholder with more than 20% of votes. Within the same explanatory variables, the first column is without fixed effects, the second includes only year-fixed effects, and the third includes both year- and industry-fixed effects.

Note: *p<0.1**p<0.05***p<0.01

Table 15: Robustness of transaction value regression using different ownership-related explanatory variables

	Dependent variable:								
	(1) CAR[-1; +1]	(2) CAR[-1; +1]	(3) CAR[-1; +1]	(4) CAR[-1; +1]	(5) CAR[-1; +1]	(6) CAR[-1; +1]	(7) CAR[-1; +1]	(8) CAR[-1; +1]	(9) CAR[-1; +1]
Main explanatory variable									
Ratio	0.001	0.001	0.001						
	(0.002)	(0.002)	(0.002)						
Dual				0.001	0.001	0.002			
				(0.005)	(0.005)	(0.005)			
Controlling							0.002	0.004	0.005
							(0.005)	(0.005)	(0.005)
Acquirer characteristics									
Log(Total assets)	-0.008***	-0.007***	-0.006***	-0.008***	-0.007***	-0.006***	-0.008***	-0.007***	-0.006***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Market-to-book	-0.004***	-0.004***	-0.005***	-0.004***	-0.004***	-0.005***	-0.004***	-0.004***	-0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Leverage	0.00003**	0.00003**	0.00004**	0.00003**	0.00003**	0.00004***	0.00003**	0.00003**	0.00004**
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Age	-0.0002	-0.0002	-0.0003	-0.0002	-0.0002	-0.0003	-0.0002	-0.0002	-0.0003*
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Deal characteristics									
Relative deal size	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Swedish target	-0.016***	-0.016***	-0.012**	-0.016***	-0.016***	-0.012**	-0.016***	-0.015***	-0.012*
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
All cash	-0.005	-0.008	-0.008	-0.005	-0.008	-0.008	-0.005	-0.008	-0.008
	(0.006)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)
Non-diversifying acquisition	-0.011**	-0.011**	-0.013**	-0.011**	-0.012**	-0.013**	-0.011**	-0.012**	-0.013**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Swedish target * all cash	-0.004	-0.003	-0.003	-0.004	-0.003	-0.003	-0.004	-0.003	-0.004
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Constant	0.111***	0.104***	0.110***	0.111***	0.104***	0.110***	0.110***	0.102***	0.109***
	(0.013)	(0.016)	(0.023)	(0.013)	(0.016)	(0.023)	(0.013)	(0.016)	(0.023)
#of deals	665	665	665	665	665	665	665	665	665
#of distinct acquirers	206	206	206	206	206	206	206	206	206
Year-fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Industry-fixed effects	No	No	Yes	No	No	Yes	No	No	Yes

This table shows the OLS egression estimates of the CAR (3-day event window based on market model) on ownership-related main explanatory variables in the full sample. In columns (1)–(3), the main explanatory variable is the ratio between voting and cash flow rights held by the largest shareholder. In column (4)–(6), the main explanatory variable is a dual-class dummy, which equals to 1 if the acquirer has a dual-class structure. In column (7)–(9), the main explanatory variable is a dummy, which equals to 1 if the acquirer has a controlling shareholder with more than 20% of votes. Within the same explanatory variables, the first column is without fixed effects, the second includes only year-fixed effects, and the third includes both year- and industry-fixed effects.

Note: *p<0.1**p<0.05***p<0.01

Table 16: Robustness of 3-day CAR regression using different ownership-related explanatory variables

	Dependent variable:								
	(1) Transaction value ratio	(2) Transaction value ratio	(3) Transaction value ratio	(4) Transaction value ratio	(5) Transaction value ratio	(6) Transaction value ratio	(7) Transaction value ratio	(8) Transaction value ratio	(9) Transaction value ratio
Wedge	-0.265***	-0.266***	-0.223***	-0.071	-0.039	-0.044	-0.087	-0.065	-0.083
	(0.076)	(0.078)	(0.081)	(0.095)	(0.095)	(0.098)	(0.077)	(0.079)	(0.081)
Acquirer characteristics									
Market-to-book	0.010***	0.009***	0.010***	-0.007	-0.008	-0.005	0.003	-0.00003	-0.0002
	(0.003)	(0.003)	(0.004)	(0.007)	(0.007)	(0.008)	(0.006)	(0.006)	(0.006)
Leverage	-0.0001***	-0.0001***	-0.0001***	-0.0002***	-0.0002***	-0.0003***	-0.0001**	-0.0002**	-0.0002***
	(0.00004)	(0.00004)	(0.00005)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Age	-0.001	-0.001	-0.0001	-0.001	-0.001	-0.001	-0.0002	-0.0002	0.0002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.0005)	(0.001)	(0.001)
Deal characteristics									
Swedish target	0.021	0.020	0.028	0.034	0.037	0.032	0.087***	0.088***	0.084***
	(0.022)	(0.022)	(0.023)	(0.028)	(0.029)	(0.031)	(0.022)	(0.022)	(0.023)
All cash	0.041	0.041	0.035	0.035	0.021	0.031	0.058**	0.054**	0.060**
	(0.027)	(0.028)	(0.027)	(0.031)	(0.032)	(0.033)	(0.024)	(0.025)	(0.025)
Non-diversifying acquisition	-0.038*	-0.040*	-0.024	-0.088***	-0.077***	-0.063**	-0.050**	-0.039*	-0.015
	(0.021)	(0.021)	(0.021)	(0.027)	(0.027)	(0.028)	(0.020)	(0.020)	(0.021)
Swedish target * all cash	-0.123***	-0.128***	-0.118***	-0.082*	-0.078	-0.071	-0.156***	-0.162***	-0.164***
	(0.042)	(0.043)	(0.041)	(0.048)	(0.049)	(0.049)	(0.040)	(0.041)	(0.041)
Constant	0.623***	0.624***	0.672***	0.668***	0.691***	0.726***	0.577***	0.581***	0.629***
	(0.021)	(0.035)	(0.086)	(0.035)	(0.047)	(0.078)	(0.028)	(0.046)	(0.085)
#of deals	393	393	393	272	272	272	354	354	354
#of distinct acquirers	156	156	156	114	114	114	101	101	101
Year-fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Industry-fixed effects	No	No	Yes	No	No	Yes	No	No	Yes

This table shows the OLS regression estimates of the log(Transaction value)/log(Total assets) on the wedge in three different samples. Columns (1)–(3) report estimates in a pre-financial crisis sample up to 2008, columns (4)–(6) indicate estimates in a post financial crisis sample after 2008, and columns (7)–(9) present estimates for a dual-class sample. Within the same sample, the first column is without fixed effects, the second includes only year-fixed effects, and the third includes both year- and industry-fixed effects.

Note: *p<0.1 **p<0.05 ***p<0.01

Table 17: Robustness of transaction value in pre-crisis, post-crisis and dual-class samples

	Dependent variable:								
	(1) CAR[-1; +1]	(2) CAR[-1; +1]	(3) CAR[-1; +1]	(4) CAR[-1; +1]	(5) CAR[-1; +1]	(6) CAR[-1; +1]	(7) CAR[-1; +1]	(8) CAR[-1; +1]	(9) CAR[-1; +1]
Wedge	-0.009	-0.011	-0.002	0.031	0.035	0.032	0.001	0.002	0.007
	(0.028)	(0.028)	(0.029)	(0.026)	(0.026)	(0.027)	(0.026)	(0.027)	(0.027)
Acquirer characteristics									
Log (Total assets)	-0.009***	-0.008***	-0.005***	-0.006***	-0.005***	-0.006**	-0.008***	-0.007***	-0.005**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Market-to-book	-0.005***	-0.005***	-0.005***	0.0004	-0.00005	-0.001	-0.004*	-0.004**	-0.004**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Leverage	0.00004**	0.00003*	0.00003*	0.00004*	0.00005**	0.0001**	0.00002	0.00002	0.00002
	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00002)	(0.00003)	(0.00002)	(0.00002)	(0.00002)
Age	-0.0001	-0.0002	-0.0003	-0.0002	-0.0003	-0.0002	-0.0002	-0.0002	-0.0003
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Deal characteristics									
Relative deal size	0.002**	0.002***	0.002**	0.005***	0.005***	0.005***	0.003	0.005	0.004
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.007)	(0.007)	(0.007)
Swedish target	-0.017**	-0.016**	-0.012	-0.013*	-0.015*	-0.014	0.001	0.0001	-0.00003
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.008)
All cash	-0.012	-0.014	-0.015	0.005	0.001	0.001	-0.003	-0.008	-0.009
	(0.010)	(0.010)	(0.009)	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)	(0.008)
Non-diversifying acquisition	-0.012	-0.012	-0.013*	-0.012	-0.014*	-0.014*	-0.018***	-0.018***	-0.018**
	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.008)	(0.006)	(0.007)	(0.007)
Swedish target * all cash	-0.004	-0.006	-0.006	-0.003	0.003	-0.0003	-0.022	-0.018	-0.020
	(0.015)	(0.015)	(0.015)	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)
Constant	0.129***	0.117***	0.118***	0.065***	0.045**	0.069**	0.104***	0.083***	0.104***
	(0.018)	(0.021)	(0.035)	(0.018)	(0.020)	(0.028)	(0.018)	(0.024)	(0.034)
#of deals	393	393	393	272	272	272	354	354	354
#of distinct acquirers	156	156	156	114	114	114	101	101	101
Year-fixed effects	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Industry-fixed effects	No	No	Yes	No	No	Yes	No	No	Yes

This table shows the OLS egression estimates of the CAR (3-day event window based on market model) on the wedge in three different samples. Columns (1)–(3) report estimates in a pre-financial crisis sample up to 2008, columns (4)–(6) indicate estimates in a post financial crisis sample after 2008, and columns (7)–(9) present estimates for a dual-class sample. Within the same sample, the first column is without fixed effects, the second includes only year-fixed effects, and the third includes both year- and industry-fixed effects.

Note: *p<0.1 **p<0.05 ***p<0.01

Table 18: Robustness of CAR in pre-crisis, post-crisis and dual-class samples

References

Adams, R., and Ferreira, D. 2008. "One Share-One Vote: The Empirical Evidence." *Review of Finance* 12: 51–91.

Amoako-Adu, B., Baulkaran, V., and Smith, B.F. 2011. "Executive Compensation in Firms with Concentrated Control: The Impact of Dual Class Structure and Family Management." *Journal of Corporate Finance* 17 (5): 1580–1594.

Andrade, G., Mitchell, M., and Stafford, E. 2001. "New Evidence and Perspectives on Mergers." *Journal of Economic Perspectives* 15 (2): 103–120.

Bach, L. 2016. "The Causal (Non-)Effect of Dynastic Control on Firm Performance (October 13, 2016)." *Swedish House of Finance Research Paper* No. 16– 13. Paris December 2016 Finance Meeting EUROFIDAI - AFFI. Retrieved from (2017-04-20): https://ssrn.com/abstract=2660464

Bebchuk, L., Kraakman, R., and Triantis, G. 2000. "Stock Pyramids, Cross-Ownership and Dual Class Equity: The Mechanisms of Agency Costs of Separating Control from Cash-Flow Rights." *Concentrated Corporate Ownership,* (R. Morck, ed.): 445–460.

Bebchuk, L., and Kastiel, K. 2017. "The Untenable Case for Perpetual Dual-Class Stock." Harvard Law School John M. Olin Center Discussion Paper No. 905; Harvard Law School Program on Corporate Governance Discussion Paper 2017-6. Retrieved from (2017-05-09): https://ssrn.com/abstract=2954630

Bennedsen, D., and Nielsen, K.M. 2010. "Incentive and entrenchment effects in European ownership." *Journal of Banking and Finance* 34 (9): 2212–229.

Berk, J.B., and DeMarzo, P.M. 2014. *Corporate finance* (Third edition, Global ed.). Boston, MA. London: Pearson.

Braggion, F., and Giannetti, M. 2013. "Public Debate and Stock Prices: Evidence from the Voting Premium." *CEPR Discussion Paper* No. DP9619. Retrieved from (2017-04-20): https://ssrn.com/abstract=2319965

Braggion, F., and Giannetti, M. 2017. "Changing Corporate Governance Norms: Evidence from Dual Class Shares in the U.K." *ECGI - Finance Working Paper* No. 375. Retrieved from (2017-04-20): https://ssrn.com/abstract=2138949

Burkart, M., and Lee, S. 2008. "One Share-One Vote: The Theory." *Review of Finance* 12: 1–49.

Carlsson, R.H. 2007. "Swedish Corporate Governance and Value Creation: owners still in the driver's seat." *Corporate Governance: An International Review* 15(6): 1038–1055.

Claessens, S., Djankov, S., Fan, J.P.H., and Lang, L.H.P. 2002. "Disentangling the Incentive and Entrenchment Effects of Large Shareholdings." *Journal of Finance* 62 (6): 2741–2771.

Cronqvist, H., and Nilsson, M. 2003. "Agency Cost of Controlling Minority Shareholders." *Journal of Financial and Quantitative Analysis* 38: 695–719.

Demsetz, H., and Lehn, H. 1985. "The Structure of Corporate Ownership: Causes and Consequences." *Journal of Political Economy* 93 (6): 1155–1177.

Dyck, A., and Zingales, L. 2004. "Private Benefits of Control: An International Comparison." *Journal of Finance* 59 (2): 537–600.

Ehrhardt, O., and Nowak, E. 2001. "Private Benefits and Minority Shareholder Expropriation: Empirical Evidence from IPOs of German Family-Owned Firms." *CFS Working Paper* 10.

Faccio, M., and Lang, L. 2002. "The Ultimate Ownership of Western European Corporations." *Journal of Financial Economics* 65: 365–395.

Faccio, M., and Masulis, R.W. 2005. "The Choice of Payment Method in European Mergers and Acquisitions." *Journal of Finance* 60: 1345–1388.

Financial Times (2007). "EU scraps plan for 'one share, one vote' reform". By Andrew Bounds and Kate Burgess. Retrieved (2017/04/24) from: http://www.ft.com/cms/s/0/848a63c0-7213-11dc-8960-0000779fd2ac.html?ft_site=falcon&desktop=true#axzz4f9AeQ9Yj

Giannetti, M., Laeven, L. 2009. "Pension Reform, Ownership Structure and Corporate Governance: Evidence from a Natural Experiment." *The Review of Financial Studies* 22(10): 4091–4127.

Gompers, P.A., Ishii, J., and Metrick, A. 2010. "Extreme Governance: An Analysis of Dual-Class Firms in the United States." *Review of Financial Studies* 23 (3): 1051–1088.

Harford, J. 2005. "What Drives Merger Waves?" *Journal of Financial Economics* 77: 529–560.

Hauser, S., and Lauterbach, B. 2004. "The Value of Voting Rights to Majority Shareholders: Evidence from Dual Class Stock Unifications." *Review of Financial Studies* 17: 1167–1184.

Hogfeldt, P. 2005. "The History and Politics of Corporate Ownership in Sweden." *In A History of Corporate Governance around the World: Family Business Groups to Professional Manager*: 517–580. Chicago, IL: University of Chicago Press

Holmén, M., and Knopf, J.D. 2004. "Minority Shareholder Protections and the Private Benefits of Control for Swedish Mergers." *Journal of Financial and Quantitative Analysis* 39 (1): 167–191.

Holmén, M. 2011. “Foreign Investors and Dual Class Shares.” *Paper presented at the Nordic Corporate Governance Forum*

Institutional Shareholder Services. “Report on the Proportionality Principle in the European Union”. 2007. *External Study Commissioned by the European Commission.* Retrieved from (2017-04-24):
http://ec.europa.eu/internal_market/company/docs/shareholders/study/final_report_en.pdf

Jensen, M.C., and Meckling, W.H. 1976. “Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure.” *Journal of Financial Economics* 3(4): 305–360.

Jensen, M.C. 1986. “Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers.” *American Economic Review* 76: 323–329.

Jordan, B. D., Kim, S., and Liu, M. H. 2016. “Growth opportunities, short-term market pressure, and dual-class share structure.” *Journal of Corporate Finance* 41: 304–328.

King, M.R., and Santor E. 2008. “Family values: Ownership structure, performance and capital structure of Canadian firms.” *Journal of Banking and Finance* 32 (11): 2423–2432.

La Porta, R., Lopez-De-Silanes, F., and Shleifer A. 1999. “Corporate Ownership Around the World.” *Journal of Finance* 54 (2): 471–517.

Lauterbach, B., and Pajuste, A. 2015. “The Long-term Valuation Effects of Voluntary Dual Class Share Unifications.” *Journal of Corporate Finance* 31: 171–185.

Lauterbach, B., and Pajuste, A. 2016. “The Media and Firm Reputation Roles in Corporate Governance Improvements: Lessons from European Dual Class Share Unifications. *Corporate Governance: An International Review* 25: 4–19.

Masulis, R.W., Wang, C., and Xie, F. 2009. “Agency Problems at Dual-Class Companies.” *Journal of Finance* 64 (4): 1697–1727.

Masulis, R.W., Kien Pham, P., and Zein, J. 2011. “Family Business Groups around the World: Financing Advantages, Control Motivations and Organizational Choices.” *Review of Financial Studies 24:* 3556–3601.

Maury, B., and Pajuste, A. 2011. “Private Benefits of Control and Dual-Class Share Unifications.” *Managerial and Decision Economics* 32 (6): 355–369.

Moeller, S.B., Schlingemann, F.P., and Schulz, R.M. 2004. “Firm Size and the Gains from Acquisitions.” *Jounal of Financial Economics* 73: 201–228.

Molin, J. 2009. “How has the Riksbank handled the financial crisis?” Retrieved from (2017-04-

26): http://www.riksbank.se/Upload/Dokument/rb_090911_eng.pdf

Nenova, T. 2003. “The Value of Corporate Voting Rights and Control: A Cross-Country Analysis.” *Journal of Financial Economics* 68: 325–351.

Officer, M.S. 2007. “The price of corporate liquidity: Acquisition discounts for unlisted targets.” *Journal of Financial Economics* 83: 571–598.

Rhodes-Kropf, M., and Viswanathan, S. 2004. “Market Valuation and Merger Waves.” *The Journal of Finance* 59 (6): 2685–2718.

Shleifer, A., and Vishny, R.W. 2003. “Stock Market Driven Acquisitions.” *Journal of Financial Economics* 70 (3): 295–311.

Sraer, D., and Thesmar, D. 2007. “Performance and Behavior of Family Firms: Evidence from the French Stock Market.” *Journal of the European Economic Association* 5 (4): 709–751.

Stulz, R.M. 1990. “Managerial discretion and optimal financing policies.” *Journal of Financial Economics* 26(1)*:* 3–27.

Sundqvist, S.-I., and Sundin, A.-M. *Owners and Power in Sweden’s Listed Companies*. Stockholm, Sweden: Modular Finance (2001–2015).

Swedish Companies Act. 2005. Retrieved from: https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/aktiebolagslag-2005551_sfs-2005-551

Zingales, L. 1994. “The Value of the Voting Right: A Study of the Milan Stock Exchange Experience.” *Review of Financial Studies* 7: 125–148.