The Market Value of Corporate Votes Based on Option Prices

Evidence from Central and Southern Europe

Laura Fruhmann[†] Malte Jonas[‡]

Master's Thesis
Department of Finance
Stockholm School of Economics

May 2017

Abstract

We investigate the value of the right to vote (voting premium) by means of an option-based methodology in Central and Southern Europe on the basis of observations from Germany, Switzerland, the United Kingdom, Italy, France and Spain between 2006 and 2008. We find the mean annualized voting premium on an aggregate country basis to be 1.04%, with the highest and lowest mean voting premiums observed in Italy and Switzerland, respectively and, moreover, conclude that the voting premiums found in Southern European countries exceed those found in the Central European ones. Furthermore, we analyze the time-series variation of the value of the vote around shareholder meetings and, contrary to theory, find no statistical evidence on an increase of the voting premium prior to these meetings in all countries except for France. Lastly, we control for determinants commonly linked to the voting premium and find a significant impact of private benefits of control, leverage, liquidity and firm performance on the value of the vote.

Keywords: Voting Premium, Control Rights, Private Benefits of Control, Corporate Governance, Shareholder Meetings

JEL Classifications: G30, G32, G34

Supervisor: Dong Yan[*], Assistant Professor, Department of Finance

---

[†] 40930@student.hhs.se
[‡] 40958@student.hhs.se

[*] We would like to express our sincere gratitude for the continuous support and valuable feedback we received during the process of writing this thesis.

Table of Contents

1 Introduction 1

2 Related Literature 2
2.1 Traditional Methods of Measuring the Voting Premium 3
2.2 Determinants of the Voting Premium 3
2.3 Geographic Differences of Voting Premiums 6

3 Empirical Approach 9
3.1 Rearranging the Put-Call-Parity 9
3.2 Inputs for the Calculation of the Synthetic Stock 10
3.3 Exclusion Criteria and Matching of Put and Call Options 12
3.4 The Value of the Vote in the Next T Days 13
3.5 Empirical Data 13

4 Hypotheses Development 15
4.1 Hypotheses related to the Value of the Vote in the Next T Days 15
4.2 Hypothesis Related to the Value of the Vote around Shareholder Meetings 17
4.3 Hypotheses Related to the Determinants of the Voting Premium 20

5 Empirical Results 24
5.1 The Value of the Vote in the Next T Days 24
5.2 Time-Series Analysis of the Voting Premium 30
5.3 Determinants of the Voting Premium 31

6 Robustness of the Results 35
6.1 The Value of the Vote in the Next T Days 36
6.2 Time-Series Analysis of the Voting Premium around Shareholder Meetings 36
6.3 Determinants of the Voting Premium 38

7 Conclusion 41

References 44

Appendix 48

List of Tables

Table 1 Descriptive Statistics of the Dataset 14

Table 2 Shareholder Meetings Featured in the Empirical Analysis per Country 20

Table 3 Voting Premiums across Three and Nine Bins on an Aggregate Level 25

Table 4 t-Statistics and corresponding p-values for Hypothesis 1 25

Table 5 Regression Analysis Related to Hypotheses 2 and 3 - Aggregate Basis 27

Table 6 Voting Premiums on an Individual Country Basis 28

Table 7 t-Statistics and Corresponding p-values for Hypothesis 1 (per country) 29

Table 8 Regression Analysis of the Voting Premium around Shareholder Meetings 31

Table 9 Regression Analysis Related to the Voting Premium Determinants 32

Table of Figures

Figure 1 The Value of the Vote across Nine Maturity Bins 26

Figure 2 Time-Series Variation of the Voting Premium around Shareholder Meetings 30

1 Introduction

Measuring the value of having the right to vote, i.e. the voting premium[3] (or discount), in a corporation has been a topic of interest in the corporate finance and governance literature for decades, with first studies on voting premiums being conducted in the 1980s. The voting premium describes the value that is assigned to the right to vote additional to the price of a plain share, which does not include such a right (Lease, McConnell and Mikkelson, 1984). Previous studies have been conducted on a single-country as well as on a cross-country basis, with research on voting premiums being dominated by two methods. The first method analyzes the price differential of various classes of shares with different voting rights, while the second one assesses the premium paid in block sales (please refer to section 2.1 for further details on these methods). In light of these two dominant methods, Kalay, Karakas and Pant (2014), present an alternative approach of measuring the voting premiums, using a rearrangement of the put-call-parity (refer to section 3 for the theoretical and technical details of this approach).

Kalay, Karakas and Pant (2014) apply their option-based methodology to US equities only. Since, to our knowledge, this methodology has so far not been tested in a European setting or market, the objective of this paper is to measure voting premiums using the methodology by Kalay, Karakas and Pant (2014) in certain European countries. In particular, our empirical analysis focuses on equities from Germany, France, Italy, Spain, Switzerland and the United Kingdom between 2006 and 2008. Since one of the aims of this study is to analyze differences in the voting premium across different European areas, we split our dataset into a Central European area (covering Germany, Switzerland and the United Kingdom) and a Southern European one (covering France, Italy and Spain). This paper, hence, constitutes a valuable extension to the existing corporate governance literature on voting premiums firstly in geographic terms. Secondly, our paper is value-adding since it broadens the voting premium evidence from certain European markets and may thereby also allow for comparison in future research. For an outline of the rationale behind the inclusion of these countries and years in the dataset, refer to section 3.5.1. Generally, however, it can be noted that the choice of countries and years is highly dependent on the liquidity of the derivative markets in the respective countries and time periods as well as on the data availability in the respective database. With the European markets showing a substantially lower liquidity than their US counterparts, applying an option-based approach in a European setting is, thus, more limited in scope.

Furthermore, voting premium related literature (see for example Gantenbein, Kind and Poltera, 2016) notes that the value of the vote can be expected to increase prior to situations in which holding the right to vote is expected to be meaningful. Examples of such situations are, for instance, periods of increased hedge fund activism or merger and acquisition activity as well as voting events (i.e. shareholder meetings). We include the latter in our empirical analysis by examining the time-series variation of the value of the vote based on option prices around shareholder meetings.

[3] In this paper the expressions "vote" and "right to vote" as well as "voting premium" and "value of the (right to) vote (in the next T days)" are applied interchangeably.

Moreover, Downs (1957) explains the Paradox of Voting (Downs paradox) as the irrationality of exercising one's right to vote if there is a high number of voters and the right to vote comes at a cost. In this case, the vote is expected to only have a miniscule impact on the outcome, thus the reason one assigns value to the right to vote does not lie in the direct payoff of the vote but rather in other expected benefits. Research related to the value of a vote has identified some of these benefits as well as other determinants which take an influential role in the size of the voting premium (see section 2.2). Accordingly, we also include an analysis of these voting premium determinants in our study. Investigating the impact and effect of this specific set of determinants constitutes another important addition to existing literature.

We find that the mean value of the vote based on option prices on an aggregate country basis amounts to 0.10% in the next T days until maturity and 1.04% on an annualized basis. Our results, in line with theory, show that the value of the vote in the next T days is an increasing function of T. We obtain statistical evidence in favor of previous voting premium research outlining that the value of the vote can be expected to be higher in countries that have comparably worse minority shareholder protection. Contradicting expectations, we do not find a significant increase in the value of the vote prior to shareholder meetings. In line with previous research, we find no conclusive evidence regarding the effect of firm size on the voting premium. While, contrary to previous findings, we find the value of the vote to be negatively related to our measures of private benefits of control, we find evidence supporting previous findings regarding the negative relation between the voting premium and a firm's performance and leverage as well as the positive relation between the value of the vote and a firm's liquidity.

The remainder of this paper is organized as follows: Section 2 provides an overview of the related literature on voting premiums, including, among others, a presentation and assessment of traditional approaches of measuring the market value of votes as well as geographic differences of voting premiums in Europe. Section 3 describes our empirical approach including the underlying theoretical implications of the approach developed by Kalay, Karakas and Pant (2014) and our empirical data. Section 4 describes the development of our testable hypotheses. Section 5 presents our empirical results on an aggregate country basis. Section 6 outlines the robustness of these results across the Central and Southern European subsamples of our dataset. Section 7 concludes, critically evaluates our study and furthermore provides suggestions for future research.

2 Related Literature

The main reference and source for the model used in this paper is the study by Kalay, Karakas and Pant (2014) which introduced the approach of measuring voting premiums based on options. The approach entails creating a synthetic stock through a rearrangement of the put-call-parity by means of buying a call and selling a put option with the same strike price and time to maturity as well as investing the present value of the strike price in a risk-free security. The resulting synthetic stock has the same cash flow rights as the normal stock, does, however, not include any voting rights. Hence, the resulting difference in value of the two securities represents the voting premium. While we will outline the approach in greater detail in section 3, we will initially review the traditional methods used for the measurement of voting premiums, the factors that determine the size of the voting premium, as well as evidence on voting premiums found for the geographic areas we study in this paper.

2.1 Traditional Methods of Measuring the Voting Premium

Prior to Kalay, Karakas and Pant (2014) research on the value of a vote was commonly conducted based on two methods. The first common approach compares the prices charged for different classes of stock. While the different classes of stock may or may not share the same cash flow rights, they vary in their voting rights. Low-voting or non-voting share classes tend to trade at a discount compared to shares with an inherent voting right. Accordingly, by computing the price differential of the stock classes the value of the vote can be derived after, potentially, normalizing the number of votes per share entailed both in an inferior and a superior voting share class (Zingales, 1995).

The research conducted by means of the dual-share-class method almost consistently finds that the difference between the prices of superior and inferior voting right shares is positive, implying a positive value of the vote, and hence a voting premium rather than a discount. However, the approach has at the same time yielded substantial variations in voting premiums across different countries and years; for instance, while in the United States Lease, McConnell and Mikkelson (1983) found a voting premium of only 2%, Zingales (1994) found a voting premium of 81.5% in Italy (refer to Appendix A.I for an overview of voting premiums found in different countries).

The second traditional method of measuring voting premiums is based on private block sales in which a controlling stake in a company is transferred. In particular, using this method the price per share at which a controlling block has been transferred is compared to the market price per share immediately after the block sale. Again, the differential between these two prices constitutes the value of the the right vote, i.e. the voting premium or discount (see, for example, Nenova (2003)).

Two examples of studies conducted based on the latter method are Nenova (2003) and Dyck and Zingales (2004). Both of these studies use the method in a cross-country setting. Similar to the findings of the dual-share-class approach, large variations with regard to the size of voting premiums across different countries can be observed in these studies (refer to Appendix A.I).

The two previously outlined methods for measuring the voting premium entail certain drawbacks that the option-based methodology is not subject to. Please refer to Appendix A.II outlining these drawbacks and the corresponding advantages related to the option-based approach. In section 2.3 we will further outline the voting premiums that were found using the two traditional methods in the countries we analyze in this study. Next, we will discuss the determinants of the value of a vote.

2.2 Determinants of the Voting Premium

Existing literature has identified various factors, which influence the size of the voting premium, a selection of which will be outlined in the following section. We, however, only present those voting premium determinants that we also account for in the empirical analysis of this paper. Additional voting premium determinants, such as ownership structure and M&A activity, are outlined in Appendix A.III.

Private Benefits of Control

The most commonly described determinant for the size of the voting premium found in existing literature are private benefits of control, which describe an individual's ability to economically benefit from exercising his/her controlling power (Harris and Raviv, 1991). According to Barclay and Holderness (1989) and Nicodano (1998), the more private benefits of control can be extracted from a firm and, thus, the higher the returns of control are, the more valuable a voting right is to its owner. Therefore, both the accessibility as well as the magnitude of the private benefits of control have a positive influence on the voting premium. Private benefits of control are generally higher in countries with lower corporate governance standards, low levels of investor protection, less developed capital markets and more concentrated ownership. (Nenova, 2003) This, moreover, is reflected in the agency theory by Jensen and Meckling (1976), as control and ownership are separated and a more sophisticated corporate governance helps align the interests of company insiders and outsiders and effectively limits insiders from extracting value from the firm. Furthermore, Rydqvist (1987) finds that the existence of competition in the market is expected to decrease the size of private benefits and the resulting voting premiums.

Companies that have multiple share classes listed usually differ both in their voting as well as their dividend rights (Francis, Schipper and Vincent, 2005). As suggested by Jensen (1986), dividend payments are supposed to compensate minority shareholders and protect them from the extraction of private benefits of insiders. Cox and Roden (2002) show that in many cases non-voting share classes receive higher or at least equal dividends, in order to distribute value in a way that compensates them for a potential extraction of private benefits by the ones in control. In his analysis he finds significant evidence to conclude that firms that offer preferential dividends to low-vote share classes have a significantly lower voting premium than the mean of the sample. Zingales (1995) finds that the value of a vote is negatively influenced by the fact that a firm pays preferential dividends to lower voting share classes, however, the magnitude of this effect is not as pronounced as in Cox and Roden (2002).

Leverage and Liquidity

Albuquerque and Schroth (2010) find evidence on lower private benefits and hence lower voting premiums in firms that have higher short term debt and lower liquidity. The absolute effect of higher leverage and lower cash on the voting premium have approximately the same magnitude. This confirms Jensen's (1986) free cash flow hypothesis, which states that higher free cash flows enable controlling shareholders and managers to more easily redirect investments and thus extract more private benefits. Higher future cash flow commitments to repay and service debt limit the financial flexibility and the controllable assets of a firm. Thereby, the potential for extraction of private benefits as well as the size of the voting premium are decreased (Albuquerque and Schroth, 2010). In contrast to this, Caprio and Croci (2008) find no significant impact of either leverage or liquidity.

Firm Performance and Turnaround Potential

There appears to be consensus in the voting premium related literature that voting premiums are negatively related to firm performance. Damodaran (2005) argues that the reason for a vote to have a positive value is that the holder of this vote must see a potential to run the business differently and better. Hence, the expected voting premium should be higher for poorly managed companies than for those with less obvious improvement potential. A change in management can have a significant effect on the market value of the firm. However, this increase in value is only going to be substantiated if there is a chance that the current management is going to be replaced. For this reason, the value of control rises with the likelihood that a poorly performing management team is being replaced (Damodaran, 2005).

Furthermore, Easterbrook and Fischel (1983) describe the voting premium as the price paid for the possibility of having a say in firm decisions and thereby increasing performance. Braggion and Giannetti (2013) show that the price difference in voting and non-voting stock cannot be attributed to fundamentals alone, i.e. a difference in returns to the various share classes. Moreover, they point out that in a situation in which a shareholder has the controlling stake in a company, s/he has the decisive power when it comes to important business decisions. This power is valuable especially if the shareholder has a particular interest in the company.

Cox and Roden (2002) find further evidence on an increase of the voting premium for firms with bad performance based on return on assets, return on equity and return on stock given that these metrics leave room for improvement. They further outline that the value of the voting right may increase with decreasing company performance, due to attempts of outside shareholders to increase the cash outflows of the company by influencing certain company decisions. Also, Gurun and Karakas (2016) investigate the effect of negative earnings announcements on the voting premium and, in line with the above argumentation, find a negative relation.

Feldman (2000) notes that one of the key drivers for increased shareholder activism is a preceding poor company performance. Activist hedge funds are only one type of investor actively looking for for this improvement potential. As Kalay, Karakas and Pant (2014) find, the announcement of an activist hedge fund taking a stake in a company leads to an increase of the voting premium in a 16-week time-series thereafter. This effect is even more pronounced in case of a hostile takeover.

Firm Size and Potential Overvaluations

Research has found evidence of both positive and negative relations between firm size and the voting premium. The study by Albuquerque and Schroth (2010) indicates that the effect of size of the firm on its voting premium may be inconclusive. While the potentially extractable private benefits may be higher than in smaller firms, big firms are in most cases exposed to increased public scrutiny through authorities. However, the study concludes that the increased cost of monitoring is a stronger force than the size of the extractable private benefits, generally resulting in a negative relationship between voting premiums and firm size. Kalay, Karakas and Pant (2014) find no link between the market size of a corporation and the voting premium. Braggion and Giannetti (2013) find evidence of a positive relationship between the voting premium and the market value of a company in a UK setting.

Legal System

La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998) find that the quality of the legal system in place and the regulation on the protection of minority investors in a country are further factors influencing the voting premium. The authors note that common law in general can be expected to offer better protection for minority shareholders than civil law. While ruling under a civil law system is based on pre-existing rules, common law can account for situations without precedents by setting the legal rules required for a specific case. However, within the civil law, one has to differentiate between the French and the German civil-law systems. Our sample of countries features five civil-law countries and one common-law country, the United Kingdom. While France, Italy and Spain have a French civil-law system in place, Germany and Switzerland follow the German civil-law system. With the only measures of investor protection in place being the permission of proxy voting and the preemptive right to new share issues in the French civil law system, expectations are that the value of a vote should be relatively higher in France, Italy and Spain (La Porta, Lopez-de Silanes, Shleifer, and Vishny, 1998).

2.3 Geographic Differences of Voting Premiums

As mentioned before, previous research on the value of voting rights has found substantial differences in the magnitude of voting premiums in various geographic markets. For instance, Dyck and Zingales (2004) find voting premiums and discounts ranging from -4% in Japan to +65% in Brazil, using the block sales method.

More generally, Dyck and Zingales (2004) note that countries with high potential for the extraction of private benefits and hence voting premiums typically also show higher ownership concentrations, a relatively poor protection for minority shareholders, as well as a lower likelihood of privatizations occurring due to a lower level of development of both public offerings and capital markets. In line with the above, they state that countries with low potential for extraction of private benefits are characterized by, among others, strong accounting standards, high protection for minority shareholders and good law enforcement.

Similarly, Nenova (2003) mentions several legal factors including law enforcement and investor protection, which if low in terms of quality are likely to lead to higher control premiums. Moreover, she states that well developed capital markets, a good quality of minority investor protection, takeover regulations, corporate charter provisions, and law enforcement are factors associated with low voting premium countries.

We next present evidence from the existing literature specifically for the six countries we analyze in this paper.

2.3.1 Central European Countries

Germany

Nenova (2003) finds a moderate mean value of control-block votes in Germany amounting to approximately 9.5%. Similarly, Dyck and Zingales (2004) find a mean block premium of 10% for Germany. According to the authors, these figures would imply that Germany has a good protection of minority shareholders, law enforcement as well as takeover regulations and well developed capital markets.

Ehrhardt and Nowak (2001) find contradicting evidence to the above figures. They point out that in 1997, the only year on which the study by Nenova is based, is a year in which the voting premium in Germany has in fact been very low. Instead, they show that the voting premium in Germany is quite volatile, ranging between 11% and 36% over the period from

1992 to 1997, with a substantial voting premium decrease occurring in the second half of the decade.

To add to the evidence that the voting premium in Germany is in fact higher than the aforementioned figures by Nenova (2003) and Dyck and Zingales (2004), a study by Hoffmann-Burchardi (1999) again based on German dual-class shares between 1988 and 1997 finds the mean voting premium of the sample to be 26%, thereby giving further support to Ehrhardt and Nowak (2001).

Switzerland

Early research on voting premiums in Switzerland was conducted by Horner (1988) over a period from 1980 to 1984. In his study he compares the prices of the three existing share classes in companies in Switzerland. Horner (1988) finds that the majority of firms show a voting premium in excess of 10%, with an average of 20%. In addition, Dyck and Zingales (2004) find a substantially lower average voting premium of 6%, which is derived as a result of eight block transactions. The minimum voting premium found is as low as 1%. Nevertheless, the small sample size leads to the threat of potential selection biases and results that do not represent voting premiums across all listed Swiss companies. Nenova (2003) shows a relatively low mean voting premium of 5.44%, derived from 37 block transactions. The evidence found by both, Dyck and Zingales (2004) and Nenova (2003), speaks for a good investor protection and developed capital markets in Switzerland.

United Kingdom

Megginson (1990) was the first to investigate the effect of restricted voting shares in the United Kingdom and to compare their price to the price of superior voting shares, thereby making use of the first traditional method of measuring voting premiums. His study finds an average value of the vote of 13.3%. The voting premium in the UK is explained by the Takeover Defense/Agency Cost Hypothesis and the Optimal Insider Control Hypothesis, which describe the motive of insiders to issue non-voting shares as a measure to retain control over the company. Considering the insiders' interest in keeping control concentrated by issuing non-voting stock, it can be inferred that they value control relatively more and, thus, the voting premium in companies with such a share structure is higher (Ang and Megginson, 1989).

In line with these findings are the results found by Nenova (2003), who finds an average voting premium of 9.6% based on 27 block sale transactions. Dyck and Zingales (2004) find the low voting premium of 1% in their block transactions study based on 41 observations. These low voting premiums are interesting, as a market for hostile takeover has emerged in the UK, which would support the existence of a relatively higher voting premium (Martynova and Renneboog, 2008).

2.3.2 Southern European Countries

France

We find varying evidence on the voting premium in the existing literature for France. Muus (1998) finds a voting premium of 51% based on 25 French companies over the period from 1986 to 1996 comparing prices of stocks with different voting rights. Muus (1998) specifically points towards ownership structure and low quality of both minority shareholder protection and accounting standards in France as factors for this high figure.

In a later study, Harbula (2011), using both an assessment of price differences between stocks with different voting rights and an examination of squeeze-out and takeover transactions in a scenario analysis, finds a lower voting premium than Muus (1998) of approximately 40% and between 20 and 25%, for the two methods respectively. Harbula (2011) attributes the decline of the voting premium in France to improvements in the French corporate governance system which were implemented between the study by Muus and his own. However, he names ownership structure in France an explanatory factor for the voting premium figures, which are still above average, thereby reaffirming the argument made by Muus (1998).

Nenova (2003), using the block sales method, finds a value of control block votes of 28% for France. Having a voting premium above 25%, she classifies France as a country with high control block votes. In stark contrast to these findings, Dyck and Zingales (2004) include the country in their list of countries with low potential for private benefits and, thus, voting premiums since the private benefits they find in France are smaller than 3% of the equity value on average. Yet, this figure is based on only four observations such that the validity of this finding may be questioned.

The fact that the majority of studies have found the voting premium in France to be significantly above 20% and thereby higher than most of the figures found for other countries (refer to Appendix A.I) provides evidence for the presence of the aforementioned characteristics of high voting premium countries in France.

Italy

An earlier study by Zingales (1994), which was solely based on equities listed on the Milan stock exchange and compared the prices of different share classes, found the high voting premium of 81.5%. Furthermore, Dyck and Zingales (2004) and Nenova (2003) find a voting premium of 37.0% and 29.4%, respectively. Since the majority of studies on stocks with different voting rights conducted in various countries have found voting premiums between 10 and 20% (Zingales, 1994), all of the abovementioned figures for the Italian market can be characterized as relatively large. Zingales (1994) describes the Italian market as one having large private benefits of control, a high degree of competition for control (manifested in a high ownership concentration, i.e. few large shareholders) as well as a legal system that is ineffective in inhibiting misuse of control positions. He, furthermore, finds a strong case for a dilution of minority property rights in Italy.

Spain

For Spain, Nenova (2003) firstly points out that Spanish law prohibits a differentiation in voting rights. While it does allow for different classes of stock to exist, it must be the case that voting power is proportional to cash flows. As a result of this legal restriction, Nenova (2003) excludes Spain from her dataset entirely and thus does not provide a voting premium figure for this country. Dyck and Zingales (2004) find a rather low block premium of 4% of firm equity for Spain. The fact that differentiation in voting rights is prohibited by law in Spain could explain this low block premium.

The low block premium found by Dyck and Zingales (2004) may come as a surprise. However, this value was derived from only five block transactions over the tested period. Additionally, Paredes and Nunez-Lagos (2015) describe ownership structures in Spain as concentrated, which, according to theory, would make a higher voting premium more likely.

Also, the fact that Spain is one of the countries in our dataset which has a French civil law system in place, which, as outlined previously, generally provides worse protection for minority shareholders, would constitute additional evidence in favor of a higher expected voting premium in Spain. Hence, even though Dyck and Zingales (2004) present the only evidence, we cannot conclude that such voting premium figures are generally to be expected in Spain.

3 Empirical Approach

In the following section we present how the value of the vote based on option prices is calculated in detail as well as how we retrieve and process the empirical data used in this study.

3.1 Rearranging the Put-Call-Parity

As mentioned previously, Kalay, Karakas and Pant (2014) outline that by using derivatives and a rearrangement of the put-call parity, a synthetic stock can be created. The put-call parity (Stoll, 1969) in common terms is given by:

$$C + PV(X) = P + S \tag{1}$$

where

C = Price of a call option with strike price X and maturity T

P = Price of a put option with strike price X and maturity T

S = Stock price

$PV(X)$ = Present value of X discounted with risk-free rate r and maturity T

This can be rearranged to:

$$S = C - P + PV(X) \tag{2}$$

It follows from the above that a synthetic stock with maturity T can be created by buying a call option with strike price X and maturity T, selling a put option with the same maturity and strike price as the call and investing an amount equal to the present value of the strike price X (discounted using the risk free rate r and maturity T) in a risk-free security. In the following, we define this synthetic stock with maturity T days as $\hat{S}(T)$, which is expressed as:

$$\hat{S}(T) = C - P + PV(X) \tag{3}$$

The synthetic stock is equivalent to the actual stock, or stock class, of a company in terms of cash-flow rights. However, since an option does not entail the right to vote before it is being exercised and converted into actual company stock, this synthetic stock does not have any voting rights. Due to the existence of the right to vote in the regular stock, S, of a firm, but not in the synthetic one, $\hat{S}(T)$, the value of the right to vote in the next T days needs to be accounted for in equation (2) by adding its present value to the price of the normal share, leading to the below new expression:

$$S = C - P + PV(X) + PV\,(Vote\ in\ the\ next\ T\ days) \tag{4}$$

The synthetic stock, $\hat{S}(T)$, is not short of the right to vote on an infinite basis since upon conversion of the option into stock at maturity, the right to vote will be materialized. Hence, the value of the vote calculated with the approach by Kalay, Karakas and Pant (2014) yields the value of the vote only for the time period until maturity of the option. Following from the above argumentation as well as equations (3) and (4), the value of the right to vote in the next T days can be computed as the difference between the price of a regular stock, S, and the price of the corresponding synthetic stock, $\hat{S}(T)$. Mathematically, this can be expressed as:

$$PV\,(Vote\ in\ the\ next\ T\ days) = S - \hat{S}(T) \tag{5}$$

Provided that having the right to vote is valuable, this difference should be greater than zero and hence constitute a voting premium. It is important to highlight again that the computations of the voting premiums in the following sections present the value of the right to vote in the next T days until option maturity only. However, we will also introduce annualized figures based on the average voting premium and maturity days T. For the calculation methodology applied to annualize these figures, refer to Appendix A.IV.

Furthermore, since we derive the value of the right to vote over the course of the T days until maturity, we can expect the voting premiums resulting from this method to be smaller than the ones given by the two traditional calculation methods outlined in section 2.1. In contrast to the above, the voting premiums yielded by the traditional methods are based on an infinite time period and are, thus, not directly comparable in terms of magnitude to the ones yielded by the method applied in this paper (Kalay, Karakas and Pant, 2014).

3.2 Inputs for the Calculation of the Synthetic Stock

In addition to the traditional elements presented in the rearranged put-call-parity above, the value of the synthetic stock, $\hat{S}(T)$, given by equation (6) and adjusted for early exercise premiums and dividends following Kalay, Karakas and Pant (2014) is expressed as below:

$$\hat{S}(T) = C - EEP_{Call} - P + EEP_{Put} + PV(X) + PV(Div) \tag{6}$$

Following, we discuss all parameters contained in this calculation separately.

Put and Call Option Prices

As outlined before, to calculate the synthetic stock $\hat{S}(T)$, we require a put and a call option with both the same strike price and maturity. Subsequently, we match the respective options with regard to these two criteria. The call and put prices used for equation (6) are the mid-prices derived from the respective bid and ask prices of the options. We retrieve both the bid and ask prices of the options from the Ivy DB OptionMetrics Europe database. We additionally, only keep options in our dataset for which meaningful bid and ask prices are reported.

Present Value of Dividends and Strike Price and Interest Rate Interpolation

PV(Div) in equation (6) represents the value of any dividend that is paid before the maturity of the option in T days, discounted using the risk-free rate r for the days until the dividend is paid. As previously mentioned, *PV(X)* represents the amount invested in a risk-free security, equal in value to the strike price discounted using the risk-free rate *r* for the *T* days until maturity of the option. We retrieve information on dividend distribution histories of the companies that are part of our dataset as well as strike prices of the options from OptionMetrics.

For the calculation of both, the present values of the dividend and the strike price, we require risk-free interest rates *r* with maturities corresponding to the days until the dividend is paid and to the maturity of the options, respectively. Therefore, we next match the respective option pair with the corresponding risk-free rate according to both the particular observation date of the option as well as the dividend payment date and the maturity of the option pair, respectively. In particular, we interpolate the specific risk-free rate required for any observation date, maturity and dividend payment date present in our dataset using risk-free interest rates with different maturities. With the derived interest rates, we then calculate the present value of the dividend, *PV(Div)*, and the investment equal to the discounted strike price, *PV(X)*.

We retrieve interest rates with differing maturities from Thomson Reuters Datastream and apply different interest rates depending on the respective currency present in certain markets. For all Euro countries (i.e. Germany, France, Italy and Spain), we use the Euro OIS rate. For Switzerland, we use the CHF LIBOR and for the United Kingdom the LIBOR. We retrieve historical data on a daily basis between 1 January 2006 and 31 December 2008, our sample period, on a two-weeks, three-weeks, one-month and three-months basis for the Euro OIS rate, on an overnight, one-week, one-month, two-months and three-months basis for the LIBOR, and on a one-week, one-month, two-months, and three-months basis for the CHF LIBOR. The maximum maturity we retrieve for interest rates across all countries is three months (i.e. 90 days), which is in line with the maximum maturity days featured in the calculation of the voting premium based on Kalay, Karakas and Pant (2014), for further details on this requirement please refer to section 3.3. The differing maturities retrieved for the three currencies are attributable to data availability in Thomson Reuters Datastream.

Early Exercise Premiums (EEPs)

Having the right to exercise an option before its maturity, which is entailed in American but not European options creates additional value for the holder of an American option. This additional value needs to be accounted for in the construction of the synthetic stock, $\hat{S}(T)$, by means of early exercise premiums for put and call options, respectively. These early exercise premiums are denoted EEP_{Call} and EEP_{Put} in equation (6).

The advantage of exercising an option early is twofold: firstly, the holder of an American option on a dividend paying underlying stock will prefer to exercise this option early, if s/he thereby becomes eligible for a dividend that is declared prior to the regular expiration of the option. We can quantify and thereby account for these dividend-related parts of the early exercise premiums EEP_{Call} and EEP_{Put}, denoted EEP_{Call}^{Div} and EEP_{Put}^{Div}, respectively. In particular, these parameters can be calculated without difficulty for each option using the binomial model by Cox, Ross and Rubinstein (1979). While we will not outline the derivation and calculation of the dividend-related early exercise premiums for put and call options here, please refer to Appendix A.V for a more detailed outline of this calculation (Kalay, Karakas and Pant, 2014).

The value of the right to vote in a firm, which can be materialized through exercising an option early, constitutes another part of the early exercise premium. That is, if it is true that voting events increase the value of the vote and thereby the stock price, the holder of an option may benefit from the resulting price change by exercising his/her option early. Said price differential constitutes additional value to the holder of an American option. This part of the early exercise premiums, denoted as EEP_{Call}^{Vote} and EEP_{Put}^{Vote}, can, in contrast to the dividend-related part of the early exercise premiums, not easily be quantified. As a result of not being able to quantify the parts of the early exercise premiums related to votes, one experiences biases regarding the estimations of the price of the synthetic stock. In particular, referring to equation (6), Kalay, Karakas and Pant (2014) find that not quantifying the EEP_{Call}^{Vote} will underestimate the EEP_{Call}, and thus lead to an overestimation of the value of the synthetic stock. This will in turn, referring to equation (5), lead to an underestimation of the value of the vote in the next T days. Similarly, and again referring to equation (6), not quantifying the EEP_{Put}^{Vote} will overestimate the EEP_{Put}, and thus lead to an overestimation of the value of the synthetic stock, and thereby, an underestimation of the value of the vote in the next T days.

While unable to exactly quantify the EEP_{Call}^{Vote} and EEP_{Put}^{Vote}, in attempting to counterfeit the resulting biases, Kalay, Karakas and Pant (2014) find that these can be minimized in case one uses options that are close to the money. They find specific levels of moneyness[4] for which the downward biases of the value of the vote caused by a lower EEP_{Call} and a higher EEP_{Put} eliminate each other partially. Based on this finding, Kalay, Karakas and Pant (2014) only include options with moneyness between -0.1 and +0.1 in their dataset. Accordingly, we also apply this exclusion criterion in order to minimize these biases. While by means of these measures, the biases are minimized, we would like to emphasize that they still exist, which may generally be seen as a limitation of the derivative-based voting premium calculation[5].

Summing up the above discussion on early exercise premiums, while we can only account for the early exercise premium part that is attributable to dividends, we attempt to minimize the downward biases resulting from the part of the early exercise premium that is attributable to voting rights by only including options with low moneyness following Kalay, Karakas and Pant (2014).

3.3 Exclusion Criteria and Matching of Put and Call Options

As mentioned previously, we obtain option prices from the IvyDB OptionMetrics database. OptionMetrics for these options provides observation dates, maturity dates, exercise styles (i.e. American or European), implied volatilities and option volumes (OptionMetrics, 2015).

In addition to the exclusions we make from our dataset, as outlined in section 3.2, we only keep options for which an option volume greater than zero and a meaningful implied volatility is reported. Furthermore, we limit our empirical analysis to maturities of up to 90 days. The advantage entailed in setting an upper limit to the maturity days investigated is that stale

[4] Neftci (2008) defines moneyness as the relation between the exercise price of an option and the price of the corresponding stock at a certain time, which can be characterized as either in-the-money, at-the-money, or out-of-money. Following Kalay, Karakas and Pant (2014) we calculate moneyness as ln(S/X).
[5] For further details on voting-related early exercise premiums and how one accounts for them, please see Kalay, Karakas and Pant (2014).

option premiums can be avoided and the differing values of maturity days T can be controlled for to a certain extent. We further exclude all companies for which no pair of options can be detected in any of the three years from 2006 to 2008 from our dataset; however, if a firm has at least one option pair for at least one of the three years, it is included in our dataset. The above exclusion criteria are implemented mostly following the methodology applied by Kalay, Karakas and Pant (2014).

3.4 The Value of the Vote in the Next T Days

Once all input parameters for the synthetic stock over the next T days are determined, we calculate $\hat{S}(T)$ using equation (6) from above. The normalized voting premium for the next T days is determined by dividing the price difference between the regular stock and the synthetic one (i.e. $S - \hat{S}(T)$) by the regular stock price S which we retrieve from Thomson Reuters Datastream:

$$Voting\ Premium_{normalized}(T) = \frac{(S - \hat{S}(T))}{S} \tag{7}$$

Once the normalized value of the vote in the next T days has been computed, we calculate the minimum, mean, median and maximum normalized voting premium in the next T days on an aggregate, area, and individual country basis. For the mean voting premium in the next T days, we, furthermore, include the lower and upper bounds of the 95% confidence interval. Furthermore, and as mentioned previously, we calculate an annualized value of the vote based on the value of the vote in the next T days across our dataset on an aggregate, area and individual country basis.

3.5 Empirical Data

To complete the section on our empirical approach, we outline the empirical data we apply in this study. We firstly describe the rationale regarding both the time period applied and the markets covered, before presenting descriptive statistics as well as a critical evaluation of the dataset. The dataset we outline in the following is reduced further for specific analyses. The respective dataset reductions are discussed in sections 4.2.3 and 4.3.3.

3.5.1 Dataset

A major constraint of using options to measure voting premiums is the required liquidity of derivative markets in the respective analyzed country. Therefore, in finding evidence on voting premiums in European markets through the use of options, we are restricted to those countries with highly liquid derivative markets.

We cover equities from Germany, Switzerland and the United Kingdom (which we define as the Central European area) as well as France, Italy and Spain (which we define as the Southern European area) in our dataset as these markets all fulfill the aforementioned option data availability criterion to a sufficient extent. In particular, we use the Eurex Exchange (EUREX) as a reference for the equities that become part of our dataset. The EUREX offers equities from a wide range of European countries and is the largest exchange for options and futures in Europe. (Eurex, 2017) Including additional countries for both of the aforementioned areas Central and Southern Europe could have been meaningful. In particular, we considered the Netherlands and Austria (which would have been especially interesting to analyze due to its geographic and cultural proximity to the other two DACH-area countries Germany and Switzerland) for the Central European area and Portugal for the Southern European area as additional markets for our study. However, while, all of these three countries are relatively well represented on the EUREX, we found the option data available for Austria and Portugal to be limited in OptionMetrics. As a result, the validity of the resulting voting premiums for these countries would have been restricted, which led to the exclusion of these countries. The Netherlands, as a fourth country in the Central European area in our study, were not included for reasons of limited scope.

The sample period covered in our empirical analysis of the voting premium comprises the three-year time period ranging from 1 January 2006 to 31 December 2008. While one may argue that this time period is relatively short, this choice is to a high degree also contingent on the option data availability in OptionMetrics. For the European markets covered in this study, the required option data is especially dense only in these three years.

Our initial dataset hence includes all companies listed on the EUREX that have an ISIN belonging to either Germany, Switzerland, the UK, France, Italy, or Spain and that have sufficient option data available in OptionMetrics for the years 2006 to 2008.

3.5.2 Descriptive Statistics of Finalized Dataset

The aforementioned data gathering and exclusion procedure leads to a final sample of 138 firms as shown in Table 1 below. Also, refer to Appendix B.I for an overview of the companies included in our sample on a per-country basis.

Table 1 Descriptive Statistics of the Dataset

Below table shows the descriptive statistics of the dataset used in this study on a per-country basis. This dataset is initially used in the analysis of the value of the vote in the next T days and is reduced according to data availability for the time-series analysis of the vote around shareholder meetings and the analysis of the effects of voting premium determinants on the value of the vote.

	France	Germany	Italy	Spain	Switzerland	United Kingdom	Total
Number of Companies	34	32	14	7	21	30	138
Number of Observations	4 020	20 682	1 407	239	3 267	2 452	32 067
Maturity Days							
Minimum	0	1	1	1	0	1	0
Average	35	36	39	47	36	40	37
Maximum	90	88	90	88	88	88	90

3.5.3 Critical Evaluation of the Dataset

It is important to highlight that our sample is significantly smaller in size than the one by Kalay, Karakas and Pant (2014), which features 4,768 companies. Referring to Table 1 above, the abovementioned small sample size is especially pronounced for Spain and Italy. Therefore, it needs to be mentioned that the validity of the calculated voting premium for these two countries may be limited given the low sample sizes for these two countries. The large sample size in the US paper by Kalay, Karakas and Pant (2014) can be attributed to the fact that they include all companies featured in the large Ivy DB OptionMetrics US database. Our comparably smaller sample is based on the significantly smaller European version of the Ivy

DB OptionMetrics database, which is furthermore still relatively young and thereby likely not as developed as its US counterpart in terms of coverage. More importantly, it can be observed that equity options are generally more common in the United States, thereby making the US derivatives market simply more liquid than European ones (Zingales and Rajan, 2003). For instance, in its current form, the EUREX, the largest exchange for options and futures in Europe only features 767 companies on which options can be exercised (Eurex, 2016).

Additionally, the three-year time period covered in our study is significantly shorter than the one adopted by Kalay, Karakas and Pant (2014). As mentioned previously, this can again be attributed to limited data availability from the Ivy DB OptionMetrics database. Especially beyond the year 2009, OptionMetrics Europe shows a very low option observation density. OptionMetrics Europe, firstly, only offers option data until the end of 2013. Secondly, even though some limited data does exist for 2009 and beyond, it in many cases lacks either price or volatility information, which as mentioned in section 3.3 constitutes an exclusion criterion for our analysis. As a result of this missing information an analysis of the voting premium for the years 2009 and onwards would have suffered from low meaningfulness and introduced biases, which led us to the decision to exclude these years from our empirical analysis.

Although evidently disadvantageous when compared to the original study by Kalay, Karakas and Pant (2014), we do not consider this smaller sample size a substantial limitation of our paper since our aim is not to directly resemble Kalay, Karakas and Pant (2014) in terms of data coverage, but rather to apply their innovative technique of computing the voting premium based on option prices in a European setting given the data availability constraints that are at hand.

4 Hypotheses Development

In the following we discuss the hypotheses that will be tested in our empirical analysis. For each hypothesis we present, we again refer to the related literature and furthermore outline the analysis methodology we apply in order to test this hypothesis.

4.1 Hypotheses related to the Value of the Vote in the Next T Days

4.1.1 Positive Values for the Right to Vote in the Next T Days

As outlined in section 3.2, constructing a synthetic stock, $\hat{S}(T)$, based on put and call options with maturity T and comparing its value to the price of a regular stock S, allows us to determine the value of a voting right over the next T days. The only difference between the two securities is the voting right entailed in the regular stock. Mathematically, this voting right in an absolute, non-normalized fashion is expressed as $S - \hat{S}(T)$. If the right to vote is generally of value to investors, we can expect the difference between the regular and the synthetic stock to be greater than zero, which is what the majority of previous voting premium related research has found (refer to Appendix A.I). (Kalay, Karakas and Pant, 2014) Following the above argumentation, we formulate:

Hypothesis 1: Provided that voting rights are valuable, the normalized value of the vote in the next T days will be greater than zero.

Testing Hypothesis 1

We investigate hypothesis 1 by analyzing the value of the vote in the next T days on both a mean and a median basis, in order to account for the effect of outlying observations). Additionally, we investigate the 95% confidence intervals and conduct an upper-tailed t-test at the 95% confidence level to investigate if the mean value of the vote is greater than zero (refer to section 3.4). Both, the confidence intervals and the t-tests, are conducted for the aggregate dataset, as well as for groups of countries and on an individual country level.

4.1.2 Higher Voting Premiums for Greater Times to Maturity

Moreover, Kalay, Karakas and and Pant (2014) note that the prices of the synthetic stock, $\hat{S}(T)$, and the regular one, S, converge as the option approaches maturity and that, hence, the value of the right to vote can be expected to be an increasing function of the time to option expiration T. In their empirical study on the US market they find support for this expectation. In line with their argumentation and findings, we hence formulate:

Hypothesis 2: The normalized value of the vote in the next T days is an increasing function of the time to maturity T.

Testing Hypothesis 2

Following Kalay, Karakas and Pant (2014), we analyze whether hypothesis 2 holds true in the European markets part of our study by categorizing all of our observed normalized voting premiums into three bins ranging from 1) 0 to 30 days until expiration, 2) 31 to 60 days until expiration, and 3) 61 to 90 days until expiration. In a similar fashion, we separately categorize the observed normalized voting premiums into nine bins ranging from 0 to 10 days until expiration, 11 to 20 days until expiration, and so forth in order to take the aforementioned analysis to a more granular level. Following the above argumentation and hypothesis, we expect observations with a longer time to maturity, which are assigned to a higher bin, to exhibit a higher value of the right to vote.

In order to investigate hypothesis 2 we, furthermore, regress the normalized value of the vote in the next T days on three bins (regression variable: "MaturityDaysRank3") and nine bins (regression variable: "MaturityDaysRank9") in two separate regression models. In both of these regressions we include firm-fixed effects in order to control for specific effects inherent to a certain firm. Hence based on these two regression models the value of the vote for firm i is given by:

$$Voting\ Premium_{normalized}(T) = \alpha + \beta_1 MaturityDaysRank3 + \beta_2 Firm_i + \varepsilon \tag{R.1}$$

$$Voting\ Premium_{normalized}(T) = \alpha + \beta_1 MaturityDaysRank9 + \beta_2 Firm_i + \varepsilon \tag{R.2}$$

4.1.3 Higher Voting Premiums in Southern European Countries of our Dataset

As pointed out in section 2.2, La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998) find that countries with a French civil law system in place can be expected to show higher voting premiums as the protection for minority investors in these countries is worse than in countries following a German civil law or a common law system. Given that the United Kingdom is a common law country and Germany and Switzerland have a German civil law system in place, while the French civil law system is applied in all three Southern European countries, minority shareholder protection should be worse in these Southern European countries. This in turn should result in a higher value of the vote in France, Spain and Italy compared to Germany, Switzerland and the United Kingdom.

Moreover, referring to section 2.3, based on the previous voting premium studies conducted in the countries we analyze in this paper we observe a tendency for the voting premium to be higher in the Southern European countries (especially France and Italy) compared to the Central European countries. This trend is reflected in both cross-country as well as individual country studies. Nenova (2003), for instance, finds the voting premium for France and Italy to be 28% and 29.4%, respectively, while it is significantly lower for Germany (9.5%), the United Kingdom (9.6%) and Switzerland (5.44%). Additionally, Zingales (1994) finds a voting premium of 81.5% for Italy, while Muus (1998) finds one amounting to 51% for France. In contrast to these studies based on Southern European countries, the study by Megginson (1990) based solely on equities from the United Kingdom, finds the voting premium to be 13.3% while Hoffmann-Burchardi (1999) finds a voting premium of 26% for Germany.

Even though there is some counterevidence in the voting premium literature (refer to section 2.2) for the above-outlined expectation that voting premiums are higher in the countries that we classify as Southern European as well, we formulate:

Hypothesis 3: The value of the vote in the next T days is higher in countries classified as Southern European relative to countries classified as Central European.

Testing Hypothesis 3

We investigate hypothesis 3 by means of the below regression model. We regress the value of the vote in the next T days on a dummy variable ("AreaDummy"), which either takes the value 0 for Southern European countries or 1 for Central European countries.

$$Voting\ Premium_{normalized}(T) = \alpha + \beta_1 AreaDummy + \varepsilon \tag{R.3}$$

In line with the above argumentation and hypothesis we expect to see a negative relation between the switch from a Southern to a Central European observation on the value of the vote. Also, see Table IX in Appendix B.III, for a summary of the variables included in regression models R.1 to R.3 and Appendix A.VI outlining the regression technique we apply.

4.2 Hypothesis Related to the Value of the Vote around Shareholder Meetings

4.2.1 An Increasing Value of the Vote Ahead of Shareholder Meetings

As is documented in the related voting premium literature, the value of the vote can be expected to increase during times of control contests or periods before one can exercise the right to vote, for instance in periods of generally high merger and acquisition or hedge fund activity (Kalay, Karakas and Pant, 2014). In this paper, we focus solely on the effect of annual and special shareholder meetings on the voting premium. We will in the following refer to these meetings as "events", which for a certain firm can occur either once or several times throughout a year (please refer to section 4.2.3 for a data description on the meetings dates). The magnitude of this rise in the voting premium prior to such voting events is dependent on the type and importance of decisions taken during the event. Relating to this, Kalay, Karakas and Pant (2014) only find a significant rise in the value of the vote for special, rather than annual, meetings, which are generally said to involve decisions of a more important nature. Based on the above we state:

Hypothesis 4: The normalized value of the vote in the next T days should increase prior to voting events.

4.2.2 Testing Hypothesis 4

We test hypothesis 4 by means of firstly a time-series analysis of the value of the vote and secondly by conducting a regression analysis.

Time-Series Analysis of the Value of the Vote around Shareholder Meetings
Following the methodology applied by Karakas, Kalay and Pant (2014), we analyze the voting premium in a time-series manner by investigating the value of the vote in the next T days for the time period covering 80 trading days before and 80 trading days after the shareholder meeting of the respective company. For each country, we document bank holidays in order to correctly account for these trading days. In a next step, we divide these 80 trading days into 16 trading weeks occurring before and after the voting event.

Following Kalay, Karakas and Pant (2014), for each of the 32 trading weeks in total (16 prior to and 16 after the voting event), we pick one voting premium observation for each company, subject to data availability. In case a company has several voting premium observations during the same week, we choose the option with the smallest moneyness, highest option volume, and lowest time to maturity. While giving preference to options with low moneyness allows for keeping the downward biases (resulting from the vote-related early exercise premiums) in the voting premium as low as possible as outlined in section 3.2, small times to maturity and high option volumes allow for an avoidance of stale option premiums and a partial control for T, which, as theory suggests, has an impact on the value of the voting premium. Including these criteria is again in line with the methodology applied by Kalay, Karakas and Pant (2014). Furthermore, we create a separate event window for each firm and each event regardless of the year the event happened provided sufficient data is available. For every event window we first find one average voting premium per company and week in the time-series analysis (subject to data availability). We then calculate an average voting premium based on all companies for each of the 32 weeks. If a company happens to have no voting premium observation in a certain week, it is excluded from the mean calculation of that respective week, however, not from the analysis as a whole.

Regression Analysis for the Value of the Vote around Shareholder Meetings
As a complimentary analysis to the above, and following Kalay, Karakas and Pant (2014), we conduct another regression analysis, in which we regress the value of the right to vote in the next T days on a dummy variable named ”WindowDummy”, which either takes the value 0 for the control window or 1 for the event window, to investigate if the value of the vote can be expected to be higher prior to voting events. The event window is chosen to occur immediately prior to the voting event of a company, a time at which the voting premium, as theory suggests,

can be expected to be higher. In particular, following Kalay, Karakas and Pant (2014), our event window comprises the 20 trading days immediately prior to the voting event of a company. The control window in turn is defined as a time of the year when the value of the right to vote can be expected to be at its normal levels. It has a length of 20 trading days as well, but takes place two quarters after the event window. Since for most of the companies covered in our dataset these voting events take place between April and June, the control windows mostly lie between October and December.

In line with Kalay, Karakas and Pant (2014), we control for the liquidity of the underlying stock and options to investigate whether the found price differential between the stock and the synthetic stock is in fact a voting premium or a manifestation of the decreased liquidity in the underlying. We run two separate regressions with two different types of metrics for option and stock liquidity. For the first regression, we create the variable "OptionVolumeRank", which we assign values from 0 to 9 according to the traded option volumes. The bin sizes are chosen in a way to allow for an equal distribution of the observations over all bins, leading to unequal bin widths (Birgé, 1987). All bins contain roughly the same number of observations, with bin 0 containing the lowest and bin 9 containing the highest option volumes observed. We apply the same approach to stock volumes and thereby create the explanatory regression variable "StockVolumeRank", ranging from 0 to 9 as well. The methodology of creating control variables is in line with Kalay, Karakas and Pant (2014). Moreover, we again include firm-fixed effects in the regression. Based on the above variables, we find that the value of the vote for firm i is given by the following regression model:

$$\begin{aligned} Voting\ Premium_{normalized}(T) = \alpha\ +\ \beta_1 StockVolumeRank\ +\ \beta_2 OptionVolumeRank \\ +\ \beta_3 WindowDummy\ +\ \beta_4 Firm_i\ \varepsilon \end{aligned} \tag{R.4}$$

For the second regression, instead of the two variables "OptionVolumeRank" and "StockVolumeRank", we take the natural logarithms of both option and stock volume in order to control for the aforementioned liquidity effects. The regression variables are named "LNOptionVolume" and "LNStockVolume", respectively. We use this additional measure in order to increase the validity of the results we find for option and stock liquidity. Introducing these two variables leads to the following adjusted regression model for the value of the vote of firm i:

$$\begin{aligned} Voting\ Premium_{normalized}(T) = \alpha\ +\ \beta_1 LNStockVolume\ +\ \beta_2 LNOptionVolume \\ +\ \beta_3 WindowDummy\ \beta_4 Firm_i\ +\ \varepsilon \end{aligned} \tag{R.5}$$

In line with the above stated hypothesis, we expect the value of the vote to be higher in the event than in the control window. Also, refer to Table IX in Appendix B.III, for a summary of the variables included in regression models R.4 to R.5 and Appendix A.VI Note on the Conducted Regression Analysesoutlining the regression technique we apply.

4.2.3 Dataset for Hypothesis 4

For both of the analyses measuring the impact of a voting event on the value of a vote, the dataset in use is reduced in comparison to the initial dataset. This is caused by the low number of observations around the voting events in Italy and Spain. Since for these two countries the number of observations would be very limited and accordingly the validity of our results would be very low, these two markets are excluded from the dataset for this analysis. Not being able to include all six countries as well as all companies and related observations in the time-series analysis of the voting premium around shareholder meetings is evidently a drawback. Yet, conducting a study of the voting premium on only a highly limited number of observations would unlikely yield a meaningful result of the time-series variation of the voting premium for a certain market, making this exclusion necessary. Observations that lie outside either the 80 trading day period prior to and after the voting event or both the 20-day control and event window of the regression analysis related to the value of the vote around shareholder meetings, are not relevant in this part of the empirical analysis. For the four countries included in this analysis we find dates corresponding to 131 annual and seven special meetings between 2006 and 2008 (see the for an overview of these meetings by country).

Table 2 Shareholder Meetings Featured in the Empirical Analysis per Country

Below table shows the number of shareholder meetings on a per-country basis split up across the two different meeting styles (annual & special).

Country	Annual	Special	Total
Germany	35	4	39
Switzerland	33	1	34
United Kingdom	24	0	24
France	39	2	41
Total	**131**	**7**	**138**

Data Sources

We use IvyDB OptionMetrics in order to retrieve information on option volumes, which we require for all of the regression analyses we conduct in order to control for option liquidity. In order to control for stock liquidity, we retrieve stock volume data from Compustat. The meeting dates of the companies included in our dataset, which we require both for the time-series analysis of the voting premium around shareholder meetings as well as the regression analysis involving the control and event window, are retrieved from the website of the corresponding company and from company files.

4.3 Hypotheses Related to the Determinants of the Voting Premium

4.3.1 Voting Premium Determinants Included in the Empirical Analysis

In addition to empirically analyze the value of the vote from a time-series perspective, we analyze the effect of a selection of the commonly identified voting premium determinants on the value of the vote which were outlined in section 2.2. This selection of variables is a cumulative of several studies investigating the voting premium. The different control variables presented in the following are mostly industry-wide used proxies for the determinants identified previously, however, the specific proxies we use for these determinants have not necessarily been applied in preceding studies of the voting premium. Yet, previous studies have sometimes used different variables to account for the identified determinants. In the following we firstly present the hypothesis related to each voting premium determinant and respective proxy and thereafter present how we test these hypotheses.

Private Benefits of Control

We control for the private benefits of control by means of two control variables. Firstly, we feature the dividend yield (with the corresponding explanatory variable named

"DividendYield") as a proxy for dividends paid out since, as pointed out in section 2.2, theory suggests that the dividends should reduce a firm's resources, that could be extracted as private benefits of control. This reduced potential for extractable private benefits, in turn, should translate into a lower voting premium (Cox and Roden, 2002). Therefore, a firm's dividends and its voting premium are expected to be negatively related. Measuring private benefits by means of dividends and using the dividend yield (i.e. dividing the dividend by the company's current stock price) as a proxy, we formulate:

Hypothesis 5: The value of the vote in the next T days is a negative function of the dividend yield.

As Jensen (1986) states in his free cash flow hypothesis, higher free cash flows allow controlling owners and managers to more easily extract private benefits from the firm. As a result, parameters that decrease the free cash flow of a firm such as higher net working capital or capital expenditures can be expected to be negatively related to the voting premium. We can, hence, infer that a firm's capital expenditures, which have a negative impact on its free cash flow, are negatively related to its voting premium. Measuring capital expenditures by means of the ratio of capital expenditures to total assets ("Capex.Assets"), we formulate:

Hypothesis 6: The value of the vote in the next T days is negatively related to the ratio of capital expenditures to total assets.

Leverage

In general, there is consensus in the existing literature that higher leverage leads to relatively lower voting premiums. Albuquerque and Schroth (2010) as well as Caprio and Croci (2008) find that companies with higher levels of leverage show lower voting premiums and vice versa. This effect can mainly be attributed to a lesser amount of private benefits that can be extracted from the company by the controlling shareholders in case of higher levered firms (for instance due to the existence of balance sheet covenants) as well as the decreased flexibility in operations, manifested in future commitments to repay debt, which essentially limits future free cash flows. As is common in corporate finance, we measure the leverage of a company with the Net Debt/EBITDA ratio ("NetDebt.EBITDA") and formulate:

Hypothesis 7: The value of the vote in the next T days is negatively influenced by the leverage of a company expressed through Net Debt/EBITDA.

Liquidity

As is found in the literature review in section 2.2, the presence of higher cash reserves in a company increases the value of a vote. This is supported by evidence found by, for example, Albuquerque and Schroth (2010). Expectations are that a company with higher liquidity has more flexibility in its operations and thus allows for a higher potential extraction of private benefits of control. In particular, this means that higher cash reserves facilitate the abuse of control and the economical benefit for those in control. To investigate this effect we use the quick ratio[6] ("QuickRatio") as a metric for liquidity and formulate:

[6] The Quick Ratio (Acid Test) is a liquidity ratio measuring the ability of a firm to meet its current liabilities. It is calculated as: (Cash + Marketable Securities + Receivables)/ Current Liabilities. (Robinson, 2008)

Hypothesis 8: The value of the vote in the next T days is positively related to the liquidity of a company, proxied by the quick ratio.

Firm Performance and Turnaround Potential

As a metric for the turnaround potential determinant we include return on assets ("RoA") since return on assets represent a measure of operating firm performance, regardless of how a firm is funded. (Klapper and Love, 2004) Cox and Roden (2002), who also use return on assets as a measure for firm performance, find that firms with low return on assets have a higher voting premium. Building on Cox and Roden (2002) as well as Damodaran (2005), low firm performance, expressed by means of low return on assets, is a signal for the presence of improvement potential in a firm, we hence expect to see a negative relation between return on assets and the value of the vote in the next T days. Shareholders value control more if their vote has an impact on firm performance and they believe that they can run the firm in a different and better way. Following this argument, we formulate:

Hypothesis 9: The value of the vote in a company in the next T days is negatively related to the return on assets of that company.

Firm Size and Potential Overvaluations

As mentioned in section 2.2, the voting premium literature provides inconclusive evidence on the relation between firm size and the value of the vote. While some research finds a positive relationship between firm size based on market value and the voting premium (Baggion and Giannetti, 2013), other research finds a negative effect (Albuquerque and Schroth, 2010). For company size as well as potential overvaluations we use the three metrics price-to-earnings ratio ("PERatio"), market-to-book ratio ("MtB"), and the natural logarithm of the market value ("LNMarketValue"). Due to the inconclusive evidence from previous voting premium research we formulate:

Hypothesis 10: The value of the vote in the next T days is significantly related to the market-to-book ratio either in a positive or negative way,

Hypothesis 11: The value of the vote in the next T days is significantly related to the natural logarithm of market value either in a positive or negative way, and

Hypothesis 12: The value of the vote in the next T days is significantly related to the price-to-earnings ratio either in a positive or negative way.

4.3.2 Testing Hypotheses 5 to 12

We investigate hypotheses 5 to 12 by means of a multiple regression analysis in which we regress the voting premium on the respective control variables. Like in the first regression models R.4 and R.5, outlined previously, we again control for both option and stock liquidity by including measures for underlying stock and option volumes. As in the previous section, we conduct two separate regressions: a first one with option and stock liquidity controlled for by means of bins (the respective variables are again called "OptionVolumeRank" and "StockVolumeRank") and a second one with control variables based on the natural logarithm for option and stock volume (the respective variables are again called "LNOptionVolume" and "LNStockVolume").

Furthermore, and in line with the previous regression model, we control for firm-fixed effects in the regressions. Based on the above control variables, we get the following multiple regression model for the value of the vote for firm *i* in the next *T* days using the option and stock liquidity control variables "OptionVolumeRank" and "StockVolumeRank":

$$\begin{aligned} Voting\ Premium_{normalized}(T) &= \alpha + \beta_1 StockVolumeRank + \beta_2 OptionVolumeRank \\ &\beta_3 DividendYield + \beta_4 Capex.Assets + \beta_5 NetDebt.EBITDA + \beta_6 QuickRatio \\ &+ \beta_7 RoA + \beta_8 MtB + \beta_9 LNMarketValue + \beta_{10} PERatio + \beta_{11} Firm_i + \varepsilon \end{aligned} \tag{R.6}$$

For the LN-based option and stock liquidity control variables "LNOptionVolume" and "LNStockVolume" we state the below multiple regression model for the value of the vote for firm *i* in the next *T* days:

$$\begin{aligned} Voting\ Premium_{normalized}(T) &= \alpha + \beta_1 LNStockVolume + \beta_2 LNOptionVolume \\ &+ \beta_3 DividendYield + \beta_4 Capex.Assets + \beta_5 NetDebt.EBITDA + \beta_6 QuickRatio \\ &+ \beta_7 RoA + \beta_8 MtB + \beta_9 LNMarketValue + \beta_{10} PERatio + \beta_{11} Firm + \varepsilon \end{aligned} \tag{R.7}$$

Refer to Table XIV in Appendix B.V which again presents all variables included in the model as well as the voting premium determinant to which they are related to.

Moreover, while it would be our intention to account for all of the voting premium determinants we listed in section 2.2 and Appendix A.III, we would like to emphasize that the inclusion of voting premium determinants is to a large extent subject to data availability. The limited data availability with regard to certain control variables leads to the exclusion of certain interesting voting premium determinants from the model.

Goodness of Fit of the Voting Premium Determinants Model

Given the relatively high number of explanatory variables we apply in regression models R.6 and R.7 we conduct an F-test in addition to investigating the R^2 value. We run this F-test in order to investigate whether the regression models as a whole yield an overall significant effect in comparison to a regression model that would only contain an intercept but no explanatory variables. In particular, we conduct this test at the 99% confidence level.

4.3.3 Dataset for Hypothesis 5 to 12

For the above regression analyses related to the voting premium determinants, we again make use of the full initial dataset. Yet, in case data is unavailable for one (or several) of the control variables, we exclude the corresponding observation. In particular, for all Spanish equities included in our dataset, no data could be retrieved for the Net Debt/EBITDA ratio and the quick ratio. As a result, we conduct this regression analysis excluding Spain entirely.

While the exclusion of Spain for this regression analysis is disadvantageous, it is a necessary measure in order to ensure that the effect of a sufficient number of the previously identified voting premium figures can be investigated. Moreover, given the relatively low number of observations found for Spain this exclusion is not as detrimental to the validity of our analysis. It is a further drawback that some of the determinants cannot be expressed by means of corresponding control variables. Referring to Appendix A.III the voting premium determinants that we, due to insufficient data availability, cannot account for in our regression model are ownership structure, M&A activity and impact of inside shareholders. Especially the ownership structure would be expected to have a major impact on the value of the right to vote in the next T days given the findings by Caprio and Croci (2008). As a result, investigating the effect of these voting premium determinants on the value of the vote in the next T days based on option prices can be seen as an interesting field for future research.

Data Sources
For all other control variables featured in our regression analyses we use Thomson Reuters Datastream. The data for the control variables is retrieved for the time period from 1 January 2006 to 31 December 2008.

5 Empirical Results

We start this section by outlining the results for the analysis of the value of the vote in the next T days, move on to the results related to the value of the vote around shareholder meetings and close by presenting our findings related to the voting premium determinants. In this section we present our findings, apart from the ones related to hypothesis 1, mainly on the basis of an aggregate country dataset. Section 6, furthermore, outlines the results for the equivalent analyses based on a Central and Southern European dataset as well as certain characteristics that stand out for individual countries. Moreover, all regression interpretations outlined in the following are made based on the assumption that all explanatory variables, other than the one that is being interpreted, are held constant. Moreover, for all regression analyses the minimum confidence level that we apply in order to support a hypothesis is 90%. However, if applicable, we state if a hypothesis is still supported at either a 95% or 99% confidence level.

5.1 The Value of the Vote in the Next T Days

Using the methodology outlined in sections 3.1 to 3.4, we firstly investigate the value of the vote in the next T days based on option prices by testing hypotheses 1, 2 and 3 (see section 4.1). After presenting the results for the three hypotheses, we feature an outline of differences in the voting premiums across the six analyzed countries and point out differences between our results and the ones found by Kalay, Karakas and Pant (2014) for the US market.

5.1.1 Hypothesis 1: Positive Voting Premium

Based on an aggregate country dataset (refer to Table 3 on page 25), we find the mean voting premium for the next T days to be 0.10%, with the mean days until maturity amounting to 37. The mean voting premium translates into an annualized voting premium of 1.04%. Looking at the median voting premium in the next T days, we find a value of 0.01%. Given that both the mean and the median voting premium figures are greater than zero provides support for hypothesis 1, which states that the voting premium should be positive given that the right to vote is valuable to an investor. Yet, the low median of 0.01% also shows that the higher mean voting premium is to some extent influenced by positive outliers. In particular, these outliers are for a large part found in Italy (see further description of the voting premium in Italy in section 5.1.4).

We use 95% confidence intervals and find the lower and upper bound for the mean voting premium to be 0.08% and 0.13%, respectively (see Table 3 on page 25). These findings can be interpreted as further evidence in favor of the value of the voting right being positive and thus supporting hypothesis 1.

Table 3 Voting Premiums across Three and Nine Bins on an Aggregate Level

This table presents the values of the vote in the next T days on an aggregate basis across three and nine maturity bins. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max) as well as the bounds of the 95% mean confidence intervals and mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

Bin	Avg. Maturity Days	N	Min.	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max.	Mean Annualized
1	17	15,070	-15.06%	0.05%	0.08%	0.11%	0.00%	81.81%	1.65%
2	45	11,474	-14.98%	0.07%	0.12%	0.17%	0.01%	82.85%	0.98%
3	74	5,523	-13.45%	0.09%	0.15%	0.21%	0.04%	83.45%	0.76%
Total	37	32,067	-15.06%	0.08%	0.10%	0.13%	0.01%	83.45%	1.04%

Panel B: Nine Bins (10 Maturity Days per Bin)

Bin	Avg. Maturity Days	N	Min.	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max.	Mean Annualized
1	6	4,636	-15.06%	0.00%	0.06%	0.11%	-0.02%	81.07%	3.37%
2	15	4,136	-6.57%	0.04%	0.08%	0.13%	0.02%	18.74%	2.00%
3	25	6,298	-6.81%	0.03%	0.08%	0.14%	0.00%	81.81%	1.21%
4	35	4,564	-14.89%	0.05%	0.12%	0.20%	0.00%	81.01%	1.27%
5	46	3,234	-14.98%	0.01%	0.10%	0.19%	0.01%	82.85%	0.77%
6	56	3,676	-12.30%	0.06%	0.14%	0.21%	0.03%	34.28%	0.89%
7	66	2,223	-11.75%	0.05%	0.15%	0.25%	0.03%	82.28%	0.84%
8	75	1,848	-6.48%	0.07%	0.14%	0.22%	0.05%	32.16%	0.68%
9	85	1,452	-13.45%	0.03%	0.17%	0.32%	0.04%	83.45%	0.74%
Total	37	32,067	-15.06%	0.08%	0.10%	0.13%	0.01%	83.45%	1.04%

In investigating hypothesis 1 we perform an upper-tailed t-test at the 95% confidence level to test whether the mean voting premium in the next T days is greater than zero (as outlined in section 4.1.1). The t-statistic for this test amounts to 8.59 and the corresponding p-value is significantly smaller than the critical value of 0.05 (refer to Table 4 on page 25). We hence find sufficient statistical evidence at the 95% confidence level in favor of hypothesis 1 and conclude that the mean value of the vote in the next T days is positive on the basis of an aggregate dataset. Performing the upper-tailed t-test to investigate whether the mean voting premium is greater than zero for the Central and Southern European dataset yields a t-statistic of 10.28 and 4.64 with corresponding p-values significantly smaller than the critical value of 0.05 (refer to Table 4 on page 25). This means that we also find sufficient statistical evidence for a positive value of the vote for the group of Central and Southern European countries alone.

Table 4 t-Statistics and corresponding p-values for Hypothesis 1

Below table shows the value of the upper-tailed t-test investigating whether the mean value of the vote in the next T days is greater than zero. The table shows t-statistics and corresponding p-values on an aggregate as well as on a Central and Southern European basis.

	Aggregate	Central Europe	Southern Europe
t-Statistic	8.5905	10.283	4.6407
N	32,066	26,401	5,665
p-value	< 2.2e-16	< 2.2e-16	1.775e-06

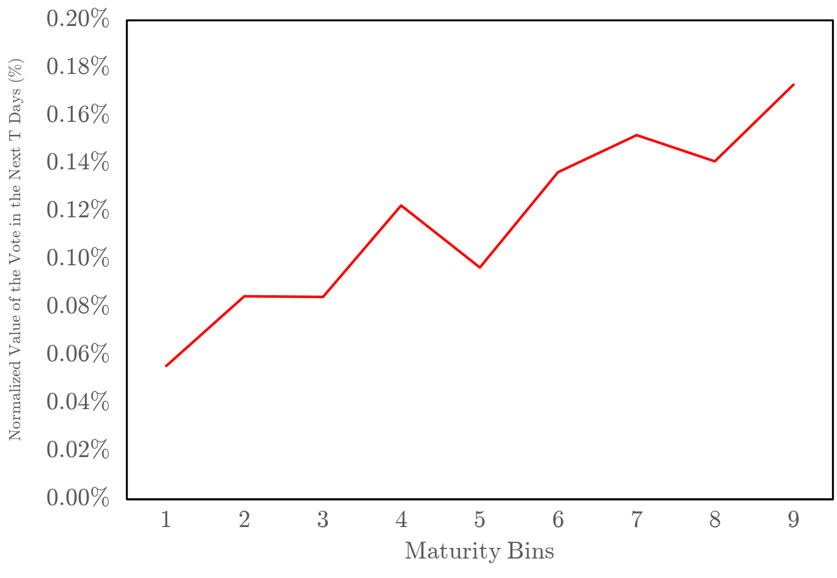
5.1.2 Hypothesis 2: Voting Premiums as an Increasing Function of Maturity Days T

According to hypothesis 2, stating that the value of the vote in the next T days should be an increasing function of the time to maturity T, we see that assigning the observations to the respective maturity days bin on the basis of three maturity bins (with each bin containing 30 maturity days) provides evidence in favor of our second hypothesis on an aggregate level when looking at mean values. Referring to Panel A of Table 3 on page 25, we see that on a mean basis the value of the vote in the next T days is increasing from 0.08% in bin 1 to 0.12% in bin 2 and to 0.15% in bin 3. The fact that the median value of the vote increases from 0.00% in bin 1 to 0.01% in bin 2 and to 0.04% in bin 3 (refer to Panel A of Table 3 on page 25) constitutes further evidence in favor of this hypothesis.

We furthermore find evidence in favor of hypothesis 2 when splitting the observations across nine bins (i.e. with each bin containing a range of 10 maturity days). Even though the rise across nine bins is not perfectly linear (refer to Panel B in Table 3 on page 25 and Figure 1 below), an increasing trend can be observed, with the value of the vote increasing from 0.06% in bin 1 to 0.17% in bin 9, which is in line with hypothesis 2.

Figure 1 The Value of the Vote across Nine Maturity Bins

Below figure shows the values of the vote in the next T days split into ten maturity bins (i.e. bin 1 covering maturity bins 0 to 10 bin 2 covering maturity days 11 to 20, etc.) for the purpose of testing hypothesis 2 which states that the value of the vote in the next T days is an increasing function of maturity days.



In order to test hypothesis 2 for statistical significance, we regress the value of the vote in the next T days on the maturity bins. That is, we run one regression using three bins and a second one in which the explanatory variable is based on nine bins (refer to section 3.4).

Regressing the value of the vote on the variable "MaturityDaysRank3" we find a significant positive effect of 0.10 percentage points on the value of the vote when switching to either bin 2 or bin 3 from bin 1. This effect is significant at the 99% confidence level (refer to column (2) in Table 5 on page 27). Moreover, referring to column (3) in Table 5 on page 27, when regressing the voting premium on the maturity days variable including nine ranks ("MaturityDaysRank9"), for all bins from 2 to 9 relative to bin 1 we find significant positive effects in the range from 0.10 to 0.20 percentage points on the value of the vote in the next T days at the 99% significance level. Based on the above regressions and in addition to the mean and median evidence across three and nine maturity bins, we find sufficient statistical evidence that supports hypothesis 2 on the aggregate level. We therefore conclude that on an aggregate basis the value of the vote in the next T days is increasing with maturity days T.

Table 5 Regression Analysis Related to Hypotheses 2 and 3 - Aggregate Basis

Below table shows the effect of switching from a Southern to a Central European country in column (1). Columns (2) and (3) show the impact of switching to different maturity day ranks measured by the 3 and 9 bin variables, respectively. The table shows estimators and the standard errors, which are shown in brackets, are corrected for heteroskedasticity. The regression coefficients for firm fixed effects are not presented in this table.

	Dependent variable:		
	Normalized Value of the Vote in the next T days		
	(1)	(2)	(3)
AreaDummy	-0.002***		
	(0.001)		
MaturityDaysRank32		0.001***	
		(0.0001)	
MaturityDaysRank33		0.001***	
		(0.0002)	
MaturityDaysRank92			0.001***
			(0.0002)
MaturityDaysRank93			0.001***
			(0.0002)
MaturityDaysRank94			0.001***
			(0.0003)
MaturityDaysRank95			0.001***
			(0.0003)
MaturityDaysRank96			0.002***
			(0.0003)
MaturityDaysRank97			0.001***
			(0.0003)
MaturityDaysRank98			0.002***
			(0.0003)
MaturityDaysRank99			0.002***
			(0.0004)
Constant	0.003***	-0.002	-0.002*
	(0.001)	(0.001)	(0.001)
Observations	32,067	32,067	32,067
R^2	0.002	0.72	0.72
Note:			*$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

5.1.3 Hypothesis 3: A Higher Voting Premium in Southern Europe

Investigating our third hypothesis, which states that the value of the voting premium is higher in the group of Southern European countries compared to the group of Central European countries, we firstly look at the annualized mean values of the vote across the two regions since these allow for better comparability given that they are irrespective of the T days until maturity which would have an impact on the value of the vote. Referring to Table I and Table II in Appendix B.II, for Central Europe we find the annualized value of the vote to amount to 0.65%, while for the Southern European area this figure amounts to 2.89%, thereby yielding support for hypothesis 3.

For Central Europe, alike the aggregate dataset, we find a positive mean and median of 0.07% and 0.02%, respectively (see Panel A of Table I in Appendix B.II). The average maturity days amount to 37. Moreover, the lower and upper bounds of the 95% confidence interval for the Central European area are 0.05% and 0.08%, respectively. The lower median figure of 0.02% of the voting premium in the Central European group of countries suggests that positive outliers influence the mean value. When looking at the Southern European countries, even though they jointly exhibit a greater mean of 0.29% (with an average maturity of 36 days), as well as a 95% mean confidence interval between 0.17% and 0.41%, we find a negative median of -0.07% (see Panel A of Table II in Appendix B.II), showing that the mean figure is to a large extent driven by positive outliers.

Most importantly for testing hypothesis 3, however, we run regression R.3. Referring to column (1) in Table 5 on page 27 as is suggested by hypothesis 3, we find a significant negative effect for the explanatory variable "AreaDummy" of -0.002 at the 99% confidence level. This suggests that a switch from a country in the Southern European region to a country in the Central European region has a negative impact on the value of the vote in the next T days of -0.2 percentage points. Hence, we find sufficient statistical evidence at the 99% confidence level in order not to reject hypothesis 3 and conclude that the value of the vote is higher in Southern Europe compared to Central Europe. This is in line with our expectation which is based on the fact that all three countries that are part of the Southern European area, have a French civil law system in place which in comparison to a German civil law or common law system, which are in place in all of the three countries that are part of the Central European area, entails worse minority shareholder protection, thereby fostering a higher value of the vote.

5.1.4 Investigating the Voting Premium on a Country Level

In this section we outline findings that stand out on an individual country level. For an overview of voting premium statistics on a per-country basis please refer to Table 6 below. Evidence in Table 6 shows that the mean voting premiums in Italy, Spain, France and, in stark contrast to hypothesis 3, the UK exceed the grand average of the dataset as a whole.

Table 6 Voting Premiums on an Individual Country Basis

Below table shows the value of the vote in the next T days split up by the six different countries analyzed in this study. We present average maturity days and numbers of observations (N) per country, as well as the value of the vote on a minimum (Min), maximum (Max), median, mean and annualized mean basis. Moreover, we present the lower and upper bounds of the 95% mean confidence interval.

Voting Premiums in the Next T Days (VP) - Country Basis									
Country	**Avg. Maturity Days**	**N**	**Min.**	**Lower 95% Confidence Interval**	**Mean**	**Upper 95% Confidence Interval**	**Median**	**Max.**	**Mean Annualized**
France	35	4,020	-5.91%	0.22%	0.27%	0.32%	0.02%	13.74%	2.83%
Germany	36	20,682	-3.06%	0.03%	0.04%	0.05%	0.02%	15.43%	0.38%
Italy	39	1,407	-6.81%	-0.10%	0.37%	0.84%	-2.34%	83.45%	3.43%
Spain	47	239	-2.07%	0.02%	0.11%	0.20%	0.00%	3.91%	0.87%
Switzerland	36	3,267	-2.60%	0.01%	0.02%	0.04%	0.02%	3.15%	0.24%
UK	40	2,452	-15.06%	0.24%	0.35%	0.46%	0.00%	22.80%	3.12%
Total	37	32,067	-15.06%	0.08%	0.10%	0.13%	0.01%	83.45%	1.04%

It is, furthermore, noteworthy that the median of the voting premium significantly deviates from its mean in almost all countries investigated in this study. In particular, the median is smaller than the mean in all countries apart from Switzerland, suggesting that positive outliers have a substantial impact on the higher mean. These outliers are most apparent in the case of

Italy, where the maximum voting premium in the next T days is found at 83.45% (found for BCA P.Milano) and the median value stands at the relatively low value of -2.34%. Similarly, in the United Kingdom positive outliers (to a large extent attributable to Astrazeneca), with a maximum value of the vote of 22.80%, significantly drive up the mean voting premium. For Spain and France the mean voting premiums are substantially above the median figure as well, even though the maximum voting premiums are, with 13.74% for France and 3.91% for Spain, not as pronounced. In contrast to the other four countries, the median and mean voting premiums for Germany and Switzerland exhibit relatively little deviation from each other.

Note that, regarding the above figures, the low number of observations for both Spain and Italy which may have an impact on the validity of the calculated voting premiums these countries. Therefore, the figures we report for these countries need to be interpreted with caution.

Table 7 t-Statistics and Corresponding p-values for Hypothesis 1 (per country)

Below table shows the value of the upper-tailed t-test investigating whether the mean value of the vote in the next T days is greater than 0. The table shows t-statistics and corresponding p-values for all six countries individually.

	Germany	Switzerland	United Kingdom	France	Italy	Spain
t-Statistic	9.1631	2.7698	6.0516	10.874	1.5317	2.4489
N	20,681	1,060	2,451	4,019	1,406	238
p-value	< 2.2e-16	0.002853	8.271e-10	< 2.2e-16	0.06291	0.007527

It is furthermore noteworthy that if one performs the upper-tailed t-tests at the 95% confidence level for a mean being greater than zero on an individual country basis (refer to Table 7 above), all countries apart from Italy exhibit t-statistics and corresponding p-values below the critical value of 0.05, which supports the claim that the mean voting premium is positive in the respective country. The case of Italy is a very interesting one especially given the evidence in the related literature (refer to section 2.3.2) which found extremely high voting premiums in Italy (see for instance Zingales (1994) or Nenova (2003)).

Regarding hypothesis 2 stating that the value of the vote in the next T days is an increasing function of the days to maturity T, we find both supporting and contradicting evidence across the six countries in terms of mean and median values that we, however, do not further outline in this section. Instead, please refer to Table III to Table VIII in Appendix B.II.

5.1.5 Comparing evidence from the US and Europe

In line with the US study by Kalay, Karakas and Pant (2014) we find support for the notion that the value of the vote in the next T days is an increasing function of T. Moreover, the mean annualized value of the vote that we find based on an aggregate country dataset amounts to 1.04% and thereby lies significantly below the figure found in the abovementioned US study. Splitting up our dataset into a Central European and a Southern European group we find the annualized figures to be 0.65% and 2.89%, respectively. Given previous voting premium research (refer to section 2.3 and Appendix A.VI), both the lower voting premium in the Central European group and the higher voting premium in the Southern European group relative to the United States are in line with expectations.

5.2 Time-Series Analysis of the Voting Premium

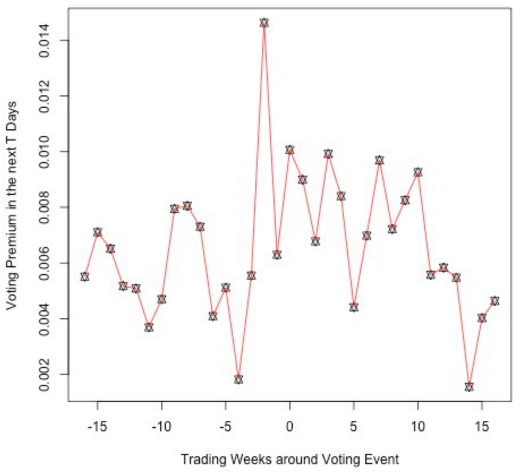
In order to verify whether a voting event leads to a rise in the voting premium we investigate the value of the vote around these events by means of two analyses as outlined in section 4.2.2. In the following, we first discuss the development of the voting premium around the event (i.e. 16 trading weeks before and after a voting event) and then investigate the difference of the overall level of the voting premium during an event window in comparison to a control window. As mentioned in section 4.2.3, for Italy and Spain, data availability around shareholder meetings was insufficient and did not allow for a time-series analysis of the voting premium.

5.2.1 The Value of the Vote Before and After Shareholder Meetings

On an aggregate basis, referring to Figure 2 below, we find that the weekly average voting premium peaks at 1.46% two weeks before an event, which supports the claim that voting events have a positive relationship with the value of the vote. Yet, despite the peak prior to the voting event, it needs to be noted that the average voting premiums on an aggregate country basis are found to be higher in the 16 trading weeks following the event rather than in the ones before the event. This is shown by the fact that the voting premium averages at 0.66% in the weeks after and at 0.62% during the 16 trading weeks leading up to the event. This contradicts common expectations of how the voting premium should develop over time and especially around voting events (refer to Table XII in Appendix B.IV).

Figure 2 Time-Series Variation of the Voting Premium around Shareholder Meetings

Below figure shows the mean value of the vote in the 32 week event window around a company's shareholder meeting on an aggregate dataset basis. For each of the 138 available shareholder meetings, one observation per trading week in the event window is picked and the average of all these observations is calculated. In picking an observation, preference is given to the observation with the lowest time to maturity, smallest moneyness and greatest option volume (see above).



5.2.2 Regression Analysis of the Time-Series-Variation of Voting Premiums

Regressing the voting premiums on the window dummy to find the effect of switching from the control window to the event window is meant to show the effect on the value of the vote of this change. Thereby we are testing hypothesis 4, stating that the occurrence of a voting event is positively related to the value of the vote in the next T days (refer to section 4.2).

The regressions on an aggregate country basis are conducted on 3,743 observations from 86 companies in Germany, Switzerland, UK and France and yields no significant effect. Referring to columns (1) to (3) in Table 8 on page 31, we observe that the independent variable "WindowDummy" does not have a significant effect on the value of the vote in the next T days in any of the regressions. Hence, we do not find sufficient statistical evidence in favor of hypothesis 4 and reject it. It can thus not be concluded that, on an aggregate basis, the occurrence of an event has a positive effect on the value of the vote. These findings are in line with Kalay, Karakas and Pant (2014), who only find a significant effect of special, but not of annual, shareholder meetings on the value of the vote. Since our sample of shareholder meetings almost fully consists of annual meetings (refer to Table 2 on page 20), the insignificant effect of the meetings is not surprising.

Table 8 Regression Analysis of the Voting Premium around Shareholder Meetings

Below table presents the results of the regressions R.4 and R.5 investigating the value of the vote around shareholder meetings on an aggregate country basis. The explanatory variable in these regressions ("WindowDummy") can either take the value 0 in case an observation lies in the control window, which is a 20 trading day period taking place two quarters after the event window, or 1 in case an observation lies in the event window (that is the 20 trading days prior to a firm's either annual or special shareholder meeting). We furthermore control for different measures of stock and option liquidity as presented in columns (2) and (3). The table shows estimators and the standard errors, which are presented in brackets, are corrected for heteroskedasticity. The regression coefficients for firm fixed effects are not presented in this table.

	Dependent variable:		
	Normalized Value of the Vote in the Next T Days		
	(1)	(2)	(3)
WindowDummy	-0.0005	-0.001	-0.001
	(0.0004)	(0.0004)	(0.0004)
OptionVolumeRank		0.0001	
		(0.0000)	
StockVolumeRank		-0.0001*	
		(0.0001)	
LNOptionVolume			0.0000
			(0.0000)
LNStockVolume			-0.0004*
			(0.0002)
Constant	0.0004	0.001	0.01**
	(0.0004)	(0.001)	(0.003)
Observations	3,743	3,743	3,743
R^2	0.20	0.20	0.20
Note:			**p<0.1; **p<0.05; ***p<0.01*

5.3 Determinants of the Voting Premium

We conclude the presentation of our empirical results by looking at the voting premium determinants whose effect on the value of the vote in the next T days we assess by means of the regression with multiple explanatory variables, which was outlined in section 4.3.2. The results for each voting premium determinant are reported in columns (1) and (2) of Table 9 on page 32. We report two estimators for each determinant, as the regression is once run using the rank variable for stock and option volume and once with using the natural logarithm of those two variables in order to control for the liquidity effects of the underlying stock and options, respectively. In this section, we reject or accept a hypothesis on an aggregate level. Furthermore, we conduct a robustness test on the two subsamples based on the Central and Southern European dataset in section 6.3. As mentioned in section 4.3.3, due to missing data for certain control variables on both an aggregate level as well as for the regressions performed on Southern European data we exclude Spain from the aggregate dataset.

Table 9 Regression Analysis Related to the Voting Premium Determinants

Below table shows the results for the regressions R.6 and R.7 which test hypotheses 5 to 12 on an aggregate country basis. We regress the value of the vote on the voting premium determinants. While column (1) includes the rank variables of the stock and option volumes, column (2) shows the results using the natural logarithm of these liquidity variables. The table shows estimators and the standard errors, which are presented in brackets, are corrected for heteroskedasticity. The firm fixed effects regression coefficients are for reasons of clarity and comprehensibility not presented in this table.

Voting Premiums Aggregate without Spain – with fixed effects		
	Dependent variable:	
	Normalized Value of the Vote in the Next T Days	
	(1)	(2)
StockVolumeRank	0.0002^{***}	
	(0.0001)	
OptionVolumeRank	0.0000	
	(0.0000)	
LNStockVolume		0.001^{***}
		(0.0002)
LNOptionVolume		0.0000
		(0.0000)
LNMarketValue	-0.001	-0.001
	(0.002)	(0.002)
PERatio	0.0001^{*}	0.0001^{*}
	(0.0001)	(0.0001)
QuickRatio	0.001^{**}	0.001^{**}
	(0.0004)	(0.0004)
RoA	-0.02^{***}	-0.02^{***}
	(0.01)	(0.01)
DividendYield	0.12^{***}	0.12^{***}
	(0.03)	(0.03)
Capex.Assets	0.07^{***}	0.07^{***}
	(0.02)	(0.02)
NetDebt.EBITDA	-0.0002^{**}	-0.0002^{**}
	(0.0001)	(0.0001)
MtB	-0.0000^{**}	-0.0000^{*}
	(0.0000)	(0.0000)
Constant	0.003	-0.01
	(0.01)	(0.01)
Observations	23,900	23,900
R^2	0.53	0.53
F Statistic	260.72^{***} (df = 102; 23797)	260.90^{***} (df = 102; 23797)
Note:		$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

5.3.1 Stock Liquidity

As mentioned in section 4.3.2, we use two different metrics for stock volume liquidity, namely "StockVolumeRank" and "LNStockVolume", representing the natural logarithm of the stock volume associated with a certain observation. We perform separate regressions for these two different metrics of stock volume.

On the aggregate level, we find a significant positive effect at the 99% confidence level of 0.0002 and 0.001 for the variables "StockVolumeRank" and "LNStockVolume", respectively.

This means that for a one unit change (i.e. a change from one bin to the next) in the variable "StockVolumeRank", the value of the vote in the next T days increases by 0.02 percentage points. For the variable "LNStockVolume", this means that a 1% increase in stock volume should lead to an increase in the value of the vote in the next T days of 0.001 percentage points. Given these significant effects, we find sufficient statistical evidence at the 99% confidence level to conclude on the basis of the aggregate dataset that the value of the vote in the next T days is positively related to stock liquidity. These findings are contradicting Kalay, Karakas and Pant (2014) who find that the value of the vote in the next T days is not affected by stock liquidity.

5.3.2 Option Liquidity

Similar to the variable stock liquidity, we use two metrics for option liquidity, namely "OptionVolumeRank" and "LNOptionVolume". We find no significant effect for either "OptionVolumeRank" or "LNOptionVolumes" across all four regressions on the aggregate level. Thus, we can conclude that the value of the vote in the next T days is not affected by option liquidity. This is in line with Kalay, Karakas and Pant (2014) who also do not find a significant effect for option liquidity.

5.3.3 Private Benefits of Control (Dividend Yield and Capital Expenditures)

As mentioned in section 4.3.2, we use the dividend yield ("DividendYield") and the ratio of capital expenditures to total assets ("Capex.Assets") in order to investigate the effect of private benefits of control on the value of the vote in the next T days.

Referring to "DividendYield" in Table 9, we find a significant, positive effect of 0.12 on the value of the vote in the next T days at the 99% confidence level for both regressions on an aggregate dataset basis. This means that for a one unit change in the dividend yield, the value of the vote in the next T days would increase by 12 percentage points, which represents the exact opposite effect of what is suggested by hypothesis 5, which states that the dividend yield is in fact negatively related to the voting premium. Thus, we do not find sufficient statistical evidence in favor of hypothesis 5 and reject it.

Referring to the variable "Capex.Assets" in Table 9 for both regressions we find a significant positive effect of 0.07 on the voting premium at the 99% confidence level, on an aggregate dataset basis. In particular, this means that for a one unit change in the ratio of capital expenditures to total assets, the value of the vote in the next T days should increase by 7 percentage points. Given hypothesis 6, which states that the ratio of the capital expenditures to total assets is, in fact, negatively related to the voting premium, we hence do not find sufficient statistical evidence in favor of this hypothesis and reject it.

5.3.4 Leverage (Net Debt/EBITDA ratio)

The variable "Net.Debt/EBITDA" on an aggregate basis has a significant negative effect of -0.0002 at the 95% confidence level for both regressions which is suggested by hypothesis 7. We hence find sufficient statistical evidence for the aggregate dataset at the 95% confidence level in order not to reject hypothesis 7 and conclude that the Net Debt/EBITDA ratio is negatively related to the value of the vote in the next T days. Specifically, for a one unit change in the Net Debt/EBITDA ratio, we can expect to see a decrease of 0.02 percentage points in the value of the vote in the next T days.

5.3.5 Liquidity (Quick Ratio)

We find a significant positive effect of 0.001 at the 95% confidence level of the variable "QuickRatio" on the value of the vote on an aggregate dataset basis for both regressions, which is also suggested by hypothesis 8. At the 95% confidence level, we hence find sufficient statistical evidence in order not to reject hypothesis 8 and conclude that the quick ratio, as a proxy for liquidity, is positively related to the value of the vote in the next T days. In particular, for a one unit change in the quick ratio, we can expect the value of the vote in the next T days to increase by 0.10 percentage points.

5.3.6 Firm Performance and Turnaround Potential (Return on Assets)

The variable return on assets ("RoA"), on an aggregate dataset basis, has a significant negative effect of -0.02 at the 99% confidence interval on the value of the vote for both regressions. This means that for a one unit change in return on assets, the value of the vote in the next T days should decrease by 2 percentage points which is also suggested by hypothesis 9, stating that the return on assets is negatively related to the voting premium. We hence do find sufficient statistical evidence in favor of hypothesis 9 to not reject it and conclude that the value of the vote in the next T days is negatively affected by the return on assets.

5.3.7 Firm Size and Potential Overvaluations

As mentioned in section 4.3.2, we apply three variables in order to assess the effect of firm size and potential overvaluations on the value of the vote in the next T days, namely the natural logarithm of the market value ("LNMarketValue"), the price-to-earnings ratio ("PERatio") and the market-to-book ratio ("MtB"). Recall that the three hypotheses related to these variables, namely hypotheses 10, 11 and 12, all predicted an effect, irrespective of sign however.

Looking at the explanatory variable "LNMarketValue", on an aggregate level for both regressions we find no significant effect on the value of the vote in the next T days. This means that we find insufficient statistical evidence for hypothesis 11, and accordingly reject it based on an aggregate dataset. We, thus, cannot conclude that the market value is related to the value of the vote in the next T days.

Yet, the results found for the variable "PERatio", yield a significant positive effect of 0.0001 at the 90% confidence level on the voting premium for both regressions. We thus find sufficient statistical evidence at the 90% confidence level in order not to reject hypothesis 12 and conclude that the price-to-earnings ratio is positively related to the value of the vote in the next T days. In particular, this means that for a one unit change in the price-to-earnings ratio, we can expect the value of the vote in the next T days to increase by 0.01 percentage points.

Moreover, referring to the market-to-book ratio, we find an immeasurably small but significant negative effect at the 95% and 90% confidence level for both regressions. Hence, we find sufficient statistical evidence at the 90% confidence level in order not to reject hypothesis 10 and conclude that the market-to-book ratio is negatively related to the value of the vote in the next T days. In particular, this means that for a one unit change in the market-to-book ratio, we can expect the value of the vote in the next T days to decrease by an immeasurably small amount in percentage points. The evidence from these three variables on firm size is only partly in line with what Kalay, Karakas and Pant (2014) find for the US market. Sorting their observations into ten bins according to firm size, they find no effect of firm size on the value of the vote.

5.3.8 Controlling for Fixed Effects

In order to see whether the inclusion of fixed effects in our model has an impact on the significance of the effects we find, we run additional, separate regressions excluding firm-fixed effects on an aggregate dataset. For the regressions based on an aggregate dataset (refer to Panel B of Table XV in Appendix B.V), in addition to the significant effects mentioned previously, we find option liquidity to have a significant positive effect on the value of the vote at the 99% confidence level. Furthermore, not controlling for fixed effects leads to a change in the significance level of the effect of the price-to-earnings ratio. Moreover, conducting a regression excluding fixed effects we find a significant and negative effect of -0.005 and -0.01 at the 99% confidence level for the market value ("LNMarketValue").

5.3.9 Goodness of Fit

Given that we use several control variables in our multiple regression model as well as firm-fixed effects, the majority of the variation related to the dependent variable, namely the value of the vote in the next T days, is explained. This is reflected in the high R^2 figure of 0.53 for the regression model that is applied on the aggregate dataset (refer to Table 9 on page 32). It is evident that to a large extent this high R^2 can be attributed to the inclusion of firm-fixed effects, given that an additional regression on the same dataset, but disregarding firm-fixed effects yields an R^2 of 0.08 (refer to Panel B of Table XV in Appendix B.V).

Furthermore, and as outlined in section 3.3, for the regression models related to voting premium determinants, we conduct an F-test in order to assess their overall significance. The results we find on an aggregate basis yield a significant effect at the 99% confidence level with an F-statistic of 260.72 and 260.90 for the regression models R.6 (including "StockVolumeRank" and "OptionVolumeRank") and R.7 ("LNStockVolume" and "LNOptionVolume"), respectively (refer to Table 9 on page 32). Thus, for both of the regression models we find sufficient statistical evidence at the 99% confidence level to conclude that the joint set of control variables included in our model offers better fit to explaining the value of the vote in the next T days as the dependent variable than a regression model that contains only the intercept, but no explanatory variables.

6 Robustness of the Results

In order to investigate the robustness of the results outlined in the previous section, which are to a large extent based on an aggregate country dataset, we separately run the same analyses on the two subsamples of Central and Southern Europe and, in certain cases, on an individual country basis. Note that the various geographic areas and countries are to a certain extent expected to show voting premium observations and related determinants that behave differently, thus, the found differences or similarities are not only due to the robustness or the lack thereof but also indicate fundamental differences in the voting premium in the different areas.

6.1 The Value of the Vote in the Next T Days

6.1.1 Hypothesis 2: Voting Premiums as an Increasing Function of Maturity Days T

On the basis of a Central and a Southern European dataset alone, we still observe an increase in the value of the vote with maturity days T across the three maturity days bins (refer to Panel A of Table I in Appendix B.II for Central Europe and Panel A of Table II in Appendix B.II for Southern Europe). While for the Central European countries the mean value of the vote increases from 0.05% in bin 1 to 0.07% in bin 2 and 0.11% in bin 3, the same figure increases from 0.20% in bin 1 to 0.36% in bin 2, and 0.40% in bin 3 for the Southern European group. Moreover, for both groups the median value of the vote in the next T days shows an increasing trend from bin 1 to bin 3. When splitting up observations into nine bins according to the days until maturity of the underlying option (see Panel B of Table I in Appendix B.II for Central Europe and Panel B of Table II in Appendix B.II for Southern Europe), we observe an increasing trend for both mean and median in the Central as well as the Southern European area from bin 1 to bin 9.

Regressing the voting premium observations from Central and Southern Europe on the maturity days bins separately (regression models R.1 and R.2), we do not find sufficient statistical evidence in Central Europe to conclude that the voting premium is an increasing function of maturity days T. For Southern Europe, however, we do find sufficient statistical evidence at the 99% confidence level across both regressions to conclude that the value of the vote is increasing with T. For further detail on these regressions on a Central and Southern European basis, refer to Panels A and B of Table XI in Appendix B.III.

6.2 Time-Series Analysis of the Voting Premium around Shareholder Meetings

In this section, we conduct both the time-series and the respective regression analysis, which was outlined in section 4.2.2, firstly for the Central European group alone. Due to a limited number of observations, Italy and Spain are excluded from the time-series analysis, such that an analysis for the Southern European dataset alone cannot be conducted. After presenting the results for the Central European group, we take the interpretation to a more granular level and look at the individual countries, namely Germany, Switzerland, the United Kingdom and France.

6.2.1 The Value of the Vote Before and After Shareholder Meetings

Based on a Central European dataset and referring to Figure II in Appendix B.IV, we find that, while the average voting premium is, alike the aggregate findings, peaking at 1.37% two weeks prior to the voting event, the value of the vote is more volatile over the course of the observed period. However, one can still conclude that the voting premium remains, with an average of 0.52%, at higher levels after the voting event. Unlike the aggregate results, however, we find that the voting premium is showing a second, yet smaller, peak at 1.16% after the event (refer to Table XII in Appendix B.IV).

On an individual country basis some of the before mentioned findings on an aggregate or area basis can be observed as well (refer to Table XII in Appendix B.IV). The average value of the vote in the trading weeks before the meeting exceeds the one observed after the event in Germany, Switzerland and France. For the UK, however, a relatively lower voting premium can be observed after the meeting. Out of all countries included in this study, Germany represents a special case. While the voting premium is less volatile during the 32 trading week period around the event than in the other countries, the peak lies, with 1.85%, 1.39 percentage points above the average observed during the whole period. In line with the findings on an aggregate basis, this peak is observed two weeks prior to the event, which is interesting as the record date, i.e. the latest date at which one has to buy a share in order to be registered as shareholder and thus receive the right to vote in a given meeting, is set 21 days before the actual event in Germany (§123 AktG). This means that the voting premium peaks at a time at which a transfer of shares does not transfer the right to vote at the upcoming meeting. In contrast to this, the value of the right to vote peaks eight weeks prior to the meeting in the UK, while the record date is set three days before the meeting. (Companies Act 2006, Part 13 Ch. 7) Switzerland, as the only country in the sample, exhibits a peak of the voting premium after the voting event. Unlike for the aggregate dataset, we also observe negative voting premiums in Switzerland and the UK. While the negative values for Switzerland are found before the meeting and at the meeting date itself, the UK exhibits negative values of the vote in weeks 12 to 14 following a voting event.

6.2.2 Regression Analysis of the Time-Series-Variation of Voting Premiums

Only including the Central European countries in the regression analysis decreases the sample size to 3,148 observations and 65 companies (refer to columns (1) to (3) in Panel B of Table XIII in Appendix B.IV). In contrast to the Aggregate regression, we find a significant and negative effect of -0.003 at the 99% confidence level of switching from the control to the event window. This means that such a switch can be expected to lead to a decrease in the value of the vote of 0.3 percentage points. Based on this statistical evidence we cannot conclude that the occurrence of a voting event positively affects the value of the vote in Central Europe. These findings constitute an interesting result as it means that the right to vote generally appears to be more valuable in times without a voting event relative to the period directly leading up to one, which is, furthermore, not in line with the results on an aggregate basis.

To test the robustness of the results further, we also conduct the regression analysis on an individual country basis. The results found, however, do not yield support for what is found on an aggregate basis either. This may be attributed to the fact that the effects found in the different countries neutralize one another. While we find a significant negative effect for Germany, Switzerland and the UK with estimators of -0.004, -0.002 and -0.003, respectively, we find a significant positive effect of switching from the control to the event window of 0.01 in France (for more details, refer to Panels C, D, E and F in Table XIII in Appendix B.IV). Generally, this means that for all countries in our Central European group, the voting premium can be expected to be higher outside the event window. Nonetheless, for the one country in our sample that is following a French civil law system, we find sufficient statistical evidence in order to conclude that the occurrence of a voting event is in fact positively related to the value of the vote. With an expected increase of one percentage point at the 99% confidence level, the effect is way more pronounced than the effects found in the analyses for the other countries and on an aggregate level. Moreover, the increase of the voting premium before a voting event confirms general expectations on how the value of the vote should develop in a time-series around events that constitute a chance to exercise the right to vote.

6.3 Determinants of the Voting Premium

We conclude our robustness test by investigating the impact of the voting premium determinants firstly on the Central and Southern European subsample and secondly looking at the voting premium determinants on an individual country basis.

6.3.1 Determinants of the Voting Premium in Central and Southern Europe

Regarding the effects of the below voting premium determinants based on a Central and Southern European dataset, refer to Panels C and D of Table XV in Appendix B.V

Stock Liquidity
In line with the findings for the aggregate dataset, we find statistically significant positive effects of the volume of the underlying company stock at the 99% confidence level across both regressions for the Central European dataset. However, these significant effects are not resembled in the Southern European regression results.

Option Liquidity
Testing for the effect of option liquidity on the value of the vote in the next T days at both the Central and the Southern European level alone, in line with the results for an aggregate dataset, does not yield significant results. This reinforces the notion that option liquidity does not affect the voting premium.

Private Benefits of Control
The significant positive effect of the dividend yield on the value of the vote, which we found based on an aggregate dataset is also resembled in the results of the regressions that are solely based on the Central and Southern European dataset, respectively. For the Central European dataset, we find a significant, positive effect of 0.03 for both regressions at the 90% confidence level, while for the Southern European dataset we observe a significant and positive effect of 0.28 and 0.29 at the 99% confidence level, respectively.

Furthermore, while for the two regressions based on a Central European dataset we find no significant effect for the variable "Capex.Assets", we do find a significant positive effect of 0.25 at the 99% confidence level for this variable for the regressions based on a purely Southern European dataset. This shows that the results regarding the effect of the ratio of capital expenditures to total assets are only resembled in part of our dataset.

Leverage
The significant negative effect of -0.0002 at the 95% confidence level, which we found based on an aggregate dataset, is perfectly resembled the regressions based on a Central European dataset. However, we see no significant effect for the two regressions that are solely based on the Southern European dataset.

Liquidity
Interestingly, the significant positive effect of liquidity on the voting premium found on the basis of an aggregate dataset is not resembled in either of the regressions that are based on either a purely Central or purely Southern European dataset. These findings suggest that our results based on an aggregate dataset are not robust across either the Central or Southern European subsample of our dataset.

Firm Performance and Turnaround Potential
The significant negative effect of return on assets on the value of the vote, which we observe on an aggregate country basis is resembled in the two regressions based on a Central European dataset. For the two regressions we see effects of -0.02 and -0.01 of a one unit change in return on assets, respectively. These are, however, only significant at the 95% and 90% confidence level, respectively. Moreover, for both regressions based on a Southern European dataset, we see negative effects of -0.11 at the 95% confidence level.

Firm Size and Overvaluation
Moreover, the regressions conducted on the Central European dataset alone indicate that the price-to-earnings ratio (”PERatio”) has an immeasurably small, yet significant positive effect on the voting premium at the 99% confidence level for the two regressions, which is in line with the finding from the regression based on an aggregate dataset. The market value (”LNMarketValue”), in line with the above, has no significant effect. Also, the market-to-book ratio (”MtB”), in line with the regression results based on an aggregate dataset, has an immeasurably small, but significant negative effect at the 95% and 90% confidence level for the two regressions, respectively. These findings speak for the high robustness of the explanatory variables related to firm size across the Central European dataset.

Finally, looking at the regressions conducted on the Southern European dataset alone we see that the market value (”LNMarketValue”) has a significant positive effect on the value of the vote of 0.01. This effect is, however, only significant at the 90% confidence level. Also, the price-to-earnings ratio (”PERatio”) and the market-to-book ratio (”MtB”) both show no significant effects, which, in case of the price-to-earnings ratio, is contrary to the regression conducted on the aggregate dataset. For the Southern European dataset the results based on the explanatory variables related to the voting premium determinant firm size is only limited consistent with the results from an aggregate basis.

6.3.2 Country-Level Analysis

We, finally, run all regressions on an individual country basis and control for firm-fixed effects in these regressions in order to see whether our results based on aggregate dataset are robust on an individual country basis. We in the following, however, do not discuss every country in as great detail as on an aggregate level, but instead focus on variables that exhibit deviation from the regression based on an aggregate dataset.

Germany
The regression results based on a German dataset (refer to Panel E of Table XV in Appendix B.V) resemble the effects found in the aggregate dataset regression to a high extent even though some of the significant levels are found to be lower for Germany. Contrary to the aggregate dataset, we find no significant effects of the variables ”Capex.Assets” and ”MtB” on the voting

premium observations from Germany. We, however, see a significant positive effect at the 99% confidence level for the price-to-earnings ratio. Moreover, no variable in Germany exhibits the exact opposite effect of the ones observed on an aggregate basis, speaking for the abovementioned high resemblance.

Switzerland

In Switzerland (refer to Panel F of Table XV in Appendix B.V), we observe only very few significant effects in comparison to the results found for the aggregate dataset, which constitutes a sign of limited robustness. The found results for Switzerland imply that the voting premium is not related to a firm's leverage, liquidity or performance and turnaround potential. The insignificant effect of the price-to-earnings ratio, moreover, makes it difficult to make inferences about the effect of firm size on the value of the vote in Switzerland. This becomes even more apparent when looking at the market-to-book ratio, which in Switzerland, in contrast to the aggregate dataset, is positively related to the voting premium.

United Kingdom

For the United Kingdom (Panel G of Table XV in Appendix B.V), a positive relation between option liquidity (for "OptionVolumeRank" and "LNOptionVolume") and the value of the vote is suggested at the 90% confidence level. Moreover, the United Kingdom is the only country for which we find a significant effect of the market value ("LNMarketValue"), which is of positive nature at the 95% confidence level. Moreover, and in contrast to the aggregate dataset, for the UK regression, we find a significant negative effect at the 95% confidence level regarding the price-to-earnings ratio. Interestingly, for the quick ratio we find the exact opposite effect of what we observe at the aggregate level, suggesting that greater liquidity of a firm leads to a lower value of the vote. The significant effects of the return on assets and the ratio of capital expenditures to total assets apparent in an aggregate dataset cannot be seen on a UK level.

France

In the regression results for France (Panel H of Table XV in Appendix B.V) we no longer observe the significant effects of both the price-to-earnings and the market-to-book ratio found on an aggregate level. This would suggest that firm size is a less relevant voting premium determinant in France. "Capex.Assets" is highly significant on an aggregate basis which is not the case (or only at a lower confidence level) for France. Moreover, the leverage variable is no longer significant for France alone. Noteworthy is furthermore the highly significant negative effect of the quick ratio in France contradicting hypothesis 8. Thus, contrary to theory, one can expect to see higher liquidity to lead to a lower voting premium in France.

Italy

For the regression conducted on an Italian dataset (refer to Panel I of Table XV in Appendix B.V) we cannot observe the significant effect of the price-to-earnings ratio, which we found on an aggregate level. Moreover, the sign of the effect of the market-to-book ratio, Net Debt/EBITDA ratio and return on assets switches when only looking at Italy. Thus, in contrast to the aggregate dataset, in Italy we can expect the value of the vote to be positively related to both firm performance and leverage. In addition, the significant negative effect of the dividend yield on the value of a vote, which we saw in the aggregate dataset, is not present for the regression based on Italy alone.

Spain

For the regression based on a Spanish dataset (refer to Panel J of Table XV in Appendix B.V), two explanatory variables, the Net Debt/EBITDA and the quick ratio, are excluded due to insufficient data availability. Moreover, the sample size is, with 239 observations, relatively small and the results we obtain may be biased by this limitation. In comparison to the regression based on an aggregate dataset (which excludes Spain), we no longer see the previously significant effects of the price-to-earnings ratio, dividend yield, and the ratio of capital expenditures to total assets.

7 Conclusion

In this paper we first measure the size of the voting premium following the methodology developed by Kalay, Karakas and Pant (2014), which is based on a rearrangement of the put-call-parity. While their initial study is conducted solely on the basis of the US market, we examine the value of the vote in Germany, Switzerland, the United Kingdom, France, Italy, and Spain in the time period from 2006 to 2008. Moreover, we investigate how the value of the vote is developing in a time-series around shareholder meetings and, lastly, how it is affected by certain commonly identified voting premium determinants.

Firstly, we find a mean annualized value of the vote of 1.04% based on an aggregate country dataset, which is significantly lower than the US market figure of 1.58% found by Kalay, Karakas and Pant (2014). We furthermore find that the value of the vote in the next T days is an increasing function of maturity days T. This observation is in line with the findings of the authors of the original study as well as the theoretical implication, stating that the price of the synthetic stock, based on options, and the price of the regular stock converge upon approaching the maturity of the underlying option. We, moreover, find statistical evidence to conclude that the voting premium is higher in the countries that follow a French civil law system rather than a common law or German civil law system. This is in line with both, previous research and common expectations, and can most likely be attributed to the worse quality of corporate governance standards and minority shareholder protection in the countries we define as Southern European compared to Germany, Switzerland and the UK, which are generally believed to be countries with high standards regarding this matter.

Secondly, in analyzing the time-series variation of the voting premium around shareholder meetings based on our aggregate country dataset, we observe that the voting premium is on average higher in the 16-trading week period following such a meeting compared to the equivalent period before. Nevertheless, the value of the vote still peaks two weeks prior to shareholder meetings. We, on the basis of an aggregate country dataset, cannot support the common expectation that the value of the vote in a period immediately prior to the voting event is higher than during a period two quarters after the event. Both of these overarching findings on an aggregate level represent the opposite of our hypothesis and oppose the common expectation that the value of the vote should be higher in situations in which the right to vote can be exercised. Despite contradicting common expectations, our findings are in line with Kalay, Karakas and Pant (2014) who only find a significant positive effect for special meetings, but not for annual ones. Since only a small fraction of the meetings in our sample is comprised of special meetings, the insignificant effect of annual meetings in turn can likely be attributed to the fact that the topics on the voting agenda are generally more important for special meetings than for annual ones. Thus, investigating the value of the vote around special shareholder meetings in Europe would be an interesting field for future research. Moreover, the only country in our dataset for which we find the expected increase of the value of the vote before a meeting is France. This would suggest that the occurrence of a voting event has a stronger effect in a country that is following a legal system, which offers less minority shareholder protection.

Lastly, controlling for various commonly identified voting premium determinants from the corporate governance literature, we, in line with previous studies, find negative effects on the value of the vote of the proxy variables for firm performance and leverage and a positive effect for liquidity. This reaffirms the notion that shareholders are valuing the potential for performance improvement in a firm as well as the possibility to more easily redirect funds in companies with low debt and high cash on hand. Furthermore, we find inconclusive evidence regarding the effect of firm size on the value of the vote. We feature three metrics to account for this determinant, those, however, yield both significantly positive and negative effects and we can hence, and in line with findings in existing literature, not conclude on a definite sign for the effect of firm size on the value of the vote. Interestingly, for both applied metrics accounting for private benefits of control, i.e. the ratio of capital expenditures to total assets and the dividend yield, we find that, contradicting common expectations, they are positively related to the value of the vote. While it is expected that the voting premium should increase with the potential for the extraction of private benefits of control, our findings of the variables are contradicting this. These findings should, however, by no means be interpreted as definitive evidence for a negative relation of private benefits of control to the voting premium, as these metrics do not capture all sources of private benefits. In order to further investigate the effect of private benefits of control on the voting premium based on options, controlling for metrics capturing legal sources of these benefits, such as the level of minority shareholder protection in a certain country, which we were unable to do due to limited data availability, would be a valuable addition by future research.

Critical Evaluation and Limitations

In addition to the previously mentioned points, we in the following present limitations related to our study. As outlined in section 3.5.3, the data used to conduct all of our empirical analyses is subject to significantly lower liquidity in European markets relative to the United States and, thus, to the resulting data availability limitations. This is most obvious in the time period applied. While Kalay, Karakas and Pant (2014) are able to investigate eleven years of US data in their study, the European database does not provide such dense data for a sufficiently long time period, leading to the aforementioned significantly shorter time period covered in our study. While this still allows us to conduct a cross-country analysis and come to conclusions on an area and aggregate basis, the covered time period prevents us from looking at the voting premium in a time-series around events that shocked the global economy and that would likely have an impact on the value of the vote too. Such events are, for instance, the global financial crisis in 2008, Brexit and the triggering of Article 50 as well as the election of Donald Trump as president of the United States in 2016. Furthermore, the aforementioned data availability issue also becomes evident when looking at both the number of firms and observations investigated in this empirical analysis relative to the initial study by Kalay, Karakas and Pant (2014). This is particularly apparent for Spain and Italy which exhibit the lowest numbers of observations. Accordingly, the results we find for these two countries need to be interpreted in light of these limitations.

Moreover, the methodology we feature in this paper, although innovative in comparison to the traditional voting premium methods, entails certain limitations: firstly, the valuation of the right to vote by means of the option-based method is influenced by the valuation of the equity options and company stock. Thus, the method is highly prone to misstating the voting premium in case of misvalued equity. Moreover, due to the existence of a vote-related early exercise premium which cannot be quantified, the methodology by Kalay, Karakas and Pant (2014) is subject to downward biases. Although we intend to minimize these biases by including only options within a certain moneyness range, these biases cannot be eliminated entirely and constitute a limitation of the approach.

Furthermore, in our regression model which is related to voting premium determinants, we do not account for all of the determinants identified by existing literature. The exclusion of these voting premium determinants can, however, in all cases be attributed to limited data availability (refer to Appendix A.III for an outline of determinants not included in our model). Lastly, we do not control for industry-fixed effects. For some of the metrics we apply, however, significant deviations across industries are common (for instance, return on assets), which may be seen critically.

Suggestions for Further Research

In addition to suggestions for further research which we already described above, we would finally like to point towards additional fields of interest for future studies. Firstly, the research approach we have presented could be extended to other (European) markets such as the Netherlands or Belgium. A geographic extension of this study is subject to the aforementioned liquidity of derivative markets as well as general data availability, which already constitutes a major obstacle in our study. In addition to these geographic extensions, the research approach we have presented can also be applied on the basis of a case study, in which the value of the right to vote could for instance be measured for individual firms in the short- or long-term. Moreover, and as mentioned previously, one aspect that Kalay, Karakas and Pant (2014) take into account in their paper is hedge fund activism, which we, however, did not feature in our paper for reasons of both limited scope and data availability. They find that hostile activism, as opposed to non-hostile activism, leads to a higher value of the vote. Based on this evidence, it would be interesting to see whether the same holds true for the European markets that we investigate in this paper. Moreover, Gurun and Karakas (2016) in a follow-up study look at the effect that earnings announcements have on the value of voting rights based on option prices. In this regard, they find a negative relationship between voting premiums and earnings surprises. In a further study Karakas and Mohseni (2016) investigate the impact of staggered boards on the value of voting rights based on option prices. They find that for corporations, which have staggered boards in place, voting premiums appear to be higher and premiums decrease as boards become less staggered. Implementing both of these two research approaches in Europe would constitute a valuable extension to the existing European corporate governance and voting premium literature. Based on the above, it is obvious that valuing the right to vote based on option prices should remain a part of future corporate governance research.

References

Aktiengesetz, Part 4 Ch. 4, Retrieved from https://www.gesetze-im-internet.de/bundesrecht/aktg/gesamt.pdf

Albuquerque, R., & Schroth, E., 2010, Quantifying private benefits of control from a structural model of block trades. *Journal of Financial Economics*, *96*(1), 33-55.

Ang, J. S., & Megginson, W. L., 1989, Restricted voting shares, ownership structure, and the market value of dual-class firms, *Journal of Financial Research*, *12*(4), 301-318.

Barclay, M. J., & Holderness, C. G., 1989, Private benefits from control of public corporations, *Journal of financial Economics*, *25*(2), 371-395.

Benoit, K., 2011, Linear regression models with logarithmic transformations. *London School of Economics, London*.

Birgé, L., 1987, On the risk of histograms for estimating decreasing densities. *The Annals of Statistics*, 1013-1022.

Braggion, F., & Giannetti, M., 2013, Public Debate and Stock Prices: Evidence from the Voting Premium. CEPR Discussion Paper No. DP9619. Available at SSRN: https://ssrn.com/abstract=2319965

Caprio, L., & Croci, E., 2008, The determinants of the voting premium in Italy: the evidence from 1974 to 2003. *Journal of Banking & Finance*, *32*(11), 2433-2443.

Cox, J. C., Ross, S. A., & Rubinstein, M., 1979, Option pricing: A simplified approach. *Journal of financial Economics*, 7(3), 229-263.

Cox, S. R., & Roden, D. M., 2002, The source of value of voting rights and related dividend promises. *Journal of Corporate Finance*, *8*(4), 337-351.

Damodaran, A., 2005, The value of control: implications for control premia, minority discounts and voting share differentials. Available at SSRN: https://ssrn.com/abstract=837405 or http://dx.doi.org/10.2139/ssrn.837405

Downs, A., 1957, An economic theory of political action in a democracy, *Journal of Political Economy*, *65*(2), 135-150.

Dyck, A., & Zingales, L., 2004, Private benefits of control: An international comparison. *The Journal of Finance*, *59*(2), 537-600.

Easterbrook, F. H., & Fischel, D. R., 1983, Voting in corporate law. *The Journal of Law and Economics*, *26*(2), 395-427.

Ehrhardt, O., & Nowak, E., 2001, Private benefits and minority shareholder expropriation: Empirical evidence from IPOs of German family-owned firms (No. 2001/10). CFS Working paper, Center for Financial Studies.

Eurex 2016, Equity Options at Eurex Exchange. Retrieved from: http://www.eurexchange.com/blob/850370/3718ca20d5052ac99505cda28d4fef11/data/presentation˙eurex-equity-options-feb2016.pdf

Feldman, M. S., 2000, Organizational routines as a source of continuous change, *Organization science*, *11*(6), 611-629.

Francis, J., Schipper, K., & Vincent, L., 2005, Earnings and dividend informativeness when cash flow rights are separated from voting rights. *Journal of accounting and economics*, *39*(2), 329-360.

Gantenbein, P., Kind, A., & Poltera, M., 2016, Corporate Governance and the Market Value of Shareholder Voting Rights. Working Paper, University of Konstanz and University of Basel.

Gurun, U. G., & Karakaş, O, 2016, Earnings and the Value of Voting Rights. Working Paper, Boston College and University of Texas.

Harbula, P., 2011, Voting Premium and Corporate Governance: The Case of France. SSRN Electronic Journal. Available at: https://www.researchgate.net/profile/Peter˙Harbula/publication/228295838˙Voting˙Premium˙and˙Corporate˙Governance˙The˙Case˙of˙France/links/5566089e08aefcb861d1955f.pdf

Harris, M., & Raviv, A., 1991, The theory of capital structure. *The Journal of Finance*, 46(1), 297-355.

Hayes, A. F., & Cai, L., 2007, Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior research methods*, *39*(4), 709-722.

Hinkley, D. V., 1977, Conditional inference about a normal mean with known coefficient of variation. *Biometrika*, 105-108.

Hoffmann-Burchardi, U., 1999, Corporate Governance Rules and the Value of Control-A Study of German Dual-Class Share.

Horner, M. R., 1988, The value of the corporate voting right: evidence from Switzerland. *Journal of banking & finance*, *12*(1), 69-83.

Jensen, M. C., 1986, Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, *76*(2), 323-329.

Jensen, M. C., & Meckling, W. H., 1976, Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, *3*(4), 305-360.

Kalay, A., Karakaş, O., & Pant, S., 2014, The market value of corporate votes: Theory and evidence from option prices. *The Journal of Finance*, *69*(3), 1235-1271.

Karakas, O., 2009, *Mean reversion between different classes of shares in dual-class firms: Evidence and implications*. Working Paper, London Business School.

Karakaş, O., & Mohseni, M., 2016, Staggered Boards and the Value of Voting Rights. Working Paper, Boston College and Texas A&M University.

Klapper, L. F., & Love, I., 2004, Corporate governance, investor protection, and performance in emerging markets. *Journal of corporate Finance*, *10*(5), 703-728.

Lease, R. C., McConnell, J. J., & Mikkelson, W. H., 1984, The market value of differential voting rights in closely held corporations. *Journal of Business*, 443-467.

Martynova, M., & Renneboog, L., 2008, A century of corporate takeovers: What have we learned and where do we stand?. *Journal of Banking & Finance*, 32(10), 2148-2177.

Megginson, William, 1990, Restricted Voting Stock, Acquisition Premiums, and the Market Value of Corporate Control, Financial Review 25, 175–198.

Muus, C., 1998, *Non-voting shares in France: an empirical analysis of the voting premium* (No. 22). Working Paper Series: Finance & Accounting, Johann Wolfgang Goethe-Universität Frankfurt a. M..

Neftci, S. N., 2008, *Principles of financial engineering* (Academic Press, New York).

Nenova, T., 2003, The value of corporate voting rights and control: A cross-country analysis. *Journal of Financial Economics*, *68*(3), 325-351.

Nicodano, G., 1998, Corporate groups, dual-class shares and the value of voting rights. *Journal of Banking & Finance*, *22*(9), 1117-1137.

OptionMetrics, 2015, Ivy DB Europe: File and Data Reference Manual. Retrieved from: https://wrds-web.wharton.upenn.edu/wrds/support/Data/˙001Manuals%20and%20Overviews/˙105OptionMetrics/IvyDB%20Europe%20Reference%20Manual.pdf.cfm

Paredes, C., & Núñez-Lagos, R., 2015, Spain. In: *The Corporate Governance Review*. London: Law Business Research Ltd. 341-353.

Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W., 1998, Law and finance. *Journal of political economy*, *106*(6), 1113-1155.

Robinson, T., Henry, E., Pirie, W., & Broihahn, M., 2008, Financial Analysis Techniques. In: International Financial Statement Analysis. New York: Wiley. 297-368.

Rubinstein, M., 1976, The valuation of uncertain income streams and the pricing of options. *The Bell Journal of Economics*, 407-425.

Rydqvist, K., 1987, *The pricing of shares with different voting power and the theory of oceanic games*. Dissertation, Economic Research Institute at the Stockholm School of Economics.

Stoll, H. R., 1969, The relationship between put and call option prices. *The Journal of Finance*, 24(5), 801-824.

UK Companies Act, 2006, Part 13 Ch.7. Retrieved from http://www.legislation.gov.uk/ukpga/2006/46/pdfs/ukpga˙20060046˙en.pdf

Zheng, Y., 2011, Determinants of the Voting Premium in Swedish Listed Shares. Stockholm University.

Zingales, L., 1994, The value of the voting right: A study of the Milan stock exchange experience. *Review of financial Studies*, *7*(1), 125-148.

Zingales, L., 1995, What determines the value of corporate votes?. *The Quarterly Journal of Economics*, *110*(4), 1047-1073.

Zingales, L., & Rajan, R. G., 2003, Banks and Markets: The Changing Character of European Finance (No. w9595). Working Paper, National Bureau of Economic Research.

Appendix

List of Appendices

Appendix A I
Appendix A.I Findings from Selected Previous Voting Premium Studies................................I
Appendix A.II Advantages of Using Derivatives for Measuring the Voting Premium.............I
Appendix A.III Additional Voting Premium Determinants II
Appendix A.IV Calculation of Annualized Values of the Vote IV
Appendix A.V Computation of Dividend-related Early Exercise Premiums.......................... IV
Appendix A.VI Note on the Conducted Regression Analyses VI
Appendix B.. VII
Appendix B.II The Value of the Vote in the Next T Days VIII
Appendix B.III - Regression Analyses R.1 to R.5 XVI
Appendix B.IV The Value of the Vote around Shareholder Meetings XVIII
Appendix B.V Determinants of the Voting Premium (Hypotheses 5 - 12) XXII

List of Tables in Appendix B

Table II The Value of the Vote in the Next T Days - Central Europe...............................VIII
Table III The Value of the Vote in the Next T Days - Southern Europe IX
Table IV The Value of the Vote in the Next T Days - Germany X
Table V The Value of the Vote in the Next T Days - Switzerland...................................... XI
Table VI The Value of the Vote in the Next T Days - United Kingdom XII
Table VII The Value of the Vote in the Next T Days - France..XIII
Table VIII The Value of the Vote in the Next T Days - Italy..XIV
Table IX The Value of the Vote in the Next T Days - Spain..XV
Table X Regression Variables used in Regression Models R.1 to R.5 XVI
Table XI Regression Analysis Related to Hypotheses 2 and 3 - Aggregate Basis XVII
Table XII Regression Analysis Related to Hypothesis 2 XVII
Table XIII Time-Series Variation of the Voting Premium around Shareholder Meetings ...XIX
Table XIV Regression Analysis Related to Hypothesis 4 - Aggregate Basis..........................XX
Table XV Regression Variables used in Regressions Models R.6 to R.7 XXII
Table XVI Regression Analysis - Voting Premium Determinants XXIII

List of Figures in Appendix B

Figure I Time-Series Value of the Vote around Shareholder Meetings – Aggregate Basis XVIII
Figure II Time-Series Value of the Vote around Shareholder Meetings – Central Europe XVIII
Figure III Time-Series Value of the Vote around Shareholder Meetings – Germany XVIII
Figure IV Time-Series Value of the Vote around Shareholder Meetings – Switzerland XVIII
Figure V Time-Series Value of the Vote around Shareholder Meetings–United Kingdom XVIII
Figure VI Time-Series Value of the Vote around Shareholder Meetings – France............ XVIII

Appendix A

Appendix A.I Findings from Selected Previous Voting Premium Studies

The below tables provide an overview of the empirical studies that have been conducted on the voting premium in the past, categorized both by method of voting premium measurement applied and by country.

Next to previous studies on the six countries analyzed in this paper (Germany, France, Italy, Spain, Switzerland, United Kingdom), certain studies for the United States as well as Japan and Brazil (due to their extreme magnitude) and Sweden are shown (see also Kalay, Karakas and Pant, 2014).

1) Studies Based on Companies with a Dual-class Share System

Researcher	*Year of Publication*	*Country of Analysis*	*Period Covered*	*No. of Companies*	*Mean Voting Premium*
Horner	1988	Swtzerland	1973 - 1983	45	20.00%
Megginson	1990	United Kingdom	1955 - 1982	152	13.30%
Zingales	1994	Italy	1987 - 1990	96	81.50%
Zingales	1995	United States	1984 - 1990	94	10.50%
Rydqvist	1996	Sweden	1983 - 1990	65	12.00%
Muus	1998	France	1986 - 1996	25	51.35%
Hoffmann-Burchardi	1999	Germany	1988 - 1997	84	26.34%

2) Cross-country Studies Based on Block-Sale Method

	Nenova (2003)		Dyck & Zingales (2004)	
Country	*No. of Transactions*	*Mean Voting Premium*	*No. of Transactions*	*Mean Voting Premium*
Germany	65	9.50%	17	10.00%
France	9	28.05%	4	2.00%
Italy	62	29.36%	8	37.00%
Spain		n/a	5	4.00%
Switzerland	37	5.44%	8	6.00%
United Kingdom	27	9.57%	41	1.00%
United States	39	2.01%	46	1.00%
Japan		n/a	21	-4.00%
Brazil	141	23.19%	11	65.00%

3) Study Based on Derivative Method

Researcher	*Year of Publication*	*Country of Analysis*	*Period Covered*	*No. of Companies*	*Mean Annualized Voting Premium*
Kalay, Karakas and Pant	2014	United States	1997 - 2006	4,768	1.58%

Appendix A.II Advantages of Using Derivatives for Measuring the Voting Premium

To a great extent the advantages of using options to assign a value to the right to vote stem from disadvantages entailed in the traditional methods of measuring voting premiums. While the traditional methods of measuring voting premiums are dependent on companies with dual-share classes or the occurrence of a block sale of shares which transfers ownership, the derivatives approach is not limited in this way and allows to derive the value of a vote for all companies with traded shares and options.

Measuring the voting premium based on the price differential in dual-share classes casts the obvious disadvantage that the sample of corporations for which the voting premium can be computed will always be limited to those that have a dual-class-share system in place. As a result, this method leads to relatively small sample sizes. For instance, the aforementioned study by Zingales (1994) is based on only 96 companies. Furthermore, Kalay, Karakas and Pant (2014) point out that two or more different classes of shares will usually differ in terms of their liquidity which in turn makes the measurement of the value of a vote more imprecise. A further disadvantage of the first method is that it is subject to a selection bias since only certain types of companies have an interest in having dual-classes of shares listed such that the sample used under this method may not yield a representative result for all publically traded companies.

A potential selection bias and small sample size constitute significant drawbacks in using block sales to compute the voting premium as well, since a controlling stake of shares is only transferred for a fraction of all companies in a certain market and during a given period of time. For instance, the global cross-country study by Nenova (2003) includes 661 firms in 18 countries, while Kalay, Karakas and Pant (2014) have a sample size of 4,768 in the US alone. Moreover, unless such a controlling share is transferred, this method of measuring the voting premium will not be feasible (Kalay, Karakas and Pant, 2014).

In contrast to these drawbacks, the use of derivatives allows for the possibility to measure voting premiums for all companies that have traded options outstanding regardless of whether a company lists multiple classes of shares or whether a controlling block of shares is transferred. Consequently, the sample sizes in studies based on this method are likely to be significantly bigger than in the aforementioned methods. Moreover, the use of derivatives allows for calculation of voting premiums over time, which represents an especial advantage of this method over the block sales approach. Furthermore, and again in contrast to both other methods, this new approach is less subject to a selection bias since the trading of options is generally beyond the control of shareholders. (Kalay, Karakas and Pant, 2014) Lastly, the derivatives approach introduces the possibility to calculate the voting premium for the next T days (i.e. the days to maturity of the option), which poses a benefit over the other two other approaches which show the voting premium for an infinite time period. (Gantenbein, Kind and Poltera, 2016)

Appendix A.III Additional Voting Premium Determinants

Ownership Structure

More concentrated ownership in a company has a positive effect on the potential for the extraction of private benefits which in turn positively affects the voting premium (Caprio and Croci, 2008). According to Zheng (2011), the specific case of two shareholders who share the majority ownership in the company and hold similar stakes in terms of size, leads to higher control premiums compared to a situation with only one majority shareholder, as competition for the controlling stake is sparked. In such circumstances, the voting rights become more valuable relative to when a shareholder already has a manifested position as the sole majority stakeholder. In line with above observations are the findings of Caprio and Croci (2008), which, based on Italian firms, show that family-owned firms assign a higher value to control. This is explained through a family's higher interest to retain control in a company and the relatively higher likelihood that families will expropriate other shareholders, thus valuing control more.

Merger & Acquisition (M&A) Activity and Probability of Takeovers

Rydqvist (1987) finds that the general takeover activity in the market has a positive effect on voting premiums, i.e. a rise in the size of the voting premiums during times of a more active M&A market. This can be explained through the fact that during those times a general contest for control emerges, leading to a higher value being assigned to the vote. In contrast to this, Braggion and Giannetti (2013) strikingly find that the number of M&A transactions between 1956 and 1970 has an inverse relationship with the size of the voting premium. Further, and in line with the before, they find that the voting premium decreases with the probability that a firm becomes the target of a takeover, which is calculated as a function of time-varying firm characteristics.

In line with these findings by Rydqvist (1987), Kalay, Karakas and Pant (2014) name control contests the most important events in the life of a firm. In a time-series study they find that the value of the vote increases significantly at and after the announcement date of a merger. After the completion of the merger or acquisition or its withdrawal, the voting premium decreases again, however, at a smaller scale than the earlier increase.

Inside and Outside Shareholders

The related literature provides inconclusive evidence regarding the relationship between the value of the vote and whether the holder of that vote is an inside or outside shareholder. Cox and Roden (2002) find that insiders, such as managers or members of the board, assign a higher value to control of and the right to vote in a company than outsiders. Insiders, who are more likely to hold high-vote shares, are less likely to actively trade their shares in the company as they are usually interested in holding their position once they have built it. Thus, high-vote share classes are less liquid. In contrast, Cox and Roden (2002) find an inverse relationship between inside ownership and the voting premium. They mainly attribute this to the fact that insiders are already effectively controlling the firm, thus, decreasing the value of a vote.

Outside shareholders value control under certain circumstances and for different reasons, this could even be their mere interest in attempting to improve the firm performance through exercising the right to vote. An exemplary situation in which outside shareholders may value the right to vote quite highly is that of a shareholder meeting allowing them to participate in firm-related decisions. (Cox and Roden, 2002)

In line with this, Karakas (2009) and Gantenbein, Kind and Poltera (2016) find that the voting premium increases prior to voting events, that is either an annual or special shareholder meeting, of the respective firm. Kalay, Karakas and Pant (2014) furthermore find a significant rise in the voting premium for special meetings, in which, generally and in comparison to annual meetings, more important topics are on the voting agenda.

Appendix A.IV Calculation of Annualized Values of the Vote

Since the voting premium based on options is calculated on the basis of the next T days, we additionally compute the value of the right to vote on an annualized basis in order to account for different mean maturity days until expiration and to more easily compare different voting premium values across countries.

In order to compute the annualized value of the vote, however, we need to apply certain assumptions following Kalay, Karakas and Pant (2014). They first compute a hypothetical dividend yield, related to the the voting right and denoted as d_y, which they assume to be constant until the option expiration. This is the case since the expected maturity of the synthetic stock is unknown which would lead to a downard bias in the estimation of the voting premium. Given this dividend yield over the time until expiration T, the following relation between the difference of the regular stock S and the snythetic one, $\hat{S}(T)$, can be made:

$$S - \hat{S}(T) = S - Se^{-d_y T} \tag{A.1}$$

Solving this expression for the dividend yield d_y yields:

$$d_y = -\frac{\ln\left(1 - Voting\ Premium_{normalized}(T)\right)}{T} \tag{A.2}$$

The annualized value of the vote can then be determined as follows:

$$Annualized\ Voting\ Premium^{T}_{normalized} = 1 - e^{-d_y 365} \tag{A.3}$$

Then substituting the right hand side of equation (A.2) for d_y and simplifying, the annualized value of the vote can be expressed as, which we use for computations of annualized voting premiums.

$$Annualized\ Voting\ Premium^{T}_{normalized} = 1 - \left(1 - Voting\ Premium_{normalized}(T)\right)^{\frac{365}{T}} \tag{A.4}$$

Appendix A.V Computation of Dividend-related Early Exercise Premiums

As mentioned in section 3.2, while we cannot exactly quantify the early exercise premium related to the right to vote in a company, this undertaking is possible for the part of the early exercise premium that is attributable to dividends. As again mentioned in section 3.2, we calculate the part of the early exercise premiums attributable to dividends for both put and call options, denoted as EEP^{Div}_{Call} and EEP^{Div}_{Put} respectively, using the binomial model according to Cox, Ross, and Rubinstein (1979).

For calculating the EEP^{Div}_{Call} and EEP^{Div}_{Put} using the bionmial model, we require maturity days, implied volatilities, strike and share prices, historical dividend distributions, risk-free rate data, and ex-dates (i.e. the dates at which the dividends are paid). All these inputs are once again retrieved from IvyDBOptionMetrics, with the exceptions of stock prices and data on risk-free interest rate, which as outlined in section 3.2 are again outlined retrieved from Thomson Reuters Datastream.

In the binomial model, a certain number of steps is applied. At each of these steps the price of a stock can either increase or decrease: these up and down movements are calculated according to the following formulas:

$$u = e^{\sigma\sqrt{\Delta t}} \tag{A.5}$$

$$d = e^{-\sigma\sqrt{\Delta t}} \tag{A.6}$$

In particular, the above formulas determine the magnitude by which such an upward or downward price movement will occur. In our calculation of the dividend-related early exercise premiums, we apply 100 steps in the binomial model. As a result, a binomial tree with 100 nodes (one at each step) displaying all possible price increases and decreases over the 100 steps is constructed. At each node in turn, the option is priced based on expected future stock prices according to the above up and down factors. Moreover, in the binomial model a distinction is made regarding the exercise style of the option.

An option can be either American- (i.e. allowing for expiration prior to the expiration of the option) or European style (i.e. not allowing for expiration prior to the expiration of the option). Thus, for American options it is furthermore determined whether at a certain node it is optimal to exercise the option early. In contrast, the European options only allow for being exercised in the very last step. The additional value generated from having the right to exercise at any point in time in case of American options leads to a higher price of the American compared to the European option. The price differential resulting from this additional value represents the early exercise premium related to dividends that we intend to calculate for call (EEP_{Call}^{Div}) and put (EEP_{Put}^{Div}) options. (Cox, Ross and Rubinstein, 1979)

As a result, for each option pair we define:

$$EEP_{Put}^{Div} = American\ option\ premium_{Put} - European\ option\ premium_{Put} \tag{A.7}$$

$$EEP_{Call}^{Div} = American\ Option\ Premium_{Call} - European\ Option\ Premium_{Call} \tag{A.8}$$

Following the methodology of binomial model for option pricing, we hence calculate the prices of European and American options for both puts and calls, respectively. Thereafter, we calculate the dividend-related early exercise premiums (EEP_{Call}^{Div} and EEP_{Call}^{Div}), by subtracting the premium of the European option from the American option premium for each respective option pair.

Since the part of early exercise premiums related to having the right to vote in a certain company cannot be quantified (Kalay, Karakas and Pant, 2014), EEP_{Put}^{Div} and EEP_{Call}^{Div} in fact become direct inputs for the terms EEP_{Put} and EEP_{Call} in equation (6) in section 3.2. As outlined in section 3.2, accounting for the inability to quantify the EEP_{Put}^{Vote} and EEP_{Call}^{Vote} as well as the resulting downward bias is achieved by means of exclusion of observations with moneyness outside the range from -0.1 to +0.1.

Appendix A.VI Note on the Conducted Regression Analyses

Applied Regression Technique

For all previously described regression analyses, we apply ordinary least squares (OLS) regressions. OLS regressions are commonly used in the voting premium research and in corporate finance in general, when the variables in questions have a linear relationship. They help investigate the relationship between a dependent variable, y, and one or, as in our case, multiple explanatory variables, x, by means of a linear regression. The deviations of the actual observations to the predicted values are squared and minimized. The found relation should make it possible to formulate a model that is able to predict future values of the dependent variable only knowing the values of the explanatory variables. Moreover, it is used to find causalities between the dependent and independent variables. The OLS regression model is given as (where α represents the constant term in the regression, β_i the regression coefficient belonging to the independent variable x_i and ε the regression error term):

$$y = \alpha + \sum_{i=1}^{n} \beta_i x_i + \varepsilon,$$

such that,

$$(a_{OLS}, b_{OLS}) = \arg\min_{a,b} \sum_{i}^{n} [(y_i - a - x_i b)^2]$$

In addition, in order to be able to conduct a meaningful OLS regression, the data on which the regression is based must fulfill certain requirements. These requirements in specific are that the dependent and the independent variables have a linear relationship, the errors are statistically independent, the existence of homoscedasticity and that the errors follow a normal distribution.

Moreover, as the variance-covariance matrix of the OLS is assuming homoscedasticity, applying it on heteroscedastistic data would lead to biased results. Therefore, in our specific dataset we apply heteroscedasticity-consistent standard errors, in order to counter the heteroscedasticity issue. This means that the estimators are derived using the OLS regression, however, the standard errors are calculated using a different method which is not assuming homoscedasticity. (Cai and Hayes, 2007) In particular, we are making use of HC1, an estimator introduced by Hinkley (1977).

Use of Natural Logarithms for Certain Control Variables

As noted in previous sections, for some of the control variables, namely option and stock liquidity ("LNStockVolume" and "LNOptionVolume") as well as market value ("LNMarketValue"), we apply the natural logarithm, with a base e, of the respective values of the variables. The rationale for applying a logarithmic transformation for these variables is that by means of such transformation one can assign a rather normal distribution to a variable that may otherwise show high skewness. Moreover, in situations in which the relation between the dependent and the independent variable is not perfectly linear, applying a logarithmic transformation may allow for the possibility to still apply the linear regression model rather than a different technique. (Benoit, 2011)

Appendix B

Appendix B.I Overview of Companies Included in the Dataset per Country

Country	France	Germany	Italy	Spain	Switzerland	United Kingdom
N	34	32	14	7	21	30
	ACCOR	*ADIDAS-SALOMON*	*AUTOGRILL*	*ACERINOX*	*ABB N*	*ANGLO AMERICAN*
	AIR FRANCE - KLM	*AIXTRON*	*AUTOSTRADE*	*BANCO POPULAR R*	*ADECCO N*	*ASTRAZENECA*
	ALCATEL	*BASF*	*BANCHE POP UNITE*	*BBVA R*	*BALOISE HLDG N*	*AVIVA*
	ALSTOM	*BAYER*	*BCA P.MILANO*	*BSCH R*	*CLARIANT N*	*B SKY B GROUP*
	ATOS ORIGIN	*BEIERSDORF*	*ENI*	*ENDESA*	*CS GROUP N*	*BAE SYSTEMS*
	AXA	*BMW*	*FINMECCANICA*	*INDITEX R*	*GIVAUDAN N*	*BARCLAYS*
	BNP PARIBAS	*COMMERZBANK*	*FONDIARIA-SAI*	*REPSOL YPF*	*HOLCIM N*	*BG GROUP*
	BOUYGUES CI N.	*CONTINENTAL AG*	*GENERALI ASS*		*KUDELSKI*	*BHP BILLITON*
	CAP GEMINI	*DEUTSCHE BANK N*	*LUXOTTICA GROUP*		*LONZA GRP N*	*BP*
	CARREFOUR	*DEUTSCHE POST N*	*MEDIASET*		*NESTLE N*	*BT GROUP*
	CASINO GP ADP	*DEUTSCHE TELEKOM N*	*MEDIOBANCA*		*NOVARTIS N*	*CENTRICA*
	CREDIT AGRICOLE	*DT.LUFTHANSA N*	*SAIPEM*		*RICHEMONT UNITS -A-*	*COMPASS GROUP*
	DANONE	*E.ON AG*	*SNAM RETE GAS*		*ROCHE HLDG G*	*DIAGEO*
	DASSAULT SYST.	*FRESENIUS MED CARE*	*UNICREDITO ITALIANO*		*SULZER N*	*GLAXOSMITHKLINE*
	EDF	*FRESENIUS VZ*			*SWISS LIFE HLDG N*	*HILTON GROUP*
	FRANCE TELECOM	*HANNOVER RUECKV. N*			*SWISS RE N*	*HSBC HLDG*
	GAZ DE FRANCE	*HENKEL VZ*			*SWISSCOM N*	*LEGAL & GENERAL*
	LAGARDERE SCA N	*HOCHTIEF*			*SYNGENTA N*	*LLOYDS TSB*
	L'OREAL	*INFINEON TECHNO N*			*UBS N*	*MARKS & SPENCER*
	LVMH	*K+S AG*			*UNAXIS HLDG N*	*NATIONAL GRID*
	MICHELIN	*LANXESS*			*ZURICH FINL SVCS N*	*PRUDENTIAL*
	PEUGEOT	*LINDE*				*RECKITT BENCKISER*
	PINAULT PRINTEMPS	*MERCK*				*RIO TINTO*
	PUBLICIS GROUPE	*METRO*				*ROYAL BK SCOTL GR*
	RENAULT	*MUENCH RUECKVERS N*				*ROYAL DUTCH SHELL-B*
	SAFRAN	*PUMA*				*SAINSBURY*
	SAINT GOBAIN	*RWE -A-*				*STANDARD CHARTERED*
	Sanofi Synthelabo	*SALZGITTER*				*TESCO PLC*
	SODEXHO ALLIANCE	*SAP*				*UNILEVER*
	TF1	*SIEMENS N*				*VODAFONE GROUP*
	THALES	*SOLARWORLD*				
	TOTAL	*THYSSENKRUPP*				
	VINCI					
	VIVENDI UNIVERSAL					

Appendix B.II The Value of the Vote in the Next T Days

Table I *The Value of the Vote in the Next T Days - Central Europe*

This table presents the values of the vote in the next T days for Central Europe across different maturity days bins as well on a country basis. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	17	12,358	-15.06%	0.03%	0.05%	0.06%	0.01%	21.65%	1.06%
2	45	9,430	-14.98%	0.04%	0.07%	0.09%	0.02%	21.03%	0.55%
3	74	4,613	-13.45%	0.07%	0.11%	0.14%	0.04%	22.80%	0.52%
Total	37	26,401	-15.06%	0.05%	0.07%	0.08%	0.02%	22.80%	0.65%

Panel B: Nine Bins (10 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	6	3,803	-15.06%	0.01%	0.03%	0.06%	-0.01%	21.65%	2.11%
2	15	3,438	-6.57%	0.04%	0.07%	0.10%	0.03%	18.74%	1.69%
3	25	5,117	-6.52%	0.02%	0.04%	0.07%	0.01%	18.23%	0.63%
4	35	3,743	-14.89%	0.03%	0.06%	0.10%	0.01%	21.03%	0.64%
5	46	2,685	-14.98%	0.01%	0.06%	0.10%	0.01%	20.24%	0.45%
6	56	3,002	-12.30%	0.04%	0.08%	0.13%	0.04%	19.95%	0.55%
7	66	1,856	-11.75%	0.05%	0.11%	0.16%	0.03%	18.34%	0.58%
8	75	1,574	-6.48%	0.04%	0.10%	0.16%	0.05%	22.24%	0.47%
9	85	1,183	-13.45%	0.04%	0.12%	0.20%	0.04%	22.80%	0.50%
Total	37	26,401	-15.06%	0.05%	0.07%	0.08%	0.02%	22.80%	0.65%

Panel C: Country Basis

Country	Avg. Maturity days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
Germany	36	20,682	-3.06%	0.03%	0.04%	0.05%	0.02%	15.43%	0.38%
Switzerland	36	3,267	-2.60%	0.01%	0.02%	0.04%	0.02%	3.15%	0.24%
UK	40	2,452	-15.06%	0.24%	0.35%	0.46%	0.00%	22.80%	3.12%
Total	37	26,401	-15.06%	0.05%	0.07%	0.08%	0.02%	22.80%	0.65%

Table II *The Value of the Vote in the Next T Days - Southern Europe*

This table presents the values of the vote in the next T days for Southern Europe across different maturity days bins as well on a country basis. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min. VP	Lower 95% Confidence Interval	Mean VP	Upper 95% Confidence Interval	Median VP	Max. VP	Mean Annualized VP
1	17	2,712	-6.81%	0.05%	0.20%	0.35%	-0.07%	81.81%	4.23%
2	45	2,044	-6.72%	0.13%	0.36%	0.60%	-0.09%	82.85%	2.92%
3	75	910	-5.15%	0.08%	0.40%	0.71%	-0.01%	83.45%	1.93%
Total	36	5,666	-6.81%	0.17%	0.29%	0.41%	-0.07%	83.45%	2.89%

Panel B: Nine Bins (10 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min. VP	Lower 95% Confidence Interval	Mean VP	Upper 95% Confidence Interval	Median VP	Max. VP	Mean Annualized VP
1	6	833	-5.65%	-0.13%	0.15%	0.43%	-0.11%	81.07%	8.70%
2	15	698	-5.62%	-0.07%	0.15%	0.37%	-0.03%	18.10%	3.53%
3	25	1,181	-6.81%	0.00%	0.26%	0.52%	-0.07%	81.81%	3.70%
4	35	821	-6.72%	0.02%	0.40%	0.78%	-0.10%	81.01%	4.09%
5	46	549	-6.56%	-0.18%	0.30%	0.77%	-0.04%	82.85%	2.34%
6	56	674	-6.03%	-0.01%	0.37%	0.74%	-0.11%	34.28%	2.39%
7	66	367	-4.65%	-0.14%	0.39%	0.92%	-0.03%	82.28%	2.14%
8	75	274	-3.37%	0.04%	0.39%	0.74%	0.03%	32.16%	1.88%
9	86	269	-5.15%	-0.26%	0.42%	1.10%	0.02%	83.45%	1.76%
Total	36	5,666	-6.81%	0.17%	0.29%	0.41%	-0.07%	83.45%	2.89%

Panel C: Country Basis

Countries	Avg. Maturity Days	N	Min. VP	Lower 95% Confidence Interval	Mean VP	Upper 95% Confidence Interval	Median VP	Max. VP	Mean Annualized VP
France	35	4,020	-5.91%	0.22%	0.27%	0.32%	-0.07%	13.74%	2.83%
Italy	39	1,407	-6.81%	-0.10%	0.37%	0.84%	-2.34%	83.45%	3.43%
Spain	47	239	-2.07%	0.02%	0.11%	0.20%	0.00%	3.91%	0.87%
Total	36	5,666	-6.81%	0.17%	0.29%	0.41%	-0.07%	83.45%	2.89%

Table III *The Value of the Vote in the Next T Days - Germany*

This table presents the values of the vote in the next T days for Germany across different maturity days bins. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	17	9,778	-3.06%	0.03%	0.04%	0.05%	0.01%	15.43%	0.84%
2	44	7,444	-3.00%	0.02%	0.04%	0.05%	0.02%	8.81%	0.30%
3	74	3,460	-2.97%	0.02%	0.04%	0.06%	0.04%	6.07%	0.19%
Total	36	20,682	-3.06%	0.03%	0.04%	0.05%	0.02%	15.43%	0.38%

Panel B: Nine Bins (10 Maturity Days per Bin)

	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	6	2,906	-1.76%	0.01%	0.03%	0.05%	-0.01%	8.32%	1.67%
2	15	2,810	-3.06%	0.04%	0.07%	0.09%	0.04%	15.43%	1.63%
3	25	4,062	-1.92%	0.01%	0.03%	0.04%	0.01%	5.65%	0.37%
4	35	2,980	-2.81%	0.02%	0.04%	0.06%	0.02%	7.22%	0.41%
5	46	2,174	-1.86%	0.01%	0.04%	0.06%	0.01%	5.06%	0.30%
6	56	2,290	-3.00%	0.01%	0.03%	0.06%	0.04%	8.81%	0.21%
7	66	1,410	-2.58%	0.01%	0.04%	0.08%	0.03%	6.07%	0.25%
8	75	1,187	-2.97%	-0.01%	0.03%	0.06%	0.05%	5.00%	0.12%
9	85	863	-2.82%	0.01%	0.05%	0.09%	0.04%	2.75%	0.21%
Total	36	20,682	-3.06%	0.03%	0.04%	0.05%	0.02%	15.43%	0.38%

Table IV *The Value of the Vote in the Next T Days - Switzerland*

This table presents the values of the vote in the next T days for Switzerland across different maturity days bins. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	16	1,608	-2.60%	-0.01%	0.00%	0.02%	0.01%	3.15%	0.10%
2	45	1,061	-1.37%	0.00%	0.03%	0.05%	0.02%	2.71%	0.21%
3	74	598	-0.76%	0.05%	0.07%	0.10%	0.04%	1.86%	0.35%
Total	36	3,267	-2.60%	0.01%	0.02%	0.04%	0.02%	3.15%	0.24%

Panel B: Nine Bins (10 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	6	579	-2.60%	-0.05%	-0.01%	0.02%	0.01%	3.15%	-0.72%
2	15	404	-1.70%	-0.04%	0.00%	0.03%	-0.02%	2.48%	-0.10%
3	26	625	-2.47%	-0.01%	0.02%	0.05%	0.02%	2.20%	0.34%
4	35	395	-1.37%	0.00%	0.03%	0.07%	0.02%	2.71%	0.34%
5	46	267	-0.60%	-0.03%	0.02%	0.06%	0.00%	2.02%	0.13%
6	56	399	-0.86%	-0.01%	0.03%	0.06%	0.03%	1.18%	0.18%
7	65	244	-0.76%	0.03%	0.07%	0.12%	0.05%	1.36%	0.42%
8	76	186	-0.46%	0.02%	0.07%	0.11%	0.05%	1.86%	0.33%
9	86	168	-0.33%	0.02%	0.07%	0.12%	0.03%	0.77%	0.30%
Total	36	3,267	-2.60%	0.01%	0.02%	0.04%	0.02%	3.15%	0.24%

***Table V** The Value of the Vote in the Next T Days - United Kingdom*

This table presents the values of the vote in the next T days for the United Kingdom across different maturity days bins. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	17	972	-15.06%	0.08%	0.22%	0.36%	-0.02%	21.65%	4.71%
2	45	925	-14.98%	0.16%	0.36%	0.57%	0.01%	21.03%	2.90%
3	75	555	-13.45%	0.29%	0.56%	0.83%	0.03%	22.80%	2.71%
Total	40	2,452	-15.06%	0.24%	0.35%	0.46%	0.00%	22.80%	3.12%

Panel B: Nine Bins (10 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	6	318	-15.06%	-0.09%	0.18%	0.45%	0.00%	21.65%	11.02%
2	15	224	-6.57%	-0.05%	0.23%	0.52%	-0.02%	18.74%	5.44%
3	26	430	-6.52%	0.03%	0.24%	0.45%	-0.03%	18.23%	3.40%
4	35	368	-14.89%	-0.04%	0.27%	0.59%	-0.03%	21.03%	2.81%
5	46	244	-14.98%	-0.16%	0.26%	0.68%	0.05%	20.24%	2.05%
6	56	313	-12.30%	0.19%	0.54%	0.89%	0.05%	19.95%	3.51%
7	66	202	-11.75%	0.16%	0.57%	0.97%	0.05%	18.34%	3.11%
8	75	201	-6.48%	0.13%	0.55%	0.98%	0.01%	22.24%	2.67%
9	86	152	-13.45%	-0.02%	0.56%	1.14%	0.03%	22.80%	2.36%
Total	40	2,452	-15.06%	0.24%	0.35%	0.46%	0.00%	22.80%	3.12%

Table VI *The Value of the Vote in the Next T Days - France*

This table presents the values of the vote in the next T days for France across different maturity days bins. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	17	2,072	-5.91%	0.11%	0.17%	0.24%	-0.01%	13.74%	3.77%
2	44	1,329	-4.80%	0.27%	0.36%	0.44%	0.05%	10.35%	2.92%
3	75	619	-5.15%	0.28%	0.42%	0.56%	0.08%	9.24%	2.03%
Total	35	4,020	-5.91%	0.22%	0.27%	0.32%	0.02%	13.74%	2.83%

Panel B: Nine Bins (10 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	6	670	-5.64%	0.01%	0.11%	0.21%	-0.04%	7.93%	6.53%
2	15	531	-5.62%	0.02%	0.14%	0.26%	0.01%	8.15%	3.19%
3	25	871	-5.91%	0.13%	0.24%	0.36%	0.00%	13.74%	3.48%
4	35	564	-4.22%	0.18%	0.31%	0.45%	0.02%	10.35%	3.19%
5	46	364	-3.66%	0.23%	0.38%	0.53%	0.10%	9.48%	2.98%
6	56	401	-4.80%	0.24%	0.40%	0.57%	0.05%	7.20%	2.62%
7	66	232	-2.22%	0.22%	0.40%	0.58%	0.07%	9.24%	2.22%
8	75	198	-3.37%	0.19%	0.43%	0.67%	0.05%	8.45%	2.06%
9	86	189	-5.15%	0.12%	0.43%	0.75%	0.12%	8.50%	1.82%
Total	35	4,020	-5.91%	0.22%	0.27%	0.32%	0.02%	13.74%	2.83%

Table VII *The Value of the Vote in the Next T Days - Italy*

This table presents the values of the vote in the next T days for Italy across different maturity days bins. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)									
Maturity Days Bins	**Avg. Maturity Days**	**N**	**Min**	**Lower 95% Confidence Interval**	**Mean**	**Upper 95% Confidence Interval**	**Median**	**Max**	**Mean Annualized**
1	18	573	-6.81%	-0.38%	0.30%	0.99%	-2.39%	81.81%	5.97%
2	45	607	-6.72%	-0.35%	0.41%	1.18%	-2.34%	82.85%	3.29%
3	74	227	-4.65%	-0.77%	0.42%	1.62%	0.00%	83.45%	2.07%
Total	39	1407	-6.81%	-0.10%	0.37%	0.84%	-2.34%	83.45%	3.43%

Panel B: Nine Bins (10 Maturity Days per Bin)									
Maturity Days Bins	**Avg. Maturity Days**	**N**	**Min**	**Lower 95% Confidence Interval**	**Mean**	**Upper 95% Confidence Interval**	**Median**	**Max**	**Mean Annualized**
1	7	151	-5.65%	-1.15%	0.34%	1.82%	-2.58%	81.07%	16.98%
2	16	144	-5.41%	-0.75%	0.20%	1.16%	-2.37%	18.10%	4.67%
3	25	278	-6.81%	-0.71%	0.34%	1.39%	-2.29%	81.81%	4.73%
4	35	234	-6.72%	-0.64%	0.65%	1.94%	-2.06%	81.01%	6.56%
5	45	157	-6.56%	-1.52%	0.11%	1.74%	-2.38%	82.85%	0.89%
6	56	216	-6.03%	-0.75%	0.38%	1.50%	-2.36%	34.28%	2.44%
7	65	104	-4.65%	-1.39%	0.45%	2.29%	-2.27%	82.28%	2.47%
8	76	59	-2.64%	-1.09%	0.34%	1.77%	-1.76%	32.16%	1.64%
9	86	64	-4.47%	-2.26%	0.45%	3.17%	-2.34%	83.45%	1.92%
Total	39	1,407	-6.81%	-0.10%	0.37%	0.84%	-2.34%	83.45%	3.43%

Table VIII *The Value of the Vote in the Next T Days - Spain*

This table presents the values of the vote in the next T days for Spain across different maturity days bins. Average maturity days, the number of observations (N), minimum (Min), mean, median, maximum (Max), the upper and lower bounds of the 95% mean confidence intervals as well as mean annualized voting premiums are presented.

Panel A: Three Bins (30 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	18	67	-0.61%	-0.01%	0.11%	0.24%	-0.03%	2.34%	2.22%
2	48	108	-2.07%	-0.05%	0.13%	0.30%	-0.01%	3.91%	0.95%
3	73	64	-0.50%	-0.01%	0.09%	0.18%	0.05%	1.70%	0.42%
Total	47	239	-2.07%	0.02%	0.11%	0.20%	0.00%	3.91%	0.87%

Panel B: Nine Bins (10 Maturity Days per Bin)

Maturity Days Bins	Avg. Maturity Days	N	Min	Lower 95% Confidence Interval	Mean	Upper 95% Confidence Interval	Median	Max	Mean Annualized
1	7	12	-0.61%	-0.08%	0.18%	0.43%	0.18%	1.11%	9.01%
2	15	23	-0.25%	-0.03%	0.18%	0.39%	0.07%	2.34%	4.23%
3	24	32	-0.43%	-0.16%	0.04%	0.23%	-0.08%	2.10%	0.55%
4	35	23	-2.07%	-0.36%	0.07%	0.50%	-0.09%	2.80%	0.77%
5	46	28	-0.88%	-0.12%	0.25%	0.61%	0.05%	3.54%	1.93%
6	55	57	-1.04%	-0.13%	0.09%	0.30%	-0.02%	3.91%	0.59%
7	65	31	-0.50%	-0.04%	0.07%	0.18%	0.08%	1.10%	0.41%
8	76	17	-0.34%	-0.10%	0.11%	0.33%	0.06%	1.70%	0.55%
9	86	16	-0.44%	-0.13%	0.08%	0.28%	-0.06%	1.18%	0.32%
Total	47	239	-2.07%	0.02%	0.11%	0.20%	0.00%	3.91%	0.87%

Appendix B.III - Regression Analyses R.1 to R.5

Table IX *Regression Variables used in Regression Models R.1 to R.5*

Regression Analysis	Variable	Name of Variable in Regression Model and Tables	Variable Description	Corresponding Regression Coefficient	Applications of this Variable in Previous Studies	Found Effects in Previous Studies	Related Hypothesis and Expected Effect
R.1 and R.2	Maturity Days*	*"MaturityDaysRank3"* and *"MaturityDaysRank9"*	"MaturityDaysRank3" can take values between 1 and 3 depending on the time until maturity of the respective option. Each of the three bins contains 30 days, with bin containing all days up to and including day 30, bin 2 containing days 31 to 60 and bin 3 containing days 61 to 90. "MaturityDaysRank9" can take values between 1 and 9 depending on the time until maturity of the respective option. Each of the three bins contains 10 days, with bin containing all days up to and including day 10, bin 2 containing days 11 to 20 and so forth. Regressing the value of the vote on these two variables in two separate regressions allows us to investigate whether the value of the vote is indeed an increasing function of the time to maturity T.	β_1 in regression models R.1 and R.2, respectively.	Kalay, Karakas and Pant (2014)	Kalay, Karakas and Pant (2014) do not include the maturity bins as explanatory variables in a regression. Instead they only investigate the mean and confidence intervals of the value of the vote across the three and nine bins, respectively. Across both bin split-ups they find the value of the vote to increase for higher maturity bins.	Hypothesis 2; we expect to see a positive relation between the value of the vote in the next T days and the different maturity bins (both for three and nine maturity bins, even though the effect may be more apparent for the three bins).
R.3	Area Dummy	*"AreaDummy"*	"AreaDummy" takes either the value 0 for an observation from a Southern European country (i.e. France, Italy or Spain) or 1 for an observation from a Central European country (i.e. Germany, United Kingdom or Switzerland). We use it in order to investigate the effect switching from a Central to a Southern European country.	β_1 in regression model R.3, respectively.	n.a.	n.a.	Hypothesis 3; we expect to see a positive relation between the value of the vote and a switch from the group of Central European countries to that of Southern European countries.
R.4 and R.5	Stock Volume**	*"LNStockVolume" and "StockVolumeRank"*	"LNStockVolume" is the natural logarithm (i.e. the log with base *e*) of the stock volume belonging to a certain observation. "StockVolumeRank" is a variable that can take any value between 0 and 9 depending on the size of the stock volume belonging to a certain observation. These two variables are applied in separate regressions and we include them in order to account for stock liquidity.	β_1 in regression model R.4 and R.5, respectively.	Kalay, Karakas and Pant (2014) (only based on bins, not on natural logarithms, however)	No significant effect found	No clear expectation; we include the variable mainly for control purposes following Kalay, Karakas and Pant (2014).
	Option Volume***	*"LNOptionVolume" and "OptionVolumeRank"*	"LNOptionVolume" is the natural logarithm (i.e. the log with base e) of the option volume belonging to a certain observation. "OptionVolumeRank" is a variable that can take any value between 0 and 9 depending on the size of the option volume belonging to a certain observation. These two variables are applied in separate regressions and we include them in order to account for option liquidity.	β_2 in regression model R.4 and R.5, respectively.	Kalay, Karakas and Pant (2014) (only based on bins, not on natural logarithms, however)	No significant effect found	No clear expectation; we include the variable mainly for control purposes following Kalay, Karakas and Pant (2014).
	Window Dummy	*"WindowDummy"*	"WindowDummy" takes either the value 0 for an observation taking place within the control event window, which in turn takes place two quarters after the event window or the value 1 for the actual event window. The actual event window comprises the 20 trading days prior to a company's actual voting event. The control window also contains 20 trading days.	β_3 in regression model R.4 and R.5, respectively.	Kalay, Karakas and Pant (2014)	Kalay, Karakas and Pant (2014) find a significant effect for special shareholder meetings.	Hypothesis 4; we expect the value of the vote in the next T days to be positively related to the window dummy since prior to a voting event the value of the vote should increase.

Note
* In order to investigate the effect of maturity days on the value of the vote we conduct two separate regressions, one with three and one with nine maturity bins.

** We control for stock liquidity in two different ways: firstly by regressing different stock volume bins on the value of the vote and secondly by regressing the natural logarithm of stock volumes on the value of the vote. Each of the two variables is applied in a separate regression.

*** We control for option liquidity in two different ways: firstly by regressing different option volume bins on the value of the vote and secondly by regressing the natural logarithm of option volumes on the value of the vote. Each of the two variables is applied in a separate regression.

Table X *Regression Analysis Related to Hypotheses 2 and 3 - Aggregate Basis*

Below table shows the effect of switching from a Southern to a Central European country in column (1). Columns (2) and (3) show the impact of switching to different maturity day ranks measured by the 3 and 9 bin variables, respectively. The table shows estimators and clustered standard errors. The fixed effects regression coefficients are for reasons of readability not presented in this table.

Voting Premiums Aggregate (with controls)			
	Dependent variable:		
	Normalized Value of the Vote in the next T days		
	(1)	(2)	(3)
AreaDummy	-0.002***		
	(0.001)		
MaturityDaysRank32		0.001***	
		(0.0001)	
MaturityDaysRank33		0.001***	
		(0.0002)	
MaturityDaysRank92			0.001***
			(0.0002)
MaturityDaysRank93			0.001***
			(0.0002)
MaturityDaysRank94			0.001***
			(0.0003)
MaturityDaysRank95			0.001***
			(0.0003)
MaturityDaysRank96			0.002***
			(0.0003)
MaturityDaysRank97			0.001***
			(0.0003)
MaturityDaysRank98			0.002***
			(0.0003)
MaturityDaysRank99			0.002***
			(0.0004)
Constant	0.003***	-0.002	-0.002*
	(0.001)	(0.001)	(0.001)
Observations	32,067	32,067	32,067
R^2	0.002	0.72	0.72
Note:			**p<0.1; **p<0.05; ***p<0.01*

Table XI *Regression Analysis Related to Hypothesis 2*

Panels A and B show the impact of switching to different maturity day ranks measured by the 3 and 9 bin variables in a Central and Southern European setting in columns (1) and (2), respectively. The table shows estimators and clustered standard errors. The fixed effects regression coefficients are for reasons of readability not presented in this table.

Panel A: Voting Premiums Southern Europe - Time Value		
	Dependent variable:	
	Normalized Value of the Vote in the next T days	
	(1)	(2)
MaturityDaysRank3	0.003***	
	(0.001)	
MaturityDaysRank33	0.004***	
	(0.001)	
MaturityDaysRank92		0.003***
		(0.001)
MaturityDaysRank93		0.004***
		(0.001)
MaturityDaysRank94		0.005***
		(0.001)
MaturityDaysRank95		0.01***
		(0.001)
MaturityDaysRank96		0.01***
		(0.001)
MaturityDaysRank97		0.01***
		(0.001)
MaturityDaysRank98		0.01***
		(0.001)
MaturityDaysRank99		0.01***
		(0.001)
Constant	-0.004***	-0.01***
	(0.001)	(0.001)
Observations	5,666	5,666
R^2	0.86	0.86

Panel B: Voting Premiums Central Europe - Time Value		
	Dependent variable:	
	Normalized Value of the Vote in the next T days	
	(1)	(2)
MaturityDaysRank32	0.0001	
	(0.0001)	
MaturityDaysRank33	0.0004**	
	(0.0002)	
MaturityDaysRank92		0.0005**
		(0.0002)
MaturityDaysRank93		0.0003
		(0.0002)
MaturityDaysRank94		0.0004
		(0.0002)
MaturityDaysRank95		0.0001
		(0.0003)
MaturityDaysRank96		0.001**
		(0.0002)
MaturityDaysRank97		0.001**
		(0.0003)
MaturityDaysRank98		0.001*
		(0.0003)
MaturityDaysRank99		0.001**
		(0.0004)
Constant	0.001***	0.001***
	(0.0002)	(0.0002)
Observations	26,401	26,401
R^2	0.12	0.12

Appendix B.IV The Value of the Vote around Shareholder Meetings

Figures I to VI show the value of the vote in the 16 trading weeks prior to and after a firm's shareholder meeting. Table XII presents the averages in the weeks before and after the meeting as well as the average of the 32 weeks and the maximum voting premium observed.

Figure I *Aggregate Basis*

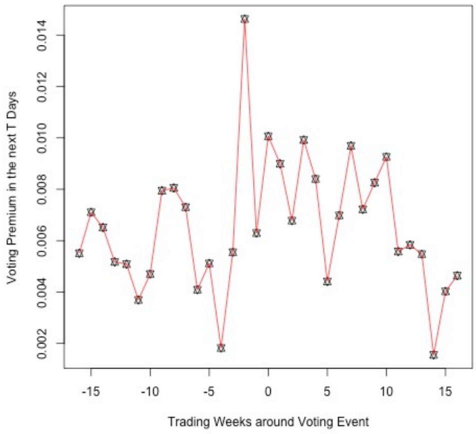


Figure IV *Switzerland*

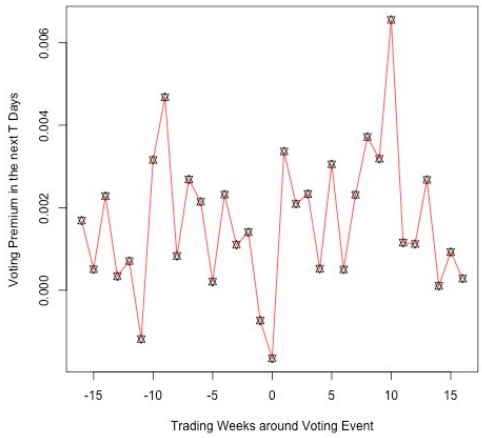


Figure II *Central Europe*

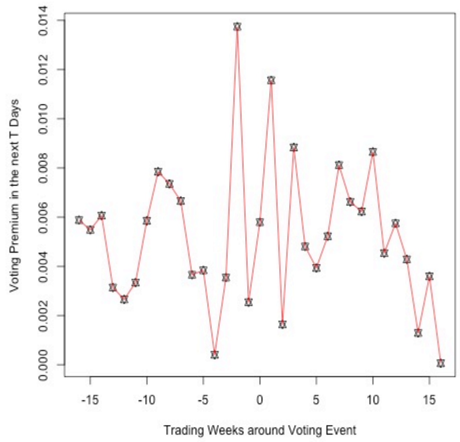


Figure V *United Kingdom*

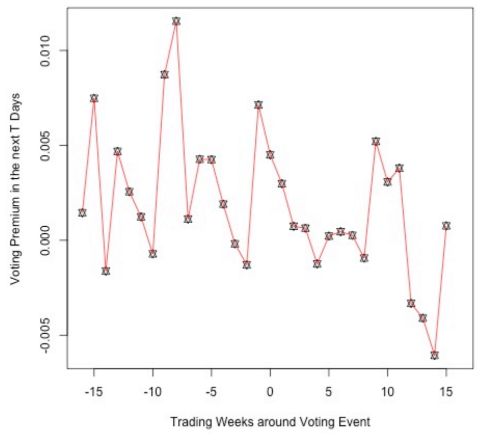


Figure III *Germany*

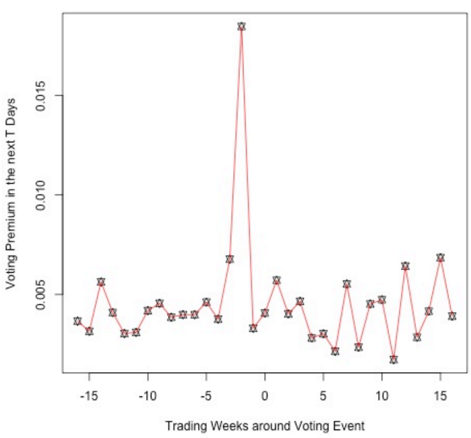


Figure VI *France*

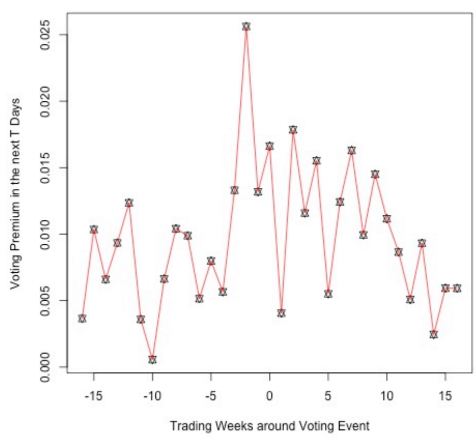


Table XII *Time-Series Variation of the Voting Premium around Shareholder Meetings*

Below table presents the mean value of the vote in the 16 trading weeks before and after a firm's shareholder meeting as well as across the entire 32 trading week period around a shareholder meeting. In addition, the maximum value of the vote during this 32 trading week period is presented.

	Max	**Mean Before Meeting**	**Mean in Total**	**Mean After Meeting**
Aggregate	1,46%	0,62%	0,65%	0,66%
Central Europe	1,37%	0,51%	0,52%	0,52%
Germany	1,85%	0,50%	0,45%	0,45%
Switzerland	0,66%	0,14%	0,16%	0,16%
UK	1,15%	0,33%	0,19%	0,16%
France	2,56%	0,90%	0,96%	0,98%

***Table XIII** Regression Analysis Related to Hypothesis 4*

Following panels of table XIII present the results of the regressions R.4 and R.5, investigating the value of the vote around shareholder meetings. The explanatory variable in these regressions ("WindowDummy") can either take the value 0 in case an observation lies in the control window, which is a 20 trading day period taking place two quarters after the event window, or 1 in case an observation lies in the event window (that is the 20 trading days prior to a firm's either annual or special shareholder meeting). We furthermore control for different measures of stock and option liquidity as presented in columns (2) and (3). The table shows estimators and the standard errors, which are reported in brackets, are corrected for heteroskedasticity. The fixed effects regression coefficients are for reasons of readability not presented in this table.

Panel A: Regression Analysis Voting Premiums Aggregate (Event/Control Window)

	Dependent variable:		
	Normalized Value of the Vote in the Next *T* Days		
	(1)	(2)	(3)
WindowDummy	-0.0005	-0.001	-0.001
	(0.0004)	(0.0004)	(0.0004)
OptionVolumeRank		0.0001	
		(0.0000)	
StockVolumeRank		-0.0001^{*}	
		(0.0001)	
LNOptionVolume			0.0000
			(0.0000)
LNStockVolume			-0.0004^{*}
			(0.0002)
Constant	0.0004	0.001	0.01^{**}
	(0.0004)	(0.001)	(0.003)
Observations	3,743	3,743	3,743
R^2	0.20	0.20	0.20
Note:			$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Panel B: Regression Analysis Voting Premiums Central Europe (Event/Control Window)

	Dependent variable:		
	Normalized Value of the Vote in the Next *T* Days		
	(1)	(2)	(3)
WindowDummy	-0.003^{***}	-0.003^{***}	-0.003^{***}
	(0.0003)	(0.0003)	(0.0003)
OptionVolumeRank		-0.0001	
		(0.0000)	
StockVolumeRank		0.0002^{***}	
		(0.0001)	
LNOptionVolume			-0.0001^{**}
			(0.0001)
LNStockVolume			0.001^{***}
			(0.0002)
Constant	0.001^{***}	-0.0000	-0.01^{**}
	(0.0004)	(0.001)	(0.003)
Observations	3,148	3,148	3,148
R^2	0.08	0.09	0.09

Panel C: Regression Analysis Voting Premiums Germany (Event/Control Window)

	Dependent variable:		
	Normalized Value of the Vote in the Next *T* Days		
	(1)	(2)	(3)
WindowDummy	-0.004^{***}	-0.004^{***}	-0.004^{***}
	(0.0005)	(0.0005)	(0.0005)
OptionVolumeRank		-0.0000	
		(0.0001)	
StockVolumeRank		0.0001^{*}	
		(0.0001)	
LNOptionVolume			-0.0000
			(0.0001)
LNStockVolume			0.0000^{*}
			(0.0000)
Constant	0.001	0.0001	0.0004
	(0.001)	(0.001)	(0.001)
Observations	2,187	2,187	2,187
R^2	0.09	0.09	0.09
Note:			$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Panel D: Regression Analysis Voting Premiums Switzerland (Event/Control Window)

	Dependent variable:		
	Normalized Value of the Vote in the next T days		
	(1)	(2)	(3)
WindowDummy	-0.002***	-0.002***	-0.002***
	(0.0003)	(0.0003)	(0.0003)
OptionVolumeRank		0.0000	
		(0.0001)	
StockVolumeRank		0.0003***	
		(0.0001)	
LNOptionVolume			0.0001
			(0.0001)
LNStockVolume			0.0003
			(0.0002)
Constant	0.001	-0.002*	-0.005
	(0.0005)	(0.001)	(0.004)
Observations	655	655	655
R^2	0.14	0.15	0.15

Panel E: Regression Analysis Voting Premiums United Kingdom (Event/Control Window)

	Dependent variable:		
	Normalized Value of the Vote in the next T days		
	(1)	(2)	(3)
WindowDummy	-0.003**	-0.003**	-0.003**
	(0.001)	(0.001)	(0.001)
OptionVolumeRank		-0.0000	
		(0.0002)	
StockVolumeRank		-0.001	
		(0.0004)	
LNOptionVolume			0.0000
			(0.0004)
LNStockVolume			-0.002
			(0.001)
Constant	-0.002**	-0.002	0.02
	(0.001)	(0.001)	(0.02)
Observations	307	307	307
R^2	0.16	0.17	0.17

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

Panel F: Regression Analysis Voting Premiums France (Event/Control Window)

	Dependent variable:		
	Normalized Value of the Vote in the next T days		
	(1)	(2)	(3)
WindowDummy	0.01***	0.01***	0.01***
	(0.001)	(0.001)	(0.001)
OptionVolumeRank		0.001***	
		(0.0002)	
StockVolumeRank		-0.001*	
		(0.0004)	
LNOptionVolume			0.0000**
			(0.0000)
LNStockVolume			-0.002
			(0.001)
Constant	-0.01**	-0.01***	0.02
	(0.003)	(0.003)	(0.02)
Observations	595	595	595
R^2	0.35	0.36	0.36

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

Appendix B.V Determinants of the Voting Premium (Hypotheses 5 - 12)

Table XIV *Regression Variables used in Regressions Models R.6 to R.7*

Variable	Name of Variable in Regression Model and Tables	Related Voting Premium Determinant	Variable Description	Corresponding Regression Coefficient	Applications of this Variable in Previous Studies	Effects found in Previous Studies	Related Hypotehsis and Expected Effect	Data Source
Stock Volume*	*"LNStockVolume" and "StockVolumeRank"*	Stock Liquidity	"LNStockVolume" is the natural logarithm (i.e. the log with base e) of the stock volume belonging to a certain observation. "StockVolumeRank" is a variable that can take any value between 0 and 9 depending on the size of the stock volume belonging to a certain observation. These two variables are applied in separate regressions	β_1	Kalay, Karakas and Pant (2014)	No significant effect found	No clear expectation regarding this hypothesis; we include the variable mainly for control purposes following Kalay, Karakas and Pant (2014).	Thomson Reuters Datastream
Option Volume**	*"LNOptionVolume" and "OptionVolumeRank"*	Option Liquidity	"LNOptionVolume" is the natural logarithm (i.e. the log with base e) of the stock volume belonging to a certain observation. "OptionVolumeRank" is a variable that can take any value between 0 and 9 depending on the size of the stock volume belonging to a certain observation. These two variables are applied in separate regressions.	β_2	Kalay, Karakas and Pant (2014)	No significant effect found	No clear expectation regarding this hypothesis; we include the variable mainly for control purposes following Kalay, Karakas and Pant (2014).	Ivy DB OptionMetrics
Dividend Yield	*"DividendYield"*	Private Benefits of Control	The dividend yield is calculated as the ratio of a firm's annual (or semi-annual or quarterly) dividend to its current share price. It is available from Thomson Reuters Datastream on a quarterly basis.	β_3	Nenova (2003) Zingales (1995) Cox and Roden (2002)	-0.0137*** to -0.4564** -0.0591 to - 0.0666 -0.499 (insignificant) no reference is made by Zingales regarding significance levels	Hypothesis 5; we expect a negative relation between the value of the vote between and the dividend yield.	Thomson Reuters Datastream
Capex/Total Assets	*"Capex.Assets"*	Private Benefits of Control	"Capex.Assets" calculates the ratio of a firm's capital expenditures to its total assets. It is available from Thomson Reuters Datastream on a quaterly basis.	β_4			Hypothesis 10; we expect a negative relation between the value of the vote and the ratio of capital expenditures to total assets.	Thomson Reuters Datastream
Net Debt/EBITDA	*"NetDebt.EBITDA"*	Leverage	The ratio of Net Debt/ EBITDA is a common leverage ratio measuring how many years of its current EBITDA a firm requires in order to pay back its debt. It is available from Thomson Reuter Datastream on a quarterly basis.	β_5	King and Santor (2008)	-0.758*** tp -0.799***	Hypothesis 12; we expect a negative relation between the value of the vote and leverage, expressed in terms of Net Debt to EBITDA.	Thomson Reuters Datastream
Quick Ratio	*"QuickRatio"*	Liquidity	The Quick Ratio (Acid Test) is a liquidity ratio measuring a firm's ability to meet its current liabilities. It is defined as (see also Robinson, 2008): (Cash + Marketable Securities + Receivables)/ Current Liabilities Information on the quick ratio is available on a quarterly basis from Thomson Reuters Datastream	β_6			Hypothesis 11; we expect a negative relation between the value of the vote and liquidity, expressed in terms of the Quick Ratio.	Thomson Reuters Datastream
Return on Assets	*"RoA"*	Performance and Turnaround potential	Return on Assets is calculated as (Robinnson, 2008): Net Income/ Total Assets It is a measure of a firm's operating performance and is available on Thomson Reuters Datastream on a quarterly basis. (Robinnson, 2008)	β_7	Cox and Roden (2002) King and Santor (2008)	-0.003** -0.218* to -0.255**	Hypothesis 6; we expect a negative relation between the value of the vote between and its turnover potential, expressed in temr of return on assets.	Thomson Reuters Datastream
Market-to-book ratio	*"MtB"*	Firm Size and Overvaluation	The market-to-book ratio calculates the ratio of firm's equity market value to the respective book value and thereby can be considered a metric for both firm size as well as overvaluation. It is available from Thomson Reuter Datastream on a quarterly basis.	β_8			Hypothesis 7; we expect an effect, however, no expectation regarding the sign due to inconclusive evidence from previous reserach.	Thomson Reuters Datastream
Market Value	*"LNMarketValue"*	Firm Size and Overvaluation	The market value of a firm refers to the value of a firm's equity on a given day. Information on the quick ratio is available on a daily basis from Thomson Reuters Datastream.	β_9	Braggion and Giannetti (2013) Nenova (2003) Zingales (1995)	-0.293*** Insignificant -0.0219 to - 0.0260	Hypothesis 8; we expect an effect, however, no expectation regarding the sign due to inconclusive evidence from previous reserach.	Thomson Reuters Datastream
Price-Earnings Ratio	*"PERatio"*	Firm Size and Overvaluation	The price-to-earnings ratio represents the ratio of a firm's share price to its earnings on a per-share basis. It constitues a measure for valuing a firm's equity.	β_{10}			Hypothesis 9; we expect an effect, however, no expectation regarding the sign due to inconclusive evidence from previous reserach.	Thomson Reuters Datastream

Note

* We control for stock liquidity in two different ways: firstly by regressing different stock volume bins on the value of the vote and secondly by regressing the natural logarithm of stock volumes on the value of the vote. Each of the two variables is applied in a separate regression.

** We control for option liquidity in two different ways: firstly by regressing different option volume bins on the value of the vote and secondly by regressing the natural logarithm of option volumes on the value of the vote. Each of the two variables is applied in a separate regression.

Table XV *Regression Analysis - Voting Premium Determinants*

Below table shows the results for the regressions R.6 and R.7, which test hypotheses 5 to 12. While columns (1) and (2) only investigate the impact of stock and option liquidity by means of different measures, columns (3) and (4) include the other voting premium determinants as well. The table shows estimators and the standard errors, which are presented in brackets, are corrected for heteroskedasticity. The firm fixed effects regression coefficients are for reasons of clarity and comprehensibility not presented in this table.

Panel A: Voting Premiums Aggregate without Spain – with fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	0.0002***		0.0002***	
	(0.0001)		(0.0001)	
OptionVolumeRank	0.0000		0.0000	
	(0.0000)		(0.0000)	
LNStockVolume		0.001***		0.001***
		(0.0002)		(0.0002)
LNOptionVolume		0.0000		0.0000
		(0.0000)		(0.0000)
LNMarketValue			-0.001	-0.001
			(0.002)	(0.002)
PERatio			0.0001*	0.0001*
			(0.0001)	(0.0001)
QuickRatio			0.001**	0.001**
			(0.0004)	(0.0004)
RoA			-0.02***	-0.02***
			(0.01)	(0.01)
DividendYield			0.12***	0.12***
			(0.03)	(0.03)
Capex.Assets			0.07***	0.07***
			(0.02)	(0.02)
NetDebt.EBITDA			-0.0002**	-0.0002**
			(0.0001)	(0.0001)
MtB			-0.0000**	-0.0000*
			(0.0000)	(0.0000)
Constant	-0.001	-0.01***	0.003	-0.01
	(0.001)	(0.004)	(0.01)	(0.01)
Observations	23,900	23,900	23,900	23,900
R^2	0.53	0.53	0.53	0.53
F Statistic	281.22*** (df = 94; 23805)	281.44*** (df = 94; 23805)	260.72*** (df = 102; 23797)	260.90*** (df = 102; 23797)
Note:				**p<0.1; **p<0.05; ***p<0.01*

Panel B: Voting Premiums Aggregate without Spain – without fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	-0.0000		0.0004***	
	(0.0001)		(0.0001)	
OptionVolumeRank	0.0000		0.0003***	
	(0.0000)		(0.0000)	
LNStockVolume		-0.0002*		0.001***
		(0.0001)		(0.0002)
LNOptionVolume		0.0000		0.0005***
		(0.0001)		(0.0001)
LNMarketValue			-0.005***	-0.01***
			(0.0005)	(0.0005)
PERatio			0.0001***	0.0001***
			(0.0000)	(0.0000)
QuickRatio			-0.0002	-0.0004**
			(0.0002)	(0.0002)
RoA			-0.002	-0.0002
			(0.002)	(0.002)
DividendYield			0.11***	0.11***
			(0.01)	(0.01)
Capex.Assets			0.06***	0.06***
			(0.01)	(0.01)
NetDebt.EBITDA			-0.0003***	-0.0003***
			(0.0000)	(0.0000)
MtB			0.0001*	0.0001
			(0.0000)	(0.0000)
Constant	0.001**	0.004**	0.04***	0.03***
	(0.0004)	(0.002)	(0.004)	(0.003)
Observations	23,900	23,900	23,900	23,900
R^2	0.0000	0.0002	0.08	0.08
Note:				**p<0.1; **p<0.05; ***p<0.01*

Panel C: Voting Premiums Central Europe – with fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	0.0003***		0.0003***	
	(0.0000)		(0.0000)	
OptionVolumeRank	0.0000		0.0000	
	(0.0000)		(0.0000)	
LNStockVolume		0.001***		0.001***
		(0.0001)		(0.0001)
LNOptionVolume		0.0000		0.0000
		(0.0000)		(0.0000)
LNMarketValue			-0.0001	0.0000
			(0.001)	(0.001)
PERatio			0.0000***	0.0001***
			(0.0000)	(0.0000)
QuickRatio			-0.0000	-0.0000
			(0.0003)	(0.0003)
RoA			-0.02**	-0.01*
			(0.01)	(0.01)
DividendYield			0.03*	0.03*
			(0.02)	(0.02)
Capex.Assets			0.01	0.01
			(0.01)	(0.01)
NetDebt.EBITDA			-0.0002**	-0.0002**
			(0.0001)	(0.0001)
MtB			-0.0000**	-0.0000*
			(0.0000)	(0.0000)
Constant	-0.001***	-0.02***	-0.001	-0.02***
	(0.0003)	(0.002)	(0.01)	(0.01)
Observations	19,807	19,807	19,807	19,807
R^2	0.06	0.06	0.06	0.06
F Statistic	19.29*** (df = 61; 19745)	20.34*** (df = 61; 19745)	18.35*** (df = 69; 19737)	19.20*** (df = 69; 19737)
Note:				*p<0.1; **p<0.05; ***p<0.01

Panel D: Voting Premiums Southern Europe without Spain – with fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	-0.0005		-0.001*	
	(0.0003)		(0.0003)	
OptionVolumeRank	0.0002		0.0002	
	(0.0001)		(0.0001)	
LNStockVolume		-0.0003		-0.001
		(0.001)		(0.001)
LNOptionVolume		0.0002		0.0002
		(0.0002)		(0.0002)
LNMarketValue			0.01*	0.01*
			(0.005)	(0.005)
PERatio			0.0002	0.0002
			(0.0002)	(0.0002)
QuickRatio			0.02	0.02
			(0.01)	(0.01)
RoA			-0.11**	-0.11**
			(0.05)	(0.06)
DividendYield			0.28***	0.29***
			(0.07)	(0.06)
Capex.Assets			0.25***	0.25***
			(0.07)	(0.07)
NetDebt.EBITDA			0.001	0.001
			(0.001)	(0.001)
MtB			-0.01	-0.01
			(0.01)	(0.01)
Constant	-0.002	0.001	-0.09**	-0.08**
	(0.001)	(0.02)	(0.04)	(0.04)
Observations	4,093	4,093	4,093	4,093
R^2	0.57	0.57	0.57	0.57
F Statistic	156.35*** (df = 34; 4058)	156.20*** (df = 34; 4058)	128.28*** (df = 42; 4050)	128.08*** (df = 42; 4050)
Note:				*p<0.1; **p<0.05; ***p<0.01

Panel E: Voting Premiums Germany – with fixed effects				
	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	0.0003***		0.0003***	
	(0.0000)		(0.0000)	
OptionVolumeRank	-0.0000		-0.0000	
	(0.0000)		(0.0000)	
LNStockVolume		0.001***		0.001***
		(0.0001)		(0.0001)
LNOptionVolume		-0.0000		-0.0000
		(0.0000)		(0.0000)
LNMarketValue			-0.0000	-0.0002
			(0.001)	(0.001)
PERatio			0.0001***	0.0001***
			(0.0000)	(0.0000)
QuickRatio			0.0005	0.001*
			(0.0003)	(0.0003)
RoA			-0.01**	-0.01*
			(0.004)	(0.004)
DividendYield			0.02	0.02*
			(0.01)	(0.01)
Capex.Assets			0.0004	0.003
			(0.01)	(0.01)
NetDebt.EBITDA			-0.0001	-0.0001
			(0.0001)	(0.0001)
MtB			0.0001	0.0003
			(0.0002)	(0.0002)
Constant	0.001***	-0.02***	0.0003	-0.02***
	(0.0003)	(0.002)	(0.01)	(0.01)
Observations	15,554	15,554	15,554	15,554
R^2	0.05	0.05	0.05	0.06
F Statistic	33.01*** (df = 25; 15528)	35.01*** (df = 25; 15528)	26.44*** (df = 33; 15520)	28.19*** (df = 33; 15520)
Note:				*p<0.1; **p<0.05; ***p<0.01

Panel F: Voting Premiums Switzerland – with fixed effects				
	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	-0.0000		-0.0000	
	(0.0001)		(0.0001)	
OptionVolumeRank	0.0000		0.0000	
	(0.0000)		(0.0000)	
LNStockVolume		-0.0000		-0.0000
		(0.0001)		(0.0001)
LNOptionVolume		0.0000		0.0000
		(0.0000)		(0.0000)
LNMarketValue			0.0000	0.0001
			(0.001)	(0.001)
PERatio			0.0000	0.0000
			(0.0000)	(0.0000)
QuickRatio			0.0004	0.0004
			(0.001)	(0.001)
RoA			-0.01	-0.01
			(0.01)	(0.01)
DividendYield			0.25***	0.25***
			(0.06)	(0.06)
Capex.Assets			0.09***	0.09***
			(0.03)	(0.03)
NetDebt.EBITDA			-0.0004	-0.0004
			(0.0004)	(0.0004)
MtB			0.001**	0.001**
			(0.0003)	(0.0003)
Constant	0.002***	0.002	-0.01	-0.01
	(0.0005)	(0.002)	(0.01)	(0.02)
Observations	2,572	2,572	2,572	2,572
R^2	0.04	0.04	0.06	0.06
F Statistic	6.86*** (df = 16; 2555)	6.85*** (df = 16; 2555)	6.98*** (df = 24; 2547)	6.99*** (df = 24; 2547)
Note:				*p<0.1; **p<0.05; ***p<0.01

Panel G: Voting Premiums United Kingdom – with fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	0.001***		0.0004**	
	(0.0002)		(0.0002)	
OptionVolumeRank	0.0002**		0.0002*	
	(0.0001)		(0.0001)	
LNStockVolume		0.002***		0.001**
		(0.001)		(0.001)
LNOptionVolume		0.0004*		0.0003
		(0.0002)		(0.0002)
LNMarketValue			0.01**	0.01**
			(0.01)	(0.01)
PERatio			-0.0004**	-0.0004**
			(0.0002)	(0.0002)
QuickRatio			-0.03***	-0.03***
			(0.01)	(0.01)
RoA			0.06	0.06
			(0.04)	(0.04)
DividendYield			0.66***	0.68***
			(0.19)	(0.19)
Capex.Assets			-0.03	-0.03
			(0.04)	(0.04)
NetDebt.EBITDA			-0.0005***	-0.0005***
			(0.0002)	(0.0002)
MtB			-0.0001***	-0.0001***
			(0.0000)	(0.0000)
Constant	0.01***	-0.02***	-0.11*	-0.14**
	(0.002)	(0.01)	(0.07)	(0.07)
Observations	1,681	1,681	1,681	1,681
R^2	0.08	0.08	0.14	0.14
F Statistic	6.59*** (df = 22; 1658)	6.67*** (df = 22; 1658)	8.97*** (df = 30; 1650)	8.95*** (df = 30; 1650)

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

Panel H: Voting Premiums France – with fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	-0.001***		-0.001***	
	(0.0002)		(0.0002)	
OptionVolumeRank	0.0001		0.0001	
	(0.0001)		(0.0001)	
LNStockVolume		-0.002*		-0.003***
		(0.001)		(0.001)
LNOptionVolume		0.0002		0.0003
		(0.0002)		(0.0002)
LNMarketValue			0.01	0.01
			(0.01)	(0.01)
PERatio			0.0002	0.0002
			(0.0002)	(0.0002)
QuickRatio			-0.03***	-0.03***
			(0.01)	(0.01)
RoA			-0.18***	-0.18***
			(0.04)	(0.04)
DividendYield			0.33***	0.33***
			(0.06)	(0.06)
Capex.Assets			0.17*	0.16
			(0.10)	(0.10)
NetDebt.EBITDA			0.0002	0.0002
			(0.001)	(0.001)
MtB			-0.02	-0.02
			(0.01)	(0.01)
Constant	-0.001	0.02	-0.07	-0.03
	(0.001)	(0.02)	(0.06)	(0.06)
Observations	3,333	3,333	3,333	3,333
R^2	0.06	0.06	0.07	0.07
F Statistic	7.93*** (df = 27; 3305)	7.91*** (df = 27; 3305)	7.48*** (df = 35; 3297)	7.45*** (df = 35; 3297)

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

Panel I: Voting Premiums Italy – with fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	0.002		0.003**	
	(0.001)		(0.001)	
OptionVolumeRank	-0.0001		-0.00002	
	(0.0005)		(0.0004)	
LNStockVolume		0.006*		0.007**
		(0.004)		(0.003)
LNOptionVolume		-0.00001		0.00005
		(0.001)		(0.001)
LNMarketValue			0.075	0.074
			(0.049)	(0.050)
PERatio			0.001	0.001
			(0.002)	(0.002)
QuickRatio			0.152***	0.147***
			(0.041)	(0.042)
RoA			0.921***	0.894***
			(0.172)	(0.172)
DividendYield			-1.111	-1.086
			(1.249)	(1.259)
Capex.Assets			0.342***	0.338***
			(0.078)	(0.077)
NetDebt.EBITDA			0.033***	0.031***
			(0.011)	(0.011)
MtB			0.013*	0.014*
			(0.007)	(0.008)
Constant	-0.030***	-0.117**	-0.950***	-1.041***
	(0.003)	(0.052)	(0.329)	(0.318)
Observations	760	760	760	760
R^2	0.905	0.906	0.920	0.920
F Statistic	894.823*** (df = 8; 751)	901.792*** (df = 8; 751)	534.470*** (df = 16; 743)	537.163*** (df = 16; 743)
Note:				*$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

Panel J: Voting Premiums Spain – with fixed effects

	Dependent variable:			
	Normalized Value of the Vote in the Next T Days			
	(1)	(2)	(3)	(4)
StockVolumeRank	0.0002		0.0001	
	(0.0003)		(0.0003)	
OptionVolumeRank	0.0002		0.0002	
	(0.0002)		(0.0002)	
LNStockVolume		0.001		0.001
		(0.001)		(0.001)
LNOptionVolume		0.0002		0.0003
		(0.0003)		(0.0002)
LNMarketValue			0.045*	0.047*
			(0.027)	(0.027)
PERatio			0.00001	0.0001
			(0.0002)	(0.0002)
RoA			-1.376***	-1.329***
			(0.392)	(0.413)
DividendYield			0.415	0.507
			(0.467)	(0.458)
Capex.Assets			-0.022	-0.033
			(0.102)	(0.100)
MtB			-0.006*	-0.005
			(0.003)	(0.003)
Constant	-0.001	-0.016	-0.191	-0.235
	(0.002)	(0.014)	(0.240)	(0.236)
Observations	169	169	169	169
R^2	0.080	0.080	0.210	0.210
F Statistic	2.346** (df = 6; 162)	2.332** (df = 6; 162)	3.461*** (df = 12; 156)	3.459*** (df = 12; 156)
Note:				*$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*