

Am I right or am I right?

Marco Bigelli^{a,*}, Ettore Croci^b

^a*Università degli Studi di Bologna, Via Capo di Lucca 34, 40124, Bologna, Italy*

^b*Università degli Studi di Milano-Bicocca, Via R. Bicocca 8, 20126 Milan, Italy*

January 12th, 2011

Abstract

Though the value of a right should be not lower than zero, negative voting premiums often appear in recent empirical evidence. The present paper highlights some possible measurement errors and contemporary proposes a new measure, the vote segment, which incorporates all dividend privileges. Results from Italian non-voting shares listed in the 1999-2008 period show that the more accurate measure reports an average voting right equal to +45.58%, while the standard relative price difference or the Nenova (2003) measure greatly underestimate its value and report average values equal to +20.35% and +1.38%, respectively. Our methodology reports almost no negative values, while traditional measures report almost 25% of negative values. Though a more correct measure of the voting right is essential to estimate its average value and make meaningful cross-country comparisons, the determinants of the voting rights are well captured also by the relative price difference measure, once the dividend yield differences are controlled for.

JEL Classification Code: G34.

Keywords: non-voting shares; voting premium; dual-class share firms; family; Italy.

*Corresponding author +39-051-2098060; Fax.: +39-051- 6390612

E-mail addresses: marco.bigelli@unibo.it (Marco Bigelli); etto.croci@unimib.it (Ettore Croci).

1. Introduction

A voting right, being a right and not an obligation, must have a non-negative value and should never be lower than zero. However, existing literature on the value of voting rights have employed empirical measures that have often resulted in negative values even as averages for single countries (Nenova, 2003, Neumann, 2003, Ødegaard, 2007). We believe that, when even the country average is negative, the adopted measure is a poor proxy and it is measuring something else. Since the most common measures are based on the price difference between two classes of shares with different voting rights, the implicit assumption is that the voting or superior-voting shares trade at a premium vis-à-vis the non-voting or inferior-voting shares. Such measures completely ignore dividend differences and other privileges which are usually granted to the non-voting or inferior-voting shares all over the world.

Existing literature has tried to compute the value of a voting right either as the plain relative price difference or price ratio (Lease et al., 1984, Horner, 1988, Loderer and Jacobs, 1995, Nicodano, 1998, Doidge, 2004, Ødegaard, 2007, Caprio and Croci, 2008), as the relative price difference or price ratio adjusted for the different voting ratio or the different par value of the shares (Levy, 1982, Megginson, 1990, Zingales, 1995, Gardiol et al., 1997, Rydqvist, 1996), as the relative price difference in tender offers with differentiated bids (Bergstrom and Rydqvist, 1992, Smith and Amoako-Adu, 1995), as the fraction of the total price differences on the firm's equity (Nenova, 2003), as the premium paid in control-block transactions (Barclay and Holderness, 1989, Dick and Zingales, 2004), as the internal-negotiated value in dual-class unifications (Hauser and Lauterbach, 2004).

Zingales (1994) highlights that the voting premium would be underestimated if dividend-privileges are ignored, while Cox and Roden (2002) show that the observed voting premium is lower for inferior voting shares promising more dividends. However, to the best of our knowledge,

only Chung and Kim (1999) have incorporated the simple dividend difference that characterizes all Korean dual-class shares (1% of par value) into the empirical estimate of the voting premium.

The present paper offers several contributions to the literature on the voting premium. Firstly, it proposes a new measure of the voting right which takes all dividend privileges into considerations, which we call Vote Segment. Secondly, it indicates which measurement errors should be avoided in the sample construction. Thirdly, the new proposed measure is empirically found to be more accurate than the traditional ones on a sample of Italian dual class shares in the 1999-2008 period.

We empirically compare three measures of the voting premium, the Vote Segment (VS), the standard Relative Price Difference (RPD) and the Nenova (2003) measure, on the full sample and on a clean sample from which we have progressively removed non-voting shares which were: partially convertible; highly illiquid; announced to be converted into voting shares; under a tender offer; belonging to severely distressed companies (because of their liquidation preference and seniority claim in case of bankruptcy). Our results show that both the RPD and the Nenova measure systematically underestimates the true value of voting rights and give rise to a considerable number of observations with negative values. On the full sample of Italian non-voting shares, the average value of the voting premium would be equal to 20.35% using the RPD measure and only to +1.38% using the Nenova measure. About 25% of the observations would report negative values with standard measures so that the average yearly values would even become negative with the Nenova measure in some years (-19.38% in 2008). The VS measure reports a more accurate estimate of the average voting premium equal to +35.62% for the whole period and shows a negligible number of negative values. When we remove the observations affected by measurement errors from the sample, the average value of the VS measure further rises to +45.58% and negative values almost disappear. Our multivariate analysis further supports the

superiority of the VS measure over the Nenova one in identifying the determinants of the voting premium, while the RPD measure seems to have similar determinants, once the dividend yield differential is controlled for. Significantly higher voting premium are determined by higher fractions of non-voting shares, higher dividend privileges, market prices closer to the par value of the shares, and smaller firms. We conclude that traditional measures of the voting right should take dividend privileges to non voting or inferior-voting shares into consideration and clean the sample from possible measurement errors. Otherwise, the average value of the voting right would be so much underestimated that it could not to be used as a proxy for the country's investor protection and corporate governance efficiency. Besides, since the average size and value of dividend privileges greatly vary across countries, the underestimate of the voting right should significantly distort international comparisons.

The remainder of this paper is organized as follows. The next section briefly summarizes the empirical literature on the voting premium. Section 3 gives a quick overview of the institutional setting of the Italian non-voting shares. Section 4 explains the methodology and the samples' construction. Section 5 shows the results of the empirical analysis while section 6 reports the major conclusions.

2. Review of the literature on the estimate of the voting right

Existing literature has estimated the value of a voting right in several ways. The most common one is based on either the relative price difference or on the price ratio of the two classes of shares (Lease et al., 1984, Horner, 1988, Loderer and Jacobs, 1995, Nicodano, 1998, Doidge, 2004, Ødegaard, 2007, Caprio and Croci, 2008) and reports a positive value whenever the class with the voting right trades at a premium. However, since some countries allow dual class shares to carry a different number of votes (typically 10 to 1) or to have a different par value for the same voting

power (also typically 10 to 1), the value of a voting right based on the relative price difference or the price ratio has been adjusted for considering the different voting ratio or the different par value of the shares (Levy, 1982, Megginson, 1990, Zingales (1995), Gardiol et al., 1997, Rydqvist, 1996). Prices of shares with equal cash flow rights but different voting power may also differ for other factors as, for example, different liquidity (Neumann, 2003, Smith and Amoako-Adu, 1995) or transferability restrictions to foreign investors (Loderer and Jacobs, 1995, Gardiol et al., 1997, Ødegaard, 2007). It follows that an alternative approach would be to estimate the value of voting rights when a price is explicitly paid for them, as in takeovers with differentiated bids for the two classes of shares (Bergstrom and Rydqvist, 1992, Smith and Amoako-Adu, 1995). A well-cited cross-country paper (Nenova, 2003) adopts a measure where the sum of the values of all voting rights is expressed as a fraction of the firm's equity value, though the value of voting rights is still based on the RPD measure adjusted for different voting power, when needed. Since voting rights are valuable if control is valuable, some researchers have determined their implicit value from the premium paid in control block transactions (Barclay and Holderness, 1989, Dick and Zingales, 2004). A recent original methodology, though not replicable in a different situation, estimates the value of voting rights from the compensation granted to superior voting shareholder in the unification process of Israeli dual-class shares (Hauser and Lauterbach, 2004).

While differences in voting power or par value in dual-class shares have been addressed and accounted for, dividend differences received little attention and were rarely incorporated in the empirical estimate of the voting right (though often included in the multivariate analysis). To the best of our knowledge, only Chung and Kim (1999) have incorporated the simple and homogeneous dividend difference that characterizes Korean dual-class shares (1% of par value) into the empirical estimate of the voting premium. However, Zingales (1994) highlights that the voting premium would be underestimated if dividend-privileges are ignored, while Cox and Roden

(2002) report substantial differences in dividend rights in US dual-class firms and show that the observed voting premium is lower for inferior voting shares entitled to more dividends.

3. Institutional Background

The two most common classes of shares issued by Italian listed companies are voting shares (*azioni ordinarie*) and non-voting shares (*azioni di risparmio*) which can be issued up to fifty percent of the equity capital.¹ Though they have the same par value, they are different in voting rights and dividend privileges. In fact, only voting shares have the right to vote in the annual and extraordinary general meetings and carry one vote per share. As in other French civil law countries (La Porta et al., 1998), the lack of voting rights of the Italian non-voting shares is compensated with mandatory dividend payments and dividend privileges. Since the 1998 corporate governance reform these privileges are set by the company's charter, though most firms still keep the original privileges set by the 1974 law, which are the following:

1. a minimum yearly dividend equal to (at least) five percent of the share's par value is granted to non-voting shares before any dividend can be paid to voting shares;
2. when dividends are paid also to voting shares, the dividend to the non-voting share has to be greater than that to the voting share by an amount equal to (at least) two percent of the par value;
3. in case dividends are not paid because of accounting losses, when dividends are paid again, non-voting shares have the right to receive up to (at least) two past unpaid minimum dividends in addition to the dividend of the current year;
4. when accounting losses reduces the company's equity, non-voting equity is reduced only

¹ A third type of shares are the so called "azioni privilegiate", a class of shares entitled to vote only in the extraordinary shareholders meetings. Since there are only two listed firms using this third class of shares we did not consider it in the analysis, similarly with Zingales (1994).

after all voting equity is cancelled out;

5. in case of bankruptcy, non-voting shares have a prior claim on the company's assets.

While all existing non-voting shares enjoy the last two privileges, the first three privileges have often been set at levels higher than those required by the institutional law. These privileges are always referred to yearly dividends as Italian firms, differently from US ones, pay dividends only once a year. Their combination assures that Italian non-voting shares receive a higher dividend than the one paid to voting shares whenever a dividend is paid.²

4. Methodology and sample description

4.1 Measures of the voting premium

Our sample consists of all dual-class firms having both voting and non-voting shares listed on the Italian Stock Exchange in the 1999-2008 period. The full sample is made of 430 year-observations, composed by a decreasing number of dual-class firms which passed from 72 firms in 1999 to 28 at the end of 2008. Using market prices at the end of the year, for each sample year and each firm we compute three measures of the voting premium: the Relative Price Difference, the Nenova (2003) measure and the Vote Segment.

The Relative Price Difference (*RPD*) is simply obtained as the ratio of the difference between the price of a voting share (P_v) and the price of a non-voting share (P_{nv}) over the price of the non-voting share, that is:

$$RPD = \frac{(P_v - P_{nv})}{P_{nv}}$$

² The combined functioning of such dividend privileges in a detailed case study is shown by Bigelli and Mengoli (2010).

The second measure of the voting premium is the one suggested by Nenova (2003) and applied to the Italian case where the two classes of shares differ only by one vote. The Nenova measure is represented by the ratio between the sum of all the Relative Price Differences (*Total RPDs*) over the total firm's market capitalization for both classes of shares (*Mkt Cap*), that is:

$$NENOVA = \frac{Total\ RPDs}{Mkt\ Cap}$$

We finally adopt a third measure aimed to take into consideration the value of the specific different privileges granted to non-voting shares. Following Manne (1964), we split the value of a voting share into two components: a vote segment and an investment segment, where the latter is represented by the present value of dividends to voting shares and the first one is the remaining part of the voting share stock price. The Vote Segment measure (*VS*) is then obtained through the ratio of the vote segment ($Vote_{segment}$) over the price of the non-voting share (P_{nv}), as follows:

$$VS = \frac{Vote_{segment}}{P_{nv}}$$

where the vote segment is obtained as the difference between the price of the voting share (P_v) and its investment segment ($Inv_{segment}$), that is:

$$Vote_{segment} = (P_v - Inv_{segment})$$

The investment segment of a voting share cannot be estimated with the price of the non-voting share, as the latter is entitled to more dividends. Once the present value of dividend privileges is determined, the Investment Segment of the voting share ($Inv_{segment}$) can therefore be determined as

the difference between the price of a non-voting share (P_{nv}) and the present value of the dividend privileges granted to non-voting shares ($PV_{\Delta div}$):

$$Inv_{segm} = (P_{nv} - PV_{\Delta div})$$

We obtain the historical dividends and the specific dividend privileges granted to the Italian non-voting shares from “*Indici e dati*”, a yearly publication by Mediobanca. This publication has a special section on the characteristics of the non-voting shares and it reports detailed information on all their privileges. We assume that at the end of the fiscal year (December) market prices incorporate expectations on the dividends relative to the ending year, which are paid few months later.³ We also assume that future earnings will be high enough to pay dividends to both classes of shares. Such assumption is the most conservative because the dividend difference between the two classes of shares will be limited to the minimum extra-dividend payment granted by the companies’ charters whenever a dividend is paid also to voting shareholders. However, by taking also the next dividend difference into consideration, we do also consider the other dividend privileges for the coming year, which can be relevant for firms reporting low earnings or coming out from an unprofitable period. While Chung and Kim (1999) take into consideration only the same extra-dividend common to all Korean non-voting shares, our measure considers the specific extra-dividend granted to each non-voting share, the mandatory minimum dividend and the dividend seniority set by the company’s charter. For each year and firm we therefore compute the present value of the dividend privileges to a non-voting share in the following way:⁴

³ Since firms have already published three quarterly reports and anticipated the yearly results and payout policy, we believe our assumption is reasonable.

⁴ Though differences would have been negligible, we used fractional discounting as the first following dividend is typically paid at the end of May, five months after market prices are measured (at the end of December).

$$PV_{\Delta div} = \frac{1}{(1 + K_e)} \cdot \left[(Div_{1nv} - Div_{1v}) + \frac{Extra Div_{nv}}{K_e} \right]$$

where:

$PV_{\Delta div}$ is the present value of dividend privileges granted to the non-voting share;

K_e is the cost of equity for the non-voting share;

$Div_{1nv} - Div_{1v}$ is the next extra-dividend paid to non-voting share for the previous fiscal year, which reflects all the dividend privileges granted to the non-voting share;

$Extra Div_{nv}$ is the perpetual (minimum) extra-dividend granted to the non voting share.

The cost of equity has been estimated with a standard CAPM approach, where the risk-free rate is the gross yield of the 10-y Italian Treasury bond at the end of the measurement year, the non-voting shares' beta is estimated from weekly returns and the market index in the year before the measurement day, the market risk premium (geometric average) is set equal to 4.3%, as found by Dimson et al. (2002) for the Italian market.

4.2 Sample selection to avoid measurement errors

By incorporating the value of dividend privileges to non-voting shares, the vote segment measure should report a more accurate estimate of the voting premium, which would otherwise be systematically underestimated. However, the estimate of the voting right can be greatly distorted by some other factors which were not controlled for by the existing literature. In fact, in order to obtain a correct estimate of the voting right we believe that the observed sample should not include non-voting shares which are partially convertible, so illiquid to have unreliable prices, announced to be converted into voting shares, under a tender offer, belonging to severely distressed companies. We hereby offer more explanations on which non-voting shares should be excluded and were progressively excluded from our sample.

Convertible or partially convertible non-voting shares. Some Italian non-voting shares are always convertible into voting shares on a periodical basis and usually identified as such by the financial databases, so that they are automatically excluded from any sample aimed to determine the voting premium. However, some non-voting shares, labeled as non-voting shares by financial databases and the financial press, are actually convertible into voting shares in a 1:1 ratio only for one day or one short period in the future.⁵ The conversion option obviously makes a non-voting share look like a future voting share entitled to higher dividends until is not converted. The market prices of such non-voting shares are therefore usually higher than the respective voting shares and must obviously be excluded from the observed sample not to report negative values of the voting premium. From the full sample of 430 firm-year observations, we therefore drop 44 firm-year observations and we are left with 386 observations (*Sample1*).

Non-voting shares with unreliable market prices due to excess illiquidity. As documented by Bigelli et al. (2007), many Italian dual-class shares have gone into a unification process after the 1998 corporate governance reform, and almost half of them were proposed on a voluntary basis, where only a small fraction of non-voting shareholders decided to keep their shares. As a consequence, voluntary unifications greatly reduced the number of outstanding non-voting shares and their liquidity. In some cases, the post-unification extreme illiquidity brought some non-voting shares trade from below to above the voting shares' stock prices. In May 2002 eight non-voting shares

⁵ For example, Banca Carige non-voting shares are labeled by both the Sole 24 Ore financial newspaper and the Datastream database as simple non-voting shares (respectively with the "R" and "RSP" codes which stand for "Risparmio", i.e. non-voting share), while Mediobanca's "Indici e dati" indicates that they are convertible into voting shares (since November 2007) and their conversion option is expressly indicated also on the company investor relation website (http://www.gruppocarige.it/grp/gruppo/html/ita/investor_relations/azioni_carige.htm). At the end of 2008, Banca Carige (convertible) non-voting shares were traded at 2.015, well above the voting shares' price, equal to 1.737. An estimate of the voting premium based on the relative price differential would have obviously reported a negative value (-13.80%) while the vote segment measure would have reported a higher and slightly positive value (0.08%) which had nothing to do with the estimate of the true value of the voting right.

(out of 47) exacerbated such problem and traded at a premium between 32% and 761% compared to the corresponding voting shares. The Italian Stock Exchange declared that those prices had no economic meaning and decided to suspend trading for the two non-voting shares with the most unreasonable prices (5 and 7 times the respective voting shares) and forced the others to switch from continuous trading into a single daily auction (where only orders with a price limit were allowed) in order to improve their liquidity. If these shares are kept in the general sample they would originate relevant negative estimates of the voting rights (up to -88% for the relative price difference) which would significantly drive downward the average estimate, especially for some years. We therefore looked at the liquidity characteristics of those shares targeted by the exchange restrictions. We found that seven of those eight non-voting shares were not traded in at least 20% of the 2002 trading days and, when traded, the average value of the daily trading was below €50,000. We therefore selected these two illiquidity criteria to identify non-voting shares whose stock price could be affected by similar illiquidity conditions. Most of the non-voting shares satisfying such illiquidity criteria were the same firms identified by the Italian Stock Exchange in 2002, but some other firms also met the criteria in some sample-years. From Sample1, we therefore drop 66 firm-year observations and we are left with 322 observations (*Sample2*).

Non-voting shares announced to be unified into voting shares. Dual class unifications have experienced a strong international trend (Pajuste, 2005). At the announcement of the board proposal, the voting and non-voting share stock prices react and already incorporate the unification terms, though not yet approved by shareholders meeting. Since most of Italian unifications are made with a straight 1:1 conversion ratio, the announcement makes the price of a non-voting share align to the price of a voting share, though the non-voting shares remained classified as such in all databases. When measuring the voting premium at the end of a given year,

some non-voting shares could already be under the unification announcement effect, and therefore traded at a level which was determined by the unifications terms rather than by expected dividends.⁶ We therefore remove those non-voting shares for which a dual-class unification had already been announced but was still not effective at the end of the year. Our sample further reduces from 322 to 314 observations (*Sample 3*).

Non-voting shares under a mandatory bid. When a takeover offer is launched on all voting shares it can be extended also to non-voting shares. If voting shares are offered a higher price for their vote, the differentiated bid prices could even represent a way to estimate the value of a voting right (Megginson, 1990, Bergstrom and Rydqvist, 1992, Rydquist, 1996). However, if the two classes of shares are offered the same price we cannot conclude that the value of a voting right is equal to zero, as other factors may have determined the choice of offering the same price. Such argument finds more easy support if non-voting shares are bid for a higher price than voting shares. In such cases, we cannot use the offer prices to determine the value of a voting right and conclude that it was negative.⁷ Neither we can estimate it from market prices, as they got aligned to the offer prices since the announcement date. We therefore exclude from the sample also those non-voting shares for which a tender offer had been announced or anticipated by rumors, if non-voting shares were offered a price equal or greater than the price offered to the voting shares. Our sample further is further reduced to 305 observations (*Sample 4*)

⁶ Moreover, if the unification is on a 1:1 base and it becomes effective after the next dividend payment, the extra-dividend granted to non-voting shares would make them trade even above the voting shares' stock price.

⁷ Some Italian mandatory bids have actually been extended to non-voting shares and offered them a price equal or even greater than the price offered to voting share. For example, when a single-class parent company wants to incorporate a dual-class subsidiary through a merge, it promotes a totalitarian tender offer to minority shareholders of the controlled company. However, since non-voting shares cannot be transformed into a voting share of the incorporating company without the approval of the non-voting shareholders meeting, hedge funds and institutional investors holding a majority of the non-voting class may ask (and have asked) to receive a higher price for tendering their non-voting shares, without which the merger cannot be approved. In the 2005 Allianz-Ras merger, for example, Allianz was incorporating Ras by offering 3 Allianz voting shares every 19 Ras voting or non-voting shares. Allianz launched a bid on the Ras voting shares for €26.50 and was forced to offer €55 to the non-voting shares.

Non-voting shares for company under financial distress. When a company is in financial distress non-voting shares can become more valuable than voting shares if they have a seniority claim in case of bankruptcy and if the non-voting equity is cancelled-out for excess losses only after the whole voting equity is cancelled out. Since Italian shares are entitled to such privileges, it is relatively common that firms in financial distress have non-voting shares traded at market prices that exceed those of voting shares. Since firms in financial distress usually have their stocks traded below the par value of the shares, we finally exclude those firms where the price of the voting share was less than half than their par value and we get a final clean sample of 298 observations (*Clean Sample*).

5. Empirical Analysis

5.1 Estimates of the voting premium with the three different measures

We start our empirical analysis presenting the descriptive statistics of the three measures of the voting premium in the full sample of 430 firm-year observations and in the reduced samples where we progressively remove those observations that would originate measurement errors (Table 1). As motivated in Section 3, from the full sample of 430 firm-year observations over the period 1999-2008, we progressively remove: convertible non-voting shares (Sample1); the most illiquid non-voting shares (Sample2); non-voting shares for which the board of directors has announced a dual class unification (Sample3); non-voting shares for which a tender offer was in place (Sample 4) and non-voting shares for financially distressed firms (Clean sample).

[Please insert Table 1 about here]

Our estimates of the voting premium with the VS measure are reported in Panel A. In the full sample, the average voting premium is equal to 35.63% while the number of observations with negative voting rights is 46. However, when we pass to the clean sample the value of the average vote segment increases to 45.57% and negative values almost disappear. In fact, out of 298 firm-year observations that survive our five screens, only eight present negative values of the vote segments and can singularly be explained.⁸ Looking at Panel B of Table 1, we can observe that in the full sample the RPD measure reports an average voting premium equal to 20.35% and 130 negative values. In the clean sample, the average RPD rises to 32.42% and the number of negative voting premiums drops to 45 observations. The comparison between the two panels shows that the VS measure always translates into a significantly greater estimate of the voting premium in a contest of dividend privileges to the non-voting class of shares. Moreover, the VS measure greatly reduces the possibility of reporting negative values of the voting rights, though their almost complete elimination can be obtained only by removing those observations affected by a price distortion (for a conversion option, an extreme illiquidity, a dual-class unification, a tender offer or a financial distress condition). When the voting premium is estimated by applying the Nenova measure (Panel C), the average value reduces to only 1.38% and 7.61% for the full and clean samples respectively (though referred to the firm's market capitalization). Being based on the price difference between the two classes of shares, the amount of negative values is the same reported for the RPD measure.

⁸ All the eight negative vote segments are due to particular situations affecting six firms: Gemina (in 1999) was one of the eight companies whose shares were targeted by the Stock Exchange restrictions in 2002 as they were too illiquid, though not so illiquid for being excluded by our conservative illiquidity filters; also Indesit Company (in 2006) and Intek (in 2007) were slightly less illiquid than what required to be filtered out by our liquidity criteria; Impregilo (in 2006 and 2007) was in financial distress and the stock price was below the par value but not below our conservative 50% cutoff; Ras (in 2004) had already a negative voting premium the year before non-voting shares received a tender offer at a price more than double than that of the voting share (€55 versus €26.50); Unicredit (in 2007 and 2008), in the mid of the financial and banking crisis was considered the Italian bank more at risk for the international financial turmoil.

In Table 2 we report three time series of the average annual voting premium estimated by the vote segment, the relative price difference, and the Nenova measure in both the full and clean samples. All the three voting premium measures show a general decrease in both samples since 1999, a result also found in Caprio and Croci (2008). The downward trend reverses in 2008 for all measures in the clean sample and only for the VS measure in the full sample. When all non-voting shares are considered (Full sample), the Nenova measure reports the lowest estimates which result to be even negative for several years (and equal to -19.38% in 2008). The relative price difference also underestimates the voting premium and always reports lower yearly values compared with the vote segment. Over the 10 year period, the average measure of the voting premium on the full sample for the three measures would respectively be equal to 1.38% (Nenova), 20.35% (RPD) and 35.63% (VS). In the Clean sample, the differences between the three measures diminish but remain statistically significant (at the 1% level). The average voting premium is now larger and positive in all years with respect to all the three measures. The average value over the whole period is also greater and respectively equal to 7.61% (Nenova), 32.41% (RPD) and 45.57% (VS).

In Table 2 we also split the value of the voting shares between the value of the investment segment and the value of the vote segment. As discussed in Section 4, the value of the investment segment is obtained as the difference between the price of the non-voting share and the present value of the additional dividends granted to non-voting shares⁹. After having normalized to 100 the value of all non-voting shares at the end of each sample year, we report the average weights of the investment and vote segments for the voting shares along the sample years. Since voting shares receive less dividends, the investment segment of the voting shares is always less valuable than the value of a non-voting share and varied between 82% and 91% of the value of the non-

⁹The dividend granted to non-voting shares is equal, on average, to 6.57% of their par value (5% on median terms), while the minimum extra-dividend (in excess of the one on voting share) is equal to 3.10% (2.07% at the median).

voting share. The value of the dividend privileges to non-voting shares varied therefore between 9% and 18% of their value. The vote segment showed much more variability in the sample period and ranged from 20% to 75% of the price of a non-voting share.

[Please insert Table 2 about here]

Figure 1 graphically shows that both the RPD and the Nenova measure systematically underestimate the true value of the voting right, which is much better represented by the VS measure. Since the size of the average voting premium is often used as an inversed proxy of the country's investor protection and corporate governance efficiency, the low voting premium reported by the RPD or the Nenova measure would now greatly overestimates the quality of Italian corporate governance and distort international comparisons.

[Please insert Figure 1 about here]

5.2 Sample's descriptive statistics

Descriptive statistics for the variables used in the multivariate analysis are reported in Table 3 and referred to the clean sample. The fraction of voting shares on total shares averages 83.17% and ranges between 50% (the minimum allowed by law) and 99.84%. A non-voting share is trading, on average, at 8.67 times its par value though in a very wide range (0.46 /93.12 times). The extra-dividend yield generated by the extra-dividend granted to non-voting shares averages 1.21% of their market price. The largest shareholder holds a mean (median) percentage of voting rights equal to 43.19% (49.67%), while the mean (median) holding of the second largest shareholder is equal to 6.73% (5.47%). Voting shares tend to be more liquid of the non-voting shares, as the

mean (median) average daily bid-ask spread for the voting shares, calculated as the absolute value of $(\text{Bid} - \text{Ask})/\text{Stock Price}$, is equal to 0.97% (0.74%), versus a higher 1.26% (1.02%) for the non-voting shares. As a consequence, the mean (median) ratio of the non-voting and voting shares' bid-ask spread, a proxy of relative liquidity suggested by Ødegaard (2007), is equal to 1.80 (1.35). Industrial firms represent 58.31% of the sample.

[Please insert Table 3 about here]

5.3 Multivariate regression analysis

In order to analyze if the determinants of the voting premiums do differ for the three measures, Table 4 and 5 show (for the full and clean sample, respectively) the results of a multivariate regression analysis in which we regress the three measures of the voting premium (*VS*, *RPD* and *Nenova*) on their major firm-specific and country-level determinants. For each independent variable we run two models. The first model includes only those variables related to the equity structure of the firm, as the fraction of the firm's equity represented by the voting shares (*VS Equity Fraction*), the ratio of the market price of the non-voting shares over their par value ($\text{PriceNV}/\text{ParNV}$); the extra-dividend granted to non-voting share as a percentage of their stock price ($\text{Diff. Div}/\text{PNV}$); and a dummy for industrial firms (*Industrial*). In addition to these variables, the second model includes: some ownership variables as the percentage of the firm's voting rights owned by the largest and second largest shareholder (*Largest and Second largest shareholder*); a proxy for the firm's size, i.e. the log of the market capitalization, $\text{Ln}(\text{mkt cap})$; the annual market return (*Market Return*); and, similarly to Ødegaard (2007), a proxy for the relative liquidity of the two share classes based on the ratio of the non-voting over the voting bid-ask spread (*Relative*

BidAsk). We used pooled OLS regression models with robust standard errors and firm fixed-effects to control for omitted variables at firm level.

We first examine the determinants of the vote segment measure for the clean sample (Models I and II in Table 4). The coefficient of the fraction of voting shares over the total amount of shares is negative and significant in both models. Consistent with Nicodano (1998) and Caprio and Croci (2008), the more is the firm's equity represented by voting shares, the lower is the value of the right to vote for both measures. In fact, greater fractions of voting shares require the majority shareholder to control the company with lower ownership/control wedges and, therefore, lower returns from control (Nicodano, 1998). The ratio between the price of the non-voting share and its par value is also significantly negatively correlated with the vote segment, as expected, since both the minimum and extra-dividend to non-voting shares are set on their par value and translate into greater extra-dividend yields for lower values of the ratio. A higher differential dividend yield granted to non-voting shares (*Diff. Div/PNV*) is significantly associated with higher values of the vote segments, as expected. In fact, since the VS measure takes into account the additional dividends paid to non-voting shareholders, larger dividend privileges to non-voting shares decrease the relative investment segment of the voting shares and increases their vote segments. As far as the ownership variables are concerned, the value of the vote segment is not affected by the percentage of voting rights held by the largest shareholder, while it is weakly significantly associated with a higher voting stake held by the second largest shareholder, probably for the greater probability of a control change. The size of the firm negatively affects the vote segment, as expected, since a large firm is less likely to attract potential acquirers because of the cost of the acquisition, reducing the probability that the voting shareholder could be pivotal in a control contest or that the controlling block of shares will be transferred under the mandatory bid rule regulation. Besides, institutional investors tend to be

more present in larger firms and their monitoring role reduces the extraction of private benefits by the largest shareholder. The market return presents a positive coefficient, which can be explained by the fact that acquisitions are more likely in periods of increasing stock prices and this reflects into a higher value of the voting rights (Rhodes-Kropf et al., 2005). Finally, the relative bid-ask spread of the non-voting shares over the voting one does not seem to affect the size of the VS measure.¹⁰

Models III and IV present the regression results when the dependent variable is the relative price difference. We observe that there are few differences with respect to the models where the independent variable is represented by the vote segment (Models I and II). When using the RPD measure of the voting premium, the ratio of the market price over the par value and the extra-dividend yield seem to have less explanatory power, as expected. The firm's size is no longer significantly negatively correlated with the voting premium, while stronger statistical significance is found for the positive correlation with the stock market return and the negative correlation with the relative liquidity of the non-voting shares.

When the multivariate regression models are run on the Nenova measure of the voting premium (columns V and VI), all the explanatory variables keep the same signs and confirm the robustness of the multivariate results, which do not seem to depend on the adopted measure. However, with the exception of the relative liquidity measure, most variables reduce or lose their statistical significance compared with the other two measures of the voting premium. The R-

¹⁰ In order to make a robustness check, we have also computed the vote segment measure using the yield on the 10-year Italian Treasury bond as the discount rate for the additional dividends to the non-voting shares. Given the non-voting shares' seniority claim on the firm's earnings, their additional dividends can be considered as granted, unless the firm is not reporting earnings for more than three consecutive years. A long term risk-free rate could therefore also be taken as a reasonable proxy for determining the value of the additional dividends, and, hence, of the vote segment. When we discount the additional dividends with the lower T-bond rate, the average vote segment for the clean sample obviously increases but the results of the multivariate regression models on the new vote segment values do not minimally change and all variables keep their signs and statistical significances.

squared values are consequently lower and let us conclude that the Nenova measure is the worst performing also for the multivariate analysis of the voting premium's determinants.

Since the VS measure is supposed to be a more accurate measure of the voting premium than the RPD one, we define the differences between the first one and the latter as the estimated errors and we regress them on the same set of explanatory variables (Models VII and VIII). The coefficient of the ratio between the non-voting share price and its par value is negative and statistically significant, indicating that the effect of this variable is much more accentuated in the vote segment models. In fact, since the minimum and extra-dividend to non-voting shares are based on their par value and not on their stock prices, lower ratios give rise to higher values of the vote segments compared to the values of the relative price differences, *ceteris paribus*. On the contrary, higher Price/Par ratios attenuate the difference between the VS and the RPD measure.¹¹ Significantly higher estimated errors are also generated for higher levels of the differential dividend yield granted to non-voting shares. In fact, since extra-dividend payments to non-voting shares are considered only by the vote segment measure of the voting right, the higher is the differential dividend yield to non-voting shares the more the RPD measure underestimates the value of the voting right. On the other hand, lower estimated errors are significantly correlated with larger firms, indicating that the expected negative effect of the firm's size has significantly more explanatory power when we adopt the VS rather than the RPD measure.

[Please insert Table 4 about here]

¹¹ For example, suppose that a non-voting share is trading at its par value, 1€ euro. If the additional dividend is 2 cents per share, the present value of these additional dividends at a 5% discount rate is 40 cents. This value is 40% of the non-voting share price. If also the voting share is traded at 1 euro, the vote segment would be equal to 40% but the relative price difference would equal zero. Therefore, the estimation error would be equal to 40%. However, suppose that both share classes are trading at 10€. The present value of the additional dividends would still be equal to 40 cents but would now represent only 4% of the non-voting share price. The vote segment would be equal to 4%, and the estimation error to a modest 4%. As a consequence, being the par value constant over time, depress market prices are associated with lower Price/Par ratios and greater estimation errors for not taking dividend differences into consideration.

In Table 5 we find the same models of Table 4 referred to the full sample, i.e. without excluding those firm-year observations which should originate measurement errors. The VS and RPD measures show a reduction of the models' R-squared though all variables keep their sign and most of them also their statistical significance. The last two columns also indicate that the estimation errors associated to the RPD measure is confirmed to be larger for higher values of Price/Par, higher dividend yield differentials and smaller firms, while the lower R-squared are probably due to the noise added by the measurement errors associated to the anomalous observations not removed from the sample. These results suggests that the measurement errors due to the observations that should be filtered-off greatly affect the single and average estimate of the voting premium, as documented in Table 1, but do not greatly affect its determinants, when the premium is estimated with the VS or the RPD measures. The same cannot be said for the Nenova measure. In fact, when the multivariate analysis is run on the full sample its explanatory power decreases substantially (the two R-squared drop from 0.17 and 0.25 to 0.04 and 0.11, respectively) and some variables lose their statistical significance.

[Please insert Table 5 about here]

6. Conclusions

If a right is a right, its value should not be lower than zero. The empirical literature has estimated it through some measures of the voting premium which were implicitly based on the assumption that the share with a right or with superior-voting right are traded at a premium compared with the non-voting or inferior-voting class of shares. In so doing, dividend privileges and other privileges often granted to the non-voting or inferior-voting shares have not been considered and

observations biased by measurement errors have not been removed from the samples. In a contest of lower interest rates, improved corporate governance and an international trend in dual-class unifications, non-voting shares have become often more valuable than voting shares. As a result, such traditional measures have began reporting average negative values for the voting rights in several countries as Denmark (Neumann, 2003), Norway (Ødegaard, 2007), Finland and Hong Kong (Nenova, 2003). We not only believe that such negative estimates do not represent the value of voting rights, but also that international comparisons could be greatly distorted, as dividend privileges granted to the non-voting or inferior voting shares greatly vary across countries. We therefore estimate the value of voting rights using Italian dual-class shares listed in the 1999-2008 period by using three different measures of the voting premium: the vote segment, the relative price differential and the Nenova (2003) measure. Our new proposed measure, the vote segment, incorporates all kind of dividend privileges and is therefore much more accurate than the other standard measures adopted in the literature. Over the ten-year period, the average value of the voting right is found equal to 35.63% with the vote segment measure, versus a lower 20.35% with the relative price difference and only 1.38% with the Nenova (2003) measure. The best estimate for the whole period is actually equal to +45.57% and found through the VS measure when the sample is also cleaned from those observations that should originate measurement errors either because convertible into voting shares, or because under a unification process, or under a tender offer, or too illiquid for having reliable prices, or belonging to financially distressed firms.

When we analyze the determinants of the voting premium, the choice of the measure does not appear to make a significant impact, as long as the dividend differences are controlled for. We find that significantly higher voting premium are determined by higher fractions of non-voting shares, higher dividend privileges, market prices closer to the par value of the shares, and smaller

firms. In conclusion, traditional measures for estimating the value of voting right should take dividend privileges into consideration and clean the sample from possible measurement errors, otherwise its average value could be greatly underestimated, even appear to be negative, and obviously distort any cross-country comparison.

References

- Barclay, M., Holderness, C., 1989. Private benefits from control of public corporations. *Journal of Financial Economics* 25, 371–395.
- Bergstrom, C., Rydqvist, K., 1992. Differentiated bids for voting and restricted voting shares in public tender offers. *Journal of Banking and Finance* 16, 97–114.
- Bigelli, M., Mengoli S., 2010, Self-expropriation versus self-interest in dual-class voting: the Pirelli case study, ECGI Working paper 294.
- Bigelli, M., Mehrotra V., Rau R. (2007). Expropriation, Unification, and Corporate Governance in Italy, ECGI Working paper 180.
- Caprio, L., Croci, E., 2008. The determinants of the voting premium in Italy: The evidence from 1974 to 2003, *Journal of Banking & Finance*, Elsevier, 32, pages 2433-2443.
- Carvalho da Silva, A., Subrahmanyam, A., 2007. Dual-class premium, corporate governance, and the mandatory bid rule: Evidence from the Brazilian stock market, *Journal of Corporate Finance*, 13(1), 1-24.
- Cox, S. R., Roden, D. M., 2002. The source of value of voting rights and related dividend promises. *Journal of Corporate Finance* 8, 337–351.
- Chung, Kee H., Kim, Jeong-Kuk, 1999. Corporate ownership and the value of a vote in an emerging market, *Journal of Corporate Finance*, 5, 35-54.
- DeAngelo, H., DeAngelo, L., 1985. Managerial ownership of voting rights. A study of public corporations with dual classes of common stock. *Journal of Financial Economics* 14, 33–69.
- Dimson, E., Marsh, P., and Staunton, M., 2002, *Triumph of the Optimists: 101 Years of Global Investment Returns*, Princeton University Press, New Jersey.
- Dyck, A., Zingales, L., 2004. Private benefits of control: an international comparison. *Journal of Finance* 59, 537–600.
- Doidge, C., 2004. U.S. cross-listings and the private benefits of control: Evidence from dual class shares. *Journal of Financial Economics* 72, 519–553.
- Gardiol, L., Gibson-Asner, R., Tuschmid, N.S., 1997. Are liquidity and corporate control priced by shareholders? Empirical evidence from Swiss dual class shares. *Journal of Corporate Finance* 3, 299–323.
- Hauser, S., Lauterbach, B., 2004. The value of voting rights to majority shareholders: Evidence from dual-class stock unifications. *Review of Financial Studies* 17 (4), 1167–1184.
- Hoffmann-Burchardi, U., 1999. Corporate governance rules and the value of control: A study of German dual-class shares. FMG Discussion Paper No. 315 (London School of Economics).
- Horner, M.R., 1998. The value of the corporate voting right. *Journal of Banking and Finance* 12, 69–83.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R.W., 1998, *Law and finance*. *Journal of Political Economy* 106, 1113-1155.
- Levy, H., Economic evaluation of voting power of common stock, *Journal of Finance*, Vol. 38, 1982, pp. 79–93.
- Linciano, N., 2002. Non-voting shares and the value of control: The impact of corporate regulation in Italy. Working paper (CONSOB).
- Loderer C., Jacobs, A., 1995. The Nestlé crash, *Journal of Financial Economics* 37, 315-339.
- Manne, H. G., 1964. Some theoretical aspects of Share Voting. An Essay in Honour of Adolf A. Berle, *Columbia Law Review* 64, 1427-1445.
- Meggison, W., Restricted voting stock, acquisition premiums, and the market value of corporate control, *Financial Review*, Vol. 25 No. 2, 1990, pp. 175–198.

- Nenova, T., 2003. The value of corporate voting rights and control: A cross-country analysis. *Journal of Financial Economics* 68, 325–351.
- Neumann, R., 2003. Price differentials between dual-class stocks: Voting premium or liquidity discount? *European Financial Management* 9, 315–332.
- Nicodano, G., 1998. Corporate groups, dual-class shares and the value of voting rights. *Journal of Banking and Finance* 22, 1117–1137.
- Ødegaard, B.A., 2007. Price differences between equity classes. Corporate control, foreign ownership or liquidity? *Journal of Banking and Finance* 31, 3621-3645.
- Pajuste, A., 2005, Determinants and consequences of the unification of dual class shares, working paper, European Central Bank.
- Smith, B.F., Amoako-Adu, B., 1995. Relative prices of dual class shares. *Journal of Financial and Quantitative Analysis* 30 (2), 223–239.
- Rhodes-Kropf, M., Robinson, D.T., & Viswanathan, S. (2005). Valuation waves and merger activity: the empirical evidence. *Journal of Financial Economics* 77, 561-603.
- Rydqvist, K., 1996. Takeover bids and the relative prices of shares that differ in their voting rights. *Journal of Banking and Finance* 20, 1407–1425.
- Zingales, L., 1994. The value of voting right: A study of the Milan Stock Exchange experience. *Review of Financial Studies* 7, 125–148.
- Zingales, L., 1995. What determines the value of corporate votes? *Quarterly Journal of Economics* 110, 1047–1073.

Table 1 – Relative Price Difference & Vote Segment

The table presents descriptive statistics (mean, median, minimum, maximum, standard deviation, 25th and 75th percentiles, and the number of firm-year observations with negative voting premiums) for the two measures of voting premiums. In Panel A we show the statistics of the Vote Segment, while the statistics of the relative price difference, $(Pv-Pnv)/Pnv$, are reposted in Panel B, and the statistics of the Nenova (2003) measure of voting premium are presented in Panel C. All statistics are reported for the full sample of 430 firm-year observations and the reduced samples where we have progressively removed those firm-year observations that would have originated measurement errors, that is: convertible non-voting shares (Sample1); the most illiquid non-voting shares (Sample2); non-voting shares for which the board of directors has announced a dual class unification (Sample3); non-voting shares for which a tender offer was in place (Sample4); non-voting shares for distressed firms having voting shares trade below half of their par value (Clean sample).

Panel A: Voting premium as Vote Segment (in %)

	Full sample	Sample 1	Sample 2	Sample 3	Sample 4	Clean sample
#	430	386	322	314	305	298
Mean	35.628	39.091	45.477	45.738	46.089	45.568
Median	27.222	31.644	37.584	38.054	39.439	38.054
Min	-62.983	-62.983	-61.140	-61.140	-38.338	-38.338
Max	209.619	209.619	209.619	209.619	209.619	209.619
Std dev	39.224	39.738	37.906	38.193	36.609	36.774
First quartile	9.052	12.641	19.109	19.178	20.131	19.313
Third quartile	56.512	63.134	67.280	67.580	67.580	66.374
# negative VP	46	34	12	12	8	8

Panel B: Voting premium as Relative Price Difference (in %)

	Full sample	Sample 1	Sample 2	Sample 3	Sample 4	Clean sample
#	430	386	322	314	305	298
Mean	20.354	23.368	30.874	31.171	31.269	32.42
Median	9.087	15.093	23.076	23.076	23.893	24.581
Min	-86.107	-86.107	-61.464	-61.464	-51.504	-51.504
Max	202.367	202.367	202.367	202.367	202.367	202.367
Std dev	40.465	41.55	39.285	39.6	38.145	37.848
First quartile	-2.677	-0.437	3.249	3.77	3.977	5.169
Third quartile	40.821	45.585	48.373	48.524	48.561	49.666
# negative VP	130	98	55	55	51	45

Panel C: Voting premium as Nenova (in %)

	Full sample	Sample 1	Sample 2	Sample 3	Sample 4	Clean sample
#	417	386	322	100	100	100
Mean	1.379	1.842	6.832	6.865	7.198	7.606
Median	4.329	5.501	7.503	7.620	7.703	8.092
Min	-308.535	-308.535	-79.339	-79.339	-52.665	-52.665
Max	28.122	28.122	28.122	28.122	28.122	28.122
Std dev	25.550	26.453	10.709	10.808	9.549	9.164
First quartile	-1.140	-0.288	1.364	1.604	1.819	2.185
Third quartile	12.102	12.782	13.516	13.518	13.518	13.666
# negative VP	121	98	55	55	51	45

Table 2 - Time Series of the three estimates of the Voting Premium

The table reports the average annual voting premiums by year. Voting premiums are computed in three ways: the relative price difference between voting and non-voting share divided by the price of the non-voting share; the vote segment divided by the price of the non-voting share; the Nenova (2003) measure of the fraction of Total Voting Premium (measured as relative price differences) over the value of all firm's equity. For each of these two measures we show the average annual voting premium for all non-voting shares (Full sample) and for the reduced sample of observations that survived our five filters aimed to remove major measurement errors (Clean sample). The last two columns of the clean sample also report the yearly average for the Investment segment and the Vote segment of the voting share (expressed in percentage of the price of the non-voting shares).

Year	Full sample				Clean sample					
	# Obs	Vote Segment	Relative Price Difference	Nenova	# Obs	Vote Segment	Investment Segment	PV Dividend Privileges	Relative Price Difference	Nenova
1999	72	58.21%	44.51%	8.24%	46	74.85%	86.45%	13.55%	61.29%	13.10%
2000	58	42.10%	31.35%	5.59%	41	57.48%	89.12%	10.88%	46.60%	11.24%
2001	58	32.89%	18.21%	-0.71%	34	45.76%	88.02%	11.98%	33.78%	9.10%
2002	47	38.25%	19.75%	1.94%	32	53.09%	81.88%	18.12%	34.97%	8.24%
2003	39	35.57%	17.73%	3.83%	27	43.09%	86.49%	13.51%	29.59%	7.73%
2004	37	29.89%	11.17%	2.68%	27	31.12%	86.30%	13.70%	17.42%	4.52%
2005	35	23.71%	6.02%	-0.74%	26	29.53%	83.38%	16.62%	12.91%	3.49%
2006	32	19.40%	7.73%	1.07%	24	21.96%	91.03%	8.97%	12.98%	2.92%
2007	28	15.14%	5.69%	-2.29%	23	20.06%	90.68%	9.32%	10.74%	1.06%
2008	28	26.29%	2.91%	-19.38%	18	42.48%	85.29%	14.71%	27.77%	6.34%
Total	430	35.63%	20.35%	1.38%	298	45.57%	86.87%	13.13%	32.42%	7.61%

Figure 1 - Time Series of the average annual Relative Price Differences and Vote Segments

The figure reports the average annual voting premiums in the period 1999-2008. Voting premiums are computed in two ways: 1) the relative price difference between voting and non-voting share; 2) the vote segment. For each of these two measures, we show the average annual voting premium for the full sample (All) and for the sample composed of the observations that survive our four corrections (Clean sample).

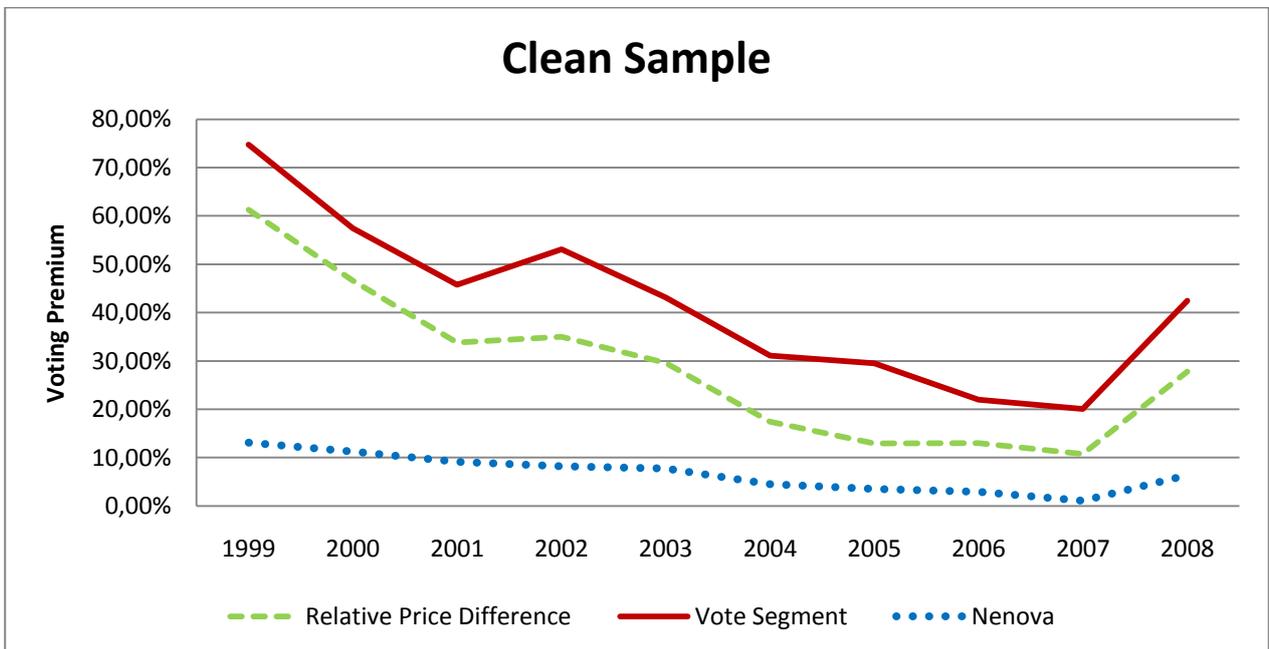
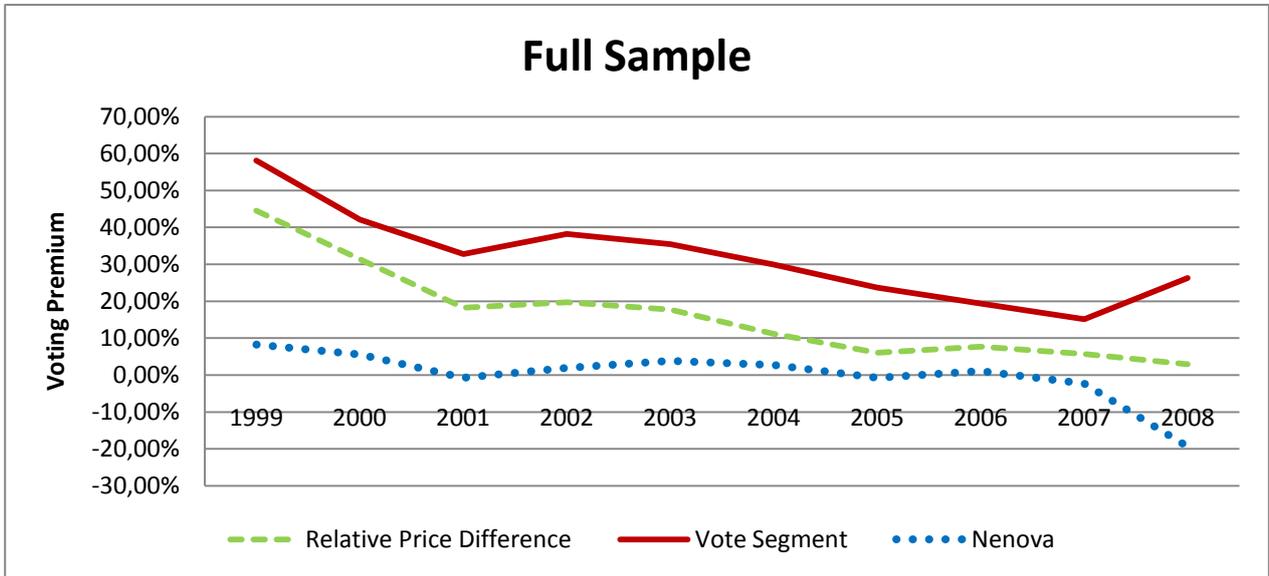


Table 3 – Descriptive Statistics for the Clean Sample

The table presents descriptive statistics for the variables used in the multivariate analysis. The vote segment (Columns I-II), the relative price difference (Columns III-IV), and the estimated error between vote segment and relative price difference (Columns V-VI) are regressed on firm-specific and country level variables, *VS Equity Fraction* is the fraction of the firm's equity represented by the voting shares. *PriceNV/ParNV* is the ratio of the market price of the non-voting shares over their par value. *Diff. Div/PNV* is the ratio between the additional dividends to which non-voting shares are entitled to and the stock price of a non-voting share. *Industrial* is a dummy variables that takes value 1 if the firm is an industrial firm. *Largest (Second Largest)* shareholder is the percentage of the voting rights held by the firm's largest (second largest) shareholder. *Family* is a dummy variable that takes value 1 if the firm is family-controlled. The firm is considered family-controlled if its largest shareholder is a family and it owns at least 10% of the voting rights. *Financial owner* is a dummy that takes value 1 if the firm is controlled by a financial institution. *Ln(mkt cap)* is the log of the market capitalization of the firm's equity at the end of the year. *BidAsk VS (NVS)* is the bid-ask spread of voting (non-voting) shares and it is calculated as the absolute value of (Bid - Ask)/Stock Price. *Relative BidAsk* is the ratio of the non-voting and voting bid-ask spreads.

Variable	Mean	Median	Std . dev.	Min	Max	#
VS Equity Fraction	0.8317	0.8986	0.1570	0.5000	0.9984	298
PriceNV/ParNV	8.6692	4.6617	12.8423	0.4608	93.1200	298
Diff. Div/PNV	0.0121	0.0043	0.0245	0.0000	0.2051	298
Largest Shareholder (%)	43.1947	49.6750	19.8985	4.5400	97.6100	298
Second Largest shareholder (%)	6.7320	5.4750	5.8678	0.0000	27.7200	298
Ln(mkt cap)	21.0740	21.1574	1.7812	16.9470	25.1895	295
BidAsk VS	0.0097	0.0074	0.0089	0.0012	0.0825	298
BidAsk NVS	0.0126	0.0102	0.0089	0.0018	0.0515	297
Relative BidAsk	1.7970	1.3487	1.7418	0.1277	14.9571	297

Table 4 – Multivariate Regressions of the Vote Segment and RPD on the Clean Sample

The table presents the results of a pooled OLS regression model with firm-fixed effects and robust standard errors. The vote segment (Columns I-II), the relative price difference (Columns III-IV), the Nenova (2003) measure (Columns V-VI) and the estimated error between vote segment and relative price difference (Columns VII-VIII) are regressed on firm-specific and country level variables. *VS Equity Fraction* is the fraction of the firm's equity represented by the voting shares. *PriceNV/ParNV* is the ratio of the market price of the non-voting shares over their par value. *Diff. Div/PNV* is the ratio between the additional dividends to which non-voting shares are entitled to and the stock price of a non-voting share. *Industrial* is a dummy variables that takes value 1 if the firm is an industrial firm. *Largest (Second Largest) shareholder* is the percentage of the voting rights held by the firm's largest (second largest) shareholder. *Family* is a dummy variable that takes value 1 if the firm is family-controlled. The firm is considered family-controlled if its largest shareholder is a family and it owns at least 10% of the voting rights. *Financial owner* is a dummy that takes value 1 if the firm is controlled by a financial institution. *Ln(mkt cap)* is the log of the market capitalization of the firm's equity at the end of the year. *Market return* is the annual return on the Comit General Index. *Relative BidAsk* is the ratio of the non-voting and voting bid-ask spreads, where the bid-ask spread is calculated as the absolute value of (Bid - Ask)/Stock Price. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively. Robust standard errors are reported in brackets.

	Vote Segment		Relative Price Difference		Nenova		Estimated Error (VS- RPD)	
	I	II	III	IV	V	VI	VII	VIII
Constant	2.6611*** [0.4310]	3.1609*** [0.4397]	2.4673*** [0.4156]	2.7679*** [0.4133]	0.4765*** [0.0916]	0.5180*** [0.1027]	0.2584*** [0.0712]	0.4471*** [0.1275]
VS Equity Fraction	-2.5834*** [0.5008]	-2.3535*** [0.4416]	-2.5078*** [0.4818]	-2.3025*** [0.4271]	-0.4735*** [0.1064]	-0.3684*** [0.0848]	-0.1470* [0.0831]	-0.1257 [0.1028]
PriceNV/ParNV	-0.0098** [0.0045]	-0.0103** [0.0046]	-0.0079* [0.0041]	-0.0088** [0.0044]	-0.0012 [0.0008]	-0.0012 [0.0008]	-0.0021*** [0.0006]	-0.0017*** [0.0006]
Diff. Div/PNV	2.2937*** [0.4983]	2.6375*** [0.6688]	0.8864** [0.3515]	1.0510** [0.4423]	0.3236*** [0.0819]	0.3696*** [0.1142]	1.3860*** [0.2651]	1.5644*** [0.3512]
Largest Shareholder		-0.0002 [0.0033]		-0.0003 [0.0031]		-0.0006 [0.0009]		-0.0001 [0.0007]
2nd Largest Shareholder		0.0133* [0.0067]		0.0121* [0.0062]		0.0014 [0.0017]		0.0008 [0.0020]
Ln(mkt cap)		-0.0353** [0.0141]		-0.0241 [0.0147]		-0.0043 [0.0040]		-0.0101** [0.0039]
Market Return		0.1307* [0.0751]		0.1658** [0.0680]		0.0226 [0.0157]		-0.0238 [0.0242]
Relative BidAsk		-0.0154 [0.0108]		-0.0140* [0.0081]		-0.0119** [0.0059]		-0.0005 [0.0054]
Adjusted R2	0.284	0.331	0.2841	0.3231	0.1712	0.2466	0.1449	0.1876
Observations	298	294	298	294	298	294	298	294

Table 5 – Multivariate Regressions of the Vote Segment and RPD on the Full Sample

The table presents the results of a pooled OLS regression model with firm-fixed effects and robust standard errors. The vote segment (Columns I-II), the relative price difference (Columns III-IV), the Nenova (2003) measure (Columns V-VI) and the estimated error between vote segment and relative price difference (Columns VII-VIII) are regressed on firm-specific and country level variables. *VS Equity Fraction* is the fraction of the firm's equity represented by the voting shares. *PriceNV/ParNV* is the ratio of the market price of the non-voting shares over their par value. *Diff. Div/PNV* is the ratio between the additional dividends to which non-voting shares are entitled to and the stock price of a non-voting share. *Industrial* is a dummy variables that takes value 1 if the firm is an industrial firm. *Largest (Second Largest) shareholder* is the percentage of the voting rights held by the firm's largest (second largest) shareholder. *Family* is a dummy variable that takes value 1 if the firm is family-controlled. The firm is considered family-controlled if its largest shareholder is a family and it owns at least 10% of the voting rights. *Financial owner* is a dummy that takes value 1 if the firm is controlled by a financial institution. *Ln(mkt cap)* is the log of the market capitalization of the firm's equity at the end of the year. *Market return* is the annual return on the Comit General Index. *Relative BidAsk* is the ratio of the non-voting and voting bid-ask spreads, where the bid-ask spread is calculated as the absolute value of (Bid - Ask)/Stock Price. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively. Robust standard errors are reported in brackets.

	Vote Segment		Relative Price Difference		Nenova		Estimated Error (VS- RPD)	
	I	II	III	IV	V	VI	VII	VIII
Constant	2.6475*** [0.4004]	3.1382*** [0.4322]	2.5162*** [0.4093]	2.6732*** [0.4141]	0.6324*** [0.1810]	0.6372*** [0.1783]	0.1863*** [0.0688]	0.5130*** [0.1476]
VS Equity Fraction	-2.5872*** [0.4592]	-2.3305*** [0.4203]	-2.6104*** [0.4680]	-2.3413*** [0.4200]	-0.6814*** [0.2033]	-0.5205*** [0.1325]	-0.0398 [0.0783]	-0.0583 [0.0942]
PriceNV/ParNV	-0.0102*** [0.0031]	-0.0102*** [0.0032]	-0.0085*** [0.0028]	-0.0089*** [0.0030]	-0.0038* [0.0021]	-0.0047** [0.0023]	-0.0018*** [0.0006]	-0.0014** [0.0005]
Diff. Div/PNV	1.9046*** [0.5741]	2.3118*** [0.6750]	0.5348 [0.4352]	1.0439** [0.4811]	-0.0300 [0.4690]	0.6389 [0.5365]	1.3592*** [0.3616]	1.2492*** [0.4397]
Largest Shareholder		-0.0038 [0.0029]		-0.0036 [0.0028]		-0.0002 [0.0012]		-0.0003 [0.0006]
2nd Largest Shareholder		0.0038 [0.0052]		0.0058 [0.0047]		-0.0057 [0.0069]		-0.0021 [0.0018]
Ln(mkt cap)		-0.0273** [0.0132]		-0.0125 [0.0124]		-0.0038 [0.0052]		-0.0138** [0.0065]
Market Return		0.2440*** [0.0680]		0.2633*** [0.0588]		0.2228** [0.1071]		-0.0121 [0.0220]
Relative BidAsk		-0.0017 [0.0020]		-0.0022 [0.0016]		-0.0030 [0.0038]		0.0006 [0.0009]
Adjusted R2	0.25	0.3001	0.2659	0.3174	0.0383	0.1115	0.0884	0.1068
Observations	430	423	430	423	417	410	430	423