SCHOOL OF ECONOMICS AND MANAGEMENT

Payout Policy and Agency Concerns

A Study on Differences in Payout Ratios and Payout Mix between Dual and Single-Class Firms

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Abstract

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Five key words: Payout-policies, Dual-class, Single-class, Agency theory, Corporate Governance

Purpose: The purpose of this study is to investigate if there is any difference in payout policies between firms that adopt a dual-class share structure compared to a single-class share structure.

Methodology: We are using an unbalanced panel data set of firms that are listed on the Stockholm Stock Exchange (SSE). The econometric approach is based on pooled ordinary least square regressions, random effects models as well regressing against propensity score matched sample to deal with endogeneity. We also provide several robustness checks against potential misspecifications of dependent variables.

Theoretical perspectives: The theoretical background of this study is established from the theories surrounding payout policies and corporate governance issues. These theoretical propositions have been analyzed in relation to our chosen topic.

Empirical foundation: The sample consists of annual data of firms listed on the main market from 2012 to 2019.

Conclusion: We find no statistical significance that dual-class firms have higher dividend payout ratios than single-class firms. However, we find statistical significance that dual-class shares have a higher proportion of cash dividends to total payouts than single-class shares. The results are robust after controlling against a propensity score matched sample.

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1. Introduction

This section covers the background of this study, including a problem discussion regarding previous studies in the literature as well as the purpose and research question to be examined. The section concludes with the main findings of the study presented followed by a disposition outlining the sections of the study.

1.1. Background

Ever since stock markets started to allow dual-class shares, they have split scholars' opinions if it works as a mechanism that enhances or destroys shareholder value. Similarly, stock-markets policies regarding these types of structures diverge to a large extent. Some stock-markets such as the Hong Kong stock exchange ban the use, whereas they account for around half of all listings on the Stockholm Stock Exchange (SSE). Although there are mixed acceptances and opinions, the dual-class share structure has had a revival in popularity in recent years with a number of high profiled companies such as Nike, Facebook and Snapchat utilizing the structure (Hossain & Kryzanowski, 2019).

Dual-class is a general term used to describe a firm with two or more classes of shares where each share has its own rights and restrictions. More specifically, dual-class refers to an equity share structure with the same cash flow rights but unequal voting rights which therefore form a wedge between ownership and voting interests (Hossain & Kryzanowski, 2019). By utilizing such a structure, it is possible for a person (or group) to retain control while only owning a small fraction of the equity claims on the firms' cash flow (Bebchuk, Kraakman & Triantis, 1999). Furthermore, it is also common for firms to only have their inferior classes of shares traded on the market and their superior voting shares closely held.

The controversy over dual-class shares has reached its peak in recent years and mainly revolves around the trade-offs between corporate governance concerns and the benefits of allowing founders and executives to retain control with a relatively lower investment. Proponents of the dual-class share structure argue that it allows managers or founders with unique skills, knowledge, abilities and vision of the firm's future to remain in control (Bebchuk & Kastiel,

2017). With a dual-class structure, the managers or founders have more leeway to focus on long-term value creating activities without the need to worry about the stock markets short-term pressures (Cao *et al.,* 2020).

However, the bulk of the literature has been critical of the dual-class structure due to the related agency costs and the appearance of inequality. More specifically, with a smaller equity stake in the company, owners of high voting shares may undertake riskier projects since they only bear a fraction of the cash flow consequences of their decisions. Therefore, the insiders who are in control over the decisions in the firm can use corporate assets for a range of purposes that are not value maximizing for the firms outside shareholders (La Porta *et al*., 2000).

1.2. Problem Discussion

As previously mentioned, prior research points towards both benefits and drawbacks with a dual-class structure. Most studies accept the notion that a separation of voting and cash flow rights can exacerbate agency problems in certain settings (La Porta *et al.,* 1998). There is a multitude of studies that show how firms can use dividend payouts as a vehicle to mitigate agency problems between controlling and minority shareholders (Pindado, Requejo & Torre, 2012; Isakov & Weisskopf, 2015). The underlying idea is that by paying dividends, the company reduces the available funds that can be expropriated as private benefits by insiders (Faccio & Young, 2001). However, the literature on whether corporations that utilize a dual-class share structure use dividends as a device to generate trust and alleviate minority shareholders fear of expropriation is scarce and mixed.

Jordan, Liu and Wu (2014) examine corporate payout policies in dual-class firms in the U.S. over a matched sample of single and dual-class firms. The authors find that dual-class firms have higher cash dividends payments and total payouts, and that they use more regular cash dividends rather than special dividends and share repurchases compared to their propensity score matched single-class firms. In contrast, Amoako-Adu, Baulkaran and Smith (2014) find that dual-class firms, on average, pay less in dividends than closely held single-class companies. Furthermore, the authors also find that the dividend yield, dividend payout and operating cash flow are negatively related to the wedge between voting and cash flow rights.

The difference in results can stem from several factors such as different sample periods, different samples of firms and whether the dual-class firms are closely held. Another potential explanation is the institutional setting in which the firms operate in (Isakov & Weisskopf, 2015). According to La-Porta *et al*. (2000) there exists two separate agency models to explain dividends, namely the outcome and substitution model. In the outcome model, dividends are a result from an effective legal system with strong protection of shareholder rights. In contrast, dividend payouts according to the substitution model is a substitute for legal protection.

La Porta *et al.* (1998) examine shareholder and creditor rights in 49 different countries worldwide and find that Sweden only offers intermediate investor protection. Although the law enforcement is regarded as strong, there exists several regulations that allow for restrictions of minority shareholder rights. The allowance of the dual-class share structure is one such example which increases the risk of expropriation of insiders. Furthermore, Faccio and Lang (2002) find that Sweden is the country where the dual-class share structure is most utilized in Western Europe. Therefore, the combination of relatively weak investor protection and high usage of control enhancing mechanisms makes Sweden suitable for examining if payout policies differ between dual and single-class firms.

1.3. Purpose and Research Question

As aforementioned, the empirical findings about the payout policies of firms with dual-class shares is mixed. Furthermore, the bulk of studies have been conducted in the U.S. where only around 8 percent of the listed companies in the Russell 3000 use dual-class shares (Bebchuk & Kastiel, 2017). Less research has been conducted in Europe in general and Sweden in particular. This is surprising since dual-class shares are common and have the possibility to exacerbate agency problems. Therefore, our study aims to complement and expand previous studies on the role of payout policies in firms with potential agency problems in a setting where protection of investor rights is relatively low. Hence, we formulate the following research question:

Are there differences in payout policies between dual and single-class firms in Sweden?

1.4. Main Findings and Contributions

This study uses an unbalanced panel data set of 244 companies listed on the SSE from 2012 to 2019. By using univariate analysis, pooled-OLS models as well as random effects model we estimate the effect the dual-class share structure have on dividend payout ratios and dividend proportion on the whole sample as well as a propensity score matched sample. Our results indicate that there is no significant difference in dividend payout ratios between dual and single-class firms. However, there seems to be a difference in dividend proportion. Our results remain after additional robustness checks.

1.5. Disposition

The disposition of this thesis is structured as follows. In section 2, we present the theoretical background of the study. This is followed by section 3 where we present previous empirical findings of the role of payout policies in firms with potential agency problems as well as our formulated hypotheses. In section 4, we discuss the data, sample selection and investigated variables in the thesis. Section 5 presents our chosen methodology and statistical tests used in the thesis. In section 6 we present the empirical findings for the whole sample as well as for the propensity score matched sample. Section 7 presents the analysis of the results of the thesis in relation to previous findings in the literature. Finally, in section 8, we conclude the study and provide limitations and suggestions for future research.

2. Theoretical Background

This section explains the theoretical background of the study. Since our study is connected to two different areas in the literature, namely: payout policies and corporate governance, the theoretical section is divided accordingly.

2.1. Theories Regarding Payout Policies

2.1.1. Payouts

Companies can distribute earnings to their shareholders in multiple ways. They can pay an ordinary cash dividend, use share repurchases, or a combination of the two methods. When deciding on payout policy, the firm needs to decide on the amount of earnings that the firm wants to distribute to shareholders versus the amount that it retains and has that ability to reinvest. Therefore, determining an appropriate payout policy is a choice that needs careful consideration since retaining insufficient funds to support ongoing operation may force the firm to the capital markets to obtain external funds (Baker, 2009).

The most utilized of the different payout methods is dividends, which means that shareholders receive a portion of the firms equity. The underlying idea is that the dividend payment should be a residual of the firms' earnings for the fiscal year after all investments have been made (Baker, 2009). However, empirical evidence shows that there are firms that are distributing dividend payments that exceed earnings which implies that market participants view dividends as more than simply a residual. Although dividends are the most common payout policy, there have been a reduction in the number of dividend paying firms during the last decades, possibly because other payout alternatives have become more popular (Fama and French, 2001; Baker, 2009).

One such alternative to dividends is repurchases of shares. When firms repurchase their shares, the shares are either retired or accounted as part of the firm's treasury stock. This procedure increases each shareholder's ownership portion of the company. There are different ways of repurchasing shares such as open market share repurchases, Dutch action, transferable put right, fixed price tender offer and a targeted repurchase. The most utilized method is the open market share repurchase which accounts for 95 percent of all repurchases (Baker, 2009). When

deciding to repurchase shares, the firm has no obligation to repurchase all stated shares which provides flexibility from the firm's perspective (Ibid).

2.1.2. Dividend Irrelevance Theory

The relevance of dividends to firm value is one of the most debated topics in corporate finance literature. According to the seminal paper by Miller and Modigliani (1961), dividend policy is irrelevant to firm value in an ideal economy characterized by perfect capital markets, rational behavior amongst market participants and perfect certainty about the firm's prospects (Miller and Modigliani, 1961). The meaning of the underlying assumptions of the ideal economy are described as:

(I) *Perfect capital markets*: No investor's transactions are large enough to have any significant impact on the share price observed at the time of the transaction. Furthermore, all investors have equal and costless access to information about the share price observed and no costs are incurred when trading shares.

(II) *Rational behavior*: Market participants always prefer more wealth to less and the investor is indifferent if this wealth gain comes in the form of a dividend distribution or an appreciation of the share price of their stock holdings.

(III) *Perfect certainty*: All investors have the same assurance of the future investments and future profits of the firm. On the basis of this, there is no need to distinguish between different financial instruments. Therefore, the authors proceed to view all financial instruments as stocks.

When these underlying assumptions of the ideal economy holds, dividend payments are not relevant for shareholders. If a firm decides to pay dividends, it will be able to raise capital by issuing new shares and investors are able to construct homemade dividends by selling a portion of their holdings (Miller and Modigliani, 1961). As a result, firm value decided by the market participants stem from the investments and earnings power of the firm, and not how earnings are distributed to shareholders.

2.1.3. Signaling Theory

The underlying assumptions of the ideal economy are difficult to observe in the markets. Different types of market imperfections such as transaction costs, taxes and information asymmetry make it challenging to fully accept the dividend irrelevance theory developed by Miller and Modigliani (1961). Instead, there exists alternative theories trying to describe the decision of firms to distribute funds through dividend distributions. One such theory is the signaling theory originally presented by Lintner (1956) which proposes that firms use dividends as a signaling mechanism to communicate with shareholders about the firm's future performance.

According to signaling theory, investors act on the perceived signals from the firm and adjust stock prices accordingly. As a result of this, firm value is affected by the dividend decisions of the firm. Lintner (1956) argues that managers are hesitant to change the dividend policy of the firm even if it would be in the firm's best interest to do so. This decision assumes that shareholders of the firm prefer stable and predictable dividend payments today over the possibility of higher capital gains in the future. Therefore, companies tend to engage in dividend smoothing where they keep the dividend at a predetermined level instead of a residual based on the net income derived during the fiscal year. As a result of this, dividends tend to be sticky and firms that distribute earnings through dividend distributions usually continue this practice for a prolonged period (Lintner, 1956).

2.1.4. Life-Cycle Theory

Another theory used to explain why firms pay dividends is the life-cycle theory. According to this theory, the firm's decision to retain or distribute earnings evolves over time as profits accumulate and attractive investment opportunities decline (DeAngelo, DeAngelo and Stulz, 2006). Therefore, dividends tend to be distributed by mature and established firms in contrast to younger firms with abundant profitable growth opportunities. DeAngelo *et al.* (2006) shows that firms with a larger proportion of earned equity in its capital structure are more likely to pay dividends than firms that have a larger proportion of contributed equity in its capital structure.

The theory is a mixture of components of the previously described agency theory as well as the investment opportunity evolution presented by Fama and French (2001). The life-cycle theory contrasts with the previously mentioned signaling theory. Instead of using the payout policy as a signaling mechanism of future performance, the firm's decision to pay dividends depends on where it is located in the growth stage and hence the tradeoff between advantages (cost savings from internal financing) and disadvantages (agency costs of free cash flow) (Ibid).

2.1.5. Catering Theory

According to Baker and Wurgler (2015), managers cater to investor demand when deciding dividend payout policy. This market imperfection is commonly referred to catering theory and implies that companies choose to distribute earnings through dividends when there is a premium on dividend paying companies. In contrast, companies refrain from paying dividends when there is a premium on non-dividend paying companies. The authors test their theory by constructing four time series measures of the investor demand for dividend payers. By each measure, nonpayers initiate dividends when demand for payers is high. In some of the measures, payers seem to drop dividends when demand for them is low. Through this analysis, Baker and Wurgler (2015) conclude that the results concerning dividend initiations and omission are better explained by the catering theory than other dividend theories.

2.2. Theories Regarding Corporate Governance

2.2.1. Agency Theory

The principal element of agency theory is an explanation of the problems and conflicts that have the possibility to arise between agents and principals. In its original setting, this problem is often framed with the firm owner being the principal and the managers of the firm as agents. As further elaborated by Jensen and Meckling (1976), since both parties are utility maximizers, it is reasonable to assume that one party could act in their own interest, which creates a conflict of interest. However, the problem between managers and principal is not central to the source of explanation in this thesis but rather works as a mechanism to give historical context to the issue in its originality.

More importantly, recent empirical evidence indicates that the relevent agency problem is not between managers and principal, but rather between controlling and minority shareholders (Gomes, 2000). Shleifer and Vishny (1997) argue that agency problems arise, because in many cases, the minority shareholders do not have full insight on the usage of funds or project prioritization by managers. This situation gives rise to the private benefits of control which can lead to expropriation of minority shareholders through means such as risk avoidance and excessive compensation (Anderson & Reeb, 2003). The agency problem could also be related to the controlling owners voting rights in excess of cash flow rights, which makes it possible to retain their place in the firm even though they may no longer maintain the skills and quality (Shleifer and Vishny, 1997).

2.2.2. Dual-class share structure

Single-class shares is the original structure that was created on the stock market. The structure is organized as one vote per share, which means that a purchase of 51% of the outstanding shares in a firm results in a majority of votes held. While ownership of less than 50% can lead to a possible hostile takeover where one firm acquires another firm against their will. One of the reasons dual-class shares was created was to prevent this type of takeover contests (Bebchuk & Kastiel, 2017). In general, companies that operate with a dual-class shares structure have two types of shares that correspond to different numbers of voting rights. An example could be that a “Class A”-share contains five voting rights while a “Class B”-share gives one voting right per share. The price of the shares tends to be the same between the classes, but the latter structure enables the owner to sell more holdings but still retain control over the company (Ibid).

An argued advantage of dual-class structure is that the founder of the company has special skills and unique abilities that makes him the most fit to be the head of the firm. Another discussed benefit of the structure is that it removes pressure from the management team, as they have the trust of the shareholders with the majority of voting rights. There is also criticism of the dual-class structure. Partly because it is possible for the founder to reduce its capital while simultaneously maintaining full control. But also, that the founder may no longer be fit for the role and thereby should not have the ability to have full control, with hardly any remaining invested capital (Bebchuk & Kastiel, 2017).

There is a constant debate in the world about the advantages and disadvantages of dual-class structure. The structure is well used in a number of countries, for example U.S, Canada, Sweden, the Netherlands and Switzerland, while the structure has been prohibited in Hong Kong since 1987 (Bebchuk & Kastiel, 2017). There are also different types of regulations for the structure worldwide. The different perceptions and regulations regarding the structure have contributed to companies choosing to go public in a foreign country. An example of this is the English football team Manchester United, which in 2012 chose to go public on the New York Stock Exchange (NYSE) instead of the London Stock Exchange (Ibid).

2.2.3. Outcome and Substitution Model

In a world coupled with significant agency problems between corporate insiders and outsiders, dividends can play a useful role. By paying dividends, insiders return corporate earnings and excess cash holdings to investors and hence are no longer capable of using these assets to benefit themselves by means such as excessive compensation schemes or internal asset sales (Faccio and Young, 2001). According to La Porta *et al.* (2000) there exists two different agency models of dividends: outcome and substitution model.

In the outcome model, dividend payouts are an outcome of an effective system of legal protection of shareholders. When an effective system prevails, minority shareholders can use their legal powers to force companies to disgorge excessive cash and retained earnings. Shareholders may do so by voting for directors who offer better dividend policies or suing companies that misuse corporate cash holdings for private benefits. The more rights of the shareholders, the more cash they extract from the firm, ceteris paribus (Ibid).

In the substitution model, dividend payouts are a substitute for legal protection. This perspective relies heavily on the notion that firms, at least occasionally, need to turn to the external capital markets for funds. To be able to obtain funds on agreeable terms, the firm needs to establish a reputation of not expropriating minority shareholders. Therefore, according to this perspective, dividend payout ratios should be higher in countries with weak protection of shareholder rights than in those with strong protection, ceteris paribus (Ibid).

2.2.4. The Swedish Institutional Setting

One of the main remedies to combat agency problems is the law. More specifically, the severity of agency problems that minority shareholders are exposed to varies greatly depending on which country the firm is located since the legal protection of these shareholders varies (La Porta *el al.,* 2000). La Porta *et al.* (1998) examine how investor protection for creditors and shareholders differs across 49 countries worldwide, and find that common-law countries offer stronger investor protection than civil-law countries. The authors examine a wide range of rules that measures the ease in which investors can exercise their powers in the case of expropriation by management in these jurisdictions. Sweden, being a country with a legal structure based on civil-law, ranks intermediate in terms of investor protection (Ibid).

The relatively weak investor protection in Sweden is mainly explained by the use of control enhancing mechanisms and concentrated ownership (La Porta *et al.,* 1998; Cronqvist & Nilsson, 2003). The allowance of dual-class shares, pyramiding and cross holdings enables higher concentration of voting to cash flow rights which increases the risk of minority shareholder expropriation (Ibid). Faccio and Lang (2002) show that Sweden has the highest proportion of firms with different voting rights in Western Europe. Furthermore, Faccio and Lang (2002) display that on average in Sweden, a mere 9.83 percent of the outstanding shares are needed to obtain 20 percent of the voting rights which is sufficient to ensure control over the corporation.

Although Sweden ranks low on investor protection, the law enforcement is considered strong, the accounting quality superior and financial reports are known to be more informative and transparent in comparison to other countries (La Porta *et al.,* 1998, La Porta, Lopez-de-Silanes and Shleifer, 1999). In addition to strong law enforcement, Holmén and Knopf (2004) argue that Sweden is characterized by strong "extralegal" institutions such as media, tax authorities and social norms. Furthermore, the Swedish corporate governance model relies on a combination of legal rules, self-regulation and tactic rules with the Swedish Companies Act being an important cornerstone (Runesson, Samani & Marton, 2018).

3. Literature Review and Hypothesis Development

This section covers the previous studies connected to the study. We begin with presenting literature covering dividend payouts role in mitigating in settings of potential agency problems. We conclude with presenting literature covering the payout mix in the same settings. At the end of each section, hypotheses will be developed based on previous findings.

3.1. Dividends in Firms with Potential Agency Problems

Empirical findings on the role that dividend payouts play in mitigating potential agency conflicts have mostly focused on other corporate governance structures than dual-class shares. One such mechanism is family ownership in which the controlling owners are a family instead of founders and insiders. The underlying idea is that the family are often directly involved in the management of the firm which increases the risk of expropriation. Empirical findings on dividend payouts in family firms provide mixed results.

Faccio and Young (2001) investigate payout policies in family firms and argue that dividends play an important role in limiting expropriation because they remove corporate wealth from insider control. Pindado *et al.* (2012) show that European family firms pay higher dividends compared to non-family firms. They also find that family firms use higher and more stable dividend ratios to mitigate agency conflicts. Isakov and Weisskopf (2015) show that family firms in Switzerland have higher payout ratios than non-family firms. The authors suggest that the higher dividend payout ratios are a way to restrict the available cash under insider control therefore limit the risk of inefficient use by the controlling family.

In contrast, Attig, Boubakrim Ghoul and Guedami (2016) find that family-firms in East Asia pay lower dividends than non-family firms. The authors argue that there is a connection between family control and higher agency costs, and the lower dividends are therefore interpreted as expropriation of minority shareholders. Gugler (2003) finds similar results in family firms located in Austria. However, he argues that there exists a substitution effect in which the family ownership increases the corporate governance of the firm and therefore limits the need of dividend payments as a governance tool. A similar line of reasoning is presented by Anderson and Reeb (2003) where they investigate family-owned firms in the U.S. The authors argue that since family owners often are undiversified and own a large equity stake in

the firm, they are concerned with the long-term health of the firm and therefore do not engage in wealth expropriation.

The different views on how family ownership affects the corporate governance of the firm in combination with families often owning large equity stakes in the companies makes for limited comparison with firms that adopt a dual-class share structure as a controlling mechanism. As aforementioned, the dual-class share structure allows for a separation between voting and cash-rights which means that controlling insiders only bear a fraction of the consequences of non-value maximizing decisions in the firm. Many scholars agree on the notion that the dual-class share has the potential to exacerbate agency problems (Masulis, Wang and Xie, 2009; Gompers, Ishii and Metrick, 2010). Despite the potentially more severe agency problems intrinsic in dual-class firms, the empirical findings on dividend payouts in firms with dual-class share structures are scarce.

Jordan *et al.* (2014) examines payout policies of dual and single-class firms in the U.S. over a nine-year period. The authors find that dual-class shares have higher dividend payments than a matched sample of single-class shares. In addition, they also find that the larger the wedge between voting and cash flow rights, the larger the dividend payment. Dual-class firms are therefore deemed to use dividend payouts as a pre-commitment device to mitigate agency costs. In contrast, Amoako-Adu *et al.* (2013) find that dual-class firms pay less dividends than closely held single-class companies in the U.S. In addition, they also find that the dividend payments are negatively correlated to the divergence between voting and cash flow rights. The authors argue that the greater the wedge between voting and cash-flow rights, the more wealth is retained in the firm which can be extracted as private benefits.

The mixed results in Jordan *et al.* (2014) and Amoako-Adu *et al.* (2013) may stem from a number of sources. For instance, the different sample period and the different sample. A common feature of both studies, however, is that they both investigate firms located in the U.S. with relatively strong protection of minority shareholders rights (LaPorta *et al.,* 1998). In contrast, Sweden has relatively low protection of investor rights where the need to pay dividends is higher to obtain a reputation of treating shareholders well according to the substitution model (Ibid). Adopting the view that dual-class share structures have the potential to exacerbate agency problems, in combination with the wide support in the literature that

payouts can be used as a vehicle to mitigate them, the expectation is that dual-class firms have higher dividend payments than single-class firms. Therefore, the first hypothesis is formulated as:

H1: Swedish dual-class firms have higher payout ratios than single-class firms.

3.2. Payout Mix in Firms with Potential Agency Problems

Furthermore, although dividends and share repurchase are both forms of corporate payouts, there are differences between the two and they may not be as simple substitutes as commonly assumed. In addition to reducing excess free cash flow, share repurchases can be used as a mechanism to adjust capital structure, avoid share value dilution and deter threats of hostile takeovers (Dittmar, 2000). Furthermore, it is also possible for a firm with a traded dual-class share to repurchase the higher voting share, and therefore increase insider control (Lei & Yu, 2019). Share repurchases can therefore work as a mechanism that both mitigate and exacerbate agency problems.

Pindado *et al.* (2012) find that in firms with a family as a controlling owner, the usage of share repurchases are lower than in firms that are not family controlled. The authors argue that since dividends are stickier and less flexible than share repurchases, they imply a stronger commitment from the part of the company and thus are a more credible signal to mitigate expropriation concerns. In contrast, Schmid, Ampenberger, Kaserer and Achleitner (2010) investigate payout policies between family firms in Germany and do not find a statistically significant difference between family and non-family controlled firms in propensity to utilize share repurchases.

Jordan *et al. (*2014) find that dual-class firms have a higher proportion of dividend payouts to total payouts than single-class firms. Furthermore, the authors find that this proportion is increasing for firms with a larger wedge between voting and cash-flow rights. The authors argue that dividends are a much more convincing signal and pre-commitment device than share repurchases. Similar lines of reasoning and results are found by De Cesari (2012) on the Italian market. In contrast, Lei and Yu (2019) find that dual-class firms that have both their inferior and superior voting share traded, are more likely to repurchase their superior voting share. This

is argued by the authors to maintain the private benefits of control of insiders and in favor of the expropriation hypothesis.

The views and evidence of share repurchases in dual-class firms is therefore mixed. By being consistent with our first stated hypothesis, we are inclined to believe that managers of dual-class firms are reluctant to use share repurchases to the same extent as single-class firms. This is in line with the pre-commitment hypothesis and that managers of dual-class firms choose to have a higher proportion of dividends to share repurchases to avoid being penalized by the market for corporate governance and catering to minority shareholders fear of expropriation. Therefore, our second hypothesis is formulated as:

H2: Swedish dual-class firms have a higher proportion of cash dividends to total payouts than single-class firms.

4. Data and Descriptive Statistics

This section will present the data used in this study. The section begins with the sample selection where the data gathering process will be introduced and decisions made to arrive at our final sample. The chapter concludes with an overview of our main investigated variables and control variables. Variable description and formulas for all investigated variables is located in the appendix.

4.1. Sample Universe

4.1.1. Sample Selection

The study is based on annual data ranging from 2012 to 2019. The sample period is chosen in an attempt to investigate payout policies under normal business conditions with relatively low volatility in earnings. By examining payout policies during this period, we also limit the effect of the COVID-19 pandemic that culminated during 2020. Inclusion in the sample requires that the company is traded on the Stockholm Stock Exchange (SSE) as a Large, Mid or Small cap company. Cross-listed firms that have their primary listing on another stock exchange are excluded from the sample. Financial firms are excluded from the sample which is in line with previous studies on dual-class firms and payout policy (Jordan *et al.*, 2014; Amakado-Ako *et al.*, 2014). The decision to exclude financial companies is made on the basis that these firms

are tightly regulated which may affect payout policies. Although investment companies may operate in a different way than traditional firms, this is mainly applicable to certain profitability and accounting measures. Therefore, they are still relevant to this study, and we include them to strengthen the samples representativeness of the Swedish market. We also exclude all preference shares since these are mainly a vehicle for distributing dividends to certain shareholders and have bond characteristics that are not suited to investigate from an agency perspective.

Financial data on companies' payouts and accounting information are collected from the FactSet database. All financial data is collected for the last day of each fiscal year. Data on the companies share structure is manually obtained from the Holdings database. Both databases are of sufficient standard and believed to have high reliability and accuracy in their data. Furthermore, all statistical tests and regressions are performed in Stata. The sample does not include any companies that have been delisted during the investigated period. By not including delisted firms, we avoid the concern of survival bias since there is reason to believe that companies that are facing bankruptcy or acquisition offers may have less retained earnings and cash holdings to distribute to their shareholders. After excluding financial firms, cross-listed firms and firms with insufficient or erroneous data we end up with a sample of 1530 firm-year observations distributed over 243 firms. The size of the final data sample is regarded as sufficient to be able to draw reliable conclusions and in line with previous studies that investigate payout policies in firms with potential agency problems (Isakov & Weisskopf, 2015).

4.2. Main Variables

4.2.1. Dependent Variables

The study's dependent variable used to test the first hypothesis is the *dividend payout ratio*. The dividend payout ratio is defined as the proportion of net income that is distributed as dividends by the firm. The metric is commonly accepted in the literature to measure payout policies in firms with potential agency problems (Maury and Pajuste, 2002; Isakov and Weisskopf, 2015). In our study, we include special and ordinary dividends but exclude preferential dividends. Special consideration is needed when investigating dividend payout

ratio since it can be both negative and larger than 100 percent depending on the firm's net income for the fiscal year. A common way to handle this in the literature is to censor the variable (Julio & Ikenberry, 2005; Von Eije & Megginson, 2008). In other words, all payout ratios in our sample that is below zero and above one is set to 100 percent. Furthermore, all firms with 0 percent payout ratio are included in the regression in accordance with previous studies (Jordan *et al.*, 2014; Amakado-Ako *et al.*, 2013).

The dependent variable used to test the thesis second hypothesis is the *dividend proportion*. The dividend proportion is defined as the proportion of cash dividend to total payouts of the firm. The metric is used by Jordan *et al.* 2014 to measure which type of payout method that is most utilized between single and dual-class firms. As described in section 2, there are two ways that a firm can distribute capital to shareholders; cash dividends and share repurchases. To be included in the results for dividend proportion, a firm needs to have distributed funds using cash dividends or share repurchases during the fiscal year. As a result, the sample contains no zero values.

4.2.2. Independent Variable

Our main explanatory variable used in all regressions is the single or dual-class share structure of the firm. As previously mentioned, the data on share structures are manually collected from the Holdings database. One criterion for the definition of a dual-class firm is that there is a difference in the voting rights between the share types. Firms with two or more types of shares with equal voting rights are therefore defined as a single-class firm. This decision is made based on our study trying to investigate payout policies in an agency setting where there is a separation between voting and ownership rights. The share structure is then handled as a dummy variable in the regressions. The dummy variable equals 1 if the firm utilize a dual-class share structure, and 0 if the firm utilize a single-class share structure.

4.3. Control Variables

4.3.1. Firm Size

Size is one of the most utilized control variables when investigating payout policy and firm characteristics. Scholars agree that it influences payout decisions, and most findings point in

the direction of a positive correlation between size and dividend distributions (Denis & Osobov, 2008; Fama & French, 2001). In addition, Eije & Megginson (2008) find that size also influences firm distributions through share repurchases. Although findings in the literature are similar, different metrics are used to investigate the relationship. The metric of choice in the literature is the book value of assets, market value of assets and the natural logarithm (log) of total assets (Denis & Osbov, 2008; Fama & French, 2001; Pieloch-Babiarz, 2017). The natural log of total assets is our chosen metric for firm size in accordance with previous studies within the field (Jordan *et al.,* 2014). One of the benefits of log forms is that it reduces skewness in the variable. Since our data on total assets have outliers, we have taken the natural log of total assets to get a more homogeneous sample.

4.3.2. Leverage

Leverage is an important variable to consider when investigating payout policy in firms with potential agency problems. Jensen (1986) argues that debt has the possibility of reducing agency costs of free cash flow and that it can work as a substitution for dividends. The underlying notion is that debt reduces the available cash flow under managerial discretion and therefore limits the potential agency costs associated with these cash flows. There is a multiple of studies documenting a negative correlation between debt and dividend payments (Jordan *et al.,* 2014; Pindado *et al.,* 2012). However, different studies use different metrics to control for leverage. Studies in the field of payout policies in firms with agency problems have mainly used leverage ratio as their metric of choice and therefore we incorporate it in our study as well (Jordan *et al.,* 2014; Amoako-Adu *et al.,* 2013).

4.3.3. Growth

Growth is a common control variable to include when investigating payout policy. There is an abundance of studies that find a negative relationship between growth opportunities and dividend payout ratios (DeAngelo *et al.,* 2004; Bildik *et al.,* 2015; Fama & French, 2001). These findings are in line with the life-cycle theory which states that more mature companies with fewer profitable growth opportunities should distribute more capital through cash dividends. However, Denis & Osbov (2008) find that in some countries, dividend payers tend to have more valuable growth opportunities. This result is in line with the signaling theory

where the firm is hinting of strong future performance through dividend payouts. In accordance with previous studies within the field of dual-class firms, we use Tobin's Q as our proxy for growth opportunities (Jordan *et al.,* 2014; Gompers *et al.,* 2010). Firms with a high relative figure of Tobin's Q have more growth opportunities than firms with a low relative figure.

4.3.4. Profitability

Earnings levels and profitability ratios are common control variables in studies investigating payout policies. Eije & Megginson (2008) find indications that more profitable firms are more likely to repurchase shares and pay cash dividends than less profitable firms. Similar results can be found in other studies as well (Fama & French, 2001; Denis & Osbov, 2008). Which metric to use to control for profitability varies between studies. Fama & French (2001) and Denis & Osbov (2008) use earnings before interest and taxes (EBIT) over total assets as their metric of choice. A useful property of this metric is that it removes the effect of taxation on the firms operating profits which can differ between regions. However, since there are differences in asset bases between firms and industries the metric has some drawbacks as well. Studies that investigate payout policies in dual-class firms have generally used return on assets (ROA) when comparing payout policies (Jordan *et al.,* 2014; Lei & Yu, 2019). To keep our study comparable, we use the same metric in our study.

4.3.5. Firm Age

Analysis of the relationship between firm age and payout policies tends to point in the direction that age is positively correlated to cash dividend payments. Eije & Megginson (2008) argue that older companies are more likely to pay dividends than younger companies. The theory is closely linked to the life-cycle theory since older firms usually are more mature and have less profitable growth opportunities and therefore prefer to distribute cash dividends (DeAngelo *et al.,* 2006). There are also indications that younger firms prefer share repurchases over cash dividends (Pieloch-Babiarz, 2017). This result is in line with the flexibility hypothesis. As Lintner (1956) points out, dividends tend to be sticky, therefore younger firms may prefer share repurchases since this is less of a commitment from a firm perspective. Firm age in our study is calculated as years since the firm was founded. In the case of a merger between two companies, the older of the two firms are used.

4.4. Descriptive Statistics

In Table 1 we can observe an overview of our sample characteristics. As shown in the table, a total of 1530 firm-year observations form the basis of the main analysis. The sample is divided into 744 dual-class firm observations and 786 single-class firm observations. As can be inferred, we have an unbalanced panel data set with an increasing number of observations in the final years of the sample period. This is argued to be a result from our decision to include newly listed firms and not include firms that have been delisted due to either bankruptcy or takeovers, in combination with a strong IPO market during the investigated period.

Table 1. Descriptive Statistics

Period	Observations	Proportion (%)	Dual-Class	Single-Class
2012	156	10,20%	81	75
2013	158	10,30%	81	77
2014	163	10,70%	84	79
2015	176	11,50%	88	88
2016	193	12,60%	91	102
2017	210	13,70%	98	112
2018	232	15,20%	109	123
2019	242	15,80%	112	130
Total	**1530**	**100,00%**	**744**	**786**

Industry	Observations	Proportion %	Dual-Class	Single-Class
Basic Materials	92	6,0%	48	44
Consumer Discretionary	222	14,5%	112	110
Consumer Staples	55	3,6%	18	37
Energy	37	2,4%	8	29
Health Care	260	17,0%	103	157
Industrials	448	29,3%	239	209
Real Estate	156	10,2%	78	78
Technology	191	12,5%	106	85
Telecommunications	69	4,5%	32	37
Total	**1530**	**100,0%**	**744**	**786**

Note: The table displays the sample's number of observations and proportion of each year between 2012-2019. Furthermore, the table shows how many firms that have dual-class shares respectively single-class shares. The lower part of the table shows an overview of the industries and the proportion of each industry. Industrials stands out with nearly a third of the total observations. The distribution between dual-class firms and single-class firms is relatively even.

In Table 1 we can also observe the industry distribution. As depicted in the table, firms located in the industrial sector constitute around 30 percent of all firms included in our sample. There are also notable differences in the number of dual and single-class firms in certain industries.

In the energy sector, single-class firms account for around three quarters of all firms. Since this industry is small in comparison to the other industries included, the significantly higher proportion of single-class firms in this sector should have limited effect on the study's results.

5. Methodology

This section will present our scientific approach to testing the studies formulated hypothesis. We begin by describing the chosen econometric methodology and comparing it to other studies in the field. The section concludes with a description of the statistical tests that will be performed.

5.1. Econometric Methodology

5.1.1. Univariate Tests

We begin our empirical analysis with dividing the data into two subsamples: single and dual-class firms. With simple univariate tests, we first compare differences in means between the two subsamples on a yearly basis for all years in the investigated period. We then proceed to compare the differences in means for the whole investigated period for all firms.

5.1.2. Multivariate Regressions

When faced with the decision to choose an appropriate econometric approach to test the formulated hypotheses, various factors need to be considered. As previously mentioned, our data is structured as a panel data set, which enables us to utilize a set of different methodological approaches to analyze the effect of the dual-class share structure on dividend payout ratio and dividend proportion. Previous studies in the field have primarily used pooled ordinary least squared (OLS), fixed effects, random effects, and Tobit models (Jordan *et al.*, 2014; Maury and Pajuste, 2019; Isakov and Weiskopf, 2015). In this study, we will begin with a pooled-OLS and then deal with potential endogeneity concerns by utilizing a random effects model and regressing against a propensity score matched sample. Furthermore, as a robustness check, we will perform Tobit models to deal with the potential problem of *zero* values and *one* values of dividends in our dependent variable: payout ratio.

To begin with, when using a pooled-OLS, the model disregards the panel data structure of the variables. Rather, the observations in the sample are pooled across time in addition to across the cross-sectional units (Woolridge, 2016). A drawback with using a pooled-OLS model is that it produces estimators that may suffer from heterogeneity bias. To describe why this problem occurs, we can examine the following regression model:

$$y_{it} = \beta_0 + \beta_1 \chi_{it} + \alpha_i + \mu_{it}$$

Where (i) compromises the data unit, (t) is the period examined, (β) is the model's coefficient, (χ) is the explanatory variable, (α_i) is the unobserved effect that does not change over time, and (μ_{it}) is the error term that changes over time and affecting the models dependent variable (y_{it}). If the pooled-OLS is to produce unbiased results, the assumption is that the unobserved effect (α_i) must be completely uncorrelated with the effect of the estimator in the model (χ). If this condition is not met, the estimators of the model suffer from unobserved heterogeneity and will produce biased results.

A common way to deal with this issue is to deploy a fixed-effect model. In contrast to the pooled-OLS method, the fixed-effects model assumes a random relationship between the explanatory variable and the unobserved effect (α_i). Therefore, all explanatory variables that are constant over time will be removed when using a fixed-effects transformation, resulting in unbiased estimators without endogeneity concerns (Woolridge, 2016).

However, the removal of any explanatory variables that are constant over time gives rise to another type of bias. If the explanatory variable is held constant over time, it will automatically be removed. In regard to our study, where our main dependent variable *Dual* is handled as a dummy with little or no time variability since the share structure of the firm rarely changes, using the fixed-effects model to deal with endogeneity may not be suitable since the variable will be omitted in the regression.

Therefore, a more appropriate model for our study is the random effects model. In contrast to the fixed-effects model, the random-effects model assumes that the unobserved effect (α_i) is not correlated with the explanatory variable in all periods. To alleviate concerns of serial

correlation in the composite error term, the random effects model uses the general least squares (GLS). Furthermore, Woolridge (2016) suggest that that if the equation contains adequate control variables and heterogeneity is limited to serial correlation in the error term, the random effects model can be argued as more efficient than the pooled-OLS. As a result, to test our formulated hypotheses, we specify the following models:

Pooled-OLS (Hypothesis 1)

$$Dividend\ Payout\ Ratio_{it} = \alpha_0 + \beta_1 DUAL_{it} + \beta_1 TA_{it} + \beta_1 TQ_{it} + \beta_1 Lev_{it} + \beta_1 ROA_{it} + \beta_1 AGE_{it} + \varepsilon_{it}$$

Random Effects (Hypothesis 1)

$$Dividend\ Payout\ Ratio_{it} = \alpha_0 + \beta_1 DUAL_{it} + \beta_1 TA_{it} + \beta_1 TQ_{it} + \beta_1 Lev_{it} + \beta_1 ROA_{it} + \beta_1 AGE_{it} + \nu_{it}$$

Pooled-OLS (Hypothesis 2)

$$Dividend\ Proportion_{it} = \alpha_0 + \beta_1 DUAL_{it} + \beta_1 TA_{it} + \beta_1 TQ_{it} + \beta_1 Lev_{it} + \beta_1 ROA_{it} + \beta_1 AGE_{it} + \varepsilon_{it}$$

Random Effects (Hypothesis 2)

$$Dividend\ Proportion_{it} = \alpha_0 + \beta_1 DUAL_{it} + \beta_1 TA_{it} + \beta_1 TQ_{it} + \beta_1 Lev_{it} + \beta_1 ROA_{it} + \beta_1 AGE_{it} + \nu_{it}$$

5.1.3. Propensity Score Matching

A common way to handle endogeneity concerns in firms with dual-class shares is to match the sample with single-class firms (Jordan *et al.*, 2014; Amoako-Ado *et al.*, 2014). The underlying idea is that dual-class firms are in general different from single-class firms. In other words, the decision to implement a dual-class share structure may be optimally driven by certain firm characteristics not included in our models. To deal with this potential problem of selection bias and endogeneity concern, we use a similar propensity scoring matching technique as Lei and Yu (2019). More specifically, we match the treatment group (dual-class firms) with its closest peer from the control group (single-class firms) that are in the same year, same industry and have the closest value of total assets. Furthermore, to minimize the effect of a single match having a disproportionate effect on the results, we allow each dual-class firm to match with several single-class firms. After the matching procedure, we will regress the matched sample using the same models as for the whole sample.

5.2. Statistical Tests

5.2.1. Heteroskedasticity

We will perform a White-test for the existence of heteroskedasticity in the regressions. In order for the OLS to give accurate estimates, the variance of the residuals needs to be constant. If the variance between the error term and the independent variables are not constant, the variance of the error term increases as the value of the dependent variable increases. This is an important feature since the hypothesis testing is made based on a normal probability distribution. If there is any presence of heteroskedasticity on the pooled-OLS level, then the usual OLS standard errors are invalid. To deal with this issue, robust standard errors will be used in all the following regression models which is a valid method if the sample size is sufficiently large (Woolridge, 2016). When the sample size is larger, the data should in theory approach a normal distribution.

5.2.2. Multicollinearity

We will derive Pearson correlation coefficients for our investigated variables used in this study. Multicollinearity occurs when there is a high correlation among some of the independent variables in the regressions. This is a potential problem if the employed model cannot isolate the causal relationship in the variables which ultimately leads to the independent variables fighting to explain the model. In this scenario, the independent variable coefficients can be biased and lead to invalid interpretations of individual predictors. If the Pearson correlation coefficients show any signs of multicollinearity, a potential explanation can be that too many independent variables are included in the regressions. A common way to deal with this issue is to drop some of the independent variables that are causing the concern. However, this procedure comes with the drawback that dropping variables that belong in the population can lead to biased results (Woolridge, 2016).

6. Empirical Results

This section begins with presenting descriptive statistics for the sample and a correlation matrix of the investigated variables. This is followed by regression results for the specified models for the whole sample as well as for the propensity score matched sample. The section concludes with further robustness tests.

6.1. Descriptive Statistics and Correlation

6.1.1. Descriptive Statistics

Table 2 presents summary statistics for the investigated variables in the study. Since the initial summary statistic revealed noticeable extreme values, the following variables have been winsorized on the 1st and 99th percentile: *Total Assets*, *Leverage Ratio*, *Tobin's Q*, *Return on Assets* (ROA) and *Age*. The reason to winsorize the variables is to increase the accuracy and limit the effect of outliers in the regressions. Furthermore, as described in section 4, the natural log of total assets (after winsorizing) will be used in the regressions. This procedure should control for normality due to skewness and is in line with previous research in the area (Jordan *et al., 2014*; Pindado *et al.*, 2012).

As seen in the table, the study's first dependent variable: *Payout Ratio*, has a narrow range with a minimum value of 0 and a maximum value of 1. This is due to the censoring of the variable in accordance with previous literature on payout ratio (Julio & Ikenberry, 2004; Von Eije & Megginson, 2008). The average payout ratio in the sample amounts to 34.7 percent with a standard deviation of 33.6 percent. Since the standard deviation is almost the size of the mean, the data is not particularly normally distributed even after censoring the variable. Our second dependent variable: *Dividend Proportion*, also has a narrow range with a minimum value of 0 and a maximum value of 1. However, when investigating the mean of 89.9 percent and standard deviation of 25.7 percent, the variable can be concluded as more normally distributed.

Furthermore, in Table 2 we can also examine the distribution of the chosen control variables. To begin with, *Total Assets* has a large range with a minimum value of 44 a maximum of 271.600 even after winsorizing the variable. Since we are investigating firms that are listed on Small Cap as well as Large Cap on the SSE, this property of the variable is not of concern. By

inferring the variable *Leverage Ratio*, we get indications that the average firm in our sample is rather leveraged with a mean of 58.1 percent.

Table 2. Summary Statistics

Variable	N	Mean	SD	Median	Min	Max
Payout Ratio (%)	1530	0,35	0,34	0,32	0,00	1,00
Dividend Proportion (%)	1034	0,90	0,26	1,00	0,00	1,00
Total Assets (msek)	1530	18 409	46 841	2 392	44	271 600
Leverage Ratio (%)	1530	0,58	0,36	0,56	0,04	2,59
Tobin's Q	1530	2,27	1,92	1,63	0,63	12,31
ROA (%)	1530	0,02	0,15	0,05	-0,73	0,30
Firm Age	1530	50	49	29	4	323

Note: The table shows an overview of the variables in the study. Dividend Proportion has only 1034 observations, since firms which neither pay cash dividends or share repurchases are excluded. Total Assets, Leverage Ratio, Tobin's Q, ROA and Firm Age is winsorized on the percentiles (1 & 99) to reduce skewness. Total Assets will be computed with the natural log before the regressions.

6.1.2. Correlation Analysis

In Table 3 we can observe Pearson's correlation matrix of the dependent and independent variables used in the study. In general, most of the variables show high statistical significance and are correlating in accordance with their anticipated direction. Interestingly, *Leverage Ratio* does not significantly correlate with any of the variables except *Dividend Proportion*. However, more importantly is that most of the correlations are low to moderate. As Woolridge (2016) points out, it is difficult to accurately specify the amount of correlation that should be accepted. According to Pallant (2013), a correlation greater than or equal to 0.8 between two independent variables is considered critical. If this is the case, one should consider dropping them to avoid the problem of multicollinearity in the regressions. Since the highest correlation amounts to 0.72 between *Tobin's Q* and *Leverage Ratio*, we can reject the notion of multicollinearity in the models that may distort our ability to accurately draw conclusions of the regression results.

Table 3 – Pearson's Correlation Matrix

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
(a) Payout Ratio (%)	1,000							
(b) Dividend Proportion (%)	0.413***	1,000						
(c) Class	0.115***	0.150***	1,000					
(d) Total Assets (msek)	0.209***	0.072**	0.155***	1,000				
(e) Leverage Ratio (%)	-0.027	0.051*	0.003	-0.005	1,000			
(f) Tobin's Q	-0.07	-0.018	-0.055	-0.084	0.721***	1,000		
(g) ROA (%)	0.328***	0.252***	0.072***	0.080***	-0.14	-0.245	1,000	
(h) Firm Age	0.288***	0.091***	0.152***	0.321***	-0.013	-0.124	0.154***	1,000

***p<0,01, **p<0,05, *p<0,1

Note: The table displays the correlation between the variables in the sample: Payout Ratio, Dividend Proportion, Class (dummy variable, (1 0)), Total Assets (log), Leverage Ratio, Tobin's Q, ROA & Firm Age.

6.2. Difference in Payout Ratios Between Dual and Single-Class Firms

6.2.1. Univariate Results – Payout Ratio

Table 4 presents the univariate analysis of the comparison of payout policies, payout ratios and dividend proportion on a yearly basis as well as for the whole period for our entire sample of firms. As observed in Panel A, the proportion of dual-class firms that pay dividends is higher for each year in the investigated period from 2012 to 2019. However, it is only for 2012 and 2018-2019 that the difference is statistically significant when tested at a yearly basis. In the last column we pool all firm years together. Dual-class firms have a total of 744 firm year observations and an average of 69.5 percent of all firms pay dividends. Single-class firms have a total of 786 firm year observations and an average of 58.4 percent of all firms pay dividends. The difference of 11.1 percent between the two groups of firms is statistically significant at the one-percent level when computing a two-sample T-test.

Furthermore, as can be observed in Panel A, when we include share repurchases in the payout decision the difference between the two groups is lower for each year in the period. However, only 2012 is statistically significant when measured on a yearly basis. In the far-right column where we pool all firm years together, we can examine the proportion of dual and single-class firms that either pay dividends, repurchase shares or use a combination of both payout methods. An average of 71.6 percent of all dual-class firms paid dividends or repurchased shares from 2012 to 2019 which can be put in relation to the average of 63.7 percent for their single-class

counterparts. The difference of 7.9 percent is statistically significant on the one-percent level. The lower difference between the groups in comparison to the proportion of firms that pay dividends is an indication that single-class firms use share repurchases to a larger extent than dual-class firms which lends initial support to our second stated hypothesis.

Panel B of Table 1 compares the payout ratios between dual and single-class firms. As can be inferred in the table, the dividend payout ratio is higher for each year in the examined period. However, it is only for 2012 and 2015-2016 that the difference is statistically significant when measured on a yearly basis. In the far-right column where we pool all firm years together, we can infer that dual-class firms have an average dividend payout ratio of 38.7 percent. Their single-class counterparts have an average dividend payout ratio of 30.9 percent. The difference of 7.79 percent is statistically significant on the one-percent level. The higher dividend payout ratio is in line with our first stated hypothesis.

Finally, as can be observed in Panel B, when we include share repurchases in the payout decision, the difference between the two groups is lower in all years except 2013-2014. As for the dividend payout ratio, only 2012 is statistically significant on a yearly basis. When pooling all firm years together, the dual-class firms have an average total payout ratio of 41.79 percent compared to the single-class firms that have an average total payout ratio of 36.69 percent. The difference of 5.10 percent is statistically significant on the one-percent level. This lower difference between the groups when introducing share repurchases in the payout ratio, is a further indication that single-class firms use share repurchases to a larger extent than dual-class firms which is in line with our second stated hypothesis.

Table 4. Univariate Results

	2012	2013	2014	2015	2016	2017	2018	2019	Total
# of Dual-Class firms	81	81	84	88	91	98	109	112	744
# of Single-Class firms	75	77	79	88	102	112	123	130	786
Panel A: comparison of payout policies between dual and single-class firms									
Pay cash (dual-class)	80,3%	70,4%	72,6%	78,4%	75,8%	72,5%	71,6%	42,0%	69,5%
Pay cash (single-class)	60,0%	59,7%	65,8%	68,2%	68,6%	65,2%	60,2%	30,0%	58,4%
Difference	20,25%**	10,6%	6,8%	10,2%	7,2%	7,3%	11,4%*	11,96%*	11,09%***
Pay cash, repurchase or both (dual-class)	80,3%	75,3%	73,8%	79,5%	76,9%	74,5%	74,3%	43,1%	71,6%
Pay cash, repurchase or both (single-class)	62,7%	64,9%	67,1%	71,6%	70,6%	68,8%	67,5%	45,5%	63,7%
Difference	17,59%**	10,4%	6,7%	8,0%	6,3%	5,7%	6,8%	-2,5%	7,89%***
Panel B: comparison of payout ratio between dual and single-class firms									
Dividend payout ratio (dual-class)	49,85%	41,69%	44,81%	43,52%	43,51%	38,57%	37,66%	17,45%	38,72%
Dividend payout ratio (single-class)	32,96%	36,91%	39,47%	34,77%	35,67%	34,99%	29,91%	13,64%	30,93%
Difference	16,90%**	4,78%	5,34%	8,75%*	7,85%*	3,58%	7,75%	3,82%	7,79%***
Total payout ratio (dual-class)	51,19%	48,02%	48,25%	46,40%	45,48%	41,80%	40,65%	20,11%	41,79%
Total payout ratio (single-class)	37,33%	39,83%	41,39%	42,95%	41,43%	40,07%	38,63%	18,90%	36,69%
Difference	13,86%**	8,19%	6,86%	3,45%	4,05%	1,73%	2,02%	1,21%	5,10%***
Panel C: comparison of dividend proportion between dual and single-class firms									
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**
# of Dual-Class firms	65	61	62	70	70	73	81	51	533
# of Single-Class firms	47	50	53	63	72	77	83	56	501
Dividend Proportion (dual-class)	98,24%	88,79%	95,21%	96,37%	96,51%	93,93%	91,53%	88,24%	93,77%
Dividend Proportion (single-class)	93,44%	88,62%	93,18%	87,42%	90,55%	89,46%	83,06%	61,52%	85,86%
Difference	4,80%	0,17%	2,03%	8,95%**	5,96%*	4,47%	8,47%*	26,72%***	7,91%***

*** p<0.01, ** p<0.05, * p<0.1

Note: The table displays three different panels. The comparisons have been tested with a two-sample T-test on a yearly basis but also for the whole period investigated.

6.2.2. Base Models and Diagnostic Tests

Table 5 presents the results for the regression with *Payout Ratio* as the dependent variable. As can be observed in Table 8 in the appendix, the results from the White-test indicate the error term in the pooled-OLS (Model 1A) suffers from heteroskedasticity. Therefore, clustered robust standard errors on firm level have been used in all regressions. Model 1A present the pooled-OLS without industry and year controls and shows that no support for our first stated hypothesis is found. Although our main explanatory variable *Dual* indicates that on average, dual-class firms have 3.6 percent higher dividend payout ratios, the coefficient is not statistically significant. Regarding our control variables in Model 1, only *ROA* and *Firm Age* are statistically significant on the one-percent level. This indicates that a one-percent increase in our profitability metric is accompanied by a 0.64 percent increase in dividend payout ratio. Furthermore, a one-year increase in the age of the firm is accompanied by a miniscule 0.1 percent increase in dividend payout ratio. In Model 2A, we can observe the pooled-OLS with industry and yearly controls. Since our main explanatory variable *Dual* is not statistically significant, our inference does not change. Interestingly, *Total Assets* gains statistical significance and *Leverage Ratio* loses statistical significance when taking industry and year effects into account.

Finally, in Model 3-4A we can observe the regressions when using random effects to deal with potential endogeneity concerns. Model 3A present the regressions without industry and year controls. As can be observed, our main explanatory variable is still statistically insignificant. Regarding our control variables, they show similar patterns as on the pooled-OLS level. Furthermore, Model 4A present the random effects regression with industry and year controls. As in the case on the pooled-OLS level, the results are qualitatively similar with a lower coefficient and no statistical significance when introducing industry and year controls. Therefore, our inference about the relationship between the dual-class share structure and dividend payout ratio is unchanged.

Table 5. Multivariate Regressions for Payout Ratio

	Model 1A POLS	**Model 2A** POLS	**Model 3A** Random Effects	**Model 4A** Random Effects
Dependent Variable	Payout Ratio	Payout Ratio	Payout Ratio	Payout Ratio
Explanatory Variable				
Dual	0.036	0.027	0.032	0.018
	(0.030)	(0.029)	(0.030)	(0.029)
Control Variables				
Total Assets	0.014	0.029***	0.004	0.032***
	(0.009)	(0.009)	(0.010)	(0.009)
Leverage Ratio	0.058**	-0.002	0.050**	0.007
	(0.027)	(0.039)	(0.021)	(0.031)
Tobin's Q	0.011	0.015**	0.002	0.010**
	(0.006)	(0.007)	(0.005)	(0.005)
ROA	0.646***	0.497***	0.311***	0.169***
	(0.081)	(0.087)	(0.062)	(0.063)
Firm Age	0.001***	0.001***	0.002***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Industry	NO	YES	NO	YES
Year	NO	YES	NO	YES
SE type	Clustered Robust	Clustered Robust	Clustered Robust	Clustered Robust
Constant	0.080	-0.001	0.168**	-0.107
	(0.080)	(0.128)	(0.079)	(0.115)
Observations	**1530**	**1530**	**1530**	**1530**
R-squared	0.191	0.301	0.169	0.283
Number of Firms	**243**	**243**	**243**	**243**

*** p<0.01, ** p<0.05, * p<0.1

Note: The table presents regression results for model (1A-4A) with **Payout Ratio** as dependent variable: Pooled-OLS (1A), Pooled-OLS with Industry and Year effects (2A), Random Effects (3A) and Random effects with Industry and Year effects (4A). All four regressions include Clustered Robust standard errors (firm-level), since the White test in table 8 (Appendix) resulted in rejection of homoscedasticity. The dependent variable, Payout Ratio is censored with a percentage between 0-100%. The explanatory variable, Dual, is a dummy variable where dual-class equals 1 and single-class equals 0. Total Assets has been applied by natural of logarithm to minimize the distribution to mean. All the control variables: Total Assets (scaled by net income), Leverage Ratio (debt-to-assets), Tobin's Q, ROA and Firm Age have been winsorized by the percentiles (1 & 99) to deal with skewness.

6.3. Difference in Dividend Proportion Between Dual and Single-Class Firms

6.3.1. Univariate Results – Dividend Proportion

In Panel C of Table 4, we can also examine the univariate analysis of the comparison of dividend proportion on a yearly basis as well as for the whole period for all firms that either pay dividends, repurchase shares or use a combination of both. As observed in the table, the proportion of dividends to total payouts are higher for dual-class firms for each year in the examined period. However, only 2016 and 2018 are statistically significant when tested on a yearly basis. When we pool all firm years together, dual-class firms have an average dividend proportion of 93.8 percent. Their single-class counterparts have an average dividend proportion of 85.9 percent. The difference of 7.9 percent is statistically significant on the one-percent level. This result points in the direction of our second stated hypothesis.

6.3.2. Base Models and Diagnostic Tests

Table 6 presents the results for the regression with *Dividend Proportion* as the dependent variable. As can be observed in Table 8 in the appendix, the results from the White-test indicate the error term in the pooled-OLS (Model 1B) suffers from heteroskedasticity. Therefore, clustered robust standard errors on firm level have been used in all regressions in. Model 1B presents the pooled-OLS without industry and year controls and lends initial support for our second formulated hypothesis. As can be observed, the coefficient for our main explanatory variable *Dual* is statistically significant on the one-percent level. The coefficient indicates that the dual-class share structure is accompanied by a 6.7 percent higher dividend proportion. Regarding our control variables, the majority are not statistically significant. However, the coefficient for *Tobin's Q* is negative and significant which is in line with our expectations. Furthermore, the coefficient for *ROA* is positive and significant on the one-percent level. In Model 2B, we can observe the pooled-OLS with industry and year controls. Although the coefficient for our main explanatory variable *Dual* is lower, it is still statistically significant on the five-percent level.

Finally, in Model 3-4B we can observe the regressions when using random effects to deal with potential endogeneity concerns. Model 3B present the regressions without industry and year controls. As can be observed, our main explanatory variable is still statistically significant on the five-percent level. When using random effects, the coefficient for *Firm Age* gains significance and a one-year increase in the age of the firm is now accompanied by a 0.9 increase in dividend proportion which is line with expectations. Model 4B present the random effects regression with industry and year controls. As can be observed, when introducing industry and year effects and regressing using random effects, the coefficient for our main explanatory variable loses some of its magnitude. However, it is still statistically significant on the ten-percent level.

Table 6. Multivariate Regressions for Dividend Proportion

	Model 1B POLS	**Model 2B** POLS	**Model 3B** Random Effects	**Model 4B** Random Effects
Dependent Variable:	Div. Prop.	Div. Prop.	Div. Prop.	Div. Prop.
Explanatory Variable				
Dual	0.067***	0.057**	0.087**	0.063*
	(0.025)	(0.024)	(0.036)	(0.034)
Control Variables				
Total Assets	0.004	0.012*	-0.012	0.011
	(0.006)	(0.007)	(0.010)	(0.009)
Leverage Ratio	0.058	0.008	0.043**	0.000
	(0.0372)	(0.0474)	(0.0178)	(0.0270)
Tobin's Q	-0.015*	-0.011	-0.009	-0.001
	(0.009)	(0.009)	(0.008)	(0.008)
ROA	1.046***	0.922***	0.707***	0.644***
	(0.207)	(0.196)	(0.239)	(0.237)
Firm Age	0.000	0.000	0.009***	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Industry	NO	YES	NO	YES
Year	NO	YES	NO	YES
SE type	Clustered Robust	Clustered Robust	Clustered Robust	Clustered Robust
Constant	0.739***	0.796***	0.811***	0.427***
	(0.074)	(0.092)	(0.083)	(0.149)
Observations	**1034**	**1034**	**1034**	**1034**
R-squared	0.118	0.195	0.093	0.173
Number of Firms	**199**	**199**	**199**	**199**

*** p<0.01, ** p<0.05, * p<0.1

Note: The table presents regression results for model (1B-4B) with Dividend Proportion as dependent variable: Pooled-OLS (1B), Pooled-OLS with Industry and Year effects (2B), Random Effects (3B) and Random effects with Industry and Year effects (4B). All four regressions include Cluster-Robust standard errors, since the White test in table 8 resulted in rejection of homoscedasticity. The dependent variable, Dividend Proportion, consists of how much the proportion of cash dividend is of the total payout. Therefore, all observations with no cash dividend or share repurchases have been excluded. The explanatory variable, Dual, is a dummy variable where dual-class equals 1 and single-class equals 0. Total Assets has been applied by natural of logarithm to minimize the distribution to mean. All the control variables: Total Assets (scaled by net income), Leverage Ratio (debt-to-assets), Tobin's Q, ROA and Firm Age have been winsorized by the percentiles (1 99) to deal with skewness.

6.4. Robustness Tests

6.4.1. Propensity Score Matched Sample

As previously discussed, we create a propensity score matched sample of dual and single-class firms to deal with the potential problem of endogeneity. In Table 9 in the appendix, we can observe the multivariate regression for the propensity scored sample with dividend payout ratio as the dependent variable and the same main explanatory variable and control variables as in the previous regressions. As can be observed in the table, the coefficient for our main

explanatory variable *Dual*, is stronger in all performed regressions in comparison to when performed on the whole sample (Table 5). However, it is still statistically insignificant in all regressions. Regarding the control variables, they are qualitatively similar to the regression performed on the whole sample.

Furthermore, Table 10 present the multivariate regression for the propensity scored sample with dividend proportion as the dependent variable and the same main explanatory variable and control variables as in the previous regressions. The general trend is that the coefficient is weaker when excluding industry and year controls than when performed on the whole sample (Table 6). However, the coefficient is still statistically significant on both the pooled-OLS level as well as the random effects level. Taken together, the results from our regression on the matched sample is qualitatively similar and therefore, our inference about our main explanatory variable *Dual* on dividend payout ratio and dividend proportion is unchanged.

6.4.2. Alternative Specifications and Tobit regression

As Isakov and Weisskopf (2015) points out, misspecification of variables is a concern that needs to be addressed. More specifically, the censoring of dividend payout ratios that are larger than 100 percent and setting negative dividend payout ratios to 100 percent can have a significant effect on our results. Therefore, we estimate four new models with different definitions of dividend payout ratios: (I) removing negative payouts from the sample, (II) not censoring payouts that are larger than 100%, (III) leaving large payout ratios but winsorizing them at the 99th percentile, and (IIII) scaling dividends by total assets instead of net income. As observed in Table 11 in the appendix, the results in all four cases are qualitatively similar to the previous random effects regressions (Table 3).

As a further robustness test, we also re-estimate the regressions with dividend payout ratio as the dependent variable by using Tobit models in accordance with previous literature (Jordan *et al.*, 2014; Maury and Pajuste, 2002). In our sample, 36 percent of the dividend payout ratios equals to zero and 8 percent of the payout ratios equals to one. This clustering of observations at the *zero* and *one* value could potentially distort the results. As can be observed in Table 12 in the appendix, the censored model produces qualitative similar results as the previous OLS-

regressions. The coefficient for our main explanatory variable *Dual* is positive but not significant.

7. Analysis

This section analyzes the results in relation to previously presented theories and literature in connection with our chosen topic. We begin by analyzing our results on the dual-class share structure and control variables on dividend payout ratio. The section concludes with an analysis of the results on the dual-class share structure and control variables on dividend proportion.

7.1. Difference in Payout Ratios Between Dual and Single-Class Firms

Taken together, our results on the dividend payout ratio between dual and single-class firms are mixed. Although we find statistical significance for a difference in payout ratios between the two groups when examined on a univariate level, the significance disappears when introducing control variables in the regressions. The results are robust even after considering potential misspecifications of the dependent variable and regressing against a propensity score matched sample. Therefore, we cannot accept our first stated hypothesis that dual-class firms have higher dividend payout ratios than single-class firms.

Our results contradict previous findings in the literature. According to prior studies in the field of payout policies and agency problems, a common notion is that firms with potential agency problems should distribute more funds through dividends to minimize funds under insider control to alleviate minority shareholders fear of expropriation (Pindado *et al.,* 2012; Isakov and Weisskopf, 2015). Jordan *et al.,* 2014 and Amoako-Ado *et al.,* 2014 all find that American firms with a wedge between voting and ownership rights have significantly higher dividend payments than firms that adopt the one-share one-vote structure. We find no support for a similar result on the Swedish market since dual-class firms do not seem to differ from single-class firms in their payout levels.

Instead, another possible explanation for our results is that dual-class firms in Sweden utilize other mechanisms than high dividend payout ratios to mitigate agency problems between

controlling and minority shareholders. Gomes (2000) argues that the costs with a wedge between voting and cash flow rights are not particularly severe in markets with low shareholder protection. This is because controlling owners of dual-class firms can implicitly commit to not expropriate minority shareholders. To be able to raise additional capital at reasonable terms and in an attempt to increase the value of the firm, the controlling owner needs to build a reputation of treating shareholders well. The strong extralegal institutions and the informative and transparent financial reports in Sweden can further work as a trust building mechanism that alleviate minority shareholders fear of expropriation (Holmén and Knopf, 2004; La Porta *et al.*, 1998).

Regarding the control variables included in the regressions, the majority are in line with their anticipated directions although their statistical significance is generally low. The positive relationship between profitability (*ROA*) and payout ratio is expected as more profitable companies are expected to have higher retained earnings that can be distributed through dividends. In contrast to the expected relationship, growth (*Tobin's Q*) seems to be positively correlated with dividend payout ratio. According to the life-cycle theory proposed by De Angelo *et al.* 2006, firms with more abundant growth opportunities should retain a larger portion of their earnings to be able to invest and capitalize on strategic opportunities. Instead, our results point in the direction of the argument proposed by Denis and Osbov (2008), that firms with more growth opportunities may distribute higher earnings as a signaling mechanism of higher future cash flows.

7.2. Difference in Dividend Proportion Between Dual and Single-Class Firms

In sum, the results on the differences in dividend proportion between dual and single-class firms is unambiguous. When looking at the relationship on a univariate level, the difference between the dual and single-class firms is 7.91 percent and statistically significant on the one-percent level. Furthermore, when including control variables in the regression, the dual-class share structure is accompanied by an increase in dividend proportion of 6.3 percent and statistically significant on the ten-percent level when using random effects and incorporating industry and year effects. Furthermore, the results are robust to potential endogeneity concerns after controlling against a propensity score matched sample. Therefore, we can accept our

second formulated hypothesis that firms with a dual-class share structure prefer to distribute funds through dividends to a larger extent than share repurchases.

The higher dividend proportion is in line with previous research in the field. Jordan *et al.* 2014 and De Cesari (2012) find that the share of dividends to total payout is positively associated with the wedge between controlling owners voting and cash flow rights. Their interpretation is that dividends are a more convincing signal and pre-commitment device than share repurchases because of the inherent flexibility and agency problems intrinsic in share repurchases. We find support for a similar line of reasoning on the Swedish market since dual-class firms in our sample have significantly higher dividend proportion than single-class firms.

Therefore, the higher dividend proportion is consistent with the substitution model of payouts. In settings with weak investor protection, the common notion is that firms plagued by agency problems should have higher payout ratios as a mitigation device. However, De Cesari (2012) argues that firms with a wedge between voting and cash flow rights may be reluctant to raise payouts since the costs of higher distributions are larger than the potential benefits of lower agency costs. Instead, the controlling owners seem to change the payout mix to lower the agency costs. Our results point in a similar direction that dual-class firms in Sweden cater to minority shareholders fear of expropriation by choosing dividend distributions to a larger extent than share repurchases when deciding payout policy to mitigate agency costs.

8. Summary and Conclusion

This section begins by summarizing the results obtained from the study and implications for investors and scholars. The section concludes with limitations of the study as well as recommendations for future research.

The purpose of this study is to examine if there is a difference in payout policies between firms that adopt a dual or single-class share structure. The study contributes to the understanding of the role of payout policies in firms with potential agency problems in a Swedish setting with relatively weak shareholder protection. By investigating an unbalanced panel data set, we examine whether dual-class firms have higher dividend payout ratios and higher dividend proportion than single-class firms. Although the dual-class share structure is positively

correlated with the dividend payout ratio, the results are not statistically significant. Therefore, we do not find support for the hypothesized relationship that dual-class firms have used a higher dividend payout ratio as a governance tool to mitigate minority shareholders fear of expropriation. Regarding the dividend proportion, the results are more unambiguous and indicate that dual-class firms use dividends to a larger extent than share repurchases when deciding payout policy. The results are statistically significant on a univariate as well as multivariate level. Therefore, we find support for the hypothesized relationship that dual-class firms have a higher proportion of dividends to total payout than single-class firms. Taken together, the main interpretation of the study's results is that dual-class firms in Sweden seem to mitigate agency problems by changing the payout mix rather than increasing their payout ratios.

The study extends prior studies in the field of payout policies in firms with potential agency problems. While most of the previous research on the role of payouts have focused solely on dividend payouts (Gugler & Yurtoglu, 2003; Faccio *et al.,* 2001), we extend previous findings by examining the payout mix and hence the trade-off between share repurchases and dividends. Our results are an indication that investors in Swedish dual-class firms should not expect to receive higher proportions of earnings as dividends. Instead, investors should expect to be compensated for the higher intrinsic agency problems in dual-class firms with larger proportion of dividends in relation to total payouts.

8.1. Limitations and Future Research

There are some limitations with this study that is worth mentioning. Our results might be distorted since we are using an unbalanced sample. There is a possibility that companies that have been delisted because of bankruptcy or takeovers, might have different payouts that may influence our results in a significant way. A similar line of reasoning can be made on the decision to include newly listed firms in our sample since these are generally younger and may not be able to pay dividends at that stage. Another limitation may be the relatively small sample size which can be an explanation for our lack of significance in some of the variables.
We identify some areas and topics that could be interesting to further investigate. To begin with, since our findings indicate that Sweden differs from other countries when it comes to dividend payout ratios as a vehicle to mitigate agency costs, further insights could be obtained

by increasing the scope of the study by including other Scandinavian countries as well. In addition, another interesting area would be to investigate the separation between voting and cash flow rights on a deeper level and how this affects the payout policies of Swedish dual-class firms. This is since previous findings have indicated that the severity of agency problems can depend on the magnitude of the wedge between ownership and control.

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Appendix

Table 7. Variable Description

Variables	Purpose	Formula	Source
Dependent			
Payout Ratio	Payout Policy	Cash Dividend / Net Income	FactSet
Dividend Proportion	Payout Policy	Cash Dividend / (Cash Dividends + Share Repurchases)	FactSet
Explanatory			
Class	Agency Problems	A dummy variable. Equals 1 if the firm have dual-class shares and 0 if the firm have single-class	Holdings
Controls			
Total Assets	Firm Size	The natural logarithm of book value of assets	FactSet
Leverage Ratio	Leverage	Book Value of Debt / Book Value of Assets	FactSet
Tobin's Q	Growth	(Book Value of Debt + Market Value of Equity) / Book Value of Assets	FactSet
Return on Assets	Profitability	Net Income / Book Value of Assets	FactSet
Firm Age	Age	Founding date. In case of a merger, the older of two firms have been used as founding date	Annual reports / Webpage

Note: The table present a variable description of the investigated variables in our study. Furthermore, the purpose, formula and data source are tabulated.

Table 8. Test for Heteroskedasticity

White-test	Ho	Test Statistic	P-value	Decision	Heteroskedasticity?
Model 1A	Homoskedasticity	147.91	0.0000	Reject	Yes
Model 1B	Homoskedasticity	134.36	0.0000	Reject	Yes

Table 9. Multivariate Regressions – Propensity Score Matched Sample

	Model 1A POLS	**Model 2A** POLS	**Model 3A** Random Effects	**Model 4A** Random Effects
Dependent Variable	Payout Ratio	Payout Ratio	Payout Ratio	Payout Ratio
Explanatory Variable				
Treatment (Class)	0.044	0.032	0.033	0.027
	(0.032)	(0.031)	(0.032)	(0.030)
Control Variables				
Total Assets	0.001	0.025**	0.005	0.030***
	(0.010)	(0.010)	(0.010)	(0.001)
Leverage Ratio	0.057*	-0.001	0.058**	-0.007
	(0.031)	(0.045)	(0.027)	(0.393)
Tobin's Q	0.010	0.015**	0.004	0.012*
	(0.007)	(0.007)	(0.006)	(0.006)
ROA	0.673***	0.531***	0.356***	0.219***
	(0.089)	(0.103)	(0.079)	(0.080)
Firm Age	0.001***	0.001***	0.002***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Industry	NO	YES	NO	YES
Year	NO	YES	NO	YES
SE type	Clustered Robust	Clustered Robust	Clustered Robust	Clustered Robust
Constant	0.111	0.265**	0.152*	-0.114
	(0.084)	(0.124)	(0.082)	(0.135)
Observations	**1144**	**1144**	**1144**	**1144**
R-squared	0.166	0.277	0.260	0.149
Number of Firms	**229**	**229**	**229**	**229**

*** p<0.01, ** p<0.05, * p<0.1

Note: The table presents regression results based on Propensity Score Matching for model (1A-4A) with **Payout Ratio** as dependent variable: Pooled-OLS (1A), Pooled-OLS with Industry and Year effects (2A), Random Effects (3A) and Random effects with Industry and Year effects (4A). The matching is made on Class, natural log of Total Assets, Year, and Industry. The matching resulted in a total observation of 1144 including 229 firms.

Table 1. Multivariate Regressions – Propensity Score Matched Sample

Propensity Score	**Model 1B**	**Model 2B**	**Model 3B**	**Model 4B**
	POLS	POLS	Random Effects	Random Effects
Dependent Variable	Div. Prop.	Div. Prop.	Div. Prop.	Div. Prop.
Explanatory Variable				
Treatment (Class)	0.061**	0.059**	0.086**	0.068*
	(0.028)	(0.028)	(0.037)	(0.036)
Control Variables				
Total Assets	0.004	0.001	-0.001	0.001
	(0.006)	(0.007)	(0.009)	(0.009)
Leverage Ratio	0.079**	0.032	0.035*	-0.009
	(0.038)	(0.046)	(0.019)	(0.025)
Tobin's Q	-0.015	-0.011	0.000	0.008
	(0.010)	(0.008)	(0.009)	(0.010)
ROA	0.959***	0.805***	0.513	0.404
	(0.301)	(0.252)	(0.337)	(0.329)
Firm Age	0.000	0.000	0.001**	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Industry	NO	YES	NO	YES
Year	NO	YES	NO	YES
SE type	Clustered Robust	Clustered Robust	Clustered Robust	Clustered Robust
Constant	0.739***	0.646***	0.790***	0.406**
	(0.078)	(0.094)	(0.086)	(0.175)
Observations	**794**	**794**	**794**	**794**
R-squared	0.083	0.166	0.056	0.133
Number of Firms	**180**	**180**	**180**	**180**

*** p<0.01, ** p<0.05, * p<0.1

Note: The table presents regression results based on Propensity Score Matching for model (1B-4B) with **Dividend Proportion** as dependent variable: Pooled-OLS (1B), Pooled-OLS with Industry and Year effects (2B), Random Effects (3B) and Random effects with Industry and Year effects (4B). The matching is made on Class, natural log of Total Assets, Year and Industry. The matching resulted in a total observation of 794 including 180 firms.

Table 11. Multivariate Regressions Payout Ratio – Robustness Tests

	(I) Random Effects	(II) Random Effects	(III) Random Effects	(IIII) Random Effects
Dependent Variable	Payout Ratio	Payout Ratio	Payout Ratio	Payout Ratio
Explanatory Variable				
Dual	0.016	0.067	0.040	0.001
	(0.029)	(0.056)	(0.037)	(0.004)
Control Variables				
Total Assets	0.030***	0.069***	0.046***	-0.001
	(0.009)	(0.024)	(0.013)	(0.001)
Leverage Ratio	0.008	-0.112	0.009	-0.007***
	(0.026)	(0.120)	(0.047)	(0.003)
Tobin's Q	0.011**	0.001	0.001	0.006***
	(0.005)	(0.001)	(0.001)	(0.001)
ROA	0.216***	0.295**	0.197**	0.066***
	(0.065)	(0.139)	(0.086)	(0.015)
Firm Age	0.001***	-0.001	0.001*	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
SE Type	Clustered Robust	Clustered Robust	Clustered Robust	Clustered Robust
Constant	-0.117	0.112	-0.026	0.003
	(0.111)	(0.295)	(0.191)	(0.015)
Observations	1,507	1,530	1,530	1,530
R-Squared	0.302	0.077	0.200	0.342
Number of firms	242	243	243	243

*** p<0.01, ** p<0.05, * p<0.1

Note: The table displays four regressions as robustness tests: (I) removing negative payouts from the sample, (II) not censoring payouts that are larger than 100%, (III) leaving large payout ratios but winsorizing them at the 99th percentile, and (IIII) scaling dividends by total assets instead of net income. All regressions are performed with random effects with fixed effects for Industry and Year.

Table 12. Tobit Regressions - Payout Ratio

	Model 1A POLS	**Model 2A** POLS
Dependent Variable	Payout Ratio	Payout Ratio
Independent variable		
Dual	0.063	0.041
	(0.047)	(0.045)
Control variables		
Total Assets	0.032**	0.052***
	(0.016)	(0.015)
Leverage Ratio	0.161***	0,066
	(0.051)	(0.074)
Tobin's Q	-0.027*	-0.020
	(0.015)	(0.015)
Return on Assets (ROA)	2.820***	2.540***
	(0.314)	(0.318)
Firm Age	0.002***	0.001***
	(0.000)	(0.000)
Fixed Effects		
Industry	NO	YES
Year	NO	YES
SE type	Clustered Robust	Clustered Robust
Constant	-0.310**	-0.595***
	(0.136)	(0.204)
Observations	**1530**	**1530**
Number of Firms	**243**	**243**

*** p<0.01, ** p<0.05, * p<0.1

Note: The table shows Tobit regressions (censored regression model) of model 1A & 2A. Pooled-OLS (1A), Pooled-OLS with Industry and Year effects (2A). Both the regressions include Cluster-Robust standard errors. The Tobit regressions are set with a specified left censored limit of 0 and a specified right censored limit of 1, which means that the Payout Ratio range is between 0-100%.