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The impact of family ownership on dividend policy: a focus on Belgian listed companies

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Abstract

This thesis researches the relation between family ownership and a firm's dividend policy for companies listed on the Belgian stock market. Data over the period 2015-2020 was gathered and analyzed in order to understand whether there is a difference in the payout policy between family and non-family firms. No conclusive evidence was found that this is the case. This work did not just focus on the family versus non-family question, the group of family firms was equally researched more deeply in order to understand the relation between the level of family ownership and a firm's dividend policy. A non-linear, concave, relation was found between both the propensity to pay dividends and the payout level. These findings suggest that family firms on the Belgian stock market can be characterized by the agency-type 2 theory. Lastly, this paper provides evidence that the family income theory might not directly be a plausible explanation for the dividend decisions made by family firms.

Key Words: Agency-type 2, Dividend policy, Family firm, Family income

1 Introduction

When it comes to studying a company's dividend policy, the central question is quite accurately defined in the title of the work of Denis and Osobov (2008), *"Why do firms pay dividends?"*. There is no straightforward answer to this question, nor is there a unanimous theory which encompasses all relevant and significant aspects that influence a company's dividend policy. Researchers often refer to this unsolved question as 'the dividend puzzle'. According to Al-Najjar and Kilincarslan (2019) the concept of 'dividend puzzle', described by Black in 1976, remains relevant to this day. Although several theories attempt to identify the reasons why companies pay dividends, dividends still pose a difficult to solve puzzle in corporate finance (Baker, Powell & Veit, 2002). According to Baker et al. (2002) there is no theory which has the dominant explanation as to why firms pay dividends. Some studies do find significant relations between certain factors and dividend payouts but combining all relevant factors and assembling them into a theory is still a problem.

According to Miller and Modigliani (1961), the dividend decisions of a company should have no effect on a firm's value in perfect markets. This insight was called the 'dividend irrelevance theory'. Investors should, thus, not let their investment decisions be influenced by a firm's payout policy. DeAngelo and DeAngelo (2006), however, highlight that the payout policy of a company is not irrelevant to the company's value. They also remark that a firm's payout policy does affect shareholders' wealth. Furthermore, the dividend decisions of public companies should be of great interest to investors since the long-term stock returns on a historical basis are almost entirely attributable to the total payouts of companies. This aspect is highlighted by the models of Straehl and Ibbotson (2017) who showed that over the period of 1901-2014, the long-run supply of total payouts virtually completely elucidates the realized returns over this period. Important to note is that the models they developed are independent of changes in payout policies. A second important note is that their study not only took into account dividend payments but they also considered cash buybacks to be part of the payout decision of firms. The sole focus on cash dividends per share, nevertheless, remains interesting. As shown in the research of Fuller and Goldstein (2011), companies that pay a dividend to shareholders outperform companies that do not by 1 to 2% in declining markets. Within their paper, Fuller and Goldstein (2011) focused solely on dividend payments. Furthermore, Brennan and Thakor (1990) argue that smaller shareholders prefer dividend payments over share buybacks, given an acceptable tax rate. They support this argument by stating that share buybacks leave less informed shareholders vulnerable for expropriation by more well-informed shareholders. In addition, dividend payments should be considered important by investors since the preponderance of the total historical return achieved by investors came in the form of dividends. This argument is noted by Foerster and Sapp (2005) in their evaluation of the long-run capabilities of the dividend discount model. They did highlight, nonetheless, that there is a decrease in this importance. Notwithstanding, in their case study, they did find that the observed changes in the market price were highly correlated with changes in dividends. Furthermore, the importance of dividends over the long term is illustrated by RBC Global Asset Management (2021) in one of their reports. The report of RBC Global Asset Management highlights that the shares of dividend paying companies have historically outperformed the index. Hartford Funds equally show that over the period 1930-2021 the contribution of dividends to the total return of the S&p500 was roughly 40%. Lastly, dividend paying stocks reduce risk and focusing on dividend paying companies can offer investors a higher return

(Conover, Jensen & Simpson, 2016). This aspect has been shown by Conover et al. (2016) by highlighting the fact that high dividend paying stocks offered a higher mean monthly return and lower volatility than non-dividend paying stocks. However, an important notion has to be made with regard to the aspect of dividend policy. Their study focusses on dividend yield as a measure of 'high', 'low' or 'no' dividend paying company, nothing is expressed concerning the dividend payout ratio. More so, none of the studies referred to in the above paragraph stated anything about the dividend payout ratio. They merely addressed the importance of dividend payments without regard of what portion of earnings is paid out. This aspect can somewhat be corroborated by the Credit Suisse equity research paper of Patel, Yao and Barefoot (2006) who highlighted that stocks with high dividend yields but low payout ratio have had a higher historical cumulative return than low yield and low payout stocks and stocks not paying any dividend.

One aspect which is considered an interesting factor influencing dividend policy is company ownership. Research has shown that there are important differences to be found between family and non-family companies (Gallo, Tàpies & Cappuyns, 2004). Gallo et al. (2004) further highlight that there is in fact a clear discrepancy between the payout ratios of family and non-family companies within their sample. According to their results, family firms have significantly lower payouts compared to non-family firms. Important to note, however, is that results related to the impact of family ownership on the dividend payment decisions of companies are rather dispersed (Molly & Michiels, 2021). Furthermore, family firms are more likely to be influenced by non-financial factors (Zellweger, Nason, Nordqvist & Brush, 2013). Finally, as the degree of family ownership increases, the company may become prone to more advanced forms of agency costs, such as the agency-type 2 costs (Sener & Ekben Selcuk, 2019). It is therefore that this paper will examine the influence of family ownership on dividend policy, more specifically the influence of family ownership on the propensity to pay dividends and the dividend payout of a firm. I shall do so using regression analyses based on panel data. This paper will attempt to provide an addition to the, as far as I believe, underexplored theory of family income within the context of family firms' dividend policy in Belgium. The focus on family firms is certainly relevant in a European context since, according to Botero et al. (2015), the proportion of family firms compared to all companies in Europe is more than 60%. Furthermore, Faccio and Lang (2002) indicated that in continental Europe, family firms form an important part of all companies. More specifically within the Belgian context, according to Lambrecht and Molly (2011), approximately 77% of all companies in Belgium are family owned. More specifically related to public companies, according to La Porta et al. (1999) on average 41.24% of the 20 largest publicly traded firms is owned by families in Belgium. The central question which this paper seeks to answer could be lapidary summarized as whether dividend investors are doing ill by specifically looking for family-owned companies in Belgium. The focal country is not only interesting because of its strong presence of family firms, however. The focus on this specific geographic area remains equally interesting since little focus is placed on the Belgian listed family firms in contemporary literature whereas other European countries, such as Switzerland (Isakov & Weisskopf, 2015), have received more attention. Furthermore, although dividends can be paid by both public and private companies, I shall focus on the impact of family ownership within listed (public) companies in Belgium.

2 Literature Review

2.1 Dividend policy

Research on dividend policy typically uses two different approaches to measure it. The first conceptualization of dividend policy is by focusing on the dividend payout ratio (Al-Najjar & Kilincarslan, 2016; Gugler, 2003; Isakov & Weisskopf, 2015). Nonetheless, even within this definition of examining dividend policy by focusing on the payout ratio, there are once again different visions within academic research. Al-Najjar and Kilincarslan (2016) define the payout ratio as the dividends per share divided by the earnings per share whereas Bae, El Ghoul, Guedhami and Zheng (2020) define the payout as the dividend per share divided by total sales. The second interpretation of dividend policy is by looking at the propensity to pay a dividend (Al-Najjar & Kilincarslan, 2016; Denis & Osobov, 2008). There are, nevertheless, other conceptualizations of dividend policy. For example, one could look at dividend smoothing (Gugler, 2003) or the dividend yield (Al-Najjar & Kilincarslan, 2016). Remarkable to note however, in the systematic review performed by Molly and Michiels (2021), out of the 47 articles that formed their sample, 40 papers researched dividend policy by looking at the dividend payout ratio. There does seem to be a predilection for researching dividend policy by reviewing the payout of the company. A last important note which has to be made is that academics often combine different dividend measures to assess a firm's dividend policy.

2.2 Family firm

Distinguishing family firms from non-family firms requires a definition of what constitutes a family firm and what does not. The definition of a family firm, however, has been debated for more than two decades within academics (Deephouse & Jaskiewicz, 2013). There is, nevertheless, an increased consensus that dichotomous definitions are to be avoided. If one were to use a certain cut-off point of ownership as a definition, then what are the differences between a firm which is controlled by 5.1% and a company controlled by 4.9% (Deephouse & Jaskiewicz, 2013). Furthermore, Chrisman et al. (2012) argue that the inconclusiveness of prior research governing family firms could be explained by the way that family firms are defined in each study. They also argue that the heterogeneity of family companies implicates that research should focus on the moderators and mediators of family involvement.

Miller, Le Breton-Miller and Lester (2013) bring forth the aspect of family control as a possible separation point between family and non-family firms. They argue that for a family to be able to influence a companies' strategy, they must possess sufficient voting power. The first aspect separating family from non-family firms can hence be interpreted as the level of voting rights in the hands of the family members. This level of ownership must also be sufficiently elevated. A second aspect as a separation point between family and non-family firms, brought forth by Miller et al. (2013), is the level of family involvement at the management level. In addition, Henssen et al. (2011) stipulate that the definition of a family firm can be answered by looking at the ownership of the company. This point of view is in line with the definition of Miller et al. (2013). However, Henssen et al. (2011) also indicate that the concept of ownership goes beyond the legal dimension. They emphasize the psychological dimension of ownership. This aspect, sometimes referred to as the 'essence' of family firms, is also mentioned by Deephouse and Jaskiewicz (2013). They define the concept as "*the relevance of the family*

for the identity of the family firm". The concept is commonly used when examining family firms within the context of socioemotional wealth (Deephouse & Jaskiewicz, 2013).

Furthermore, as the overview of Molly and Michiels (2021) shows, most studies examining family ownership and dividend policy used a dummy to represent the level of legal ownership by a family. The percentages range from a 5% stake all the way to a 33% stake. The definition brought forth by Miller et al. (2013), furthermore, is somewhat similar to the definition of a family firm used by Villalonga and Amit (2006). In their research paper, they defined family firms as those companies in which the founder or a family member of the founder holds a management position or is a blockholder. They also introduced a form of sensitivity analysis by adding minimum ownership percentages and observed how their results would change. They showed that as the definition used for a family firm changes, their results changed as well. Their study measured family firm value and the results of their regressions turned into a discount for one definition of family firm whereas the premium became larger for another definition of family firm. This sensitivity analysis is certainly an interesting approach when taking into account the remarks made by Deephouse & Jaskiewicz (2013) concerning dichotomous definitions. Lastly, Isakov and Weisskopf (2015) argue that a company has dispersed ownership when no shareholder holds more than 20% of the voting rights. They also remark that although the threshold seems low, taking into account the level of board representation of the blockholders and the low level of shareholder attendance at shareholder meetings, an ownership stake of 20% should suffice to influence a company's payout policy.

Regarding the impact of family ownership on a company's dividend policy, the results are rather mixed. For example, Isakov and Weisskopf (2015) found a positive relation between the level of family ownership and the level of payouts whereas Sener and Ekben Selcuk (2019) found a concave relation between the level of family ownership and the level of dividend payouts. As mentioned before, a unifying theory which encompasses all relevant factors influencing a firm's dividend policy has yet to come. This aspect is no different for family-owned firms. Molly and Michiels (2021) confirm the fact that the results regarding both the propensity to pay dividends and the level of payouts are mixed within research related to the impact of family ownership and dividend policy. They remark that some researchers find positive relations between family ownership whereas others find a negative relation and others find no relation at all.

2.3 Signaling theory and life cycle theory

In general, the signaling theory assumes that one party attempts to convey information to another party since both sides have access to different information (Connelly, Certo, Ireland & Reutzel, 2011). Within the context of dividend policy, the signaling theory implies that companies attempt to send inside information to the shareholders in a form of dividends. Al-Najjar and Kilincarslan (2019) define the idea as the following: "*managers use dividends to convey their superior information about the current situation and future prospects of their firms.*". John and Williams (1985) provide us with a similar definition by highlighting that a dividend discloses information that goes further than the information which is dispatched through public audits. DeAngelo, DeAngelo and Skinner (1992) remarked that their results support the signaling theory since reductions in dividends transfer information implying that

future earnings could be bad. Also, Healy and Palepu (1988) found that firms who initiate paying dividends tend to have earnings growth both prior and after the policy change.

Furthermore, according to a survey conducted by Brav, Graham, Harvey and Michaely (2005), management does believe that dividends and share repurchases do convey information to investors. Executives who participated in the survey do, then again, reject the idea that they pay dividends as an instrument to signal the true worth of the company consciously. This is an interesting aspect since on the one hand, management does believe that there is a form of signaling to be found in dividend payments. On the other hand, nonetheless, they highlight that they are not consciously using dividend payments as a form of signaling. This interesting note is moderately affirmed by Shapiro and Zhuang (2015) who highlight that the signaling theory does not support the empirical facts. It is mostly large companies, with little asymmetric information, that have the highest payout ratio and small companies that would have to communicate the most with the market that pay little or no dividend (Shapiro & Zhuang, 2015). They created a model which does support the empirical evidence more consistently and by doing so, they indicated that companies with riskier future earnings are less likely to pay a dividend. This result is more in line with the life cycle hypothesis which proposes that young companies with more investment opportunities do not pay dividends whereas mature companies with limited investment opportunities do pay dividends. Interestingly, Shapiro and Zhuang (2015) also state that if a company truly wishes to convey information about the earnings, the dividend level has to be high enough. This is because in order for dividends to credibly convey a firm's earnings, a high dividend level is required such that only companies with high earnings would be willing to initiate dividend payments. This argument follows from the equilibrium model which they have constructed.

Another study which indicated that their results support the life cycle theory more than the signaling theory was conducted by Yu and Webb (2017). However, Yu and Webb (2017) do remark that from the point of view of the life cycle theory, initiating a dividend conveys information that the company will have fewer investment opportunities in the future. One could then interpret this dividend decision within the context of the lifecycle theory as a form of signaling, in this case the signaling would have to be interpreted as 'less future growth' compared to the original signaling theory which would implicate 'more future growth'. Furthermore, the results of Ijaz, Ali and Omar (2017) also did not support the signaling theory since changes in earnings preceded an adjustment in the dividend payments and not the other way around.

It has become apparent that although the signaling theory is widely referred to, there is a considerable number of papers that argue that the theory is not supported by empirical evidence. Important to note, nonetheless, is that Yu and Webb (2017) also state that their results do not completely rule out the plausibility of the signaling theory. Furthermore, they indicate that the evidence on the signaling effect of dividends are rather mixed. There are, as mentioned, also papers supporting the signaling theory to some extent. Nevertheless, existing literature and empirical evidence seem to be supporting the life cycle theory rather than the signaling theory.

2.4 Agency theory

Another theory researchers often refer to when studying a company's dividend policy is the agency theory. A nuance has to be made, although, between the agency theory-type 1 and the agency theory-type 2. Agency-type 1 signifies the conflict of interest between management and a company's owners, in this case the family, and because of this conflict, dividends can be used to reduce the free cash flow of the firm (Molly & Michiels, 2021). The agency-type 2 is a context where the interests of different shareholders are not aligned with one another and once again, dividends can be used to mitigate this problem (Molly & Michiels, 2021). The agency-type 1 is also often referred to by academics as the principal-agent conflict and the type 2 as the principal-principal conflict.

Villalonga and Amit (2006) argue that if the large shareholder is a family, there is more incentive for expropriation and thus the agency-type 2 conflict would veil the type 1 agency conflict. Faccio, Lang and Young (2001) also indicate that the expropriation of minority shareholders is a common form of agency problems. This incentive of expropriation, then again, could be explained by the concept of socioemotional wealth (Craig & Newbert, 2020). Le Breton-Miller, Miller and Lester (2011) argue that the embeddedness of a company within a family is positively related to the agency conflict since this would promote self-interest over company interests.

The mechanics behind the agency-type 1 theory are quite clearly explained by Jensen (1986). He explains that payouts to shareholders reduce the free cash flow of a company which could otherwise have been exploited by management. Wiseman, Cuevas-Rodríguez and Gomez-Mejia (2012) indicate that there are a great number of research papers that have produced data supporting the principal-agent conflict (agency theory-type 1) in circumstances where the agents, in this case management, are insufficiently monitored. This lack of monitoring can for example stem from the absence of large block holders (companies with dispersed ownership). Even more interesting, Connelly (2016) indicated that companies with a higher degree of family ownership manifest higher investment ratios. Another source of agency costs, within the type 1 context, is when the ownership share of managers decreases, since this will also decrease the manager's incentive to devote effort into finding profitable investments (Jensen & Meckling, 1976). Setia-Atmaja (2010), however, indicates that families have a much greater incentive to monitor managers compared to other large shareholders. Subsequently, the agency type 1 problem should be less prevalent in family-owned firms. This argument is equally highlighted by Bhaumik and Gregoriou (2010).

The type 2 agency conflict, on the other hand, increases as the level of family ownership increases. This is because there can be a conflict of interest between the minority shareholders and the controlling family (Sener & Ekben Selcuk, 2019). Interestingly, Isakov and Weisskopf (2015) found a positive relation between the level of family ownership and the dividend payout. This is rather inconsistent with the agency assumption which would predict a negative relation between the level of family ownership and dividend payouts. This is because the assumption would be that as the level of family ownership increases, the agency type 2 conflict is assumed to become more prominent. Isakov and Weisskopf (2015) explain that the underlying argument for this phenomenon could be found in the theory of family income. Nonetheless, Sener and Ekben Selcuk (2019) found a concave relation between the

level of family ownership and the dividend payout. This result could be an indication of the transition to the type 2 agency conflicts as the level of family ownership increases.

A final and very important aspect which could proof useful within the context of minority shareholder expropriation (agency-type 2 conflict) is the degree of minority shareholder protection. For example, Setia-Atmaja, Tanewski and Skully (2009) concluded that family-owned companies in Australia have higher dividends than non-family companies, however, they also state that there is a high degree of investor protection in the country. Furthermore, Shi, Lechner, Yang and Zhang (2021) highlight the importance of shareholder protection with respect to expropriation. They indicate that better protection allows for more profits of the company to be returned to investors with less expropriation. This could imply, to my knowledge, that the higher the shareholder protection is, the lower the possibility of minority shareholder expropriation and thus the higher the dividend payout relative to environments with less shareholder protection. However, Moortgat, Annaert and Deloof (2017) highlighted that there have not been any major changes in the dividend policies of listed Belgian companies between 1838 and 2012. This finding was rather surprising since over the time period which they have analyzed, there have been major changes related to shareholder protection. They thus argue that there must have been different forms of shareholder protection and that investors of each time period considered themselves as weakly protected. This could provide an explanation as to why there is no clear change in dividend policies over the years.

2.5 Socioemotional wealth

Gómez-Mejía et al. (2007) define socioemotional wealth (hence forth referred to as SEW) as the non-financial features of a company which satisfies the affective needs of a family. They also indicate that from the point of view of SEW, family firms are likely to prioritize maintaining family control. Interestingly, Berrone, Cruz and Gomez-Mejia (2012) argue that SEW is the paramount aspect which separates family firms and helps explain why they behave so different than non-family firms. They further highlight the advantages of the perspective that SEW offers. The first advantage being that SEW is rooted in the behavioral agency theory which provides for a strong conceptual basis. Berrone et al. (2012) state that SEW does not reject the arguments provided by the agency theory that family members can act opportunistically. SEW could be considered as an extension to the agency theory formulating an answer as to why family members can act opportunistically. Berrone et al. (2012) further highlight that a first approximation of SEW could be achieved by using the ownership share of the family, this approximation is, however, not likely to capture the entire spectrum of SEW.

From a SEW point of view, Deslandes, Fortin and Landry (2016) hypothesized that family firms would tend to have a lower payout that non-family firms since they would be incentivized to maintain liquidity as to avoid external financing. Their results corroborated this hypothesis since among the companies that did pay out a dividend, the payout was the lowest for family firms. Furthermore, Belda-Ruiz, Sánchez-Marín and Baixauli-Soler (2021) found that family companies with a higher desire to preserve SEW are more likely to not pay dividends and if they do pay dividends, they will have a lower payout. These results are somewhat consistent with Deslandes et al. (2016). However, Belda-Ruiz et al. (2021) did find evidence that family

firms are less likely to pay out a dividend whereas Deslandes et al. (2016) found that family firms are more likely to pay a dividend.

2.6 Family income

Very little research is to be found around the family income hypothesis and its effect on a family firm's dividend policy. The desire to provide a stable income for family members can be supported by a socioemotional incentive such as for example maintaining a certain standard or family status, which is fundamentally an argument which could be categorized under the SEW theory (Deslandes, Fortin & Landry, 2016). Although some researchers classify the family income theory as a form of SEW (Deslandes, Fortin & Landry, 2016), Isakov and Weisskopf (2015) focused on the theoretical assumption separately from the SEW perspective and found that their results were in support of the family income theory. They refer to the concept as the situation where a significant part of a family's wealth is invested within the company and the primary method of satisfying the family's income needs without forfeiting ownership of the company is through dividends. They further highlight that the intensity of this concept will depend on the number of family members that are involved. Linked to this definition, one would also assume that the level of family income, which has to be satisfied, increases as the ownership stake of the family increases since more of its wealth is tied up in the company. Isakov and Weisskopf (2015) refer to this assumption as the income diversification hypothesis. Deslandes et al. (2016) equally explained that their results, indicating that family ownership increases the likelihood of making a dividend payment, could be explained by the desire of receiving a stable income within the family.

Hiebl (2015) remarked that as family businesses grow older and undergo generational transitions, the likelihood of a dispersed family ownership increases. Consequently, due to the fact that not all family members can and or want to be part of the company's management, their main interest may shift towards receiving regular cash dividends, which constitutes the majority of their income given that their portfolios are usually not well diversified (Hiebl, 2015). Le Bretton-Miller and Miller (2008) categorize this strategy of providing a stable income stream to family members through dividends as a 'harvesting strategy'. According to them, a harvesting strategy is defined as a strategy which aims to reap the benefits of the business rather than growing the business itself. Furthermore, Setia-Atmaja (2010) confirms the aspect, brought forth by Isakov and Weisskopf (2015), that family shareholders are usually poorly diversified. Finally, Le-Bretton Miller and Miller (2009) indicate that a family's engrossment with future generations could potentially cause it to foster the company which has to provide income for the family members to come.

An important question which requires answering within the context of the family income theory is whether the liquidity provided by the initial public offering is sufficient or not to sustain the family income requirements. Throughout the decision-making process of going public, there are two main factors which the initial owners must balance against each other (Zingales, 1995). These two factors are the maximization of the proceeds and the retention of control. As previously mentioned in the section of SEW, family firms are likely to prioritize retention of control (Gómez-Mejía et al., 2007). An initial intuition would thus be that family firms receive sub optimal liquidities from an IPO because the emphasis is expected to be placed on retention of control rather than maximizing IPO proceeds. Leitterstorf and Rau (2014)

corroborate this intuition by highlighting that there is in fact evidence of IPO underpricing in family firms. This IPO underpricing, then again, is a mechanism which increases ownership dispersion and thus reduces the concentration of ownership within single stockholders (Booth & Chua, 1996).

3 Hypotheses

The first main questions this paper seeks to answer is whether there is a discrepancy in the payout policy between family and non-family firms. The second question this paper seeks to answer is whether there is a relation between the level family ownership and dividend policy in Belgian listed companies. If so, this thesis seeks to understand what this relation is and how it could potentially be explained.

From the point of view of family income theory, some researchers argue that family firms have a higher propensity to pay dividends (Deslandes et al., 2016; Isakov & Weisskopf, 2015). They argue that families wish to receive at least a stable income. This income requirement can be satisfied through dividends from the family firm. Deslandes et al. (2016) did in fact provide corroboration for this assertion when studying Canadian firms. Isakov and Weisskopf (2015), furthermore, equally showed that in Switzerland, the family income hypothesis holds. The first hypothesis in this paper will argue that, following the results and reasoning of the aforementioned authors, family firms have a higher propensity to pay dividends than non-family firms.

> *H1: The propensity to pay dividends is higher in family firms compared to non-family firms.*

A second hypothesis researched within this paper is whether there is a positive linear relation between the level of family ownership and the propensity to pay dividends. Should empirical results corroborate this inverse of hypothesis 1, they would fit in with the theory of family income which states that the more family wealth is invested within the company, the more income needs have to be fulfilled by means of dividend payments (Isakov & Weisskopf, 2015). Isakov and Weisskopf (2015) did find such results in Swiss public companies. Deslandes et al. (2016) equally summarize the idea that the need to satisfy the family members' cost of living will influence the payout decisions of family firms. They found that there is a positive relation between the propensity to pay dividends and family firms. Selling stock in order to fulfill these income needs is assumed to be a suboptimal choice since, from the point of view of SEW, families wish to maintain control over the firm (Berrone et al.,2012).

> *H2: There is a positive, linear, relation between the level of family ownership and the propensity to pay dividends.*

Important to note is that, although Deslandes et al. (2016) mention that the desire of a family to provide a stable income through dividends to maintain status is a form of SEW, this paper shall consider the family income hypothesis in its own respect as was the case in the paper of Isakov and Weisskopf (2015).

Finally, perhaps the most dominant theoretical explanation, as mentioned in the disquisition of existing literature above, is the agency theory. An important aspect, with regard to the agency-type 2 problem and dividend policies around the world, is the significant and undeniable impact of shareholder protection. La Porta et al. (2000) also highlight this aspect by addressing that shareholder protection is crucial since expropriation of minority shareholders is, in some countries, extensive. Sener and Akben Selcuk (2019) indicate that the agency-type 2 conflict is particularly significant in countries with weak minority shareholder protection. La Porta et al. (2000) further remark that shareholder protection is the lowest in countries with French civil law, which is applicable to Belgium. Martynova and Renneboog (2011) provide support to this aspect by providing an overview of the shareholder protection in 30 European countries. They highlighted that in 2005 the shareholder protection in French- and German- legal origin countries is lower than in English legal origin countries. Finally, La Porta et al. (1999) ranked Belgium among the countries with the lowest antidirector averages. One could therefore assume that, since minority shareholder protection in Belgium is described as being weaker, a conflict in the form of agency-type 2 is a plausible scenario. A final hypothesis could thus be that there is a concave relation between the level of family ownership and a firm's probability of paying a dividend. This concave relation is situated in the agency-type 2 conflict by Sener and Akben Selcuk (2019). The authors highlighted that, at high ownership levels, the entrenchment motive of families becomes more dominant and thus the probability of paying a dividend reduces compared to lower levels of family ownership. They further indicate that at lower levels of family ownership, the family could still be incentivized to pay out dividends in order to maintain a good reputation whereas this motive disappears at high levels of ownership. This theory could equally be situated within the *substitution model* described by Moortgat et al. (2017). The substitution model implies that dividends are used by insiders to establish a good reputation and that dividend payments are, subsequently, not the result of better minority shareholder protection (La porta et al., 2000). Al-Najjar and Kilincarslan (2016), furthermore, referred to a common form of expropriation called *tunnelling*. The term was described extensively by Johnson et al. (2000) as the diversion of resources from minority shareholders to the controlling shareholders. They conducted research in developed French civil law countries such as France, Italy and Belgium and stated that tunneling can be substantial even in developed countries.

> *H3: There is a concave relation between the level of family ownership and the propensity to pay dividends.*

Noteworthy to mention is that hypothesis 2 and 3 could be considered to test whether the family income theory or the agency theory is valid within family firms. Another way of phrasing this could thus be that this paper is testing whether, among family firms, there is a relation between the level of family ownership and a firm's dividend policy. Whereas hypothesis 1 is testing whether there is a difference in dividend policy between family and non-family firms.

4 Data & Methods

4.1 Variables description

4.1.1 Dividend policy

Regarding a firm's dividend policy, the two most common proxies are the propensity to pay dividends and the dividend payout ratio. This aspect can be observed in the research paper of Molly and Michiels (2021). These two measurements shall equally be applied within this thesis. The payout ratio is commonly measured as the ratio of common dividends per share over the basic earnings per share. In the research paper of Isakov and Weisskopf (2015) the payout ratio was set at 100% if the result would be negative or if the company paid out more than its basic earnings per share for that year. A second metric, as an alternative proxy for the payout ratio is the firm's total dividend payments over its total assets. This measure is equally used by some researchers (González, Guzmán, Pombo & Trujillo, 2014). The propensity to pay dividends is a dummy variable which equals 1 when a company pays a dividend and zero otherwise. A third and commonly used measure with regard to a firm's dividend policy is the dividend yield ratio (e.g., Isakov & Weisskopf, 2015; Sener & Ekben Selcuk, 2019). The dividend yield is measured as the ratio of the firm's common dividend per share over the stock price. Within this research paper, the dividend payout is defined as a firm's total dividends paid divided by the total assets of the firm. This metric was opted for as it reduces the need for recoding since it avoids the problem of earnings being negative or close to zero (Deslandes et al., 2016). The second metric of propensity to pay will also be used within this research. Finally, this paper will not focus on a firm's dividend yield as this metric is rather dependent of a company's share price which can be very volatile. All of the financial data was collected through the S&P Capital IQ database.

4.1.2 Family firm

From the aforementioned theories we can distill an important aspect which influences a firm's dividend policy, namely a firm's ownership structure. More precisely, a firm's dividend policy could vary between family owned and non-family-owned firms. Some studies did in fact highlight that there were discrepancies between the dividend policies of family firms and non-family firms (Gallo, Tàpies & Cappuyns, 2004). The main variable of family ownership this paper shall consider is the percentage of voting rights which a family retains. The level of voting power is argued to be an important factor when one attempts to assess whether a firm is family owned or not. This is because in order to influence a firm's strategy, the family must hold a sufficiently high level of the total voting rights (Miller, Le Breton-Miller & Lester, 2013). Furthermore, Deslandes et al. (2016) stated that a firm is a family firm if an individual or family holds at least 20% of the voting rights. An important remark regarding this variable has to be made, nonetheless. As mentioned by Chrisman et al. (2012), the inconclusiveness of findings related to dividend policies within family firms is due to the different methods researchers define family firms. In the research paper of Isakov and Weisskopf (2015), for example, the authors argue that an ownership threshold of 20% should be an adequate cutoff point separating family from non-family firms. This is the same cut-off point that Deslandes et al.

(2016) mentioned. Notwithstanding the argument they presented the readers, it remains important to take note of the remarks made by Deephouse and Jaskiewicz (2013) and Chrisman et al. (2012). The cutoff point utilized within this paper to separate family from non-family firms will be based on the arguments provided by Deslandes et al. (2016) and Isakov and Weisskopf (2015). The percentages of voting rights held by an individual or family were hand collected using the firms' annual reports.

4.1.3 Control variables

A company's dividend policy is, however, not solely determined by the ownership structure of the company. Factors such as profitability and company size have been argued to have an impact on dividend decisions as well (Denis & Osobov, 2008). Furthermore, DeAngelo, DeAngelo and Skinner (1992) found that annual losses are a required, albeit insufficient, factor for a reduction in dividends in companies that have an established earnings and dividend record. They (DeAngelo, DeAngelo & Skinner, 1992) do note that there is a distinction which has to be made between companies that have continuing earnings difficulties and companies that had one-time losses. In the research paper of Isakov and Weisskopf (2015) we can observe that the company's leverage, firm age, firm size and return on invested capital all had a significant influence on the firm's payout. Other research papers equally utilized some of these control variables and showed that they are in fact significant (Deslandes et al., 2016; Sener and Ekben Selcuk, 2019). The regression models shall thus incorporate control variables related to a company's profitability, size, age, etcetera. An overview of control variables and definitions of these variables can be found in *table 1*. Some variables (*ROC, TobinsQ, Equityearned, and Leveraging*) have been winsorized at the 5% and the 95% level in order to mitigate the effect of outliers.

TABLE 1: OVERVIEW OF CONTROL VARIABLES.

Variable	Definition
Firm size	The natural log of a firm's total assets in mm EUR
Tobin's Q	Market capitalization / total assets
Earned equity (Denis & Osobov, 2008)	Retained earnings / book value of equity
Return on capital (S&P Capital IQ calculations)	(EBIT*(1-tax)) / ((total capital(t)+total capital(t-1))/2)
Firm age	The natural log of the age of the firm. Age of the firm = year founded – observation year
Leveraging	Total debt / total assets

4.1.4 Sample description

All financial data is gathered through the S&P Capital IQ database. Each datapoint for which no data could be found was treated as a missing value. Since the focus of this paper lies on public companies listed on the Belgian stock market, the companies included in the sample were gathered based on two criteria. The first one being that only public companies are to be

included and the second criteria being that only companies with a primary listing on the Euronext Brussels stock exchange are to be included. Companies listed on the Euronext Expert market were excluded from the sample as this market lies on the border of listed and unlisted companies since, strictly speaking, the Euronext Expert market is a public auction and not a stock exchange. Some sectors were, furthermore, restricted from being included in the dataset. As such, financial companies were excluded from this research. This is because these types of companies are more prone to regulation concerning their payout decisions (Isakov & Weisskopf, 2015). Energy companies were equally excluded from the dataset. Companies for which there was insufficient data to be found through the database in order to perform adequate calculations were then equally removed from the dataset. Lastly, the data which is collected stretches over the period 2015-2020. This six-year period is selected because it is the most recent period of which full year data is guaranteed. Important to note is that in 2020 there could have been major changes in payout decisions related to the covid-19 crisis. This impact is moderately illustrated by Krieger, Mauck and Pruitt (2021) in the United States. They highlighted that the rates of dividend cuts for publicly traded companies were much higher during the Covid crisis of 2020. Molly and Michiels (2021) equally mentioned that many firms had adjusted their dividend policy during the Covid-19 pandemic. It could remain interesting, nonetheless, to include this period of stress within the dataset. The final dataset contained 83 companies which is equal to 498 firm year observations. Important to note, nonetheless, is that not every company within the dataset had observations for each year, the total number of observations for each regression analysis will thus differ slightly from this number.

4.2 Methodology

The aim of this study is to understand whether there is a relation between the level of family ownership and a firm's dividend policy and if there is one, how can one elucidate this relation. Since the data used in this research is (strongly balanced) panel data over a six-year period, regression models for panel data are used.

The relation between a firm's propensity to pay and the level of family ownership is analyzed using a Logit model. The results of the Hausman test pointed out that a random effects Logit model is to be preferred over a conditional fixed effects model. The random effects Logit model is equally preferred over the pooled Logit model following the results of a Likelihood Ratio test. The random effects Logit model takes on the following general form:

Model 1:

$$Propensity_{i,t} = \alpha + \beta_1 Familyshare_{i,t} + \beta_3 ROC_{i,t} + \beta_4 TobinsQ_{i,t} + \beta_5 Equityearned_{i,t} + \beta_6 Leveraging_{i,t} + \beta_7 lnasset_{i,t} + \beta_8 lnage_{i,t} + \beta_9 SIC_{i,t} + \varepsilon_{i,t}$$

Model 2:

$$Propensity_{i,t} = \alpha + \beta_1 Familyshare_{i,t} + \beta_2 Share2_{i,t} + \beta_3 ROC_{i,t} + \beta_4 TobinsQ_{i,t} + \beta_5 Equityearned_{i,t} + \beta_6 Leveraging_{i,t} + \beta_7 lnasset_{i,t} + \beta_8 lnage_{i,t} + \beta_9 SIC_{i,t} + \varepsilon_{i,t}$$

Model 3:

$$Propensity_{i,t} = \alpha + \beta_1 Familyfirm_{i,t} + \beta_2 Share2_{i,t} + \beta_3 ROC_{i,t} + \beta_4 TobinsQ_{i,t} + \beta_5 Equityearned_{i,t} + \beta_6 Leveraging_{i,t} + \beta_7 lnasset_{i,t} + \beta_8 lnage_{i,t} + \beta_9 SIC_{i,t} + \varepsilon_{i,t}$$

Where *Familyshare* is the percentage of voting rights owned by an individual or family of company *i* in year *t.* Share2 is the Familyshare squared. In the regression analysis of model 1 and model 2, only firms with a family ownership level of 20% or above were included. This was chosen as a minimum ownership level based on the arguments provided by Isakov and Weisskopf (2015). This method was opted for as it provides an insight into the impact of the level of family ownership without taking into account the non-family firms. More general, it allows to shift the focus away from simply comparing family with non-family firms. *Familyfirm,* then again, is a dummy which equals 1 if a firm is considered as a family firm and 0 otherwise. Finally, the variable *SIC* are the industry dummies which have been included in the regression. These industry dummies have been created based on the SIC code of the primary industry in which a company operates. The remaining control variables have been described in *table1.* The dependent variable *propensity*, as previously mentioned*,* is a dummy variable which takes on the value of 1 if a company paid out a dividend in year *t* and zero otherwise.

The relation between a family's ownership of a firm and the firm's dividend payout is analyzed using an OLS model following the research method presented by Maury and Pajuste (2002), they were highlighted by Isakov and Weisskopf (2015) as a robustness test to their initial models. The results of the OLS model yielded qualitatively similar results. Ideally, the payout should be regressed using a Tobit model since the payouts are truncated at zero (Sener & Akben Selcuk, 2019). This thesis utilizes Stata as a software package and the software does not support robust standard errors in random effects Tobit models. As an alternative method to correct for heteroskedasticity and non-normality, one could use the Bootstrap standard errors (Ye et al., 2019). With 200 resamples, the standard errors could be calculated accurately according to Mooney and Duval (1993). However, this method did not run smoothly and the quality of the resulting results could not be tested accurately. It is therefore that the OLS method is chosen, based on the main analysis approach of Maury and Pajuste (2002) and the robustness test of Isakov and Weisskopf (2015). Maury and Pajuste (2002), furthermore, highlight that the OLS model works correctly in terms of estimating the correct sign of the relationship between variables. The model is estimated using robust standard errors clustered by firm ID. As a robustness test, the Tobit models will be estimated in section 5.3.1 in order to observe if the results differ qualitatively.
The regression analyzing the payout takes on the following form:

Model 4:

$$Dvdpayout_{i,t} = \alpha + \beta_1 Familyshare_{i,t} + \beta_2 ROC_{i,t} + \beta_3 TobinsQ_{i,t} + \beta_4 Equityearned_{i,t} + \beta_5 Leveraging_{i,t} + \beta_6 lnasset_{i,t} + \beta_7 lnage_{i,t} + \beta_8 SIC_{i,t} + \varepsilon_{i,t}$$

Model 5:

$$Dvdpayout_{i,t} = \alpha + \beta_1 Familyshare_{i,t} + \beta_2 Share2_{i,t} + \beta_3 ROC_{i,t} + \beta_4 TobinsQ_{i,t} + \beta_5 Equityearned_{i,t} + \beta_6 Leveraging_{i,t} + \beta_7 lnasset_{i,t} + \beta_8 lnage_{i,t} + \beta_9 SIC_{i,t} + \varepsilon_{i,t}$$

Model 6:

$$Dvdpayout_{i,t} = \alpha + \beta_1 Familyfirm_{i,t} + \beta_2 Share2_{i,t} + \beta_3 ROC_{i,t} + \beta_4 TobinsQ_{i,t} + \beta_5 Equityearned_{i,t} + \beta_6 Leveraging_{i,t} + \beta_7 lnasset_{i,t} + \beta_8 lnage_{i,t} + \beta_9 SIC_{i,t} + \varepsilon_{i,t}$$

Where $Dvdpayout_{i,t}$ is firm *i*'s total dividends paid divided by its total assets (in %) in year *t*. The control variables have been discussed in section 4.1.3.

Finally, the models (more specifically model 1 and 4) estimating the linear relation excluding the quadratic term of the level of family ownership is used to test the hypothesis related to the linear relation between family ownership and the propensity to pay a dividend and/or the payout ratio. The models including the quadratic term are estimated in order to test the hypothesis related to the potential concave relation.

5 Results

5.1 Descriptive statistics

Table 2 below includes the summary statistics related to the payouts and control variables of the firms within the dataset. The table equally highlights the number of family firms which are included within the dataset based on the definition which is utilized in this paper (20% of voting rights) to separate family from non-family firms. The average percentage of voting rights owned by an individual or family is 35.02%, a figure which is not so different from the dataset median of 35.35%. One can also observe that the highest percentage of voting rights held by an individual or family equals 94.3%. The lowest level of family ownership equals 0% over the entire dataset. If we were to include only those firms within the sample that have a family ownership of 20% or above, the minimum value would be equal to 20.1%.

As for the firms' payouts, the average dividend payout equals 1.70%. The median payout lies below this average at 0.71%. The maximum payout which was observed within the dataset equals 28.82% and the minimum was equal to 0%, this is the case for firms which have not paid out a dividend in a given year. Furthermore, out of the 489 firm years for which dividend payment details could be found in the Capital IQ database, 57.06% paid out a dividend whereas 42.94% did not pay out any dividends. This corresponds to 279 and 210 observations, respectively.

The summary statistics for the control variables are equally shown in *table 2.* The average size of the firms within this sample is 4,519.60 million euros whereas the median value lies at 503.40 million euros. There is, furthermore, a large discrepancy between the largest and the smallest firm within the sample. This difference, however, should become much smaller since the natural log of total assets has been incorporated in the regressions analyses. As for the profitability, proxied by the return on capital, an average value of 3.07% is observed which is slightly below the median observed value of 4.68%. The Tobin's Q, measured as a firm's market value over its total book value of assets, has an average observed value of 1.3. The median observed value equals 0.88. On average, within this sample, the total equity of firm's contains 32.45% of retained earnings. Furthermore, the average leverage ratio within this sample equals 24.92%. Finally, the average age of the companies within the dataset is 71 years. As was the case for the total size of the companies in the dataset, age will be incorporated in the regression analyses using the natural log. The large differences between oldest and youngest firms should become smaller.

TABLE 2: SUMMARY STATISTICS.

	Mean	Median	Max	Min	StDev
Familyshare (in %)	35.02	35.35	94.3	0	28.53
Dvdpayout (in %)	1.70	0.71	28.82	0	3.26
Assets (in Millions)	4519.60	503.4	243063.9	0.001	22063.51
ROC (in %)	3.07	4.68	15.8	-34.6	11.10
TobinsQ	1.30	0.88	3.71	0.20	1.10
Equityearned (in %)	32.45	40.61	186.73	-244.91	93.07
Leveraging (in %)	24.92	22.11	65.64	0	19.55
Age (in years)	71.05	60	219	7	51.73
Frequencies	N	%	Total N		
Paid dividend	279	57.06	489		
Did not pay dividend	210	42.94	489		
#Family firms (20%)	304	61.04	498		

Table 2: Summary statistics of family firms and payouts. '#Family firms' signifies the number of firm year observations which are categorized as family firm observations based on the cutoff point of 20%.

5.2 Univariate test

In this section the average observed values between family and non-family firms are compared to one another. This will provide an initial insight into the differences between the family and non-family firms. Comparing the average payouts of family with non-family firms, one can observe from *table 3* below that, on average, family firms tend to pay out more than non-family firms. This could be an initial indication that family firms do, in fact, pay out more than non-family firms. The results of this univariate test should be interpreted with caution, nonetheless. Other factors have been identified as having a positive or negative impact on the total payouts of firms (Denis & Osobov, 2008). These other variables which could potentially have an impact on a firm's payout decisions are not accounted for in the univariate tests.

TABLE 3: T-TEST FAMILY COMPARED TO NON-FAMILY PAYOUTS.

	Family firm mean	Non-family firm mean	T statistic
Dividend payout (%)	1.98	1.26	-2.4037**
ROC (%)	5.33	-0.48	-5.8880***
Leveraging (%)	21.70	29.98	4.7056***
Assets (mm EUR)	6147.16	2006.59	-2.0376**
TobinsQ	1.23	1.40	1.75*
Equityearned (%)	48.16	7.85	-4.8168***
Age (years)	77.79	60.51	-3.6810***

*Table 3: T test of payouts between family and non-family firms. ***, ** and * indicate that the results are significant at the 1%, 5% and 10% levels, respectively.*

The above table highlights that the average payout of family firms equals 1.98% whereas non-family firms paid out 1.26% on average. This discrepancy is statistically significant at the 5% level (95% confidence). From these univariate tests, one can also clearly observe that family firms, within this sample, tend to be larger, more profitable and less leveraged than non-family firms.

This is an interesting finding since firm profitability is positively correlated to dividend payouts. This aspect can be observed in the correlation matrix below (*table 4)*. A firm's leverage, then again, appears to be negatively correlated to dividend payouts. Another interesting aspect is that family firms seem to be positively correlated with dividend payouts as well. The leverage is negatively correlated with family firms implying that family firms tend to be less leveraged than non-family firms, an aspect which can be found in the above tests as well. The age and size of a firm are, furthermore, positively correlated with family firms. It is, therefore, safe to say that family firms are indeed, on average, older and larger than non-family firms within this sample. This statement can somewhat be corroborated by the findings of Anderson and Reeb (2003) who highlighted that family firms are significantly better performers than their non-family counterparts.

TABLE 4: CORRELATION MATRIX.

	Fam	Payout	Assets	ROC	EE	Age	Lev	Q
Fam	1							
Payout	0.1081**	1						
Assets	0.0918**	0.0352	1					
ROC	0.2556***	0.2918***	0.0463	1				
EE	0.2114***	0.2156***	0.0333	0.5691***	1			
Age	0.1631***	0.0613	-0.0232	0.2564***	0.1884***	1		
Lev	-0.2067***	-0.2097***	0.1173***	-0.1276***	0.0208	-0.1542***	1	
Q	-0.0784*	0.2307***	-0.0932**	-0.1009**	-0.0385	-0.3274***	-0.0306	1

*Table 4: Correlation matrix of variables. Some variables are referred to using abbreviations, this is because of formatting purposes. Fam indicates Familyfirm, Payout indicate Dvdpayout, EE indicates Equityearned, Lev indicates Leveraging and Q refers to the TobinsQ. ***, ** and * indicate that the results are significant at the 1*, 5% and 10% level, respectively.*

5.3 Regression results and hypotheses testing

Propensity to pay:

In *table 5* below the regression results for the propensity to pay dividends can be observed. Column one includes the coefficient results for the model which was estimated without the quadratic term of family ownership level and the second column includes the quadratic term. Column 3, then again, estimates the effect of family firms on the propensity to pay. The last model is utilized in order to analyze whether family firms have a higher propensity to pay than non-family firms. The column numbers correspond to what will henceforth be referred to as the model which is estimated (i.e., Column 1 is referred to as model 1).

The results of model 3 in *table 5* indicate that there is no significant impact of *Familyfirm* on the propensity to pay dividends. As a consequence, there is insufficient evidence to support hypothesis 1 that there is a difference in the propensity to pay dividends between family and

non-family firms. It is safe to say that, controlling for other significant factors, family firms have no direct impact on the propensity to pay dividends. An interesting finding, furthermore, is that profitability has a significant and positive impact on the propensity to pay indicating that the higher a firm's profitability is, the higher the likelihood of paying a dividend becomes. The size of the company equally has a positive impact on the propensity to pay dividends. Leverage, furthermore, has a significant negative impact on a firm's decision to pay out a dividend or not. A final interesting finding in column 3 of *table 5* is that the Tobin's Q has a negative impact on the firm's decision of paying out a dividend. This result is rather consistent with the life cycle theory.

Model 1 of *table 5,* then again, estimates the effect of the level of family ownership on the propensity to pay dividends among family firms. From model 1, it appears that there is no significant linear relation between the level of family ownership and the propensity to pay dividends. We can, therefore, not corroborate nor refute hypothesis 2 related to the family income theory. The model does provide insight as to what factors do have a linear significant relation with the propensity to pay dividends among family firms. One can observe that profitability and size of the firm both have a significant positive relation with the probability of paying out a dividend. The return on capital and total assets are significant at the 1% level. These findings are similar to the results of model 3. These findings are, furthermore, rather consistent with the life cycle theory described in section 2.3. These results were expected since empirical results often support the life cycle theory over the signaling theory (Shapiro & Zhuang, 2015). Tobin's Q does not have a significant effect in model 1 and model 2 but does have a significant effect on the decision to pay out dividends. This result could also be in support of the lifecycle theory. Overall, these findings are what was expected in terms of coefficient signs since Denis and Osobov (2008) illustrate these above findings as well by stating that larger and more profitable firms are more likely to pay out dividends. The negative relation between dividend payments and leverage are consistent with the fact that debt reduces agency costs (Jiraporn & Ning, 2006) as such, the need for using dividends in order to reduce agency costs dissipates as well.

Model 2 estimates the non-linear relation between the level of family ownership and the propensity to pay dividends among family firms. Immediately, one can observe that there is in fact a significant positive and concave relation. This finding suggests that, initially, as the level of family ownership increases, so does the propensity to pay dividends. At high levels of family ownership, however, the probability of paying a dividend decreases. This result provides support for hypothesis 3. The concave relation is significant at the 5% level. The remaining control variables all have the same sign and significance level as was the case in model 1. *Figure 1* below provides a graphical overview of the concave relation between the level of family ownership and the propensity to pay dividends. The probabilities are calculated using the median observed value for all control variables. The level of family ownership was then adjusted in steps of 5 percentage points each time.

TABLE 5: REGRESSION RESULTS PROPENSITY TO PAY.

	Propensity		
	(1)	(2)	(3)
Familyfirm	/	/	0.73655
Familyshare	0.00942	0.35801**	/
Share^2	/	-0.00318**	/
ROC	0.21487***	0.20317***	0.25912***
TobinsQ	-0.53705	-0.32944	-1.04242**
equityearned	0.26116	-0.53374	-0.11423
Leveraging	-0.12268***	-0.15659***	-0.13628***
lnasset	1.24099***	1.60311***	1.54247***
lnage	0.72444	0.70339	1.00871
Intercept	-8.13703**	-17.64428***	-10.82696***

*Table 4: Random effects logit model. Dependent variable is the propensity to pay which takes on the value 1 if a company paid a dividend and zero otherwise. ***, ** and * indicate that the results are significant at the 1%, 5% and 10% level. The models are estimated using robust standard errors clustered by ID (company). Sector dummies are included in all models.*

FIGURE 1: GRAPHICAL REPRESENTATION RELATION LEVEL OF FAMILY OWNERSHIP AND PROPENSITY TO PAY DIVIDENDS.

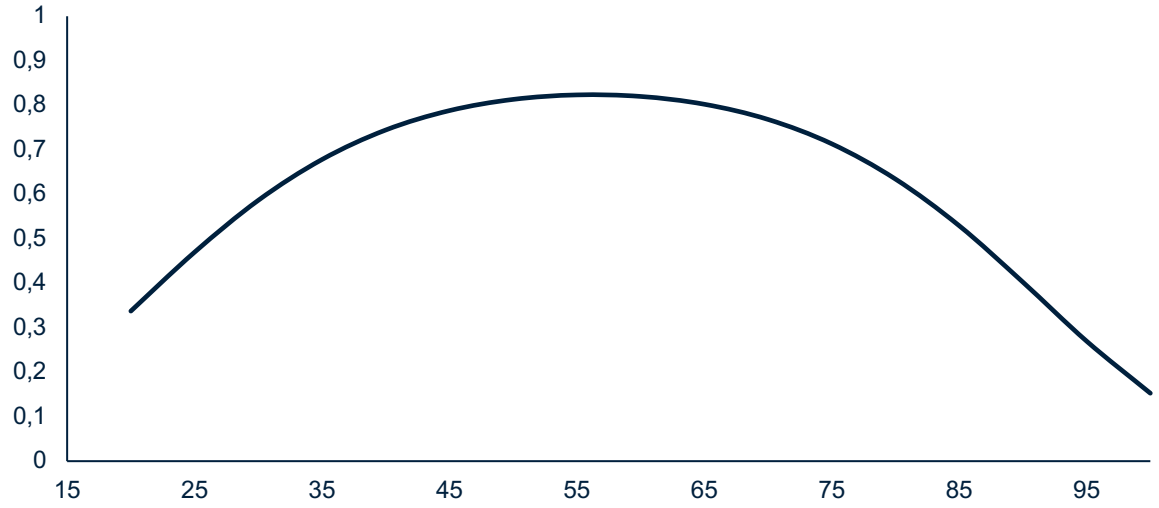

Figure 1: Propensity to pay out a dividend on the Y-axis and the level of family ownership on the X-axis. The probabilities are estimated based on the regression model of table 5. The graph illustrates the relation between family ownership and propensity to pay among family firms.

If we wish to know at what exact level of family ownership the propensity to pay dividends starts to decrease again, we have to maximize the model which was estimated in model 2 of *table 5*. This comes down to maximizing equation 1 below, which is the function corresponding to model 2, with respect to the level of family ownership:

$$Propensity_{i,t} = \alpha + \beta_1 Familyshare_{i,t} + \beta_2 Share2_{i,t} + \beta_j Control\ variables_{i,t} + \varepsilon_{i,t} \quad (1)$$

Let us denote the level of family ownership as x, the propensity to pay a dividend as a function of family ownership level then becomes $\Upsilon(x)$. Since all other variables take on the median observed value, they become a constant, $\mathcal{C}$, in the equation. The function need maximization thus becomes equation 2:

$$\Upsilon(x) = 0.35801x - 0.00318x^2 + \mathcal{C} \quad (2)$$

More specifically, the optimization problem equals:

$$\frac{\mathrm{d}\Upsilon}{\mathrm{d}x}\Upsilon(x) = 0 \Leftrightarrow 0.35801 - 0.00636x = 0 \quad (3)$$

It is straightforward to find that the value of x for which equation 3 becomes zero equals 56.29%. Model 2 therefore estimates that the family ownership level at which the propensity to pay dividends starts to decrease as the level family ownership increases is at 56.29%. This is if all control variables are set to their median observed value and remain constant. Interestingly to note is that the turning point is located just above the 50% threshold. This implies that the firm decisions requiring simple majority voting can be accepted by the single shareholder holding at least 50% of the votes.

Payouts:

Table 6 below provides an overview of the regression results related to the relation between the level of family ownership and the payouts of a firm (model 4 and 5) on the one hand. And the discrepancy in payouts between family and non-family firms (model 6) on the other hand. Model 4 of *table 6* consists the linear estimation results whereas model 5 of *table 6* contains the non-linear estimation results. All models are estimated using the OLS method described by Isakov and Weisskopf (2015) in their robustness tests and following the main approach of Maury and Pajuste (2002). All standard errors are calculated using robust standard errors clustered by firm ID.

First and foremost, it is straightforward to observe from model 6 in *table 6* that, as was the case for the propensity to pay, there is no significant impact from *Familyfirm.* This result indicates that there is no statistically significant discrepancy between family and non-family firms in terms of the dividend payout level, controlling for other variables. Variables such as profitability (*ROC*), size and equity earned do have a positive and significant impact on the level of dividend payouts made by a firm. A firm's leverage, furthermore, has a negative impact on a firm's payout level. Interestingly, the Tobin's Q has a significant and positive influence on a firm's payout level. From *table 5* we found that a high Tobin's Q reduces the likelihood of paying out a dividend whereas the opposite effects is observed for the level of payouts. One way of placing this result is within the *substitute* model of La Porta et al. (2000). This is because the *substitute* model makes a weak prediction that growth firms will pay out more because they want to maintain a good reputation towards the outside.

TABLE 6: REGRESSION RESULTS PAYOUT.

	Payout		
	(4)	(5)	(6)
Familyfirm	/	/	0.28245
Familyshare	-0.01252	0.19473***	/
Share^2	/	-0.00182***	/
ROC	0.09980**	0.07050*	0.06013***
TobinsQ	1.53498***	1.58535***	1.02623***
Equityearned	1.16969***	0.84467**	0.32717***
Leveraging	-0.05236***	-0.06223***	-0.02820***
Lnasset	0.44719***	0.48031***	0.29424***
Lnage	-0.79070**	-0.92764**	-0.02952
Intercept	1.68835	-2.66903	-0.95462

*Table 6: All models are OLS models with the dependent variable the firm's payout as defined in section 4.1.1. Model 4 estimates the linear relation whereas model 5 estimates the non-linear relation. Model 6 compares family with non-family firms. ***, ** and * indicate that the results are significant at the 1%, 5% and 10% level, respectively. The models were estimated using robust standard errors clustered by firm ID.*

Secondly, from model 4 in the above table (*table 6)* it is clear that there is no linear relation whatsoever between the level of family ownership and the payout level. There is, nonetheless, a non-linear relation found in model 5. This finding is significant at the 1% level and implies that at low levels of family ownership, the payout increases along with the ownership level of the family. At high levels of family ownership, however, this relation is inverted. Hence the concave relation which is found in these models. Model 4 therefore does not achieve to corroborate, nor refute hypothesis 2. Opposed to this, model 5 does support hypothesis 3 if we were to use payout level as an alternative proxy for dividend policy compared to the propensity to pay. Model 6 does provide conclusive evidence that, controlling for other variables, there is no significant difference in the payout levels between family and non-family firms. Subsequently, hypothesis 1 can be refuted.

One conclusion which can be made with certainty, nonetheless, is that larger firms which are more profitable and are less leveraged are most likely to pay out a dividend and will have a higher payout level. *Table 5* and *table 6,* furthermore, provide evidence that, among family firms, there is a concave (non-linear) relation between the level of family ownership, the propensity to pay dividends, and the level of payouts.

5.3.1 Robustness tests

An important aspect which could influence the results is the incorporation of the Covid-19-year 2020. The regression models of table 5 and table 6 will therefore equally be re-estimated excluding the year 2020. Furthermore, it could be that the results of the regressions in table 6 are influenced by the choice of the model. Since the dependent payout variable Dvdpayout is truncated at zero a Tobit model would be optimal (Sener & Akben Selcuk, 2019). It is therefore that, as a robustness test for models 4,5, and 6, a random effects Tobit model is estimated. Because of computational limitations on the Stata software package, no adjustments have been made to the standard errors. These final models will be estimated including the Covid-19-year 2020.

TABLE 7: ROBUSTNESS TEST PROPENSITY TO PAY.

	Propensity		
	(1)	(2)	(3)
Familyfirm	/	/	0.64244
Familyshare	0.03476	0.40412***	/
Share^2	/	-0.00339**	/
ROC	0.28441***	0.28573***	0.29998***
TobinsQ	-0.81529*	-0.60332*	-1.22951**
Equityearned	-0.33873	-1.17509	-0.39116
Leveraging	-0.12718***	-0.15380***	-0.13688***
Lnasset	1.37124***	1.66174***	1.66111***
Lnage	0.76861	0.69070	1.24833
Intercept	-10.19010**	-19.81100***	-12.30929***

*Table 7: All models are random effect logit models with standard errors calculated using robust standard errors clustered by firm ID. Model 1, 2, and 3 are the same regressions as in table 5 excluding the Covid-19 year 2020. ***, ** and * indicate that the results are significant at the 1%, 5% and 10% level, respectively.*

The robustness tests related to the propensity to pay dividends in the above *table 7* contains some interesting information. Model 1, 2, and 3 of *table 7* are the same models that were estimated in columns 1 through 3 of *table 5.* Straight forward, it is observable that the results are quantitatively similar. The negative impact of Tobin's Q on the propensity to pay, however, became significant in models 1 and 2 of the above table whereas this result was not significant in model 1 and model 2 of *table 5.* The relation between profitability, size and leverage did not change, nor did the linear relation between the level of family ownership and the propensity to pay dividends. The concave relation remains significant when excluding the year 2020. Finally, model 3 of *table 7* indicates that, after excluding 2020, there is no significant difference between family and non-family firm in terms of propensity to pay when controlling for other variables.

As indicated by Molly and Michiels (2021), many firms have adjusted their dividend policy during the Covid-19 year. There are some slight observable changes when comparing the models including 2020 with the models that exclude this Covid-19-year. *Figure 2* below provides a graphical overview of how the non-linear propensity model including 2020 compares to the model excluding 2020.

FIGURE 2: GRAPHICAL OVERVIEW OF ROBUSTNESS TEST.

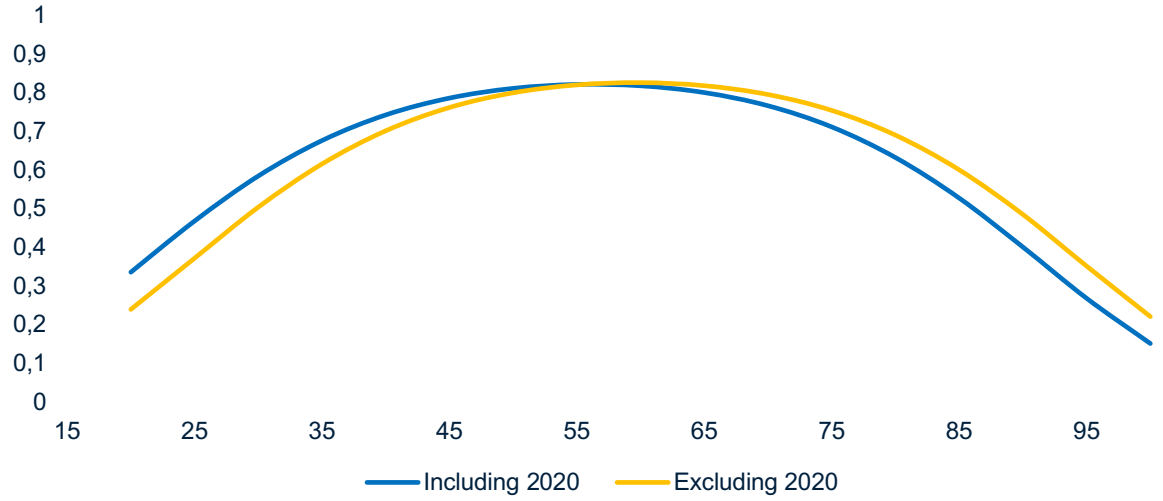

Figure 2: Propensity to pay out a dividend on the Y-axis and the level of family ownership on the X-axis. The probabilities are estimated based on regression model of table 7. The graph illustrates the relation between family ownership and propensity to pay among family firms.

In terms of dividend payout, the columns 1 through 3 of *table 8* below indicate that the results which were priorly obtained do not differ qualitatively from the Tobit model. This is at least true for the relations which were found related to family ownership. The Tobit model equally shows a significant non-linear relation between the level of family ownership and the dividend payout level. Interestingly, models 1 and 2 of the table below show no significance for the profitability. This significance, however, returns as the regression is made including all firms and not only family firms. The following models, estimated in columns 4 through 6, indicate that there are some changes in the values of the observed coefficients due to the exclusion of 2020. They are the OLS models which were estimated in *table 6* excluding 2020. These changes, nonetheless, do not change the conclusions which are drawn from the prior models estimated related to payout levels.

TABLE 8: ROBUSTNESS TEST DIVIDEND PAYOUT.

	Payout					
	(1)	(2)	(3)	(4)	(5)	(6)
Familyfirm	/	/	-0.07596	/	/	0.24027
Familyshare	-0.01412	0.40468***	/	-0.01076	0.22422***	/
Share^2	/	-0.00383***	/	/	-0.00207***	/
ROC	0.08917	0.06850	0.15460***	0.12711***	0.10361**	0.07045***
TobinsQ	1.35707***	1.54089***	0.60085**	1.41125***	1.44066***	1.07062***
Equityearned	0.69666	0.25424	-0.19437	1.45040***	1.06235***	0.27215**
Leveraging	-0.08299***	-0.09609***	-0.08864***	-0.05298***	-0.06461***	-0.02953***
Lnasset	0.77429***	0.85545***	0.82812***	0.47481***	0.50296***	0.31462***
Lnage	0.06105	-0.09918	0.55670	-0.83980**	-1.00457**	0.01138
Intercept	-4.13206	-13.56631**	-6.57635**	1.48636	-3.37074	-1.27192

*Table 8: Model 1,2, and 3 are random effect Tobit regressions. Model 4, 5, and 6 are the models estimated in table 6 excluding the covid-19 year 2020. Models 4 to 6 have been estimated using robust standard errors clustered by firm ID. ***, ** and * indicate that the results are significant at the 1%, 5% and 10% level, respectively.*

6 Discussion

First and foremost, since the results of the regression analyses could not corroborate, nor refute, hypothesis 1, it appears that there is no statistically significant discrepancy in the dividend policy between family and non-family firms, controlling for other variables. This is an interesting aspect since both Deslandes et al. (2016) and Isakov and Weisskopf (2015) provided evidence that there is a difference between family and non-family firms in terms of dividend policy. These types of results are, nonetheless, not uncommon. As illustrated by Molly and Michiels (2020), there are other researchers who did not find a significant differences in payout policies between family and non-family firms. The results, however, did show that there is a significant and impact of profitability and size on both the propensity to pay and the level of payouts. Leverage, furthermore, had a negative impact on these two measures of dividend policy. The univariate tests indicated that family firms turned out to be, on average, larger, more profitable and less leveraged than non-family firms. There could be an indirect impact of the presence of a family on the performance which then again influences a firm's dividend policy. Anderson and Reeb (2003) highlighted that family firms are better performers than their non-family counterparts. This could be an indication of this indirect impact. Tong (2007) equally highlighted that family firms tend to have better profitability and lower leverage than non-family firms.

The results in section 5, furthermore, provide evidence that there is in fact a relation between the level of family ownership and a firm's dividend policy. More accurately phrased, among family firms, there is a relation between the level of family ownership and a firm's dividend policy. The main focus of this study was, more so, to attempt to understand what relation there is between family ownership and a firm's dividend policy and how such a relation could be explained. The two most prominent theories at the basis of this thesis are the agency theory (Jensen, 1986) and the family income theory (Isakov & Weisskopf, 2015). Although the aspect of family income theory could be categorized as being part of the SEW theories (Deslandes et al., 2016), this paper considers the family income theory as a 'stand-alone' theory.

Results show that the propensity to pay dividends increases as the level of family ownership increases. This finding is somewhat consistent with the family income theory described by Isakov and Weisskopf (2015) who argued that as more family wealth is tied up within the firm, the need to satisfy family income needs increases. They confirmed this idea within their research based on the Swiss exchange. Isakov and Weisskopf (2015) studied the relation between the level of family ownership and the payout whereas the models in *Table 4* studied the relation between family ownership and the probability of paying out a dividend. The increased likelihood of paying a dividend as the level of family ownership increases could be argued to be linked to the family income theory, nonetheless (Deslandes et al., 2016). This relation, however, reverses as the ownership level reaches a certain threshold. There is no linear relation which has been observed which would fully explain the family income theory. The results show that there is a non-linear or concave relation between the level of family ownership and the propensity to pay dividends.

These results are akin to the results obtained by Sener and Akben Selcuk (2019) in Turkey. They argued that at high ownership levels, the incentive for expropriation or 'entrenchment'

becomes more prominent and families become less likely to distribute a dividend. These findings are consistent with the agency-type 2 theory which is the conflict of interest between the majority shareholder and minority shareholders. Sener and Akben Selcuk (2019), furthermore, indicated that it could be possible that at low levels of ownership, families could be concerned about reputation which is why they initially increase payouts. This argument can be related to the *substitution* model of La Porta et al. (2000) which states that dividend payments are not the result of minority shareholder protection but they are the result of a firm's incentive to maintain a good reputation. The *substitution* model further has a weak prediction that firms with ample growth opportunities tend to pay out more because of this reputational motive. This paper found a positive relation between the Tobin's Q and the firm's payout level. It is therefore possible that family firms do indeed initially pay out higher dividends in order to mitigate the agency-type 2 problem and maintain a good reputation. This reputational incentive, however, dissipates and is replaced with other incentives. Those other incentives could be financial expropriation as described by Sener and Akben Selcuk (2019). Other streams of thought are equally possible such as the desire to maintain control or preserve SEW becomes more prevalent as the level of ownership increases. Once a certain threshold of ownership is reached, it could be that families become that attached to the firm on an emotional level that they decide to lower payouts in order to maintain liquidity and control (Deslandes et al., 2016). Another possible explanation for this non-linear relation could be partially found in the family income theory described by Isakov and Weisskopf (2015). Initially, as the level of family ownership increases and more family wealth is tied up into the firm, the necessity of dividend payments increases in order to satisfy income needs. This is because on the one hand, families are usually not well diversified (Setia-Atmaja, 2010) and the major source of income thus comes from the firm in which the family is invested. On the other hand, families are more reluctant to sell shares in order to receive a form of income since maintaining control is a priority for families (Gómez-Mejía et al., 2007). However, from a certain level of ownership on, there are other possible ways to gain financial benefits without having to pay dividends. Such a mechanism would be dubbed as *tunneling* (Johnson et al., 2000) which is a form of expropriation that also occurs in countries with effective law enforcement.

Notwithstanding the fact that the results in this research paper do fit in with the agency-type 2 theory, there could be other explanations for the results which were achieved. One such explanation could be SEW. However, Berrone et al. (2012) state that SEW does not reject the arguments provided by the agency theory that family members can act opportunistically. The agency-type 2 theory could thus remain a valid theory which characterizes family firms. Other explanations could perhaps be found in theories which have not been discussed within this paper. One such example is the *stewardship theory* (Molly & Michiels, 2020). Further analysis would be needed in order to fully exclude such theories. Notwithstanding, the agency-type 2 theory is strongly supported by the results that were achieved in this paper.

Finally, it would be interesting to supplement this research with interviews. This is because interviews could potentially provide more insight and a deeper understanding into the motives of family firms' decisions related to dividend policy (Berrone et al., 2012; Deslandes et al., 2016). I furthermore made some assumptions that families are usually not well diversified (Setia-Atmaja, 2010) and that, as a result, the major source of income becomes the firm in which they are invested (Isakov & Weisskopf, 2015). These assumptions could potentially be interesting to research more deeply in order to understand whether this is valid in Belgium.

7 Conclusion

This thesis provides an addition to the existing literature governing family firms and dividend policies. More interestingly, not only was the emphasis placed on the difference between family and non-family firms but the family firms themselves were also analyzed. This paper provides an interesting point of view on the family firms which are listed on the Belgian stock market and the relation between the level of family ownership and dividend policy. Additionaly, a potential non-linear relation between the level of family ownership and dividend policy was researched.

Based on the results presented within this paper, a non-linear relation was corroborated. More specifically, a concave relation was found between the level of family ownership and the propensity to pay dividends. This relation equally holds for the dividend payout level. As such, hypothesis 3 of this thesis was corroborated. The concave relation means that, at low levels of ownership, the propensity to pay increases along with the level of family ownership. This relation is inverted at high levels of family ownership. These results imply that one of the main theories at the basis of this research, the agency-type 2 theory, is a plausible theoretical framework which characterizes family firms listed on the Belgian stock market.

Furthermore, this work did not find evidence that, in Belgium, the family income theory might be a plausible explanation for the dividend decisions within family firms. This is mainly because there is no linear positive relation between the level of family ownership and both the propensity to pay dividends and payout. These findings do not support hypothesis 2. Hypothesis 1, founded in the family income theory, which states that family firms have a higher propensity to pay dividends was equally not corroborated. As such, the family income theory does not appear to be valid, at first sight, within a Belgian context.

Finally, this paper did not find evidence that there is a discrepancy in the dividend policy between family and non-family firms, controlling for other variables. Similar inconclusiveness has been found prior to this research with regard to this comparison (Molly & Michiels, 2020). Other factors such as the size, profitability and leverage do influence dividend policies. Further research might provide insight into the effect of family ownership on these controlling variables.