Family ownership and dividend payouts
- Empirical evidence from Norway -

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Abstract

This master thesis investigates dividend payouts in a large sample of Norwegian private family firms and non-family firms in the period from 2007 to 2013. Based on agency theory and family firm characteristics we expect family firms to have a different dividend policy than other firms. Defining family firms as firms where the family owns more than 50% of the shares, we find that family firms are more likely to pay dividends. We also find evidence that they have higher dividend levels than non-family firms. In line with the family income hypothesis of dividends, both findings suggest that family firms use dividends to serve family income needs. When considering family firms only, our results suggest that the family pays high dividends to give family members a return on their investment rather than to build reputation among minority investors.

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1 Introduction

Family firms constitute an extensive part of the Norwegian economy (Bøhren 2011), and have certain characteristics that make them different from other firms. Defining family firms as firms with more than 50% ownership by the family (Bøhren 2011), the family can be seen as a controlling shareholder able to influence the decision making. DeAngelo, DeAngelo and Skinner (2008) propose that the preferences of the controlling shareholder have a first-order impact on payout policy. Further, Isakov and Weisskopf (2015) point out that decisions in firms with a controlling shareholder might not be value maximizing because they are aimed to satisfy the controlling shareholder. Consequently, dividend policy in family owned firms is predicted to reflect the preferences of the family.

Another characteristic of family firms is that there are close ties between the owners, the board and the management. More specifically, as the incentives are more aligned there is less need for monitoring (Jensen and Meckling 1976) and the potential agency conflict between managers and owners is considered lower in family firms. To reduce agency costs in firms, a natural monitoring mechanism of management is to pay dividends to minimize free cash flow available for corporate insiders to avoid the overinvestment problem (Jensen 1986) or misuse of corporate resources. However, family firms might not have a need to pay dividends as a disciplinary device, which could lead to lower dividends in family firms.

Other family firm characteristics can predict higher dividend payouts in family firms. As the controlling family has a long-term commitment in the firm and does not want to give up control, the family members are reluctant to sell their shares. Consequently, dividends could be the only way to give the shareholders a return on their investment. Further, family owners are corporate insiders that could be considered less diversified than other owners and might rely more heavily on the income from the firm. Therefore, the family could end up paying higher dividends to serve family income needs. This leads us to the family income hypothesis of higher dividends in family firms (Isakov and Weisskopf 2015; Schmid et al. 2010).
In this master thesis, we investigate the relationship between family ownership and dividend payouts in Norway as we find limited empirical research in this field. We use data on Norwegian private firms between 2007 and 2013, extracted from the database of the Center for Corporate Governance Research (CCGR). First, we investigate if and how dividend propensity and dividend levels differ between family and non-family firms. Second, we analyze dividend payouts in family firms only. More specifically, we investigate whether the involvement of family members in the management, the ownership percentage held by the family and if large non-family second blockholders affect dividend policy in family firms.

Our main results are that family firms are more likely to pay dividends and that they have higher dividend levels (dividends-to-earnings) than non-family firms. These findings are supported by the family income hypothesis of higher dividends in family firms and suggest that family firms use dividends to serve family income needs. Our results propose that since family members’ wealth is undiversified they pay high dividends to fund consumption.

When we investigate dividend payouts in the family firm subsample, we find higher dividends in family firms with a CEO from the family. This finding supports our main results and is in accordance with the family income hypothesis of dividends. Alternatively, as family management can increase the conflict potential between the family and minority investors (agency problem 2), the result of higher dividends could also be explained by the family’s desire to build reputation of treating minority investors well. However, when the family barely controls the firm and agency problem 2 is high, we find that the family pays low dividends. Our results suggest that it is not important for the family to pay high dividends to build reputation among minority investors.

The remainder of our thesis has the following structure. The next chapter consists of a literature review of research done on dividends, family firms, agency theory and the impact of a second blockholder. The third chapter presents our hypotheses, while the fourth chapter describes the data and the methodology used. The fifth chapter consists of our empirical findings before our conclusion.
2 Literature review

2.1 Dividend theory

Dividend policy is a widely explored area in the literature. Miller and Modigliani (1961) proved that in perfect and complete capital markets, dividend policy is irrelevant for firm value. They argue that optimal investments determine firm value and consider net payouts as the residual after investments are made. This means that investors should be indifferent to dividend payouts. However, Fisher (1961) claimed that investors reward dividend-paying firms with higher stock prices. This market anomaly of dividends is later on referred to as the dividend puzzle (Black 1976) and has been widely explored ever since.

By relaxing the strong assumptions of Miller and Modigliani’s irrelevance proposition, scholars have developed several explanatory models of dividend payouts. These theories are based on the presence of market imperfections such as asymmetric information and agency problems.

One dividend theory is the signaling hypothesis, which is based on the information asymmetry between managers and shareholders (Miller and Rock 1985; Bhattacharya 1979). The signaling hypothesis states that dividends are used to signal expected future cash flows to outside investors. According to this model, an increase in dividend payouts is a sign of increased expected future cash flows, which leads to increased firm value. The signaling hypothesis has been widely investigated in the literature, and researchers have found evidence both for and against this hypothesis (Grullon et al. 2003; Benartzi, Michaely and Thaler 1997; Nissim and Ziv 2001).

Grullon, Michaely and Swaminathan (2002) introduce an alternative model of dividend payouts, namely the maturity hypothesis. They argue that a dividend change is not a signal of a change in future profitability, but rather a change in the firm’s systematic risk. Moreover, this theory predicts a negative relationship between risk and dividends.

According to the free cash flow hypothesis by Jensen (1986), dividends should be paid to reduce the potential agency conflict between managers and shareholders.
More specifically, paying dividends minimizes the free cash flow available for managers and reduces the possibility of misuse of corporate resources. Other researchers have also explained dividend payouts based on agency theory. Easterbrook (1984) proposed that dividends are paid to align the interests of managers and shareholders, while La Porta et al. (2000) and Stacescu, Berzins and Bøhren (2012) investigate the relationship between dividend payouts and the potential conflict between majority and minority investors.

2.2 Family firms

In the literature, there is no standard definition of family firms. Anderson and Reeb (2003) defined family firms as the percentage of shares held by the founding family as well as the number of family members in the board. Du and Dai (2005) suggest that 10% ownership by the family is sufficient to determine effective control of the firm, whereas La Porta, Lopez-de-Silanes and Shleifer (1999) use a threshold of 20%. Bøhren (2011) defines a family firm as a firm with members who are related through blood or marriage, owning more than 50% of the shares in the firm. According to this definition, approximately 68% of all active Norwegian companies are family firms, which makes them an important contributor to the Norwegian economy (Bøhren 2011). It could be challenging to investigate family firms’ accounting data, as most of them are private firms. However, the CCGR database provides detailed accounting information and ownership data on Norwegian private and public firms, which allows us to investigate private family firms in Norway.

Family firms differ from non-family firms in several ways. Family owners are assumed to have long-term commitments to the firm and do not want to give up their controlling positions (Isakov and Weisskopf 2015; Schmid et al. 2010). Consequently, they are reluctant to sell their shares to diversify their wealth or to fund consumption. In fact, dividends can be seen as the only way to generate a steady income from their investment. This leads us to the family income hypothesis of dividends by Isakov and Weisskopf (2015) that predicts higher dividends in family firms than in non-family firm. Their recent working paper found evidence in support of the family income hypothesis in Swiss listed firms.
Other family firm characteristics can predict lower dividends for family firms. More specifically, the family’s desire to remain in control of the firm could limit their access to additional funds. Bøhren (2011) suggests that family firms often have two ways of raising equity. The family can either invest more of their wealth in the company or retain earnings. This could give them stronger incentives to retain earnings than non-family firms. Hence, the fear of dilution of the family’s voting rights could lead to lower dividends in family firms.

2.3 Agency theory
Agency problems and costs are important topics related to family owned firms. Agency problems are conflicts of interest related to ownership and control in a firm, whereas agency costs is the value loss that arises because the agent is more informed and has different objectives than the principal.

2.3.1 Agency problem 1
In the literature, agency problem 1 relates to the classic owner manager conflict that arises when managers allocate resources to activities that benefit them, but that are not in the shareholders’ best interest (Jensen and Meckling 1976). This can occur if there is too much cash in the firm as it creates incentives for managers to overinvest or misuse corporate resources. One way to reduce this conflict is to pay out earnings as dividends.

Previous research suggests that agency problem 1 is lower in family firms than in non-family firms. Particularly, Villalonga and Amit (2006) suggest that the problem of managerial control is reduced as the family itself can be seen as a controlling shareholder who can effectively determine the decisions of managers. Berzins and Bøhren (2013) highlight the close ties between the owners, the board and the management in family firms, indicating less separation between ownership and control. In other words, the incentives of the management and shareholders are considered to be more aligned in family firms and there is less need for monitoring (Jensen and Meckling 1976). Hence, the potential agency conflict between managers and owners is considered lower in family firms.
Further, agency problem 1 can be completely avoided by making the decision makers the residual claimants of the firm (Górriz and Fumás 1996). When the CEO is from the controlling family there is no need to monitor the decision maker as he/she holds a stake in the firm and has the same objectives as the shareholders.

2.3.2 Agency problem 2
Agency problem 2 relates to the potential conflict between majority and minority shareholders (Villalonga and Amit 2006). In the literature, this conflict is also referred to as the majority-minority problem (Demsetz and Lehn 1985) and the horizontal agency problem (Roe 1996). This conflict occurs when the majority shareholder uses its power to extract private benefits at the expense of minority shareholders (Villalonga and Amit 2006).

Berzins and Bøhren (2013) argue that agency problem 2 is more evident when the largest owner barely controls the firm, for example with a 51 % stake. However, the agency problem is less severe the more the majority owns and disappears when the majority owns 100 %. Further, they found that the largest shareholder’s stake was significantly lower in non-family firms than in family firms on average. In non-family firms, the average of the largest shareholder stake was 52 %, where the potential conflict between majority and minority is the greatest. Hence, they argue that agency problem 2 is more severe in non-family firms.

Nevertheless, agency problems are particularly serious when a strong party can easily extract corporate resources for their own benefit at the weak party’s cost. In family firms, the controlling family is considered a powerful majority shareholder who can make investment and financing decisions without minority shareholders' support. Consequently, if the interests of the controlling family and minority owners are not aligned, the potential conflict between them becomes more severe.

Further, Bøhren (2011) argues that having a family management enhances the control of the family as it facilitates access to more information about the firm. Hence, a family management can worsen agency problem 2 as it makes it easier to expropriate private benefits. One way to limit insider expropriation by the family is
to pay dividends as it removes corporate wealth from their control (Faccio, Lang and Young 2001).

2.3.3 Agency models of dividends

La Porta et al. (2000) introduce two mutually exclusive agency models of dividends, the outcome and the substitute model. A recent working paper by Stacescu, Berzins and Bøhren (2012) refers to these models as the opportunistic and the conflict-reducing model, respectively.

Based on the opportunistic model, the majority shareholders reduce dividend payouts in order to capture private benefits. The reasoning behind this model is the fact that dividends have to be shared proportionally with the minority shareholders, whereas the private benefits will accrue only to the majority shareholders. In other words, this model predicts that the stronger the majority-minority shareholder conflict, the lower the dividend payouts.

According to the conflict-reducing model, majority shareholders intend to build a reputation of treating minority investors well by paying out high dividends. In this way, the family wants to ensure minority investors’ presence as shareholders in the firm in the future. Consequently, the more severe the potential conflict among shareholders, the higher the payouts.

Earlier research has found evidence in favor of both models. In support of the outcome model, Jensen (1989, 1986) argues that managers can expropriate dispersed shareholders by extracting corporate resources for personal benefits and empire building. La Porta et al. (2000) find evidence that dividend payouts are smaller in legal regimes with weak protection of minority shareholders, while Faccio, Lang and Young (2001) find support of systematic expropriation of the outside shareholders based on corporate pyramids in East Asian business groups. These findings imply that shareholders seem to act opportunistically when the law allows.

On the contrary, the results of Stacescu, Berzins and Bøhren (2012) are in line with the conflict-reducing model as they document that the larger the potential
stockholder conflict, the higher the dividend payouts. Based on their findings they argue that higher payouts are used to reduce shareholder conflicts and to build reputation among minority investors.

2.4 Second blockholders

It could be argued that ownership concentration among minority investors in family firms could be of importance for decision making. Jensen and Meckling (1976) and Demsetz and Lehn (1985) suggest that low ownership concentration leads to loss of control over management as each shareholder is less powerful than in firms with high ownership concentration. Hence, large minority shareholders will have more power and incentives to monitor the firm (Isakov and Weisskopf 2015).

Pindado, Requejo and Torre (2012) and Isakov and Weisskopf (2015) found that the presence and identity of a large minority shareholder, a second blockholder, in European and Swiss family firms are of high importance in determining dividend policies. The study of Pindado, Requejo and Torre (2012) shows that dividend payouts are higher in firms with non-family second blockholders. This finding suggests that family firms use dividends to mitigate expropriation concerns when non-family second blockholders monitor the controlling family.

3 Hypotheses

3.1 Hypotheses for family firms and non-family firms

Hypotheses 1 and 2: Propensity to pay and dividend level

The theoretical frameworks presented in the literature review have different predictions for dividend payouts in family and non-family firms. On one hand, the family income hypothesis predicts higher dividends for family firms than for non-family firms as dividends could serve family income needs. On the other hand, since the family does not want to give up their controlling rights, family firms are more capital constrained and might be more likely to retain earnings rather than to pay dividends.

Agency problem 1 also predicts lower dividends in family firms as the conflict potential between managers and shareholders is lower in family firms than in
non-family firms (Berzins and Bøhren 2013). The family serves as the majority shareholder and has less need to pay dividends to avoid overinvestment by management.

Previous research presented in the literature review do not provide one clear prediction of the severity of agency problem 2 in family firms compared to non-family firms. The seriousness of agency problem 2 can be affected by the involvement of a controlling shareholder in the management, the ownership stake held by the largest shareholder, and the ownership concentration of minority owners. These aspects will be further studied in section 3.2 when considering family firms only.

In order to test if family firms have different dividend payouts than non-family firms we formulate the following hypotheses:

H1: Family firms have a lower propensity for dividend payouts than non-family firms.

H2: Dividend payouts in family firms are lower than in non-family firms.

3.2 Hypotheses for family firms

In order to investigate dividend policy in family firms a step further, hypotheses 3-5 apply to a subsample consisting of family firms only.

Hypothesis 3: The impact of a family CEO

The theoretical frameworks have different predictions of the impact of a family CEO on dividend payouts in family firms. Agency problem 1 is considered non-existing when the manager is a family member as there is no separation between ownership and control. Based on this, we expect dividends to be lower since there is no need to pay dividends to avoid the overinvestment problem.

The family income hypothesis, however, can predict higher dividends in family firms with a family CEO. In these firms, the family CEO could serve as a representative for the family that ensures high dividends for family consumption.
Bøhren (2011) argues that agency problem 2 will be more severe when the CEO is from the controlling family. When the family monitors itself it is easier for the family to extract private benefits at the expense of minority owners. Consequently, if the family wants to extract corporate resources for their own benefits at minority investors’ costs, they might want to retain earnings rather than pay dividends.

On the contrary, agency problem 2 could also imply higher dividends when the CEO is a family member. Since a family CEO can increase the conflict potential with minority owners, the family might pay higher dividends in order to reduce this potential conflict. Thus, high dividends in family firms with a family CEO can be a sign of minority friendly behavior by the controlling family.

We see that lower dividends in family firms with a family CEO can be due to the reduction in agency problem 1 or the family’s wish to extract private benefits by keeping cash within the firm (agency problem 2). On the opposite, higher dividends in family firms with a CEO from the family can be explained by the family income hypothesis or the family’s desire to build reputation among minority investors (agency problem 2).

To test the effect of a family CEO on dividend payouts in family firms, we state the following hypothesis:

H3: In a family firm, dividends are lower if the CEO is a family member.

Hypothesis 4: The conflict potential with minority investors
In order to analyze the potential majority-minority shareholder conflict between the family and minority investors, we take a closer look at the ownership percentage held by the family. In line with Berzins and Bøhren (2013) we expect agency problem 2 to be more severe when the family barely controls the firm. Based on the findings in Stacescu, Berzins and Bøhren (2012), we believe that dividends are used to reduce possible stockholder conflicts between the family and the minority investors when the conflict potential is high.
Hence, we obtain the following hypothesis:

**H4**: In a family firm, dividends are decreasing in the ownership percentage held by the family.

**Hypothesis 5**: The impact of a non-family second blockholder

Previous research highlights the importance of a large blockholder on dividend payout decisions. More specifically, a non-family second blockholder with a significant equity stake in the firm could act as a powerful shareholder able to alter decision making. Particularly, a non-family second blockholder is expected to serve as a disciplinary force to mitigate expropriation of minority shareholders (Isakov and Weisskopf 2015). Hence, having a second blockholder is predicted to increase dividend payouts.

**H5**: Dividend payouts are higher in family firms with a large non-family second blockholder.

### 4 Data and methodology

#### 4.1 Sample selection

We have used data from the Center for Corporate Governance Research (CCGR) database, which is a unique database containing corporate governance related data and accounting data for Norwegian firms. Our sample consists of Norwegian private AS firms in the period from 2007 to 2013. The tax reform in 2006 implied higher taxation on dividends, and is expected to cause a structural break. Therefore, we start with the fiscal year of 2007.

#### 4.2 Method of estimation

**4.2.1 Logit model**

To study the probability that a firm pays dividends in hypothesis 1 we use logistical regressions. A logistic regression model measures the relationship between a binary dependent variable and the explanatory variables by estimating probabilities (Brooks 2008, 514). The logit estimation method overcomes the limitation of the linear probability model which could give fitted probabilities that are smaller than
zero or larger than one. Instead, the logit model uses the maximum likelihood function to transform the estimated probabilities to be between zero and one.

In addition to a regular logit model we use a logit model that takes into account the panel structure of our data. The two main techniques when dealing with panel data are the fixed and the random effects models. The fixed effect estimator is not available for the logit model in common statistical packages. Even if it was available it is probably more appropriate to apply a random effects model as Greene, Han and Schmidt (2002) point out that the fixed effect estimator for the logit model suffers from several limitations. Therefore, we apply the random effects model.

We suggest the following setup of the logit model with panel data techniques:

$$P(y_{it} = 1|x_{it}, u_i) = F(x_{it}, u_i) \quad \text{where} \quad F = \frac{e^{\beta x_{it}}}{1 + e^{\beta x_{it}}}$$ (1)

where the dependent variable $y_{it}$ will equal 1 if firm i pays dividends for period t and zero otherwise.

Further, the log-likelihood function for firm i will be:

$$\ell_i = \int_{-\infty}^{+\infty} \left[ \sum_{t=1}^{T_i} P(Y_{it} = y_{it} | u_i + \beta x_{it}) \right] f(u_i) du_i$$ (2)

where $f(u_i)$ is the probability density function for the random heterogeneity term.

### 4.2.2 Pooled OLS

As our sample consists of both time series and cross-sectional elements our dataset is a panel of data. Econometrically, the setup of our data is:

$$y_{it} = \alpha + \beta x_{it} + u_{it}$$ (3)

where $y_{it}$ is the dependent variable, $\alpha$ is the intercept term, $\beta$ is a $k \times 1$ vector of parameters to be estimated on the explanatory variables, and $x_{it}$ is a $1 \times k$ vector of observations on the explanatory variables, $t = 1, \ldots, T; i = 1, \ldots, N$ (Brooks 2008, 487-488). The easiest way to deal with such data is to estimate a pooled OLS regression. This involves making one equation with the cross-sectional and time-series observations in one single column. Similarly, all of the observations of the
explanatory variables are bundled up into single columns in the x matrix. This equation can be estimated with OLS and is used in hypothesis 2.

4.2.3 Random and fixed effects models

The main limitation of pooled OLS regressions is the assumptions that the average values of the variables and the relationships between them are constant over time and across the cross-sectional units (Brooks 2008, 488). In order to overcome these limitations, panel data techniques such as the fixed effects and the random effects models can be applied. Both models deal with certain forms of omitted variables bias. The random effects model is preferable when the entities in the sample have been randomly selected from the population, while the fixed effect model is plausible when the sample includes the entire population (Brooks 2008, 500). Since the firms in our sample are non-randomly selected by filters we find it reasonable to use the fixed effects model, which is also confirmed by the Hausman test. However, as Clark and Linzer (2015) point out, the Hausman test is neither necessary nor sufficient for choosing the fixed or the random effects model. Additionally, we fear that the fixed effects model is too strict as it requires fixed firm characteristics over time.

We acknowledge the advantages and drawbacks of the two models, and consider it appropriate to apply both models for hypothesis 2, in addition to the pooled OLS. For hypotheses 3-5, we only apply the random effects model.

For the fixed effects model we decompose the error term, \( u_{it} \), from equation (3) as follows:

\[
u_{it} = \mu_i + \nu_{it} \text{ where } \nu_{it} \sim \text{IID}(0, \sigma^2_v)
\]

where \( \mu_i \) is a firm specific effect constant over time. \( \nu_{it} \) varies over time and entities taking into account everything else unexplained in \( y_{it} \).
The setup for the random effects model is as follows:

\[ y_{it} = \alpha + \beta x_{it} + \omega_{it} \]  
(5)

\[ \omega_{it} = \varepsilon_i + \nu_{it} \text{ where } \varepsilon_i \sim \text{IID}(0,\sigma_e^2) \text{ and } \nu_{it} \sim \text{IID}(0,\sigma_n^2) \]  
(6)

where \( y_{it}, \alpha, \beta \) and \( x_{it} \) are defined as in equation (3) above. \( \omega_{it} \) is decomposed in \( \varepsilon_i \), which captures the firm specific variation, whereas \( \nu_{it} \) is the idiosyncratic error term. The intercepts for each firm in the random effects model are assumed to emerge from a common intercept, \( \alpha \), and a random variable, \( \varepsilon_i \), that is constant over time but varies cross-sectionally. More specifically, \( \varepsilon_i \) measures the random deviation of each firm’s intercept term from the common intercept term \( \alpha \).

The fixed and random effects models are adapted from Brooks (2008, 490-499).

### 4.3 Regressions and variables

#### 4.3.1 Regressions for family firms and non-family firms

**Hypothesis 1: Dividend propensity**

\[ \text{DividendPropensity}_{it} = \alpha + \beta_1 \text{FamilyFirm}_{it} + \beta_2 \text{Age}_{it} + \beta_3 \text{Size}_{it} + \beta_4 \text{Profitability}_{it} + \beta_5 \text{Growth}_{it} + \beta_6 \text{Liquidity}_{it} + \beta_7 \text{Risk}_{it} + \beta_8 \text{Industry}_{it} + u_{it} \]

The model is adapted from the base case model by Stacescu, Berzins and Bøhren (2012).

**Dependent variable**

*DividendPropensity* is defined as a dummy variable in the logit model that will equal one if the firm pays dividends and zero if it does not.

**Explanatory variable**

*FamilyFirm* is a dummy variable that will equal one if the family has the majority ownership and zero otherwise. To be characterized as a family firm in this thesis, the family members, related through blood or marriage, must own more than 50% of the shares in the firm in line with the definition in Bøhren (2011). As of this, the ownership share consists of the sum of the family's direct ownership and indirect
ownership through other firms. The tax reform in 2006 implied higher tax rates for individuals and Berzins, Bøhren and Stacescu (2014) argue that this triggered a massive shift from direct ownership to indirect ownership through holding companies. Consequently, we find it appropriate to use the family’s ultimate ownership percentage when defining a family firm.

**Control variables**

*Age* is measured as the log of company age. As older firms are less capital constrained (Hadlock and Pierce 2010) and more mature firms pay more dividends (Grullon, Michaely and Swaminathan 2002), dividends are increasing in age. Hence, we expect to find a positive relationship between age and dividends.

*Size* is measured as the log of sales. Fama and French (2001) found that large firms are more likely to pay dividends. Thus, we expect to find a positive relationship between size and dividends.

*Profitability* is computed as earnings divided by total assets. As profitable firms are more likely to pay out a larger share of their earnings, we expect to find a positive relationship between profitability and dividends.

*Growth* is measured as the average sales growth during the past three years. Since a higher ratio reflects higher investment needs, we expect to find a negative relationship between growth opportunities and dividends.

*Liquidity* is a measure of the liquid assets in the firm. The proxy for this variable is cash related assets divided by total assets in the same year. Liquid assets yield lower transaction costs when paying out dividends. Firms with more liquid assets may also have more cash than they need for investments and operations (DeAngelo, DeAngelo and Stulz 2006). Based on these arguments, we expect to find a positive relationship between liquidity and dividends.

*Risk* is the volatility in sales growth during the past three years. By including this variable we aim to capture some of the effect of the firm-specific risk on dividends.
We predict firms with high uncertainty to be more reluctant to pay dividends, and expect to see a negative relationship between risk and dividends.

*Industry* is a measure that captures the industry sector effects as we assume different sectors to have different payout ratios. We use dummy variables for fourteen different sectors that are available in the CCGR database (appendix 1).

For a complete variable overview see appendix 2.

**Hypothesis 2: Dividend level**

\[
\text{Dividends}_{it} = \alpha + \beta_1 \text{FamilyFirm}_{it} + \beta_2 \text{Age}_{it} + \beta_3 \text{Size}_{it} + \beta_4 \text{Profitability}_{it} + \beta_5 \text{Growth}_{it} + \beta_6 \text{Liquidity}_{it} + \beta_7 \text{Risk}_{it} + \beta_8 \text{Industry}_{it} + u_{it}
\]

*Dividends* is the dependent variable measured as dividends-to-earnings.

*FamilyFirm* is an explanatory dummy variable equal to the definition of the explanatory variable in hypothesis 1.

The control variables in the regression are specified as in hypothesis 1.

**4.3.2 Regressions for family firms**

Regressions for hypotheses 3-5 apply to the family firm subsample to investigate dividend policy in family firms further. The dependent variable for all regressions is the dividend ratio measured as dividends-to-earnings. The control variables are specified as in hypotheses 1 and 2.

**Hypothesis 3: The impact of a family CEO**

\[
\text{Dividends}_{it} = \alpha + \beta_1 \text{FamilyCEO}_{it} + \beta_2 \text{Age}_{it} + \beta_3 \text{Size}_{it} + \beta_4 \text{Profitability}_{it} + \beta_5 \text{Growth}_{it} + \beta_6 \text{Liquidity}_{it} + \beta_7 \text{Risk}_{it} + \beta_8 \text{Industry}_{it} + u_{it}
\]

*FamilyCEO* is an explanatory dummy variable that will equal one if the CEO is a member of the family holding the largest share in the firm.
Hypothesis 4: The conflict potential with minority investors
Dividends_{it} = \alpha + \beta_1 \text{FamilyOwnershipPercentage}_{it} + \beta_2 \text{Age}_{it} + \beta_3 \text{Size}_{it} + \\
\beta_4 \text{Profitability}_{it} + \beta_5 \text{Growth}_{it} + \beta_6 \text{Liquidity}_{it} + \beta_7 \text{Risk}_{it} + \beta_8 \text{Industry}_{it} + u_{it}

\text{FamilyOwnershipPercentage} is a proxy for the conflict potential between the family and the minority investors. The explanatory variable is measured as the ultimate ownership percentage held by the family.

Hypothesis 5: The impact of a second blockholder
Dividends_{it} = \alpha + \beta_1 \text{SecondBlockholder}_{it} + \beta_2 \text{Age}_{it} + \beta_3 \text{Size}_{it} + \beta_4 \text{Profitability}_{it} + \\
\beta_5 \text{Growth}_{it} + \beta_6 \text{Liquidity}_{it} + \beta_7 \text{Risk}_{it} + \beta_8 \text{Industry}_{it} + u_{it}

\text{SecondBlockholder} is an explanatory dummy variable that will take the value one if the family firm has a large non-family second blockholder. The proxy is developed by finding the firms where the largest family and the largest owner hold the same stake and when the second largest owner has an equity stake above 5\%. This means that the proxy will only capture the presence of a non-family second blockholder when the family consists of one person. Ideally, the proxy should capture the presence of a second blockholder when there are several family members as well, but this is unfortunately not possible with the data from the CCGR-database.

4.4 Filters
4.4.1 Basic filters
- Filter 1: Excludes all other firms except AS firms
- Filter 2: Excludes passive firms
- Filter 3: Excludes firms with inconsistent accounting data
- Filter 4: Excludes single-owner firms
- Filter 5: Excludes small firms
- Filter 6: Excludes financial firms

Filter (1) ensures that the firms in the sample have limited liability and are private. Filter (2) excludes all firms with negative sales and negative assets. Filter (3)
removes firms with negative dividends and cash holdings. Filter (4) eliminates single-owner firms where stockholder conflicts are completely irrelevant (Stacescu, Berzins and Bøhren 2012). Filter (4) excludes firms where the largest owner owns more than 90% of the firms as they are allowed by the Norwegian law to buy the remaining part of the shares without minority investors' support. Filter (5) is applied to eliminate firms with less than three board members and NOK 2 million in sales. Filter (6) removes financial firms to avoid their regulatory capital requirements, ownership restrictions and accounting rules (Stacescu, Berzins and Bøhren 2012). Appendix 3 shows the details for the filtering process.

4.4.2 Variable filters

Table 1: Variable filters

<table>
<thead>
<tr>
<th>Variable</th>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends-to-earnings</td>
<td>$0 \leq \text{Dividends/Earnings} \leq 2$</td>
</tr>
<tr>
<td>Liquidity</td>
<td>$0 &lt; \text{Cash/Total assets} &lt; 1$</td>
</tr>
<tr>
<td>Growth</td>
<td>$-1 &lt; \text{Growth} &lt; 1$</td>
</tr>
<tr>
<td>Profitability</td>
<td>$0 &lt; \text{Return on assets} &lt; 1$</td>
</tr>
<tr>
<td>Ultimate family ownership</td>
<td>Ultimate family ownership $\leq 100%$</td>
</tr>
</tbody>
</table>

We have done a manual assessment of some of the variables in order to eliminate extreme values in the sample. First, we do not allow firms with negative dividends-to-earnings ratios as firms with negative earnings usually have restrictions to pay dividends. For the upper limit, we allow a positive ratio of 2 since some firms use retained earnings to pay dividends. As of liquidity, we require cash holdings to total assets to be between 0 and 1. Growth is filtered between –1 and 1, where 1 means that the average yearly sales growth the last three years has been 100%. When it comes to profitability, return on assets is required to be between -1 and 1. To obtain consistency in our sample we remove firms with higher ultimate family ownership above 100%.

After having applied the basic and variable filters we are left with 103 403 firms in our sample. 89 718 of these firms are defined as family firms and constitute our family firm subsample.
4.5 Descriptive statistics

Table 2 reports the mean and medians for the dependent variables and the control variables year-by-year, for the whole sample and for dividend-paying firms only. We see that the average dividends-to-earnings ratio is 15.4% for the entire sample. The dividend ratios dividends-to-sales and dividends-to-assets are used in robustness tests in section 5.3.1. The dividend propensity and all three dividend ratios are quite stable over the sample period except from 2007 and 2013. In 2007, the likelihood to pay and the level of dividends are lower, which could indicate that the dividends had not yet stabilized after the tax reform in 2006. In 2013, we see the opposite pattern. Further, it is worth mentioning that based on the means and medians, firms that pay dividends seems to be older, more profitable and more liquid.
### Table 2: Descriptive statistics

This table reports the mean of the dependent variables and the control variables year-by-year, for the whole sample and for dividend-paying firms only. Medians are shown in parentheses. Dividends is cash dividends paid to shareholders, and dividend propensity is the percentage of firms paying dividends. Earnings is operating profits after taxes, sales is total sales revenue and assets is the sum of balance-sheet assets. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>All</th>
<th>Payers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend propensity</td>
<td>0.100(0,000)</td>
<td>0.218(0,000)</td>
<td>0.218(0,000)</td>
<td>0.206(0,000)</td>
<td>0.206(0,000)</td>
<td>0.204(0,000)</td>
<td>0.206(0,000)</td>
<td>0.211(0,000)</td>
<td>1,000(1,000)</td>
</tr>
<tr>
<td>Dividends-to-earnings</td>
<td>0.070(0,000)</td>
<td>0.149(0,000)</td>
<td>0.158(0,000)</td>
<td>0.150(0,000)</td>
<td>0.153(0,000)</td>
<td>0.152(0,000)</td>
<td>0.243(0,000)</td>
<td>0.154(0,000)</td>
<td>0.732(0,743)</td>
</tr>
<tr>
<td>Dividends-to-sales</td>
<td>0.009(0,000)</td>
<td>0.029(0,000)</td>
<td>0.027(0,000)</td>
<td>0.031(0,000)</td>
<td>0.029(0,000)</td>
<td>0.031(0,000)</td>
<td>0.052(0,000)</td>
<td>0.030(0,000)</td>
<td>0.143(0,055)</td>
</tr>
<tr>
<td>Dividends-to-assets</td>
<td>0.014(0,000)</td>
<td>0.029(0,000)</td>
<td>0.027(0,000)</td>
<td>0.025(0,000)</td>
<td>0.027(0,000)</td>
<td>0.026(0,000)</td>
<td>0.042(0,000)</td>
<td>0.027(0,000)</td>
<td>0.129(0,093)</td>
</tr>
<tr>
<td>Age</td>
<td>15.969(12,000)</td>
<td>16.083(12,000)</td>
<td>16.177(13,000)</td>
<td>16.201(13,000)</td>
<td>16.482(13,000)</td>
<td>16.885(14,000)</td>
<td>17.227(14,000)</td>
<td>16.451(13,000)</td>
<td>18.101(15,000)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.140(0.112)</td>
<td>0.133(0.102)</td>
<td>0.118(0.089)</td>
<td>0.116(0.086)</td>
<td>0.117(0.086)</td>
<td>0.116(0.085)</td>
<td>0.116(0.085)</td>
<td>0.122(0.091)</td>
<td>0.171(0.143)</td>
</tr>
<tr>
<td>Growth</td>
<td>0.145(0.101)</td>
<td>0.161(0.117)</td>
<td>0.151(0.110)</td>
<td>0.103(0.070)</td>
<td>0.082(0.048)</td>
<td>0.084(0.049)</td>
<td>0.106(0.065)</td>
<td>0.117(0.077)</td>
<td>0.117(0.082)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.238(0.179)</td>
<td>0.253(0.199)</td>
<td>0.253(0.195)</td>
<td>0.245(0.181)</td>
<td>0.245(0.179)</td>
<td>0.243(0.177)</td>
<td>0.245(0.177)</td>
<td>0.246(0.184)</td>
<td>0.314(0.284)</td>
</tr>
<tr>
<td>Risk</td>
<td>0.231(0.143)</td>
<td>0.228(0.147)</td>
<td>0.232(0.147)</td>
<td>0.248(0.163)</td>
<td>0.232(0.147)</td>
<td>0.228(0.145)</td>
<td>0.226(0.138)</td>
<td>0.232(0.147)</td>
<td>0.222(0.142)</td>
</tr>
</tbody>
</table>

Sample size: 14 632, 13 306, 13 943, 14 718, 15 482, 15 717, 15 605, 103 403, 21 813
4.6 Correlation and multicollinearity

Multicollinearity is an issue occurring when the explanatory variables in a multiple regression are strongly correlated with each other (Brooks 2008, 171). This problem increases the standard errors, widens the confidence intervals and lowers the test statistics. This may lead to inappropriate conclusions when conducting significance tests. In order to detect possible multicollinearity in our regressions, we construct a correlation matrix. Table 3 shows a high correlation between growth and risk, which is not surprising since both variables are constructed from growth in sales. For the other variables, we see a low to moderate correlation.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dividends-to-earnings</th>
<th>Family firm</th>
<th>Age</th>
<th>Size</th>
<th>Profitability</th>
<th>Growth</th>
<th>Liquidity</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends-to-earnings</td>
<td>1,0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family firm</td>
<td>0,0321</td>
<td>1,0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0,0276</td>
<td>-0,0395</td>
<td>1,0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0,0040</td>
<td>-0,1422</td>
<td>0,1304</td>
<td>1,0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td>0,2192</td>
<td>0,0475</td>
<td>-0,0628</td>
<td>0,0014</td>
<td>1,0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>-0,0103</td>
<td>-0,0210</td>
<td>-0,1493</td>
<td>0,1522</td>
<td>0,0728</td>
<td>1,0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquidity</td>
<td>0,1767</td>
<td>0,0425</td>
<td>-0,0786</td>
<td>-0,1749</td>
<td>0,3650</td>
<td>-0,0008</td>
<td>1,0000</td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>-0,0242</td>
<td>-0,0139</td>
<td>-0,0549</td>
<td>0,0186</td>
<td>0,0170</td>
<td>0,5463</td>
<td>-0,0594</td>
<td>1,0000</td>
</tr>
</tbody>
</table>

This table shows the correlation coefficients for pairs of independent variables used in the regressions. Dividends is cash dividends paid to shareholders and earnings is operating profits after taxes. Family firm is a dummy variable that will equal one if the ultimate family ownership exceeds 50% and zero otherwise. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years.

4.7 Endogeneity

We recognize that there might be an endogeneity problem when analyzing family firms. Isakov and Weisskopf (2015) highlight that it might not be the ownership structure that leads to different dividend payouts, but rather the payout levels that influence the owners’ decision to remain as a shareholder. However, they argue that it is unlikely that poor dividend payouts cause families to leave their firm as it seems easier to increase payouts than to sell the whole firm. Hence, we do not expect endogeneity to be a severe problem in our thesis. In addition, we apply panel data techniques that reduce the omitted variable problem.
5 Findings

5.1 Findings for family firms and non-family firms

Hypothesis 1: Dividend propensity

From both logit regressions in table 4 we see that family firms have a higher propensity to pay dividends than non-family firms, as the marginal effects for the family firm variable are positive and significant on all conventional levels. The findings contradict hypothesis 1 of lower propensity to pay for family firms. This prediction was based on the argument that family firms have lower conflict potential between managers and owners (agency problem 1). However, our results show that being a family firm increases the likelihood to pay dividends in line with the family income hypothesis of dividends. Consequently, our findings indicate that family firms pay dividends in order to satisfy family income needs.

Regarding the control variables, we see that profitability and liquidity have the largest impact on the decision to pay as the estimated marginal effects are substantially higher than the estimates for the other variables in the regressions. All control variables are in line with our initial predictions, except the estimate for growth. Since the estimates are statistically significant, we can say that older, larger, more profitable, more liquid and less risky firms have a higher likelihood to pay dividends. Surprisingly, we also see that firms with high growth opportunities are more likely to pay dividends. A possible explanation for the unexpected positive relationship can be our proxy for growth opportunities. It could be that a high growth rate the previous years does not necessarily mean profitable investment opportunities the following years. Actually, it might be that our proxy for growth opportunities measures the past rather than the future. Then, the coefficient estimate illustrates that firms that have experienced high growth the previous years are more likely to pay dividends.
Table 4: Regression results for dividend propensity

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Logit model</th>
<th>Logit model with random effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family firm</td>
<td>0.0488 (0.000)</td>
<td>0.0284 (0.000)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0450 (0.000)</td>
<td>0.0247 (0.000)</td>
</tr>
<tr>
<td>Size</td>
<td>0.0261 (0.000)</td>
<td>0.0157 (0.000)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.6159 (0.000)</td>
<td>0.3446 (0.000)</td>
</tr>
<tr>
<td>Growth</td>
<td>0.0275 (0.010)</td>
<td>0.0183 (0.010)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.2044 (0.000)</td>
<td>0.1111 (0.000)</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.0484 (0.000)</td>
<td>-0.0163 (0.000)</td>
</tr>
<tr>
<td>Sample size</td>
<td>92 894</td>
<td>92 894</td>
</tr>
</tbody>
</table>

This table reports the results for hypothesis 1. The average marginal effects for the ordinary logit regression and for the logit regression with random effects are shown in the left and right column, respectively. All models have clustered standard errors at the firm level and the p-values are shown in parentheses. The dependent variable is a dummy variable that will equal one if the firm pays dividends and zero if it does not. Family firm is a dummy variable that will equal one if the ultimate family ownership exceeds 50% and zero otherwise. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years. Industry and time effects are also taken into account, but not reported. Industry codes can be found in appendix 1.

Hypothesis 2: Dividend level

Regression results

Table 5 shows the regression results for testing the prediction of hypothesis 2 that family firms have lower dividend levels than non-family firms. The estimates for the family firm variable are positive and significant in both the pooled OLS and the random effects model and indicate that family firms pay higher dividends than non-family firms. These findings are consistent with the family income hypothesis of higher dividends in family firms and support our previous finding that family firms are more likely to pay dividends.

For the fixed effects model, the estimate for the family firm variable is also positive, but insignificant. Consequently, we cannot conclude that dividend payouts in family firms are different from non-family firms with this estimation technique. This means that the results for hypothesis 2 are sensitive to the estimation method used. Recall that the fixed effects model builds on the strong assumption that firm characteristics are fixed over time, which might be unrealistic.
Table 5: Regression results for dividend level

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Pooled OLS</th>
<th>Random effects</th>
<th>Fixed effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family firm</td>
<td>0.0247 (0.000)</td>
<td>0.0284 (0.000)</td>
<td>0.0110 (0.130)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0253 (0.000)</td>
<td>0.0242 (0.000)</td>
<td>-0.0306 (0.054)</td>
</tr>
<tr>
<td>Size</td>
<td>0.0108 (0.000)</td>
<td>0.0091 (0.000)</td>
<td>0.0059 (0.275)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.5584 (0.000)</td>
<td>0.3974 (0.000)</td>
<td>0.1414 (0.000)</td>
</tr>
<tr>
<td>Growth</td>
<td>-0.0056 (0.493)</td>
<td>0.0115 (0.122)</td>
<td>0.0075 (0.525)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.1972 (0.000)</td>
<td>0.1908 (0.000)</td>
<td>0.1372 (0.000)</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.0303 (0.000)</td>
<td>-0.0194 (0.000)</td>
<td>-0.0035 (0.713)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0714</td>
<td>0.0875</td>
<td>0.5749</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.0712</td>
<td>0.4046</td>
<td></td>
</tr>
<tr>
<td>Sample size</td>
<td>92 894</td>
<td>92 894</td>
<td>92 894</td>
</tr>
</tbody>
</table>

This table reports the coefficient estimates for hypothesis 2. The estimates for the pooled OLS regression are shown in the left column, the random effects model in the middle and the fixed effects model in the right column. All models have clustered standard errors at the firm level and the p-values are shown in parentheses. The dependent variable is dividends-to-earnings. Family firm is a dummy variable that will equal one if the ultimate family ownership exceeds 50 % and zero otherwise. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years. Industry and time effects are also taken into account, but not reported. Industry codes can be found in appendix 1.

The control variables

For the pooled OLS in table 5, all control variables are as predicted and all are statistically significant, except for growth. This means that older, larger, more profitable, more liquid and less risky firms pay out a larger part of their earnings as dividends. Our previous results showed that the same control variables have an impact on the propensity to pay. Regarding the random effects model, the estimated relationships remain mainly the same.

For the fixed effects model, the estimates for the control variables size, profitability, liquidity and risk are as expected, but this is not the case for age and growth. As the estimates for profitability and liquidity are significant, more profitable and liquid firms pay out a higher proportion of their earnings as dividends. More puzzling is the negative sign for age, significant at the 10 % level, which indicates that younger firms pay higher dividends. From table 3 we can see that age is negatively correlated with profitability and liquidity, hence it seems that older firms are less profitable and less liquid. Consequently, this could be a possible explanation for the negative relationship between dividends and firm age. However, this does not prove that there is a causal relationship.
Finally, the estimates for size, risk and growth are all insignificant, and suggest that these variables do not have any impact on the level of dividends. However, the insignificance of the risk and growth estimates could also be related to difficulties when constructing the variables. In order to compute these variables we need observations from several proceeding years, which is not the case for many of the firms in our sample. This could possibly have affected the coefficient estimates for the fixed effects model even though panel data techniques are said to account for such limitations. An alternative explanation for the weak relationship between growth and dividends could be that the constructed variable does not reflect growth opportunities, as discussed in the results for hypothesis 1.

_Difference between means analysis_

Since over 80% of the firms in our sample are family firms, our concern is that the family firms will drive the results in the regressions above. Therefore, we apply a difference between means analysis to hypothesis 2 to incorporate the difference of the size of the two subsamples. We test for their equality using the t-test and the Wilcoxon-Mann-Whitney (W-M-W) test adapted from Stacescu, Berzins and Bøhren (2012).

Table 6 compares the average payout ratios of family firms and non-family firms year-by-year and for the pooled sample (All years). In the pooled sample, family firms pay 15.9% of their earnings as dividends on average, whereas non-family firms only pay 12.5%. The average payout difference between the two groups is 3.4% and the annual difference varies from 1.9% to 8.7%. All results are significant and support the family income hypothesis which states that family firms should have higher dividend payouts than non-family firms in order to satisfy the income needs of family members. Consequently, this finding supports our previous results of hypothesis 2 and indicates that the disproportionate size of the two subsamples does not affect the results.
Table 6: The average dividends-to-earnings ratio for family and non-family firms

<table>
<thead>
<tr>
<th>Year</th>
<th>Family firms (1)</th>
<th>Non-family firms (2)</th>
<th>Difference (1)-(2)</th>
<th>p-value, t-test</th>
<th>p-value, W-M-W test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>N</td>
<td>Mean</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>0.073</td>
<td>12 800</td>
<td>0.048</td>
<td>1 832</td>
<td>0.025</td>
</tr>
<tr>
<td>2008</td>
<td>0.152</td>
<td>11 608</td>
<td>0.133</td>
<td>1 698</td>
<td>0.019</td>
</tr>
<tr>
<td>2009</td>
<td>0.162</td>
<td>12 183</td>
<td>0.130</td>
<td>1 760</td>
<td>0.032</td>
</tr>
<tr>
<td>2010</td>
<td>0.152</td>
<td>12 962</td>
<td>0.134</td>
<td>1 756</td>
<td>0.019</td>
</tr>
<tr>
<td>2011</td>
<td>0.156</td>
<td>13 674</td>
<td>0.127</td>
<td>1 808</td>
<td>0.029</td>
</tr>
<tr>
<td>2012</td>
<td>0.158</td>
<td>13 347</td>
<td>0.121</td>
<td>2 370</td>
<td>0.036</td>
</tr>
<tr>
<td>2013</td>
<td>0.257</td>
<td>13 144</td>
<td>0.169</td>
<td>2 461</td>
<td>0.087</td>
</tr>
<tr>
<td>All years</td>
<td>0.159</td>
<td>89 718</td>
<td>0.125</td>
<td>13 685</td>
<td>0.034</td>
</tr>
</tbody>
</table>

This table shows the average dividends-to-earnings ratio for family and non-family firms year-by-year and for the pooled sample. Family firms are all firms with family ownership of 50% or more. The table also reports the difference between the mean values of the two groups. We test for their equality using the t-test and the Wilcoxon-Mann-Whitney (W-M-W) test.

Summary of main findings

The results of the hypotheses for family and non-family firms suggest that family firms have a higher likelihood to pay dividends and have a tendency to pay higher dividends than non-family firms. Taken together, it could seem like dividends are used to serve family income needs, consistent with the family income hypothesis. Since family members are reluctant to sell their shares to fund consumption or to diversify their wealth, family firms choose to pay dividends as it is the only way to give the family members a return on their investment. The results contradict our hypotheses from the perspective of agency theory which predict lower dividends in family firms.
5.2 Findings for family firms

The sample in this section of the thesis consists of family firms only. Here, we will present the results for hypotheses 3-5. First, we will analyze the impact of a family CEO on dividend payouts. Then, we will investigate if the conflict potential between the family and minority owners affects dividends in family firms. Finally, we will explore the potential impact of a large non-family second blockholder on dividend policy.

Hypothesis 3: The impact of a family CEO

The regression in table 7 shows a positive relationship between the presence of a family CEO and dividend payouts. The coefficient of 0.0133 is significant and we can reject hypothesis 3 of lower dividends in family firms with a CEO from the family. Moreover, we do not find that less separation between ownership and control can be associated with lower dividends. A possible explanation for higher dividends with the presence of a family CEO could be that the CEO serves as a representative for the family who makes sure that dividends will meet family income needs. This finding supports the results in hypotheses 1 and 2 and is in line with the family income hypothesis.

Since a family CEO can complicate agency problem 2, the result of higher dividends in firms with a family CEO could also be explained by the family’s desire to reduce the potential agency conflict with minority owners. The family might want to pay high dividends in order to build reputation of treating them well and ensure their future presence as investors in the firm.

The evidence of higher dividends in family firms with a family CEO is confirmed by the W-M-W test in the difference between means analysis year-by-year and for the pooled sample (All years) in table 8. The t-tests also support this finding for the pooled sample and for each year, except 2008. For the pooled sample, we find that family firms with a CEO from the family have on average 2.1 % higher dividends than family firms with an external CEO.
Table 7: Regression results for hypothesis 3

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Family CEO</th>
<th>(0,000)</th>
<th>Age</th>
<th>(0,000)</th>
<th>Size</th>
<th>(0,000)</th>
<th>Profitability</th>
<th>(0,000)</th>
<th>Growth</th>
<th>(0,128)</th>
<th>Liquidity</th>
<th>(0,000)</th>
<th>Risk</th>
<th>-0,0260</th>
<th>(0,000)</th>
<th>R-squared</th>
<th>0,0912</th>
<th>Sample size</th>
<th>80 662</th>
</tr>
</thead>
</table>

The table reports the coefficient estimates for hypothesis 3. Family CEO in regression (1) is a dummy variable equal to one if the CEO is from the family. The estimates are obtained with the random effects model. All regressions have clustered standard errors at the firm level and the p-values are shown in parentheses. The dependent variable is dividends-to-earnings. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years. Industry and time effects are also taken into account, but not reported. The sample consists of all family firms. Family firms are all firms with ultimate family ownership of 50 % or more. Industry codes can be found in appendix 1.

Table 8: The average dividends-to-earnings ratio for firms with a family CEO and a non-family CEO

<table>
<thead>
<tr>
<th>Year</th>
<th>Family CEO (1)</th>
<th>Non-family CEO (2)</th>
<th>Difference</th>
<th>p-value, t-test</th>
<th>p-value, W-M-W test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>N</td>
<td>Mean</td>
<td>N</td>
<td>(1) - (2)</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>0,083</td>
<td>2 947</td>
<td>0,070</td>
<td>9 853</td>
<td>0,013</td>
</tr>
<tr>
<td>2008</td>
<td>0,160</td>
<td>2 673</td>
<td>0,149</td>
<td>8 935</td>
<td>0,010</td>
</tr>
<tr>
<td>2009</td>
<td>0,175</td>
<td>2 736</td>
<td>0,158</td>
<td>9 447</td>
<td>0,017</td>
</tr>
<tr>
<td>2010</td>
<td>0,175</td>
<td>2 891</td>
<td>0,146</td>
<td>10 071</td>
<td>0,029</td>
</tr>
<tr>
<td>2011</td>
<td>0,179</td>
<td>3 044</td>
<td>0,150</td>
<td>10 630</td>
<td>0,030</td>
</tr>
<tr>
<td>2012</td>
<td>0,175</td>
<td>2 830</td>
<td>0,153</td>
<td>10 517</td>
<td>0,022</td>
</tr>
<tr>
<td>2013</td>
<td>0,282</td>
<td>2 874</td>
<td>0,249</td>
<td>10 270</td>
<td>0,033</td>
</tr>
<tr>
<td>All years</td>
<td>0,175</td>
<td>19 995</td>
<td>0,154</td>
<td>69 723</td>
<td>0,021</td>
</tr>
</tbody>
</table>

This table shows the average dividends-to-earnings ratio for family firms with and without a family CEO year-by-year and for the pooled sample. Group (1) includes all family firms with a CEO from the family. Family firms are all firms with ultimate family ownership of 50 % or more. The table also reports the difference between the mean values of the two groups. We test for their equality using the t-test and the Wilcoxon-Mann-Whitney (W-M-W) test.
Hypothesis 4: The conflict potential with minority investors

According to the coefficient estimate in table 9 dividends increase with almost 2 % when the family ownership increases with 1 %. The result is significant and contradicts hypothesis 4 of lower dividends the more the family owns. In family firms where the family barely controls the firm the potential conflict with non-family shareholders is the highest (Berzins and Bøhren 2013). From our results we see that dividends are lower when the family ownership percentage is close to 50 % compared to when their ownership stake is closer to 100 %. This shows that the family pays higher dividends when they have a higher ownership stake in the firm.

A possible explanation for this result is that more of the dividends will accrue to family members when the family owns more of the firm. Consequently, we do not find evidence that the family pays high dividends to build reputation among minority investors in line with the conflict-reducing model of dividends. In line with the opportunistic model, our result suggests that the family reduces dividend payouts in order to capture private benefits when the potential conflict with minority investors is the strongest. In other words, it seems irrelevant for the family to keep non-family minority investors pleased by paying higher dividends.
**Table 9: Regression results for hypothesis 4**

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Estimate</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family ownership percentage</td>
<td>0.0198</td>
<td>(0.064)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0244</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Size</td>
<td>0.0112</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.0122</td>
<td>(0.132)</td>
</tr>
<tr>
<td>Growth</td>
<td>0.0122</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.1961</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.0257</td>
<td>(0.000)</td>
</tr>
</tbody>
</table>

The table reports the coefficient estimates for hypothesis 4. The estimates are obtained with the random effects model with clustered standard errors at the firm level. The p-values are shown in parentheses. The dependent variable is dividends-to-earnings. Family ownership percentage is a variable that shows the ultimate family ownership percentage. The variable reflects the potential seriousness of the shareholder conflict. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years. Industry and time effects are also taken into account, but not reported. The sample consists of all family firms. Family firms are all firms with ultimate family ownership of 50% or more. Industry codes can be found in appendix 1.

**Hypothesis 5: The impact of a second blockholder**

In the regression in table 10, we introduce a dummy variable equal to one if the second largest owner in the firm is a non-family member and owns more than 5%. We predicted that dividends are higher when a non-family second blockholder is present and mitigates expropriation of minority investors. However, as the estimate is negative and insignificant, the presence of a non-family second blockholder seems to be irrelevant for dividend policy. The insignificant result is confirmed by the difference between means analysis in table 11, both year-by-year and for the pooled sample (All years). Hence, we cannot conclude that the presence of a second blockholder influences dividend policy in family firms. Our results suggest that a large second blockholder does not serve as a disciplinary force that reduces the family’s potential expropriation of minority investors.
Table 10: Regression results for hypothesis 5

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficient (0.00)</th>
<th>(0.521)</th>
<th>(0.000)</th>
<th>(0.000)</th>
<th>(0.124)</th>
<th>(0.000)</th>
<th>(0.000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second blockholder</td>
<td>-0.0074</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0245)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0108)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td>0.4025</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>0.0125</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.1964</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>-0.0261</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table reports the coefficient estimates for hypothesis 5. The estimates are obtained with the random effects model with clustered standard errors at the firm level. The p-values are shown in parentheses. The dependent variable is dividends-to-earnings. Second blockholder is a dummy variable that will equal one if the second largest owner in the family firm is a non-family member and owns more than 5%. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years. Industry and time effects are also taken into account, but not reported. The sample consists of all family firms. Family firms are all firms with ultimate family ownership of 50% or more. Industry codes can be found in appendix 1.

Table 11: The average dividends-to-earnings ratio for family firms with and without a non-family second blockholder

<table>
<thead>
<tr>
<th>Year</th>
<th>Second blockholder (1)</th>
<th>No second blockholder (2)</th>
<th>Difference (1) - (2)</th>
<th>p-value, t-test</th>
<th>p-value, W-M-W test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>N</td>
<td>Mean</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>0.061</td>
<td>133</td>
<td>0.073</td>
<td>12 667</td>
<td>-0.012</td>
</tr>
<tr>
<td>2008</td>
<td>0.172</td>
<td>112</td>
<td>0.152</td>
<td>11 496</td>
<td>0.021</td>
</tr>
<tr>
<td>2009</td>
<td>0.120</td>
<td>131</td>
<td>0.163</td>
<td>12 052</td>
<td>-0.042</td>
</tr>
<tr>
<td>2010</td>
<td>0.106</td>
<td>135</td>
<td>0.153</td>
<td>12 827</td>
<td>-0.047</td>
</tr>
<tr>
<td>2011</td>
<td>0.116</td>
<td>135</td>
<td>0.157</td>
<td>13 539</td>
<td>-0.040</td>
</tr>
<tr>
<td>2012</td>
<td>0.169</td>
<td>175</td>
<td>0.158</td>
<td>13 172</td>
<td>0.011</td>
</tr>
<tr>
<td>2013</td>
<td>0.220</td>
<td>185</td>
<td>0.257</td>
<td>12 959</td>
<td>-0.037</td>
</tr>
<tr>
<td>All years</td>
<td>0.143</td>
<td>1 006</td>
<td>0.159</td>
<td>88 712</td>
<td>-0.016</td>
</tr>
</tbody>
</table>

This table shows the average dividends-to-earnings ratio for family with and without a large non-family second blockholder year-by-year and for the pooled sample. Family firms are all firms with ultimate family ownership of 50% or more. The table also reports the difference between the mean values of the two groups. We test for their equality using the t-test and the Wilcoxon-Mann-Whitney (W-M-W) test.
The insignificant results could be related to the definition of a second blockholder. One could argue that 5% is not sufficient to make an impact on the decision making in the firm. Therefore, we have tried thresholds of 10%, 15%, and 20% ownership in order to define a second blockholder (appendix 4). However, as the results from these regressions are insignificant as well, the results are unaffected when we use more conservative definitions of a second blockholder. Nonetheless, the results might have been different if our proxy for a second blockholder could capture the presence of a non-family second blockholder when there are several family owners.

Further, the results could be related to our definition of a family firm. To be defined as a family firm in our thesis the family must own more than 50% of the shares in the firm. This can be seen as a more conservative definition compared to the definition of Isakov and Weisskopf (2015) who use a 20% threshold. Furthermore, the ownership stakes of the family and the non-family second blockholder in their study will be more balanced than in our thesis. This means that the non-family second blockholder might not have enough power to alter the decisions regarding dividend policy, as their ownership stake will be relatively low compared to the ownership stake of the controlling family.

Another explanation to our findings is that it might not be the second blockholder itself that influences the dividend policy, but rather the identity of the blockholder. Among others, Stacescu, Berzins and Bøhren (2012) highlight the impact of institutional minority investors. Isakov and Weisskopf (2015) also emphasize the effect of different types of blockholders. This is clearly an aspect we suggest should be investigated further.

5.3 Robustness
In order to investigate the validity of our findings, we run a series of robustness checks. First, we use two alternative measures of dividend payouts. Second, we investigate possible misspecifications of some of the control variables. Lastly, we run the regression with two alternative samples. The robustness tests are done on hypothesis 2 for the random effects model in table 5.
5.3.1 Alternative dividend payout measures

We fear that using earnings in our definition of dividends can be problematic as management might manipulate earnings. Therefore, we ran similar regressions with dividends-to-sales and dividends-to-assets as the dependent variables (appendix 5.1). When we use dividends-to-sales our results are not robust since both the explanatory and control variables are affected. Most importantly, the family firm coefficient has changed sign and is no longer significant. In addition, liquidity has also changed sign and is insignificant which is puzzling since it constitutes an important variable in explaining dividend payouts in all regressions in the rest of our thesis.

When we use dividends-to-assets as the dependent variable, our key findings remain unchanged. All coefficients have the same sign and significance level, but we recognize that the estimates are lower in magnitude. Additionally, we note that the R-squared is significantly higher with this measure of dividend payouts.

Ideally, we would also try to use total payouts, including both dividends and repurchases, as the dependent variable in our regressions. However, this is unfortunately not possible with the data provided from the CCGR database. As Stacescu, Berzins and Bøhren (2012) point out, repurchases are rare in Norwegian private firms and is therefore expected to be of minor concern for our results. Nevertheless, we do not know how repurchases affect the relationship between family firms and dividend payouts.

5.3.2 Alternative measures of control variables

We also investigate possible misspecifications of the control variables. In regression (1) in appendix 5.2 we measure growth opportunities as sales-to-assets rather than sales growth. The coefficient estimate for growth becomes negative, and is now significant, in line with our initial prediction for this control variable. The explanatory variable and the other control variables are stable when we use this measure of growth opportunities.
In regression (2) in appendix 5.2 we replace log of sales with log of assets and found that the estimate of size is barely unchanged with respect to sign, magnitude and significance level. This is also the case for the explanatory variable and the other control variables, which means that the results are robust when using this measure of size.

5.3.3 Alternative sample selections

We want to test if excluding firms with negative dividends-to-earnings ratios from our sample could have affected our results. In addition, including firms in the utility sector in our sample could possibly impact our findings as they are considered a highly regulated industry unable to freely decide the firm’s dividend policy (Isakov and Weisskopf 2015). As of this, we construct two new samples, one where we include firms with negative dividend ratios and one where we exclude utilities (appendix 5.3). For both samples the estimates are stable, and our key findings are robust.

6 Conclusion

In our sample of Norwegian private firms, we find that family firms are more likely to pay dividends than non-family firms and we also find evidence of higher dividend ratios in family firms. In line with the family income hypothesis of dividends, both findings suggest that family firms use dividends to serve family income needs. These findings are in accordance with the results of Isakov and Weisskopf (2015) of higher dividends in family firms.

When considering family firms only, we find that firms with a family CEO have higher dividends, which is in line with the family income hypothesis of dividends. Alternatively, as family management can increase agency problem 2, the result of higher dividends could also be explained by the family’s desire to build reputation of treating minority investors well. However, in firms where the family ownership percentage is just around 50 % and the conflict potential is the highest, we find that dividends are lower compared to when their ownership percentage is close to 100 %. This means that the family pays higher dividends when more of the
dividends will accrue to family members. Consequently, it seems irrelevant for the family to pay high dividends to build reputation among minority investors. This result is in line with the opportunistic model of dividends.

Further, we find that a non-family second blockholder appears irrelevant for dividend policy in family firms. Nonetheless, we believe that this result could be sensitive to our definition of a family firm, the proxy and the identity of the second blockholder.

In conclusion, our results are in line with the family income hypothesis of dividends suggesting that family income needs influence dividend payouts in our sample of Norwegian private family firms in 2007-2013.
References


Clark, Tom S and Drew A Linzer. 2015. "Should I use fixed or random effects?" Political Science Research and Methods 3 (02): 399-408.


Schmid, Thomas, Markus Ampenberger, Christoph Kaserer and Ann-Kristin Achleitner. 2010. *Controlling shareholders and payout policy: do founding families have a special‘taste for dividends’?: CEFS working paper series*.

Stacescu, Bogdan, Janis Berzins and Øyvind Bøhren. 2012. "Stockholder Conflicts and Dividends." *Available at SSRN 2024675*.

Appendices

Appendix 1: Industry codes

<table>
<thead>
<tr>
<th>Category</th>
<th>Industry codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature</td>
<td>1, 2, 3, 5-9, 75</td>
</tr>
<tr>
<td>Heavy Industry</td>
<td>19-30, 33</td>
</tr>
<tr>
<td>Light Industry</td>
<td>10-18, 31, 32</td>
</tr>
<tr>
<td>Services</td>
<td>69-74, 77, 78, 80-82, 90, 93, 95-97</td>
</tr>
<tr>
<td>Retail</td>
<td>45-47</td>
</tr>
<tr>
<td>Building</td>
<td>41-43</td>
</tr>
<tr>
<td>Transport</td>
<td>49-53</td>
</tr>
<tr>
<td>Tourism</td>
<td>55, 56, 79</td>
</tr>
<tr>
<td>Publishing</td>
<td>58-63</td>
</tr>
<tr>
<td>Real Estate</td>
<td>68</td>
</tr>
<tr>
<td>Gambling</td>
<td>92</td>
</tr>
<tr>
<td>Public administration</td>
<td>84-88, 91, 94</td>
</tr>
<tr>
<td>Utilities</td>
<td>35-39</td>
</tr>
<tr>
<td>Extraterritorial</td>
<td>99</td>
</tr>
</tbody>
</table>

This table presents an overview of the industry coding from CCGR, which is based on Standard Industrial Classification (SIC) codes both from 2002 and 2007. We have grouped the codes into fourteen categories. Each category represents a dummy variable for industry effects in all regressions in our thesis.
Appendix 2: Variable overview

<table>
<thead>
<tr>
<th>Theoretical variable</th>
<th>Proxy</th>
<th>CCGR item</th>
<th>Expected sign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividend payout</td>
<td>Dividends/Earnings</td>
<td>39, 105</td>
<td>Dependent variable</td>
</tr>
<tr>
<td>Dividend paying firm</td>
<td>Dummy for positive dividend payout</td>
<td>105</td>
<td>Dependent variable</td>
</tr>
<tr>
<td>Dividend payout</td>
<td>Dividends/Sales</td>
<td>11, 24, 25, 105</td>
<td>Dependent variable</td>
</tr>
<tr>
<td>Dividend payout</td>
<td>Dividends/Total assets</td>
<td>63, 78, 105</td>
<td>Dependent variable</td>
</tr>
<tr>
<td><strong>Explanatory variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family firm</td>
<td>Family firm dummy</td>
<td>15311</td>
<td>-</td>
</tr>
<tr>
<td>Family CEO</td>
<td>Family CEO dummy</td>
<td>15304</td>
<td>-</td>
</tr>
<tr>
<td>Family ownership</td>
<td>Ultimate family ownership percentage</td>
<td>15311</td>
<td>-</td>
</tr>
<tr>
<td>percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second blockholder</td>
<td>Second blockholder dummy</td>
<td>14011, 14012, 15311</td>
<td>+</td>
</tr>
<tr>
<td><strong>Control variables</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Firm age</td>
<td>Natural logarithm of firm age</td>
<td>13420</td>
<td>+</td>
</tr>
<tr>
<td>Firm size</td>
<td>Natural logarithm of sales</td>
<td>11, 24, 25</td>
<td>+</td>
</tr>
<tr>
<td>Profitability</td>
<td>Return on assets</td>
<td>127</td>
<td>+</td>
</tr>
<tr>
<td>Growth</td>
<td>Average of sales growth the past three years</td>
<td>11, 24, 25</td>
<td>-</td>
</tr>
<tr>
<td>Liquidity</td>
<td>Cash/total assets</td>
<td>63, 76, 78</td>
<td>+</td>
</tr>
<tr>
<td>Risk</td>
<td>Standard deviation of sales growth the past three years</td>
<td>11, 24, 25</td>
<td>-</td>
</tr>
<tr>
<td>Industry</td>
<td>SEC industry codes</td>
<td>11102</td>
<td>None</td>
</tr>
</tbody>
</table>

This table presents an overview of the variables used in our regressions. It shows the proxies that measure the dependent, explanatory and control variables. The CCGR items are shown in the third column and the expected sign of the explanatory and control variables in the fourth column.
Appendix 3: Filters

<table>
<thead>
<tr>
<th>Filters</th>
<th>Population</th>
<th>(1) Excludes all other than AS firms</th>
<th>(2) Excludes passive firms</th>
<th>(3) Excludes firms with inconsistent data</th>
<th>(4) Excludes single-owner firms</th>
<th>(5) Excludes small firms</th>
<th>(6) Excludes financial firms</th>
<th>(7) Variable filters</th>
<th>Sample, all firms</th>
<th>Sample, family firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 453 679</td>
<td>2 075 370</td>
<td>1 833 321</td>
<td>1 829 375</td>
<td>939 837</td>
<td>277 133</td>
<td>271 427</td>
<td>103 403</td>
<td>103 403</td>
<td>89 718</td>
</tr>
</tbody>
</table>

This table shows the basic filters we have applied to the population. Filter (1) excludes companies without limited liabilities and public firms. Filter (2) excludes all firms with negative sales and negative assets. Filter (3) excludes firms with negative dividends and cash holdings. Filter (4) excludes single-owner firms and firms where the largest owner owns more than 90% of the firms as they are allowed by the Norwegian law to buy the remaining part of the shares without minority investors' support. Filter (5) excludes firms with less than 3 board members and NOK 2 millions in sales. Filter (6) excludes financial firms to avoid their regulatory capital requirements, ownership restrictions and accounting rules (Stacescu, Berzins and Bøhren 2012). Filter (7) involves a manual assessment of some of the variables to eliminate extreme values. The variable filter requirements can be found in table 1. All seven filters give us the sample used for hypotheses 1 and 2. The family firm sample is used for hypotheses 3-5.
Appendix 4: Alternative definitions of a second blockholder

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second blockholder 10 %</td>
<td>-0.0025</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.844)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second blockholder 15 %</td>
<td></td>
<td>0.0026</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.856)</td>
<td></td>
</tr>
<tr>
<td>Second blockholder 20 %</td>
<td></td>
<td></td>
<td>-0.0065</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.655)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0245</td>
<td>0.0245</td>
<td>0.0245</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Size</td>
<td>0.0108</td>
<td>0.0108</td>
<td>0.0108</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.4025</td>
<td>0.4025</td>
<td>0.4025</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Growth</td>
<td>0.0125</td>
<td>0.0125</td>
<td>0.0125</td>
</tr>
<tr>
<td></td>
<td>(0.123)</td>
<td>(0.123)</td>
<td>(0.124)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.1964</td>
<td>0.1964</td>
<td>0.1964</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.0261</td>
<td>-0.0261</td>
<td>-0.0261</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0906</td>
<td>0.0906</td>
<td>0.0906</td>
</tr>
<tr>
<td>Sample size</td>
<td>80 662</td>
<td>80 662</td>
<td>80 662</td>
</tr>
</tbody>
</table>

The table reports the coefficient estimates when using alternative definitions of a second blockholder. In regression (1), second blockholder is a dummy variable that will equal one if the second largest owner in the family firm is a non-family member and owns more than 10%. In regression (2), second blockholder is a dummy variable that will equal one if the second largest owner in the family firm is a non-family member and owns more than 15%. In regression (3), second blockholder is a dummy variable that will equal one if the second largest owner in the family firm is a non-family member and owns more than 20%. The estimates are obtained with the random effects model with clustered standard errors at the firm level. The p-values are shown in parentheses. The dependent variable is dividends-to-earnings. Age is the log of the number of years since the firm was founded. Size is the log of sales in million NOK. Profitability is operating results after taxes to assets. Growth is average sales growth during the past three years. Liquidity is cash to assets. Risk is the standard deviation of sales growth during the past three years. Industry and time effects are also taken into account, but not reported. The sample consists of all family firms. Family firms are all firms with ultimate family ownership of 50% or more. Industry codes can be found in appendix 1.
Appendix 5: Robustness checks

Appendix 5.1 Alternative dividend payout measures

The table shows the coefficient estimates when using dividends-to-sales and dividends-to-assets as the dependent variables rather than dividends-to-earnings. The estimates are obtained with the random effects model with clustered standard errors at the firm level. The p-values are shown in parentheses. The family firm variable and the control variables are defined as in the rest of the thesis. Industry and time effects are also taken into account, but not reported. Industry codes can be found in appendix 1.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dividends-to-sales</th>
<th>Dividends-to-assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family firm</td>
<td>-0.0077 (0.264)</td>
<td>0.0040 (0.000)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0153 (0.000)</td>
<td>0.0026 (0.000)</td>
</tr>
<tr>
<td>Size</td>
<td>-0.0153 (0.000)</td>
<td>0.0007 (0.011)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.2713 (0.000)</td>
<td>0.2246 (0.000)</td>
</tr>
<tr>
<td>Growth</td>
<td>-0.0320 (0.009)</td>
<td>0.0027 (0.102)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>-0.0007 (0.945)</td>
<td>0.0350 (0.000)</td>
</tr>
<tr>
<td>Risk</td>
<td>0.0368 (0.000)</td>
<td>-0.0040 (0.001)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0288</td>
<td>0.2285</td>
</tr>
<tr>
<td>Sample size</td>
<td>92,894</td>
<td>92,894</td>
</tr>
</tbody>
</table>

(1) (2)

Appendix 5.2 Alternative measures of control variables

The table shows the coefficient estimates when using alternative measures of the control variables growth and size. In regression (1) growth is measured as Sales/Total assets. In regression (2) size is measured as log of assets. The estimates are obtained with the random effects model with clustered standard errors at the firm level. The p-values are shown in parentheses. The dependent variable is dividends-to-earnings in both regressions. The family firm variable and the other control variables are defined as in the rest of the thesis. Industry and time effects are also taken into account, but not reported. Industry codes can be found in appendix 1.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family firm</td>
<td>0.0299 (0.000)</td>
<td>0.0303 (0.000)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0215 (0.000)</td>
<td>0.0226 (0.000)</td>
</tr>
<tr>
<td>Size</td>
<td>0.0108 (0.000)</td>
<td>0.0101 (0.000)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.4042 (0.000)</td>
<td>0.4073 (0.000)</td>
</tr>
<tr>
<td>Growth</td>
<td>-0.0060 (0.000)</td>
<td>0.0170 (0.020)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.1959 (0.000)</td>
<td>0.1991 (0.000)</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.0177 (0.000)</td>
<td>-0.0264 (0.000)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0882</td>
<td>0.0881</td>
</tr>
<tr>
<td>Sample size</td>
<td>92,894</td>
<td>92,894</td>
</tr>
</tbody>
</table>
Appendix 5.3 Alternative sample selections

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family firm</td>
<td>0.0230 (0.000)</td>
<td>0.0286 (0.000)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0180 (0.000)</td>
<td>0.0245 (0.000)</td>
</tr>
<tr>
<td>Size</td>
<td>0.0091 (0.000)</td>
<td>0.0097 (0.000)</td>
</tr>
<tr>
<td>Profitability</td>
<td>0.2887 (0.000)</td>
<td>0.3999 (0.000)</td>
</tr>
<tr>
<td>Growth</td>
<td>0.0174 (0.002)</td>
<td>0.0116 (0.123)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>0.1924 (0.000)</td>
<td>0.1915 (0.000)</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.0176 (0.000)</td>
<td>-0.0202 (0.000)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0881</td>
<td>0.0881</td>
</tr>
<tr>
<td>Sample size</td>
<td>120 059</td>
<td>91 786</td>
</tr>
</tbody>
</table>

The table shows the coefficient estimates when using alternative sample selection. In regression (1) the sample includes firms with negative dividends-to-earnings ratios. In regression (2) the sample excludes firms in the utility sector. The estimates are obtained with the random effects model with clustered standard errors at the firm level. The p-values are shown in parentheses. The dependent variable is dividends-to-earnings in both regressions. The family firm variable and the control variables are defined as in the rest of the thesis. Industry and time effects are also taken into account, but not reported. Industry codes can be found in appendix 1.
BI Norwegian Business School

Preliminary Thesis Report

Study program:
MSc in Business
Major in Finance

Title:
Dividend Payouts in Norwegian Family Firms

Name of supervisor:
Siv Staubo

Exam code:
GRA 19003

Date of submission:
15.01.2015

Study place:
BI Oslo
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1. Introduction

The purpose of our master thesis is to investigate dividend payouts in Norwegian private firms. We want to examine the differences in dividend payouts between family firms and non-family firms. More specifically, we will study the dividend levels, the influence of a large second blockholder on dividend payouts and dividend smoothing.

The motivation behind our thesis topic is that there is little research done on dividend payouts in Norwegian private family firms, as far as we know. Dividend policy is a widely explored area in the literature, and a lot of previous research has focused on different aspects of family firms. However, few existing studies focus on dividend policies in family firms. As family firms constitute an extensive part of the Norwegian economy (Bøhren 2011), we will contribute with new insight on the dividend policies in such companies.

The remainder of our preliminary thesis report is structured as follows; the next part is a literature review of earlier research done on agency theory, the impact of a second blockholder, dividend payouts and family firms. In the third part, we present our current hypotheses, while the fourth part describes the data we will use. In the fifth part, we will move on to the methodology with a presentation of the base case model. Lastly, we have included a progress plan for the work with our thesis.

2. Literature review

2.1 Agency theory

Agency problems and costs are important topics related to family owned firms. Agency problems are conflicts of interest related to ownership and control in a firm, whereas agency costs are the value loss that arises because the agent is more informed and has different objectives than the principal.

2.1.1 Agency problem 1

In the literature, agency problem 1 relates to the classic owner-manager conflict that arises when managers allocate resources to activities that benefit them, but that are not in the shareholders’ best interest (Jensen and Meckling, 1976). This can occur
if there is too much cash in the firm as it creates incentives for managers to overinvest. One way of reducing this conflict is to pay out earnings as dividends.

La Porta et al. (2000) present two mutually exclusive agency models of dividends. According to the outcome model, dividends are paid because minority shareholders want to limit corporate insiders' access to free cash flow. They argue that stronger minority shareholder rights are associated with higher dividend payouts. The second model, the substitute model, predicts that dividends act like a substitute for legal protection. This model builds on the need for funding from external capital markets. In order to raise capital, firms pay out dividends to build reputation among shareholders. According to this model, dividend payout ratios should be higher in countries with weak legal protection of shareholders than in those with strong protection.

In family firms, the problem of managerial control is reduced as the family itself can be seen as a controlling shareholder that can effectively determine the decisions of managers (Villalonga and Amit, 2006). Moreover, in family firms, the involvement of the owner family in managerial activities lowers this agency problem as there is less separation between ownership and control. Hence, from the outcome model's perspective the shareholders in a family firm do not have the same motivation to limit managers’ access to excess cash. As family firms often have incentives to maintain control over the company, they might be reluctant to go to external capital markets to get additional funding. Hence, it can be argued that they are less dependent of shareholders’ reputation than other firms.

Further, agency problem 1 can be completely avoided by making the decision maker the residual claimants of the firm (Górriz and Fumas, 1996). Then, it is no need to monitor the decision maker as the manager has a stake in the firm. The definition of a family firm used in this paper is a firm with family ownership of 50% or more. Hence, the family has majority power and is able to elect a family member as their CEO. In fact, it is common that the CEO is a family member. This means that in these cases, there are no separation between ownership and control and agency problem 1 is not present.
2.1.2 Agency problem 2

Agency problem 2 relates to the potential conflict between majority and minority shareholders (Villalonga and Amit, 2006). In the literature, this conflict is also referred to as the majority-minority problem (Demsetz and Lehn, 1985) and the horizontal agency problem (Roe, 1994). This conflict occurs when the majority shareholder uses its power to extract private benefits at the expense of minority shareholders (Villalonga and Amit, 2006).

Berzins and Bøhren (2013) argue that agency problem 2 is more evident when the largest owner barely controls the firm, for example with a 51% stake. However, the agency problem is less present the more the majority owns and disappears when the majority owns 100%. Further, they found that the largest shareholder’s stake was significantly lower in non-family firms than in family firms on average. In non-family firms, the average of the largest shareholder stake was 52%, where the potential conflict between majority and minority is the greatest. Hence, they argue that agency problem 2 is more severe in non-family firms.

However, agency problem 2 is also of importance in family firms, as the family can be seen as a majority shareholder who can use its power to make investment and financing decisions without minority shareholders' support. Bøhren (2011) argues that having a family management enhances the control of the family as it facilitates access to more information about the firm. Hence, family management can worsen agency problem 2 as it makes it easier to expropriate private benefits. Dividend payouts are one way to limit insider expropriation as it removes corporate wealth from insider control (Faccio, Lang and Young, 2001).

A recent working paper by Berzins, Bøhren and Stacescu (2014) refer to the outcome and substitute model as the opportunistic and the conflict-reducing model, respectively. These agency models of dividends can be applied to agency problem 2 as well. Based on the opportunistic model, the majority shareholders reduce dividend payouts in order to capture private benefits. The reasoning behind this model is the fact that dividends have to be shared proportionally with the minority shareholders, whereas the private benefits will accrue only to the majority shareholders. In other words, the stronger the majority-minority shareholder
conflict, the lower the dividend payouts, according to this model. Consequently, the opportunistic model predicts higher payouts in family firms. According to the conflict-reducing model, majority shareholders intent to build a reputation of treating minority investors well by paying out high dividends. In this way, they want to ensure minority investors' presence as shareholders in the firm. In other words, the more severe the potential conflict among shareholders, the higher the payouts. According to this model, family firms should have lower dividends payouts as the family's large equity stake in the firm reduces their incentives to expropriate minority investors.

Earlier research has found evidence in favor of the opportunistic model. Jensen (1986, 1989) argues that managers can expropriate dispersed shareholders by distracting corporate resources for personal benefits and empire building. La Porta et al. (2000) find evidence that dividend payouts are smaller in legal regimes with weak protection of minority shareholders, while Faccio, Lang and Young (2001) find evidence of systematic expropriation of the outside shareholders based on corporate pyramids in East Asian business groups. These findings imply that shareholders seem to act opportunistically when the law allows. However, Berzins, Bøhren and Stacescu (2014) documents that the larger the potential stockholder conflict, the higher the dividend payouts. Moreover, they argued that higher payouts are used to reduce shareholder conflict and to build reputation. This is in line with the conflict-reducing model. As agency problem 2 is less evident in family firms, the study is done on Norwegian private companies, we expect dividend payouts to be lower in family firms than in non-family firms.

2.2 Second blockholders
Jensen and Meckling (1976) and Demsetz and Lehn (1985) argue that low ownership concentration in a firm leads to loss of control over management as each shareholder is less powerful than in a firm with higher ownership concentration. Further, Schleifer and Vishny (1986) find that if the large shareholder has a large enough stake in the firm, it will pay off to control the management. Consequently, if a family firm has a second blockholder, we expect them to be an active shareholder that is able to influence decision making.
Pindado, Requejo and de la Torre (2012) and a recent working paper by Isakov and Weisskopf (2014) found that the presence and identity of second blockholders in European and Swiss companies with concentrated ownership structures, such as family firms, are of high importance in determining dividend policies. The study of Pindado, Requejo and de la Torre (2012) shows that if the family firm has a second blockholder, the dividend payouts are higher if the blockholder is not from the family. Moreover, it can be argued that family firms use dividends to mitigate expropriation concerns when non-family second blockholders monitor the controlling family.

2.3 Dividend theory

Academic research has investigated different aspects of dividend payouts. Miller and Modigliani (1961) proved that in perfect and complete capital markets, dividend policy is irrelevant for firm value. They argue that optimal investments determine firm value and consider net payouts as the residual after investments are made. Furthermore, investors should be indifferent to dividend payouts. However, Miller and Modigliani's irrelevance proposition is based on strong assumptions that capital markets are perfect and complete which are highly unrealistic. With the presence of market imperfections such as taxes and asymmetric information academia has argued that dividend policy matters to managers and markets.

2.3.1 Dividend smoothing

Lintner (1956) highlighted that firms are primarily concerned with stable dividends and that they consider changes to the existing dividend rate rather than setting a new. Managers think that the market puts a premium on companies that focus on stability in their dividend payouts. Lintner (1956) showed that dividends are smoothed, increased gradually and rarely decreased. He also observed that earnings is the most important determinant of changes in dividend payouts. Lastly, he found that management set dividend policy first.

The results of Leary and Michaely (2011) suggest that dividend smoothing is most common among firms that are not financially constrained, face low levels of asymmetric information, and are most susceptible to agency conflicts. As there is less separation between control and ownership in family owned firms, they may
smooth dividends to a lesser extent because the owner is more likely to be involved in managerial activities.

On the other hand, Setia-Atmaja, Tanewski and Skully (2009) claim that dividends smoothing in family-owned firms might be higher as dividend payouts serve as a mechanism to reduce expropriation concerns and to establish a reputation for treating minority owners fairly. Based on this argument, family firms are more likely to distribute more stable dividends and are more likely to smooth dividends.

2.4 Family firms

In the literature there is no standard definition of family firms. Anderson and Reeb (2003) defined family firms as the percentage of shares held by the founding family as well as the number of family members in the board. Du and Dai (2005) suggest that 10% ownership by the family is sufficient to determine effective control of the firm, whereas La Porta, Lopez-de-Silanes and Schleifer (1999) use a threshold of 20%. Bøhren (2011) defines a family firm as a firm with members that are related through blood or marriage, owning more than 50% of the shares in the firm. By using this definition, approximately 68% of all active Norwegian companies are family firms which makes them an important contributor to the Norwegian economy (Bøhren, 2011). Almost all family firms are private, but due to the unavailability of data for non-listed firms most research are done on listed companies.

Berzins, Bøhren and Stacescu (2014) show that a high potential of conflict of interest increases the average dividend payout ratio. As already mentioned, the conflict potential in family firms differs from non-family firms, hence their dividend payouts might be different. Further, family owners might be more attached to the firm than non-family owners. Hence, they might want to maintain the control in the firm, which might limit their access to additional funds. Bøhren (2011) argue that family firms often have two ways of raising equity. The family can either invest more of their wealth in the company or retain earnings. This gives them stronger incentives to retain earnings than non-family firms.
3. Hypotheses

3.1 Hypothesis 1
In family firms, agency problem 1 is less severe than in non-family firms as there is less separation between ownership and control. In such firms, the family serves as a majority shareholder able to influence management decisions. Consequently, the need to limit the manager's power by reducing FCF is lower in family firms than in non-family firms. As the family wants to remain in control of the firm, the management has less incentive to pay out dividends in order to maintain a good reputation among minority shareholders. Since family firms are more capital constrained they might be more likely to retain earnings.

Berzins and Bøhren (2013) argue that agency problem 2 is less serious in family firms as the large equity stake by the family reduces incentives for minority expropriation. Further, Berzins, Bøhren and Stacescu (2014) find that the stronger the potential conflict between majority and minority stockholders, the higher the dividend payouts. Based on these findings we expect dividend payouts to be higher in non-family firms.

H1: Dividend payouts in family firms are lower than in non-family firms.

3.2 Hypothesis 2
As the definition of a family firm used in this paper is a firm with family ownership above 50 % or more, the family has majority power and is able to elect a family member as their CEO. This is a common phenomenon, and thereby the manager and owner is the same person or at least share the same objectives in most family firms. As of this, we expect the dividends to be lower since there is no separation between ownership and management.

H2: In a family firm, the dividends are lower if the CEO is a family member.

3.3 Hypothesis 3
Previous research highlights the importance of a second large blockholder on dividend payout decisions. Having a second large shareholder who holds a significant equity stake in the firm is likely to affect the governance. More specifically, a non-family second blockholder is expected to serve as a disciplining
force to mitigate expropriation of minority shareholders. Hence, having a second blockholder is predicted to increase dividend payouts.

\[ H3: \text{Dividend payouts are higher in family firms with a second blockholder than in family firms without a second blockholder.} \]

### 3.4 Hypotheses 4 and 5

Michaely and Roberts (2006) found that wholly owned firms are more likely to alter their dividend payouts and less likely to smooth their dividends than private-dispersed firms. They argued that since wholly owned firms are subject to the least severe information and agency problems, there is a higher probability that they treat dividend as a residual decision, as predicted by Modigliani and Miller's (1961) irrelevance proposition. Since there is less separation between ownership and control in family owned firms than in non-family firms, we expect them to be more likely to alter their dividend payouts and that they smooth dividends to a lesser extent.

\[ H4: \text{Family firms are more likely to alter (increase, decrease, initiate, omit) their dividends than non-family firms.} \]

\[ H5: \text{Family firms are less likely to smooth their dividends than non-family firms.} \]

### 4. Data collection

For our master thesis we will use data from the Center for Corporate Governance Research (CCGR) database. This is a unique database containing corporate governance related data and accounting data for private Norwegian firms. The data needed is data on non-listed firms in the period from 2006 to 2013 in Norway. The tax reform in 2006 implied higher taxation on dividends, hence it could cause a structural break in the sample. Therefore, we will start with the accounting year of 2006.

### 5. Methodology

Since we will analyze a large number of firms over several years we find it appropriate to use panel data. By combining time series and cross sectional data, panel data give more informative data, less collinearity among variables and more efficiency (Gujarati and Porter 2009, 592). The descriptive statistics and the
regressions will be done in EViews and Stata.

5.1 The base case model

Our base case regression is the following:

Div\textsubscript{it} = α + β\textsubscript{1} Div\textsubscript{it-1} + β\textsubscript{2} FF\textsubscript{it} + β\textsubscript{3} CEO\textsubscript{it} + β\textsubscript{4} Age\textsubscript{it} + β\textsubscript{5} Size\textsubscript{it} + β\textsubscript{6} ROA\textsubscript{it} + β\textsubscript{7} Industry\textsubscript{it} + β\textsubscript{8} Growth\textsubscript{it} + β\textsubscript{9} Liq\textsubscript{it} + β\textsubscript{10} Risk\textsubscript{it} + ε\textsubscript{it}

Dependent variable:
Div\textsubscript{it} is the dividend ratio measured as dividends to earnings.

Explanatory variables:
Div\textsubscript{it-1} is the lagged dividend ratio as we expect to find autocorrelation between the dividend payouts in one period with the payouts in the previous period. It is reasonable that changes in the explanatory variables such as profitability (ROA) do not affect the dividend payouts immediately during one time period but rather with a lag over several time periods. The lagged variable is likely to reduce serial correlation in the residuals.

FF\textsubscript{it} is a dummy variable that will equal one if the family has the majority ownership and zero otherwise. To be characterized as a family firm in this thesis, the family members, related through blood or marriage, must own more than 50% of the shares in the firm. As of this, the ownership share consists of the sum of the family's direct ownership and indirect ownership through other firms. This is in line with the definition in Bøhren (2011).

CEO\textsubscript{it} is a dummy variable that will equal one if the CEO is a member of the family holding the largest share of the ultimate ownership in the firm and zero otherwise.

Age\textsubscript{it} is measured as the log of company age. As older firms are less capital constrained (Hadlock and Pierce, 2010) and more mature firms pay out more dividends (Grullon, Michaely and Swaminathan, 2001), dividends are increasing in age. Hence, we expect to find a positive relationship between age and dividends.

Size\textsubscript{it} is the size of the company and is measured as the log of sales. Fama and French (2001) found that large firms are more likely to pay dividends. Moreover, we expect
to find a positive relationship between size and dividends.

\( ROA_i \) measure firm profitability and is measured as earnings scaled by total assets. As a more profitable firm is more likely to pay out a larger share of their earnings, we expect to find a positive relationship.

\( Ind_i \) is a measure that capture the industry sector as we assume different sectors to have different payout ratios. We use dummy variables for nine different sectors that are available in the CCGR database.

\( Growth_i \) is measured by sales to assets. As a higher ratio reflects higher investment needs, we expect to find a negative relationship between growth and dividends.

\( Liq_i \) is a measure of the liquid assets in the firm. The proxy for this variable is cash related assets divided by total assets in the same year. Highly liquid assets yield lower transaction costs when paying out dividends. Firms with more liquid assets may also have more cash than they need for investments and operations (DeAngelo, DeAngelo and Stulz, 2006). Based on these arguments, we expect to find a positive relationship between liquidity and dividends.

\( Risk_i \) is a measure of the volatility in sales the past x years. By including this variable we aim to capture some of the effect of the firm-specific risk on dividends. We expect to see a negative relationship between risk and dividends.

### 5.2 Further considerations

#### 5.2.1 Endogeneity

One can argue that it is not the ownership structure that leads to different dividend payouts, but rather that the payout levels that influence the decision of the owner to remain as a shareholder in the firm. (Isakov and Weisskopf, 2014). Therefore, we recognize that there might be an endogeneity problem in the regression. This endogeneity problem can also be relevant for other variables such as the relationship between firm management and firm size. We will look further into the endogeneity problem by running tests when we get the data. A possible solution to this problem, is to lag the relevant variables (Palia and Lichtenberg, 1999).
5.2.2 Random vs Fixed Effects Model

Another challenge is to choose between the Random Effects Model and the Fixed Effects Model. The Random Effects Model is appropriate when the residuals are uncorrelated with the explanatory variables, whereas the Fixed Effects Model is appropriate when they are correlated (Gujarati and Porter 2009, 606). In order to determine the right model, we will run the Hausman and the Breusch-Pagan test.

5.2.3 Unbalanced sample

Since all variables are not observed for all entities and for all time periods, we have an unbalanced panel. New companies and companies that drop out of the sample, might have different dividend payouts and could possibly bias the result. (Isakov and Weisskopf, 2014). Therefore, we will consider to run a balanced panel of companies to check if this affect our findings.

5.2.4 Misspecification of variables

A further concern is misspecification of variables. In order to investigate the robustness of our results, we will run the same regression by using total payout as the dependent variable, including both dividend payout and share repurchases, instead of just dividend payouts. In addition, using earnings in our definition of dividends and total payouts can be problematic as earnings might be manipulated by management. Secondly, earnings could be negative and consequently yield a negative payout ratio. In order to investigate if the definition of dividends is appropriate we could use sales instead of earnings. Further, we will consider using other definitions of the control variables to check if the results are the same.

6. Progress plan

February: Get feedback from Siv Staubo and make adjustments.
February/March: Preliminary presentation and make adjustments.
1st March 2015: Done with research part.
1st April 2015: Deliver draft to Siv Staubo.
1st May 2015: Send in Master Thesis to Siv Staubo.
7. References


