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Earnings Management Priorities of Private Family Firms

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Earnings Management Priorities of Private Family Firms

Abstract

We compare earnings management priorities of private family and private non-family firms. Our study is made possible by the availability of a new and unique database on family relationships between CEOs, board members and owners of private Norwegian firms. We hypothesize and find that compared with private non-family firms, private family firms are likely to manage earnings downward. However, we also find that highly leveraged private family firms make more income increasing accounting choices than highly leveraged private non-family firms. Finally, we document that CEOs representing controlling families promote earnings management, and independent board members somewhat mitigate it. We note that research on the relationship between financial reporting quality and family governance is quite limited. We contribute to this emerging literature.

Key words: Earnings management, family and non-family private firms

Data Availability: The data used in this study is a property of the Center for Corporate Governance Research at the Norwegian School of Management

1. Introduction

The primary objective of this paper is to investigate differences in earnings management (EM) between private family firms and private non-family firms. We adopt Healy and Wahlen's (1999; 368) definition of EM as follows:

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.

We argue that private firms' motivations to manage earnings are different from those of public companies, and that family firms' motivations are different from non-family firms' motivations. For example, while capital markets may be a key determinant of EM by public firms, capital markets effect on EM is negligible in private firms. Instead, the salient factor influencing EM in private family firms is the relationship between the controlling family and other stakeholders. The controlling family may be motivated to conceal the true financial performance of the firm to outsiders, and manage earnings with the objective of reducing reported income. Under financial stress, however, the priority of family firms may shift to defending continued family control. We expect that the recourse to income increasing accounting choices is stronger in menaced private firms that are family owned than in those that are not family owned.

The secondary objective of our research is to investigate how EM priorities are affected by family involvement in the firms' governance structure. Specifically, we investigate the effects of having a family member as a CEO and having independent members (i.e. non-family members) on the board.

We use a unique database of family and non-family private firms that has recently become available from the Center for Corporate Governance Research (CCGR) at the Norwegian School of Management. The CCGR database contains financial and nonfinancial

data on limited liability companies in Norway. For example, in addition to firm-specific financial statements data, the CCGR database contains detailed information about the identity of shareholders, board members, top executives, and their kinship and marriage. The family data in the database allows us to investigate the effects of family/non-family ownership (our primary objective) as well as governance factors such as family CEO and independent board (our secondary objective) on EM.

We hypothesize and find that private family firms generally manage earnings *downward* compared with non-family private firms. However, under conditions of high leverage private family firms show stronger tendencies for income increasing EM than non-family private firms. Controlling for a number of variables such as firm age, size, growth, profitability and auditor type (Big-4/others), we also find that family CEOs are generally more loyal to family EM priorities than non-family CEOs and that independent boards to some extent mitigate EM in family firms.

The study investigates a highly significant and yet under-researched segment of the economy. Specifically, the literature suggests that a majority of the companies in the global economy are private, of which many are family-controlled (Burkhart et al. 2003; La Porta et al. 1999; Colli 2003; Katz 2009). However, due primarily to the lack of reliable data in the past this segment of the economy has been under researched in the literature. We contribute to the literature by documenting differences in EM between family and non-family firms. We also contribute to the corporate governance literature by providing new insight into the role that family control and family involvement in the firm's corporate governance structure play in financial reporting. Such knowledge is important for investors, tax authorities, creditors, and other stakeholders who rely on financial statements of private firms to make economic decisions. Academic researchers can also benefit from this knowledge as prior studies, especially those analyzing private firms, may suffer from omitted variable problems due to inadequate control of family ownership and family involvement.

The background literature leading to the study's research hypotheses is presented in Section 2. We start by reviewing the literature on EM in order to sort out the motivations that may be relevant to EM by private family firms. We then describe the institutional setting of financial reporting of private companies in Norway. Lastly we look at the characteristics of family firms that may have an effect on their accounting choices. Section 3 presents the study's research method, where the sample is identified and EM measures are specified, followed by specification of our regression models. Data analysis and results are presented in Section 4, followed by the final section on a summary and conclusions.

2 Background and Hypotheses

2.1 Empirical Findings of Earnings Management in Private Firms

Most influential studies of EM have been conducted on U.S. listed companies (see Healy and Wahlen 1999; Fields et al. 2001 for reviews). However, there are some exceptions. A few works that scrutinize the reporting patterns of specific industries (Beatty and Harris 1998; Beatty et al. 2002; Beuselinck and Manigart 2007; Katz 2009) have small samples that include private (non-listed) firms. EM studies of private non-U.S. companies have also gradually become available. Ball and Shivakumar (2005) who investigate U.K. companies find private companies to have less timely loss recognition than public companies. Burgstahler et al. (2006) find private companies from 13 European Union (EU) countries to have more pervasive EM than public companies. Van Tendeloo and Vanstraelen (2008) find EM tendencies of private firms to vary across countries, and Arnedo et al. (2007) report no more income smoothing in Spanish private companies than public firms.

We add to this literature by investigating EM in *family controlled* private firms, an area of research almost entirely ignored in the extant literature. In the next sections (2.2 and 2.3) we first discuss various motivations and opportunities for EM in private firms in general. We then turn to the particular characteristics of family firms (Section 2.4). Based on the discussion in sections 2.2 – 2.4, we develop our hypotheses in Section 2.5..

2.2 Motivations for Earnings Management in Private Firms

Reviews of prior literature (e.g., Healy and Wahlen 1999; Fields et al. 2001) commonly distinguish between capital markets, contracting, and regulatory motivations for EM. The capital markets motivation refers to the interest of the listed firms to influence their stock prices by their reported accounting information. Because stocks of private companies are not publically traded, the capital markets motivation is not a significant consideration for EM in private firms, unless they prepare for initial public offering. Hence, we disregard capital markets motivations in our study of family controlled private firms.

Contracting motivations relate to the expected outcomes from contracts between companies and their contracting parties. For example, executive compensation contracts may result in EM by companies to maximize CEO remuneration (e.g. Healy 1985; Holthausen et al. 1995) when there is an explicit or implicit link between executive compensation and accounting numbers. Another contracting motivation is when a company manages its earnings so as to stay within the requirements of its debt covenants (Sweeney 1994).

Contracting motivations encompass internal agency conflicts such as executive compensation and external agency conflicts such as obligations toward lenders or minority shareholders. These conflicts can occur in both listed and private companies. However, as discussed in Section 2.4 below, research indicates that agency conflicts may evolve differently in family and non-family firms.

Regulatory motivations address EM in response to government regulation that is sensitive to reported accounting numbers. Examples include taxation, regulation of capital adequacy for banks and insurance companies, and fair competition legislation. In contrast to capital markets and contracting motivations, which are universal in nature, regulatory motivations have a distinct national flavor that depends on political priorities and consequential actions of various jurisdictions. For example, the magnitude of tax-motivated EM depends on the degree of book-tax conformity, which differs between countries. To the

extent that book and tax incomes are aligned, companies have an incentive to defer income recognition and advance expense recognition so as to minimize the present value of future taxes payable. Another important regulation is the limitation of dividend payout. For example, the 2nd EU Company Law Directive limits dividend distribution to the current and retained earnings. Thus, a dividend policy that is focused on maximizing the present value of future dividends to shareholders may trigger income increasing EM (Kasanen et al. 1996).

Tax considerations are not likely to be significant for EM in countries with weak book-tax alignment. Our study uses data from Norway, a country where book-tax alignment is particularly weak (Nobes and Schwencke 2006). Nevertheless, a formal separation of tax and accounting rules may not be a sufficient condition for independence of tax and financial reporting. If the tax and accounting rules are separate but largely similar, substantial differences may undermine the credibility of either financial or tax income and increase the probability of a tax audit. Therefore, even in an environment of low book-tax alignment tax planning may be a reason for income-decreasing accounting choices.

Similarly, the optimal accounting strategy for maximizing the value of the dividend stream in the presence of earnings-related limits on payouts to shareholders is not straightforward. An aggressive accounting policy that brings upfront the expected future value creation of the business so as to generate dividends early rather than late, may at first glance seem to serve the interests of the shareholders. However, to the extent that these accounting choices and dividend policies jeopardize the firm's future prospects or reputation, or serve poorly the personal tax interests of the owners, this strategy may prove to be detrimental. An alternative strategy for a company may be to smooth the income stream distributed to its owners. Early studies of dividend-related smoothing have been reported in the U.S. context, where Graham and Dodd (1951) argued for investors' preference for dividends, and Lintner (1956), based on interviews with corporate managers, proposed a dynamic model with partial adjustments to explain changes in the level of dividends. More

recently, Fudenberg and Tirole (1995) developed a theoretical framework of dividend smoothing that also incorporates smoothing of accounting income. Overall, this literature suggests that dividend policy may be a powerful motive for EM in both private and listed firms.

In summary, private firms may have reasons to engage in EM as a response to agency conflicts and in order to ease the tax burden or facilitate a particular dividend pattern.

2.3 Opportunities to Manage Earnings in Private Firms

Financial reporting quality does not depend only on managers' motivations, but also on the institutional setting and users' requirements (Ball et al. 2000, Bushman and Piotroski 2006). In Europe, limited liability companies are generally required to prepare financial statements, irrespective of whether their securities are traded or not. Norwegian private companies are subject to the provisions of the 1998 Accounting Law and accounting standards issued by the Norwegian Accounting Standards Board (see Appendix A), whereas listed companies (which are not a part of this study) report under IFRS.¹ In general, the Norwegian GAAP is considered to be less burdensome, but also less informative, than IFRS or U.S. GAAP, and it relies more extensively on broad principles. The accounting numbers have a direct impact on the flows between the company and its owners by the virtue of legal provisions that link the dividend potential to reported earnings (current or retained). A noteworthy difference between public and private firms' financial reporting is that listed companies are subject to IFRS enforcement by a government supervisory body, whereas the only external control of private firms' financial reporting is that carried out by their auditors. Thus, for accounting non-compliance the litigation risk in Norway is deemed low (Hope and Langli 2010). Flexible accounting standards, modest supervision and low litigation risk may provide ample opportunities for EM in Norway.

¹ Non-listed companies may opt for IFRS reporting, but so far they have not widely adopted this option.

Another noticeable national trait of the Norwegian accounting regulation is the degree of transparency of private firms' financial reporting. All limited liability companies' financial reports are mandatorily filed with a national financial statements registry from where they are accessible to the general public. The easy access to companies' reports allows stakeholders (employees, contracting parties etc.) to use them at will.²

Users' needs for accounting information from private firms and listed firms are not identical, resulting in different EM opportunities for listed and private firms. Specifically, listed firms seek external financing in the capital and credit markets and in doing so they are compelled to satisfy investors' and creditors' demand for decision-useful information, such as reliable financial statements and earnings announcements. If the information quality is deemed unsatisfactory, investors and creditors will be reluctant to provide financing to the firm. This will in turn increase the firm's cost of capital, to the detriment of its shareholders' interest and most often also its management's interest. From this perspective capital markets provide an effective monitoring of financial reporting quality of listed firms (Burgstahler et al., 2006).

In comparison, private firms secure financing through contracting with private parties such as banks, to which they convey information through private channels (Petersen and Rajan 1994; Berger and Udell 1995). Private firms are more closely held and monitored by owners than listed companies, they often have owners as managers and board members, their lenders more often have direct access to the firm's inside information and its decision-making processes, and there is no market in their residual equity instruments that can be actively misled by financial statement numbers. In short, the providers of capital do not depend on the statutory financial statements of private firms to the same extent as public firms, and hence do not as effectively oppose them from being managed.

² Detailed financial and non-financial information are available for all limited liability firms in Norway free of charge, see www.proff.no, www.1881.no, and www.purehelp.no.

In summary private firms have ample opportunities to manage earnings. These opportunities are at their highest in countries where local GAAP is more flexible than international GAAP (i.e., IFRS or U.S. GAAP) and the book/tax alignment is loose. For example, while financial statements of private companies are subject to audits and are publicly available in Norway, they nevertheless are less scrutinized by supervisors, analysts and the media than financial statements of listed firms. These conditions provide a particularly rich context to investigate EM priorities of private firms.

2.4 Characteristics of Public and Private Family Firms

Studies of family firms are primarily focused on their financial performance and organizational setup compared with non-family firms (e.g. Anderson and Reeb 2003, Beehr et al.1997; Daily and Dollinger 1992; McConaughy et al. 2001, Gomez-Mejia et al. 2001, Villalonga and Amit 2006, Chrisman et al. 2004). As pointed out by Dyer (2006), these studies vary significantly with respect to their definitions of family firms, performance criteria, sample criteria, and methodology.

Only a few studies have investigated financial reporting patterns of family firms, and they are in the context of *listed* firms that have a significant portion of family ownership. For example, studying S&P 500 companies, Wang (2006) finds that family firms on average have higher earnings quality than non-family firms. Ali et al. (2007), also using S&P 500 companies, report higher earnings quality in family firms than non-family firms, but family firms disclose less information than non-family firms (see also Chen et al. 2008; Anderson et al. 2009). Using a sample of Italian listed firms, Prencipe et al. (2008) find less income-smoothing behavior but more EM related to debt contracts in family firms than in non-family firms.

Our review of theory and research in the previous sections suggests that EM in private firms may result from contracting motivations (i.e. agency conflicts) as well as from regulatory motivations. Our objective is to identify differences in EM patterns between

private firms with and without family control. For this purpose contracting motivations are interesting because they are influenced by family firm characteristics. Regulatory motivations relating to tax or the ability to pay dividends are likely to influence the accounting choices of all sorts of private firms, but we do not expect those that are family controlled to have motivations that are fundamentally different from other private firms.

A reason for variations in financial reporting quality between family and non-family firms may be that their agency conflicts are different.³ We use “ultimate ownership” for our definition of family ownership and define family control by the largest family owning a minimum of 50 percent of the firm.⁴ Consistent with the established agency theory we argue that the controlling family’s interest is likely to be aligned with that of the firm as a whole (Morck et al. 1988). Family firms often have a low level of internal agency conflict, because their managers tend to act in accordance with the interests of the controlling family owners (Jensen and Meckling 1976). The family effect is stronger when top management is recruited from the members of the controlling family. Ensley and Pearson (2005) show that management teams of family firms are more cohesive than those of non-family firms. Family ownership has the potential to generate a firm community with common goals, trust and values.

However, unity and common goals may not always be the case in family firms. As Dyer (2006; 260) argues, family firms may be “the breeding grounds for relationships fraught with conflict.” Such conflicts typically emerge between the family members that exercise control on behalf of the family and the “passive” family shareholders, and they resemble the external conflicts that may arise relative to non-family stakeholders. The typical example of an external agency conflict is the controlling party’s tendency to expropriate benefits from

³ Hope et al. (2010) analyze the relation between auditor effort and agency conflicts in private firms and document that the agency conflicts vary systematically with family involvement.

⁴ Wang (2006) defines family firm as one that either has a founding family member on the board or has some ownership by the founding family. We do not have information on founding families, and thus define family firm as a firm controlled by one family (i.e. owned by 50 % or more). See details in Section 3.2.

minority shareholders. Shleifer and Vishny (1997) argue that large undiversified owners, such as founding family members, may forego maximum profits when they are unable to separate their own financial preferences from those of owners outside the family. Demsetz (1983) holds that family owners may choose non-pecuniary benefits at the expense of profitable projects. Such actions harm the interests of non-controlling shareholders.

Internal and external agency conflicts are likely to generate different outcomes with respect to EM. A manager who is not fully trusted by the controlling shareholders but in charge of accounting choices may manage earnings upwards in order to embellish the true performance of the company. If the predictions of small internal agency conflicts in family firms are right, we may expect less EM of this kind in family firms compared with non-family firms. Conversely, when there is a strong shareholder who seeks to squeeze a weaker one, it may be in the stronger party's interest to conceal the true company financial performance in order to make it more difficult for the weaker party to claim its share. To the extent that such external agency conflicts are stronger in family firms than in non-family firms, we may expect more income-reducing EM in family firms.

There are more family firm characteristics that potentially trigger EM. Becker (1974) argues that the principal governance objective of the controlling family is to maximize family income and consumption. However, although profitability may be an important goal in family businesses, it coexists with a desire to derive utility for the controlling owners independent of the financial flows, a phenomenon commonly referred to as family altruism or the "amenity potential" (Demsetz and Lehn 1985). An example of this is the pleasure that a company founder may derive from seeing the company run by one of his/her own children. When the amenity potential is sufficiently strong, it may incite the family owner to strive to maintain control, even at the expense of other objectives, such as profitability. A related phenomenon particular to family firms is that the family reputation may be associated with the conduct of the firm. For example, family firms may be used as a base for political influence. Both the

amenity and reputation arguments may foster strategies for the preservation of family control (Burkhart et al., 2003), frequently labeled the entrenchment effect.

Another related feature is paternalism and “democratic capitalism” of family firms that are cornerstones of small local communities (Gulbrandsen 2005; Astrachan 1988). The entrepreneur family has a civic role in the community that goes beyond being a major employer and tax-payer. Examples include sponsoring local sports, religious and cultural activities, being a caretaker of the welfare of employees, and more generally sharing local values. In this role the family may prefer not to show off its wealth too openly because it might create an undesirable distance to the local community.

In terms of EM, the entrenchment effect implies that family firms use accounting choices actively when it comes to defending the continued family control. Whenever the continued control is menaced, we expect family firms to undertake income-increasing measures. On the other hand, the paternalist role would rather indicate income-decreasing measures. The family would rather have large hidden reserves than high earnings and dividends. Notice that the two predicted strategies are contingent on the financial position of the family firm.

2.5 Hypotheses

The literature discussed above indicates tension in establishing hypotheses. For the reasons specified below we conjecture that private family firms are more eager than non-family firms to understate true financial performance, or to avoid overstating it. First, the natural inclination for the family is to keep the wealth in the family and to curb distributions to non-family (external) stakeholders. This result can be more easily achieved when the reported financial performance is lower than the true performance. External stakeholders in this respect include minority shareholders, employees, suppliers, and others. Second, the internal agency conflicts between managers and shareholders are believed to be lower in family firms than in non-family firms. Hence, there may be a force for inflating income in

non-family firms that is mostly absent in family firms. Third, the paternalist argument, meaning that locally rooted family owners prefer not to show off too much of their wealth in public, supports the idea of income-reducing EM. Thus, our first hypothesis is:

H₁: Private family firms manage earnings downward more extensively than private non-family firms.

Amenity and entrenchment may result in a family firm avoiding situations where it is forced to dilute the shareholdings of the controlling family. A strategy for keeping family control is to establish and maintain a stable banking relationship or “relationship lending.” In this setting the principal bank gains an informational advantage over other lenders by the virtue of its insight into company’s transactions (cf., Fama 1985). There is evidence in the literature that relationship lending increases company value (James 1987; Petersen and Rajan 1994), gives access to lower borrowing costs (Berger and Udell 1995), and facilitates credit extensions (Cole 1998). Relationship lending results in the bank receiving its desired information through private channels, thus there is no strong desire by the firm to publish detailed financial statements to the public.

However, this relationship may not hold under adverse economic conditions. Like other companies, family firms are often subject to restrictive covenants in their borrowing agreements. These covenants frequently require key financial ratios to be held at certain limits. When these limits are violated, the owners’ continued control may be at risk, resulting in incentives to manage earnings. In family firms such behavior may be exacerbated by the entrenchment effect. Because more importance is attached to continued control in family firms than in other firms, we suggest that family firms will be more likely than other firms to exploit financial reporting flexibility upward in a situation where leverage is high. This argument suggests the following hypothesis.

H₂: Leveraged private family firms use income increasing measures more extensively than other leveraged private firms.

Following Wang (2006) we include family CEO as a test variable. As explained in Section 2.4, agency problems between managers and owners are generally less of a concern in family firms than in non-family firms (Anderson and Reeb 2003). Cheng (2005) argues that the need for tying CEOs' pay to earnings figure is low in family firms because the CEO is often a member of the family and his/her interests are aligned with the owners' interests. However, although family firms often pick one of their own as CEO, they may hire non-family members in top managerial positions when a qualified person is unavailable in family circles (Anderson and Reeb 2003). The typical executive compensation contract for a non-family CEO often includes a bonus scheme relating to accounting numbers. Chrisman et al. (2007) provide exploratory evidence that non-family CEOs behave as agents that are motivated by incentive compensations. We therefore conjecture that a family CEO tends to be more loyal to family priorities than a non-family CEO. Thus:

H_{1A}: Family CEO reinforces income reducing tendencies of private family firms.

H_{2A}: Family CEO reinforces income increasing tendencies of leveraged private family firms.

Another test variable is the presence of non-family board members. Family firms may have stronger need for advice from their boards than the monitoring function of the boards in non-family firms and listed companies. As Dalton et al. (1988) suggest, independent directors contribute expertise and objectivity that counterbalances managerial tendencies of entrenchment and expropriation. Independent board members generate critical assessments of firm projects and ask insiders the really difficult questions about firm activities (Winter 1977). Also, independent directors provide a line of defense for protecting the rights of non-controlling outside shareholders (Anderson and Reeb 2004). Finally, independent board members may have the ability to prevent the nomination of an unqualified family member as CEO (Shleifer and Vishny 1997).

The strong influences of independent board members suggest that their presence is positively associated with financial reporting quality. However, empirical research on the financial reporting quality effect of independent board members is mixed. Using data from Canada, Park and Shin (2004) find little evidence that presence of independent board members reduces discretionary accruals. Conversely, Peasnell et al. (2005) find evidence that outside directors on the board contribute to less EM in U.K. companies. We conjecture that outside board members have a crucial role to counterbalance unsound family governance in family firms, resulting in higher quality of earnings. Thus, we expect that:

H_{1B}: Independent board members mitigate income reducing tendencies of private family firms.

H_{2B}: Independent board members mitigate income increasing tendencies of leveraged private family firms.

In addition to test variables, we control for variables that have been identified in prior research (e.g., Ashbaugh et al. 2003; Kothari et al. 2005; Burgstahler et al. 2006; Dechow et al. 2008) to affect EM (see Section 3.2).

3 Research Design

3.1 Choice of research design and dependent variable

We adopt the mainstream research design of EM studies by regressing a measure of discretionary accruals on a set of test and control variables. The dependent variable (discretionary accruals) is detailed in this section and the choice of test variables and control variables for the regression models is explained in Section 3.2.

We measure a company's EM by the intensity of its use of discretionary accruals. Hence, large amounts of discretionary accruals indicate income increasing earnings management, and small (or negative) amounts indicate income decreasing earnings management.

Following Kothari et al. (2005) we measure discretionary accruals (*DA*) as the residual from the performance adjusted modified Jones model (all variables are defined in Exhibit 1):⁵

$$TAC_{it}/TA_{it-1} = \lambda_0 + \alpha_1(1/TA_{it-1}) + \lambda_2(\Delta SALES_{it} - \Delta REC_{it})/TA_{it-1} + \lambda_3PPE_{it}/TA_{it-1} + \lambda_4ROA_{it} + \varepsilon_{it} \quad (\text{TAC})$$

--Insert Exhibit 1 about Here--

TAC is total accruals and *TA* is total assets. The reason for incorporating a constant term is that it provides an additional control for heteroskedasticity (beyond that provided by scaling with lagged total assets). Consistent with prior research that uses cross-sectional versions of discretionary accrual models (DeFond and Park 1997, Kothari et al., 2005), we subtract changes in accounts receivables (ΔREC) from changes in sales ($\Delta SALES$) prior to estimating the model. Following Ashbaugh et al (2003) and Kothari et al. (2005) we add return on total assets (ROA_{it}) to control movements in accruals related to normal performance. Performance adjustment is potentially important also because there might be differences between family and non-family firms in firm performance due to differences in agency cost and willingness to invest in (risky) projects that require new financing (Anderson and Reeb, 2003).⁶

3.2 Regression Models

We use the following basic model to test H_1 (family firms manage earnings downwards more extensively than non-family firms):

$$DA_{it} = \alpha_0 + \alpha_1 LF_{it} + \alpha_2 BIG4_{it} + \alpha_3 LEV_{it} + \alpha_4 LN TA_{it} + \alpha_5 GROWTH_{it} + \alpha_6 LN AGE_{it} + \alpha_7 CYCLE_{it} + \alpha_8 ROA_{it} + \sum \alpha_k INDUSTRYk_{it} + \sum \alpha_m YRm_{it} + \varepsilon_{it} \quad (1)$$

⁵ The effects of using other models to estimate discretionary accruals are reported in the Additional Analysis Section. The model is estimated for subsets of industry-year samples that contain at least 50 observations. Firms in industries with less than 50 observations in any year are treated as a separate industry.

⁶

We regress the EM measure, DA_{it} on the test variable LF_{it} which indicates whether or not the firm is family controlled. We define $LF_{it} = 1$ if firm i is owned by 50% or more by one single family in year t using information on the firm's ultimate ownership, and 0 otherwise. Persons who are related vertically through parents or grandparents (based on kinship or adoption), or persons married to any persons with such family relationship, are treated as one single family. Thus, horizontally our family definition includes nephews / nieces and their spouses. According to H_1 (family firms decrease earnings more than non-family firms) we expect α_1 be negative.

Based on previous research we include control variables that are known to correlate with discretionary accruals (referred to as *CONTROLS* in the equations below). Thus we control for auditor type ($BIG4_{it}$), leverage (LEV_{it}), firm size ($LNTA_{it}$), profitability (ROA_{it}), growth in sales ($SALES_{it}$), length of the operating cycle ($CYCLE_{it}$), and firm age (AGE_{it}). $BIG4_{it}$ is an indicator variable for whether the firm is audited by one of the Big 4 auditor firms or not. LEV_{it} is the leverage ratio (debt to total assets). Firm size is measured as the natural log of the book values of total assets at the end of the fiscal year ($LNTA_{it}$), profitability is the return on total assets (ROA_{it}), growth ($GROWTH_{it}$) is the annual growth rate in *SALES*, and operating cycle ($CYCLE_{it}$) is the length of the firm's operating cycle in days. Firm age ($LNAGE_{it}$) is the natural log of the number of years from incorporation to year t . We include $k-1$ dummy variables for k industries to control for industry differences (each k representing one two-digit industry code). Finally, YRm_{it} is an indicator variable that equals 1 if observation of firm i is from year m , and 0 otherwise.

Model (1ab) tests H_{1a} (CEOs from the controlling family are more inclined to reinforce family firms' income reducing tendencies than other CEOs) and H_{1b} (independent board members mitigate the tendency to manage earnings downward):

$$DA_{it} = \alpha_0 + \alpha_1 LF_{it} + \alpha_2 CEO_LF_{it} + \alpha_3 IB_LF_{it} + \alpha_4 IB_{it} + CONTROLS_{it} + \varepsilon_{it} \quad (1ab)$$

We define $CEO_LF_{it} = 1$ if the CEO is related by kinship or marriage to the controlling family and 0 otherwise (i.e. when there is either no controlling family, or the CEO is not a member of the controlling family). According to H_{1a} we expect α_2 to be negative. The presence of non-family board members (IB_{it}) in family-controlled firms is measured by IB_LF_{it} which equals 1 if the firm is controlled by one family and the firm has at least one board member that is not related by kinship or marriage to the controlling family, 0 otherwise. According to H_{1b} we expect α_3 to be positive.

Model 2 is used to test H_2 (leveraged family firms use income increasing measures more extensively than non-family leveraged firms), while model 2ab is used to test H_{2a} (family CEOs reinforces income increasing tendencies in leveraged family firms) and H_{2b} (independent board members mitigate income increasing tendencies of leveraged family firms):

$$DA_{it} = \alpha_0 + \alpha_1 LF_LEV_{it} + \alpha_2 LF_{it} + CONTROLS_{it} + \varepsilon_{it} \quad (2)$$

$$DA_{it} = \alpha_0 + \alpha_1 LF_LEV_{it} + \alpha_2 LF_{it} + \alpha_3 CEO_LF_LEV_{it} + \alpha_4 CEO_LF_{it} + \alpha_5 IB_LF_LEV_{it} + \alpha_6 IB_LF_{it} + \alpha_7 IB_{it} + CONTROLS_{it} + \varepsilon_{it} \quad (2ab)$$

LF_LEV_{it} is the test variable for H_2 , and it is defined by $LF_LEV_{it} = LF_{it} * LEV_{it}$. It follows that LF_LEV_{it} equals 0 for all non-family firms. For family firm i it equals its leverage ratio. Consistent with hypothesis H_2 we expect α_1 of Model 2 to be positive, and according to H_{2a} (H_{2b}) we expect α_3 (α_5) of Model 2ab to be positive (negative). The control variables ($CONTROLS$) are identical with those of Models 1 and 1ab.

4. Data Analysis and Results

4.1 Source of Data

The source of data for our analysis is the new and unique CCGR database. For all limited liability firms in Norway, the CCGR database contains various financial and non-

financial data, including very detailed information on CEOs, board members and owners (i.e., direct and ultimate ownership). In addition, all persons serving as CEOs, board members or owners are assigned to families based on proprietary information on kinship and marriage. (See Appendix B for details). CCGR has obtained special permission to gather and merge data from the Norwegian Data Inspectorate, an independent administrative body set up to ensure that private and public storage and use of data are in accordance with the Norwegian Personal Data Act. We gained access to the CCGR database through a special grant agreement.

Sample selection criteria and sample sizes are shown in Table 1. Specifically, there were 1,232,875 observations of limited liability companies in CCGR database for 2000-2007. Of these, 3,951 were excluded because they were public limited companies (including listed companies). We also excluded more than 830,000 observations because they related to very small companies (less than NOK 800,000, or approximately US\$ 130,000, in operating revenue or total assets in at least one of the years under consideration). Other reasons for excluding observations were missing data on the company founding date, use of IFRS, reporting currency other than NOK, missing industry affiliation, and firm being in the financial industry. More than 80,000 observations were excluded because they related to subsidiaries or companies controlled by the government, and more than 40,000 observations were excluded because information on kinship and marriage of the relevant companies' owners and CEOs was missing. As reported in Table 1 this screening resulted in a sample of 215,349 company-years for tests of our hypotheses.

-- Insert Table 1 about here --

4.2 Descriptive Statistics

Table 2 presents descriptive statistics on dependent and independent variables for all firms (Panel 1), by type of ownership (non-family firms in Panel 2 and family firms in Panel 3) and tests for significant differences between non-family and family firms (Panel 4).

-- Insert Table 2 about here --

Table 2 reveals distinct differences between family and non-family firms. All the test and control variables are significantly different. The only variable that is not significantly different between the two groups is the discretionary accruals (*DA*). Family firms are older, have longer operating cycles, slower growth, and they have higher leverage and return on assets ratios than non-family firms. In addition, they less often have independent board members and Big 4 auditors.

Table 3 presents Spearman correlation coefficients between dependent variables, test variables and selected control variables. As expected, correlations between original variables and their interaction variables are highly significant.⁷

-- Insert Table 3 about here --

4.3 Multivariate Tests

Table 4 presents the results of the OLS regressions used to test the hypotheses. Our focus in Model 1 is on the coefficient of the family firm variable, *LF*. The coefficient is negative and significant at the .01 level, providing statistical support for H₁. It indicates that family firms tend to use discretionary variables so as to decrease earnings. The control variables are also mostly significant (across all models), and in line with results from prior research. Specifically, high leverage goes together with income increasing accruals, and Big 4 auditor helps to keep them down. Larger firms use less income increasing accruals than smaller, whereas profitable firms (measured by ROA) actively boost earnings.

-- Insert Table 4 about here --

⁷ High correlation coefficients (above 0.77) exist between *LEV* and *LF_LEV* and between *LF_LEV* and *CEO_LF_LEV*. Thus, multicollinearity is a potential source of concern. All regressions have been tested for multicollinearity. Most severe multicollinearity is found in model 2ab in Table 4 with a variance inflation factor (VIF) of 10.8 for *LF_LEV*, which exceeds the critical value of 10 as recommended by Lardaro (1993). Estimating the model without *LF_LEV* (which is insignificant in Table 4) yields identical results for the variables remaining in the model and the VIF's are well below the critical value of 10. Thus we conclude that multicollinearity is not a major concern in our study.

Model 1ab tests the roles of the family CEO and the independent board members of family firms. Our focus is the coefficient of *CEO_LF*, which we expect to be negative since the family CEO may help the family carrying out its EM strategy. We expect the coefficient of *IB_LF* to be positive since independent board members may mitigate the EM tendencies of the controlling family. Table 4 indicates mixed support for these hypotheses. Specifically, when additional test variables are included, the family firm variable becomes insignificant. Furthermore, while we find a negative coefficient for *CEO_LF* as predicted by H_{1a}, the coefficient is significant at a marginal level (p-value of 0.103 using two-sided tests). When it comes to independent board members, they generally contribute to increase earnings, as evidenced by the highly significant *IB* coefficient. However, the separate incremental effect of the independent board member in family firms is negative and significant at the .05 level, which is opposite of our prediction (H_{1b}).⁸

Model 2 shows whether family firms with high leverage use income increasing measures more extensively than non-family firms (H₂). As expected, we find a highly significant positive coefficient for the variable *LEV*, which suggests that all leveraged companies tend to inflate earnings. Our test variable is leverage interacted with the family variable (*LF_LEV*). The coefficient of this variable is positive and highly significant, indicating that leveraged family firms more actively manage earnings upward than non-family firms. We note in Model 2 that the coefficient of *LF* remains negative and strongly significant. Thus, Model 2 confirms the existence of two opposite EM tendencies in family firms relative to non-family firms: They are income decreasing in normal circumstances, but income increasing when highly leveraged.

Model 2ab adds variables that test H_{2a} and H_{2b}. We find support that the family CEO reinforces the use of income increasing accounting choices in leveraged family firms (H_{2a}),

⁸ We report the results of an alternative definition of independent board members in the Additional Analysis section.

and that independent board members attenuate these tendencies (H_{2b}). However, when these variables are included in the regression model, the coefficient of LF_LEV becomes insignificant. A possible interpretation of this result is that the incremental EM in leveraged family firms only takes place when there is a family CEO at the helm.

Model 2ab produces results indicating that the CEO_LF variable has a negative and statistically significant coefficient, which is expected when H_{1a} is true. Thus Model 2ab provides stronger support for H_{1a} than Model 1ab. An interpretation of this result is that Model 1ab does not adequately control for the fact that the EM priorities of these firms are strongly opposite depending on their leverage ratio. The coefficients of CEO_LF and CEO_LF_LEV in Model 2ab strongly indicates that family CEOs most often help family firms to conceal earnings, but they also help family owners boost their firms' earnings when financial conditions are strained (i.e., leveraged). Hence, in Model 2ab we find support for both H_{1a} and H_{2a} .

Insufficient control for the effect of leverage in family firms may also explain why, contrary to our predictions, the coefficient of IB_LF is significant and negative in Model 1ab. Model 2ab results show that independent board members counter the income-increasing tendencies of family firms when leverage is high. In other circumstances the independent board member has no effect on EM in family firms (see the insignificant coefficient of variable IB_LF in Model 2ab) . Hence, we find no support for H_{1b} but we find strong support for H_{2b} .

4.4 Additional Analyses

In this section we report the results from various sensitivity and robustness tests.⁹ First, we repeated all tests using percentage ownership of the largest family owner instead of the binary measure (50% ownership or more versus less than 50 %) used in the initial analyses. The results from estimating Model 1 and Model 2ab are identical to those reported

⁹ All supplemental tests are untabulated. Results are available from authors upon request.

above. For the other models, we find the same effect for *CEO_LF* and *IB_LF*, but *LF_LEV* becomes insignificant.

To assess the sensitivity of the results to the different methods of measuring discretionary accruals, we repeated all tests using the original cross sectional modified Jones model as proposed by Dechow et al (1995) and the modified Jones model as implemented by Kothari et al. (2005). The results for Model 1 and Model 2ab were identical to those reported earlier. For the other models the original modified cross sectional Jones model produced similar results to those that are tabulated with one exception: *LF_LEV* becomes insignificant. For the Kothari et al. (2005) version of the cross-sectional modified Jones, *CEO_LF* becomes statistically significant while the results for other variables stay the same as those reported earlier.

H_{1b} predicts that independent board members moderate EM in family firms. However, the results reported are mixed, as discussed in the previous subsection. In the principal tests *IB* is defined as being equal to 1 if there is at least one non-family member on the board, 0 otherwise. We tested our models for an alternative definition of independent board, where *IB* is equal to 1 if a majority of the board members is independent of the largest family, 0 otherwise. Defined this way, *IB* indicates a state in which the controlling family has surrendered the control over board decisions to non-family members. However, this alternative definition of independent board members did not change any of the results reported earlier.

All regression models results reported in Table 4 produce highly significant and negative coefficients for the *BIG4* variable, which indicates that companies with a Big 4 auditor have smaller discretionary accruals (less income increasing) than companies with other auditors. We did not include the use of Big 4 auditor in our hypotheses, because we had no reason to believe that it would work differently in family and non-family firms. We have nevertheless tested whether interacting *BIG4* with *LF* or *LF_LEV* would produce significant

coefficients or influence other test variable coefficients significantly. We did not find any evidence of such effects. Thus, we conclude that Big 4 auditors have positive governance effects for both family and non-family firms.

Table 3 reveals that all test variables are correlated with firm size. To assess the importance of size we (1) added squared total assets ($LNTA * LNTA$) to the models, (2) replaced $LNTA$ with $LNSALES$ (natural log of $SALES$), and (3) estimated the models on subsets of firms consisting of 75 % of the largest (smallest) firms measured by $SALES$ or TA , respectively. The family variable (LF) became significantly negative in Model 2ab when 25 % of the largest firms were removed. Otherwise all results are identical to those we reported earlier.

Overall the results from various sensitivity tests provide no significant threats to the main findings reported earlier.

5. Summary and Conclusions

Extensive research treats how and why public listed firms engage in EM. In comparison, very little is known about EM by private (unlisted) firms. Because private companies are not as much influenced by global trends and regulations as are public companies, there may be more variation in accounting choices in private firms than public firms. Our contribution to the literature is to fit one more piece into the larger jigsaw puzzle of financial reporting tendencies of private firms.

We ask whether family-controlled firms within the group of private firms make different accounting choices than non-family firms, and whether such differences are likely to be caused by EM. Our research design is tailored to reflect acquired theoretical knowledge both about private firms (as compared with public firms) and about family firms (as compared with non-family firms). We argue that private family firms distinguish themselves from other private firms by their priority for sustaining family consumption, together with family altruism and entrenchment. Taken together we hypothesize and find evidence of

certain EM tendencies of private family firms. Specifically, we find that relative to non-family firms, private family firms manage earnings downward in most circumstances. However, under financial stress they manage earnings upward. Thus, we observe two opposite tendencies of EM contingent on the financial situation in private family firms,

We test whether the tendencies for EM in private family firms are different if the CEO is a member of the controlling family or if the company has board members that are independent of the family. Based on prior family firm research we hypothesize that a family CEO will contribute positively to the EM tendencies that are in the interest of the family, whereas independent board members mitigate these tendencies. These additional hypotheses also receive support, but only when we adequately control for the fact that the EM tendencies in these firms are subject to two opposite forces.

Our research has implications for stakeholders who rely on the financial statements of private firms (family or non-family) for their economic decisions. Financial statement users should beware of the inaccuracies and biases that EM tendencies of private family firms may imply. Moreover, our findings shed new light on corporate governance structures of private family firms, especially with respect to the roles of a family CEO and independent board members. Finally, our research could be useful for regulators who decide the form and content of financial reporting by private firms.

Our study is based on a database of private Norwegian firms which recently has been established by the Center for Corporate Governance Research (CCGR) at the Norwegian School of Management. The CCGR database is unique in its combining financial data with personal data on managers, owners and board members. We note that flexible accounting standards, modest supervision, low book-tax conformity and low litigation risk in Norway present a fertile environment to investigate EM by various companies, including private family and non-family firms. While the results of our study may be generalizable to other countries with similar financial reporting environments, the results from countries with more

stringent reporting requirements, more book-tax conformity and higher litigation risks may be different. Thus, extensions of our study to other countries can be a fruitful avenue for future research.

Appendix A

The Norwegian Accounting Regulatory System

Norwegian companies are subject to the accounting requirements of the 1998 Accounting Law, which implements the EU 4th Directive in Norwegian legislation. The law governs all companies with limited liability (public or private), as well as public sector companies, mutual institutions, companies with unlimited liability, associations with profit-making purposes, and all other economic entities that exceed certain size limits. The law requires all subjects to issue consolidated accounts for groups and separate accounts for legal entities. Consistent with the EU 2002 IAS Regulation, listed companies are subject to a special section of the law that mandates the use of International Financial Reporting Standards (IFRS) for their consolidated accounts. The law contains recognition and measurement rules which constitute the basis for the Norwegian GAAP (N GAAP), to be followed by all the other subjects of the law (including, for their separate company accounts, the parent companies of IFRS reporting groups).

The law has its origins in Continental Europe company legislation, and the Norwegian regulation therefore qualifies as a code law (as compared with common law) accounting regime. Nevertheless, the substantive part of the accounting rules is formulated in accounting standards, issued by a private standard setter, the Norwegian Accounting Standards Board (NASB), founded in 1989. The content of the standards has since the start of the NASB been very much influenced by US GAAP and IFRS. Currently, the NASB's objective is to issue standards that resemble the IFRS while allowing for some simplification, subject to the requirements given by the Accounting Law.¹⁰ Substantial divergence between IFRS and N GAAP with respect to recognition and measurement rules are few. The most notable

¹⁰ All documents regarding the NASB, including the accounting standards, are available on its website, www.regnskapsstiftelsen.no in Norwegian language. The NASB's objectives are formulated in a "strategy document", which was last issued in 2008.

differences are measurement at cost in some circumstances where IFRS require fair value (for non-listed financial instruments, investment property and biological assets) and more traditional goodwill accounting.

All enterprises subject to the law are allowed to issue IFRS financial statements instead of N GAAP financial statements. In practice this option is used only by entities belonging to IFRS-reporting groups or by financial institutions.

All financial statements of companies with limited liability are subject to audit requirements, which effectively enforce the adherence to the accounting rules. Some enforcement of the accounting rules is also exercised by tax authorities, although book-tax alignment is weaker in Norway than in most code-law countries. The law contains severe penal provisions for violations (fines and up to six years of imprisonment).

All financial statements governed by the law are publicly available in the sense that anyone has the right to receive them at the company's registered office. In practice, the public availability of financial statements is effective for companies with limited liability because they must file their annual reports with the National Financial Statements Registry (NFSR). Specialized reports are available on the Internet through private websites that specialize in various types of corporate information (including credit ratings).

Appendix B

The CCGR Database

The Center for Corporate Governance Research (CCGR) has permission to aggregate data from two sources: Experian AS and the National Register Office (NRO). Experian AS provides information from financial statements and other firm-specific information such as industry affiliation and the firms' auditors. NRO provides information on kinship and marriage for all persons identified as CEOs, board members or owners.

The CCGR database is unique because Norway has a universal financial reporting requirement for limited liability companies (see Appendix A). There are no size limits as to which firms must disclose audited financial statements, and there are detailed requirements as to what kind of information must be disclosed in the notes. Thus, detailed audited information is available for *all* limited liability companies. For firms that do not qualify as a small enterprise information of its 20 largest shareholders and their shareholdings must be disclosed in the notes as long as the individual shareholdings exceed 1%. For firms that qualify as a small enterprise the notes must contain information on its 10 largest shareholders as long as the shareholder owns 5% or more. In addition, names and shareholdings of *all* CEOs and members of the Board must be disclosed. CCGR has merged social security numbers for each CEO, board members and personal owners with information on kinship and marriage from the NRO. CEOs, board members and owners are grouped into the same family if they are related by kinship or adoption as parents, grandparents, great-grandparents, great-great-grandparents, sisters, cousins, uncles/aunts, and nephews/nieces or married to any of these persons are assigned to the same family.

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Exhibit 1: Variable Definitions in alphabetical order

$BIG4_{it}$	= 1 if the firm is audited by one of the Big-4 auditors (or their forerunners) in year t, 0 otherwise.
CEO_LF_{it}	= 1 if 50 % or more is owned by one family (i.e. $LF_i = 1$) and the same family holds the CEO in year t, 0 otherwise.
$CEO_LF_LEV_{it}$	= The leverage ratio for firms controlled by one family with at least 50% ownership that also holds the CEO position in year t, 0 otherwise. $CEO_LF_LEV_{it} = CEO_LF_{it} * LEV_{it}$.
$CYCLE_{it}$	= Operating cycle in days for firm i in year t = (yearly average accounts receivable) / (SALES / 360) + (yearly average inventory) / (acquisition costs of goods sold in year t/360).
DA_{it}	= Discretionary accruals of firm i in year t. Measures firm i's income increasing accounting choices in year t. DA_{it} is estimated as the residual from equation (TAC) described in text.
$GROWTH_{it}$	= Growth in sales for firm i in year t computed as $(SALES_{it}/SALES_{it-1} - 1)$.
$IB_LF_LEV_{it}$	= The leverage ratio for firms that are controlled by one family and have at least one non-largest family member on the board in year t, 0 otherwise. $IB_LF_LEV_{it} = IB_LF_{it} * LEV_{it}$.
IB_LF_{it}	= $IB_{it} * LF_{it} = 1$ if largest family owns 50 % in year t and the firm has at least one independent board member in year t, 0 otherwise.
IB_{it}	= 1 if firm i has at least one independent board member in year t, 0 otherwise. Board members are defined as independent if they are not related to the CEO or owners by kinship or marriage.
$INDUSTRYk_{it}$	= Indicator variable that equals 1 if firm i belongs to industry k, 0 otherwise, k is defined using 's industry affiliation in year t using two-digits NACE industry classification in accordance with Statistical Classification of Economic Activity in the European Community (NACE) codes..
LEV_{it}	= Leverage ratio for firm i in year t computed as interest bearing debt to total assets, both measured at the end of year t.
LF_LEV_{it}	= Leverage ratio for family controlled firm in year t = $LF_{it} * LEV_{it}$.
LF_{it}	= 1 if 50% or more of firm i is owned by one family in year t using ultimate ownership, 0 otherwise.
$LNAGE_i$	= Firm i's age in years at the end of the sample period computed as the natural log of age.
$LNTA_{it}$	= Size of firm i in year t computed as the natural log of total assets for firm i at the end of year t.
PPE_{it}	= Gross property, plant and equipment for firm i at the end of fiscal year t
ROA_{it}	= Return on total assets for firm i in year t = net income before interest, taxes and extraordinary items scaled by average total assets.
TAC_{it}	= Total accruals for firm i in year t = $(\Delta\text{Current assets} - \Delta\text{Cash}) - (\Delta\text{Current liabilities} - \Delta\text{Short term debt} - \Delta\text{Proposed dividends}) - \Delta\text{Depreciation and impairments} - \Delta\text{Net deferred tax assets}$. ¹¹
TA_{it-1}	= Total assets at fiscal year end for firm i in year t-1
YRm	= 1 if observations is from year m, 0 otherwise (m = 2000, 2001, ..., 2007)
ΔREC_{it}	= Net accounts receivables for firm i in year t less net accounts receivables in year t-1
$\Delta SALES_{it}$	= Total revenues firm i in year t less total revenues in year t-1

¹¹The vast majority of private public liability firms in Norway are not required to publish cash flow statements. Thus, consistent with the literature we rely on the balance sheet to estimate total accruals (TAC) and cash flows from operations (Burgstahler et al., 2006). Changes in proposed dividends are subtracted from short term liabilities since proposed dividends may be classified as short term debt in Norway.

Table 1: Sample Selection Criteria and Sample Size.

<i>Sample selection criteria</i>	Firm-years
Limited liability companies 2000-2007	1,232,878
Exclusion criteria	
Public limited liability companies (including listed)	3,951
Operating revenue less than 800,000 NOK in at least one year	715,255
Total assets less than 800,000 NOK in at least one year	116,933
Missing information on founding date, firm using IFRS or reporting currency not NOK	45,600
Missing information on industry affiliation or firm is a financial firm	2,866
Subsidiaries	86,560
Firms with missing information on kinship and marriage	46,061
Firms controlled by the government	303
Number of firm-years	215,349

This table shows sample size criteria and the resulting sample size. The number of observations per year varies between 24,770 and 28,892.

Table 2: Descriptive statistics.

	<i>Panel 1: All firms (N=215,349)</i>			<i>Panel 2: Non-family (N=43,115)</i>			<i>Panel 3: Family (N=172,234)</i>			<i>Panel 4: Test for differences:</i>	
	<i>Mean</i>	<i>St.dev</i>	<i>Median</i>	<i>Mean</i>	<i>St.dev.</i>	<i>Median</i>	<i>Mean</i>	<i>St.dev.</i>	<i>Median</i>	<i>T-value</i>	<i>Z-value</i>
<i>DA</i>	0.000	0.186	0.004	0.001	0.192	0.004	0.000	0.185	0.004	0.96	-0.09
<i>LF_LEV</i>	0.217	0.264	0.098	0	0	0	0.272	0.270	0.208		
<i>CEO_LF_LEV</i>	0.169	0.248	0	0	0	0	0.211	0.260	0.087		
<i>IB_LF_LEV</i>	0.075	0.187	0	0	0	0	0.093	0	0		
<i>LF</i>	0.800	0.400	1	0	0	0	1	0	1		
<i>LEV</i>	0.267	0.270	0.1978	0.247	0.271	0	0.272	0.270	0.208	-17.13***	-20.25***
<i>CEO_LF</i>	0.628	0.483	1	0	0	0	0.785	0.411	1		
<i>IB</i>	0.375	0.484	0	0.550	0.498	1	0.331	0.471	0	85.4***	83.99***
<i>IB_LF</i>	0.265	0.441	0	0	0	0	0.331	0.471	0		
<i>BIG4</i>	0.203	0.403	0	0.260	0.439	0	0.189	0.392	0	32.70***	32.62***
<i>LNTA</i>	8.549	1.184	8.326	8.938	1.326	8.713	8.451	1.125	8.240	77.53***	74.09***
<i>GROWTH</i>	0.094	0.300	0.049	0.121	0.335	0.063	0.087	0.291	0.046	21.35***	19.12***
<i>LNAGE</i>	2.473	0.734	2.565	2.411	0.772	2.398	2.488	0.723	2.565	-19.52***	-24.32***
<i>CYCLE</i>	81.9	90.4	51.1	73.2	87.4	43.8	84.0	91.1	53.1	-22.31***	-27.76***
<i>ROA</i>	0.151	0.180	0.121	0.143	0.190	0.112	0.153	0.177	0.123	-10.10***	-12.15***

This table reports in descriptive statistics for all firms (Panel 1), non-family firms only (Panel 2), family firms only (Panel 3) and t-tests (Wilcoxon rang sum tests) for differences in mean (median) between non-family and family firms (Panel 4). Tests for significant differences between the two subsets are not performed for variables that by construction have zeros for non-family firms. * (**) [***] denotes significant test statistics at the 0.10 (0.05) [0.01] level (two-sided tests). The variables *LEV* and *CYCLE* have been winsorized at 99-percentile, and *GROWTH* and *ROA* have been winsorized at the 1 and 99 percentile. Please see Exhibit 1 for variable definitions.

Table 3: Spearman Correlation Coefficients Between Dependent Variable, Test Variables and Selected Control Variables.

	<i>DA</i>	<i>LF</i>	<i>LEV</i>	<i>LF_LEV</i>	<i>CEO_LF_LEV</i>	<i>IB_LF_LEV</i>	<i>GROWTH</i>	<i>LNAGE</i>
<i>LF</i>	0.000							
<i>LEV</i>	0.117*	0.044*						
<i>LF_LEV</i>	0.089*	0.530*	0.777*					
<i>CEO_LF_LEV</i>	0.067*	0.436*	0.585*	0.778*				
<i>IB_LF_LEV</i>	0.026*	0.249*	0.285*	0.404*	0.283*			
<i>LNTA</i>	0.000	-0.160*	0.199*	0.072*	0.011*	0.101*		
<i>GROWTH</i>	-0.005#	-0.041*	-0.040*	-0.041*	-0.030*	-0.005*	0.099*	
<i>LNAGE</i>	0.009*	0.052*	-0.016*	0.015*	0.027*	0.000*	0.227*	-0.100*

This table shows Spearman correlation coefficients between *DA*, discretionary accruals estimated using the TAC-model as described in text, and test and selected control variables used in Table 4. N=215,349. * (#) [\$] denotes level of significance at the 0.01 (0.05) [0.10] level. Please see Exhibit 1 for variables definitions.

Table 4: OLS Regression Results of Differential Income Increasing Accounting Choices Between Family and Non-Family firms.

	<i>Pred. sign</i>	<i>Model 1</i>	<i>Model 1ab</i>	<i>Model 2</i>	<i>Model 2ab</i>
<i>LF</i>	-	-0.005*** (-5.34)	-0.002 (-1.03)	-0.007*** (-4.86)	-0.002 (-1.01)
<i>CEO_LF</i>	-		-0.002 (-1.63)		-0.004*** (-2.84)
<i>IB_LF</i>	+		-0.004** (-2.15)		-0.002 (-1.01)
<i>LF_LEV</i>	+			0.007** (1.97)	0.003 (0.56)
<i>CEO_LF_LEV</i>	+				0.010** (2.52)
<i>IB_LF_LEV</i>	-				-0.008** (-2.25)
<i>IB</i>			0.005*** (2.74)	0.002** (2.01)	0.005*** (2.81)
<i>LEV</i>		0.112*** (62.95)	0.112*** (62.98)	0.106*** (30.29)	0.106*** (30.20)
<i>BIG4</i>		-0.003*** (-3.73)	-0.003*** (-3.82)	-0.003*** (-3.78)	-0.003*** (-3.79)
<i>LNTA</i>		-0.002*** (-5.08)	-0.002*** (-5.36)	-0.002*** (-5.27)	-0.002*** (-5.29)
<i>GROWTH</i>		0.004* (1.93)	0.004* (1.90)	0.004* (1.91)	0.004* (1.88)
<i>LNAGE</i>		0.003*** (6.49)	0.004*** (6.54)	0.004*** (6.52)	0.003*** (6.43)
<i>CYCLE</i>		0.000*** (20.21)	0.000*** (20.21)	0.000*** (20.17)	0.000*** (20.12)
<i>ROA</i>		0.065*** (19.36)	0.065*** (19.46)	0.065*** (19.41)	0.065*** (19.45)
<i>CONSTANT</i>		-0.038*** (-7.49)	-0.039*** (-7.68)	-0.037*** (-7.13)	-0.038*** (-7.36)
<i>Industry fixed effects</i>		Yes	Yes	Yes	Yes
<i>Year fixed effects</i>		Yes	Yes	Yes	Yes
<i>N</i>		215349	215349	215349	215349
<i>Adjusted R²</i>		0.022	0.022	0.022	0.022

This table reports ordinary least squares (OLS) estimated coefficients and corresponding t-values (in parenthesis) for models specified in text. The dependent variable is discretionary accruals (DA, estimated by equation TAC in text). Reported significance levels (*, **, and *** for 0.10, 0.05 and 0.01 levels, respectively) are for two-sided tests and based on Huber-White standard errors clustered at the firm level. Please see Exhibit 1 for variable definitions.

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