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Dividends and tax avoidance as drivers of earnings management: Evidence from dividend-paying private SMEs in Finland

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ABSTRACT
Using a sample covering practically all dividend-paying small and medium-sized private companies in Finland during 2006–2010, we document that earnings management in these companies is driven by two concurrent forces: the willingness to pay (tax-exempt) dividends and avoiding unnecessary company income tax. Moreover, we show that the need for income-increasing earnings management enabling current dividend distribution is mitigated by the amount of retained earnings from prior years. This article adds to the existing literature by providing empirical evidence for dividend and tax-driven earnings management in private SMEs facing neither political pressures nor capital market incentives for earnings disclosures.

KEYWORDS
Private SMEs; earnings management; dividend tax

Introduction

This article examines tax considerations as determinants of dividend decisions and earnings management in private small to mid-sized enterprises (SMEs). The article fills a gap in the prior literature by providing empirical evidence of common earnings management practices in small and medium-sized private companies. In contrast to public companies, *private* companies do not have signaling issues with stock markets or agency problems with top management, as key owners are typically part of the management and the ownership is much less dispersed, especially when the company is small or medium-sized.

To the best of our knowledge, empirical literature on the role of dividends and taxes as drivers of earnings management in small and medium-sized private companies is virtually nonexistent (see Dechow et al., 2010). In contrast, some other factors such as socioemotional values (i.e., affection-related values attributable to ownership position in a firm) and CEO demographics have recently been examined as determinants of dividend policies and earnings management in small family companies. For example, using a sample of Belgian small companies, Vandemaele and Vancauteren (2015) show that dividend payout is low when

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†Our valued colleague and coauthor, professor Jyrki Niskanen, passed away on April 18, 2019, at the age of 63.

a family CEO runs the business with a family-dominated board. The finding is consistent with the view that socioemotional objectives as well as professionalization of family business, thereby leading to nonfamily involvement in governance systems, are important drivers of dividend policies of private small companies (Michiels et al., 2017). Similarly, Calabrò et al. (2020) document that socioemotional factors affect financial reporting quality and earnings management strategies (the choice between accrual versus real earnings management) in Italian private family firms. Furthermore, Belot and Serve (2018) report strong CEO gender and age effects on earnings management in a large sample of French private SMEs. The findings are consistent with female and older CEOs being less risk averse than their male and younger colleaques.

Our empirical institutional setting is Finland, which provides a suitable venue for this study. Under the (pre-2005) full dividend imputation (hereafter *avoir fiscal*) system, owners of private companies did not pay taxes other than company income tax on their dividends. Ever since the company tax reform accompanying the removal of the *avoir fiscal* system during the years 2005 and 2006, the Finnish tax regime has allowed for full tax exemption on dividends distributed to shareholders of private companies provided that the dividends fall below certain maxima as defined by the tax law. Thus, after the abandonment of this system, the dividends of private firms became partially double-taxed when exceeding the benchmark.[1] The purpose of this tax exemption was to alleviate the harmful effects of the double taxation of company income—effects that the abandonment of the *avoir fiscal* system would otherwise have had on private SMEs, their owners, and thereby on the economy as a whole.[2]

We provide empirical evidence of tax-driven earnings management in private SMEs. The article complements a prior study on dividend-based earnings management in large public companies in Finland (Kasanen et al., 1996), which shows how a consistent dividend policy leads to a need for earnings management. Our current sample covers practically all dividend-paying private SMEs in Finland between 2006 and 2010 for which financial statement data needed in the study were available. In line with the empirical findings in related prior studies of our institutional setting (Harju & Matikka, 2016; Kari & Karikallio, 2007, among others), we document that during this period, the dividend tax rule creates a strong financial incentive to pay a tax-exempt target dividend of 9 percent of net worth, as anything less leaves money on the table and anything

[1]From 2005 to 2014, these maxima were 90,000 euros per shareholder, or 9 percent of a firm's net worth, depending on which of the two was lower. Thus, the total amount of annual tax-exempt dividends that *private* companies could distribute to their shareholders was defined by the following upper limit: min (90,000 × number of shareholders; 9 percent × firm's net worth). The dividends distributed in excess of these limits were taxed partly (70 percent) as taxable capital income or as taxable earned income of the shareholders, while the remainder (30 percent) was tax-free.

[2]After the removal of the *avoir fiscal* system in 2005, 70 percent of dividends distributed by *public* companies in Finland were taxed as capital income of the shareholders of those companies, while the remainder (30 percent) was tax-free. Thus, unlike private companies, the income of public companies was partly double-taxed during our research period because there was no full tax exemption for dividend distribution during that period.

more creates a considerable jump in shareholders' marginal tax rate. Moreover, we argue and find evidence that because the target dividend in this case is practically independent of current earnings, companies have a strong motive to manage earnings to meet their target dividends. Reporting too little current earnings constrains dividend payments (unless there are ample retained earnings from prior years), while reporting too much current earnings leads to an additional tax cost without helping with the payment of target dividends.

Consistent with this line of reasoning, we first show how a tax rule giving full tax exemption on dividends up to defined maxima provides private companies with a compelling tax-exempt dividend target that explains their actual dividend decisions with a high level of significance. Thereafter, we document that actual dividend decisions, explained by this tax-exempt target, create a significant determinant of earnings management with two concurrent but opposite drivers: first, the need for income increasing earnings management with the aim of enabling current dividend distribution; and second, the need for income decreasing earnings management with the aim of avoiding an unnecessary company income tax. Furthermore, we expect and find evidence for the fact that income increasing earnings management driven by the need to enable current dividend distribution is mitigated by the company's amount of retained earnings.

This article contributes to the existing literature on private companies' earnings management in several ways. We first confirm the prior findings from Finnish private SMEs that a dividend tax rule guides private companies' payout policy in a rational way. Thereafter, we document how earnings management in these private companies is driven upward by tax-based target dividends and downward by the company income tax. This result is in line with target dividend-based earnings management in listed companies. Finally, we show how the amount of retained earnings is negatively correlated with upward earnings management. Overall, our results reveal the dynamics of earnings management in a simplified setting represented by private SMEs typically characterized by concentrated ownership, little political pressure from outside, and insignificant agency problems between management and shareholders.

The article proceeds as follows. In the second section, we review related prior literature and develop our hypotheses. In the third section, we describe our data and the models used in the empirical tests. Empirical findings are reported and discussed in the fourth section, while conclusions are presented in the final section.

Prior literature and hypothesis development

Signaling and contractual roles of earnings management

Healy and Wahlen (1999) emphasize the two distinct roles of earnings management: signaling and the contractual-based role. The contracting view of positive accounting theory provides more specific hypotheses for the occurrence of earnings management in certain contexts (Watts & Zimmerman, 1986). Examples of *explicit* contracts include management compensation schemes (Healy, 1985), debt covenants (DeFond & Jiambalvo, 1994), and taxation (Boynton et al., 1992; Guenther, 1994; Manzon, 1992; Navissi, 1999).

Contracts *implicitly* tied to accounting numbers include labor union contracts (Liberty & Zimmerman, 1986), management buyouts (DeAngelo, 1986; Perry & Williams, 1994), auditing contracts (Becker et al., 1998; DeFond & Subramanyam, 1998), executive changes (Pourciau, 1993), equity offerings (Aharony, Lin and Loeb 1993; Teoh et al., 1998), corporate governance systems (Dempsey et al., 1993), and general stakeholder relationships (Bowen et al., 1995; Burgstahler & Dichev, 1997), as well as dividend policy (Atieh & Hussain, 2012; Daniel et al., 2008; Kasanen et al., 1996; Wen et al., 2017). Compared to the results on the role of explicit contracts, the existing evidence for earnings management driven by these implicit contracts is more mixed.[3]

The focus of this study is the implicit dividend contract between the firm and its owners. This contract is examined in connection with explicit contracts with the tax authorities on company income and shareholder dividend taxes. Small and medium-sized private firms form the target research subject.

Owners' tax avoidance and earnings management

Taxation as an explicit contract between owners and the government may become relevant for earnings management from two perspectives. First, the financial accounting decisions may affect firms' tax burden depending on the degree of alignment between reported income for financial reporting purposes versus income for tax reporting purposes. The link between firms' taxes and reported net earnings is strong in most European countries, including Finland (that is, high-tax-alignment countries). In low-tax-alignment environments such as the United States (U.S.) and the United Kingdom (UK), firms have more opportunities to use financial accounting for reporting purposes irrespective of corporate tax accounting (Desai & Dharmapala, 2009; Shackelford & Shevlin, 2001).

In public U.S. firms, tax-induced earnings management has been widely investigated in the context of corporate tax rate changes centered around the U.S. Tax Reform Act of 1986 (Guenther, 1994; Lopez et al., 1998; Scholes et al., 1992), net operating losses (Maydew, 1997), depreciation policies (Scott & Zimmerman, 1999), deferred tax expenses (Phillips et al., 2003),

[3]As defined by Scott (2014), implicit or relational contracts are not formal or explicit contracts (such as compensation or debt contracts), and they arise from continuing relationships between the firm and its stakeholders, such as lenders, employees, customers, and suppliers. Thus, the expected behavior based on implicit contracts relies on the past business behavior of the firm and its stakeholders.

and permanently reinvested foreign earnings (Krull, 2004). Furthermore, a growing body of research on this topic focuses on the connection between financial reporting and tax accounting (Badertscher et al., 2009; Blaylock et al., 2015, 2012; Erickson et al., 2004; Frank et al., 2009; Guenther et al., 1997). Collectively, the evidence suggests that financial reporting aggressiveness is positively associated with tax aggressiveness based on the large positive book-tax differences of public firms. *Tax aggressiveness* refers to a firm's tax accounting actions aimed at minimizing taxable income irrespective of financial accounting purposes.

Prior studies show that strong versus weak tax alignment makes a difference in private firms' earnings management (Burgstahler et al., 2006; Coppens & Peek, 2005; Goncharov & Zimmermann, 2006; Karjalainen et al., 2018; Van Tendeloo & Vanstraelen, 2008). Recently, Karjalainen et al. (2018) show that tax-induced accounting conservatism is amplified by strong book-tax alignment in private firms. These results suggest that accounting conservatism reduces the present value of company tax to owners (Watts, 2003) in private firms.

Second, dividend taxation may become relevant if the firm operates in an environment with a double taxation system. Under this system, owners are obligated to pay taxes from their dividends in addition to the corporate tax. This is in contrast to a full imputation system of corporate tax, called *avoir fiscal*, by which the owners are responsible only for the corporate tax. Because dividend decisions are based on accumulated net earnings, they depend on the firm's accounting policy choices.

Public versus private firm status may also explain firms' different financial and tax accounting activities. Mills and Newberry (2001) suggest that, in private firms, the book-tax differences become less relevant indicators for aggressive financial and tax positions. This is based on the idea that private firms rely less on earnings-based heuristics in evaluating firm performance than do public firms (Beatty et al., 2002). Hence, it is likely that financial accounting is more tax-induced in private firms than it is in public firms. Contrary to this view, Marques et al. (2011) and Watrin et al. (2012) show that book-tax differences may become relevant indicators of private firms' aggressive tax positions. Steijvers and Niskanen (2014) further suggest that aggressive tax positions are attributable to the interests of different types of private firm owners.

From a private firm's perspective, minimizing taxes at the company and dividend levels may become important for managers, as owners' and managers' interests are most often aligned in these firms. Previous studies on Finnish tax reform in 2005 show that private firms adjusted dividend policies in response to the tax reform, with the aim of benefitting from the more favorable dividend taxation system (Harju & Matikka, 2016; Kari & Karikallio, 2007; Kari et al., 2008, 2009). The results of these studies suggest that private-firm owners have been incentivized to minimize their personal taxes through dividend policies that fully exploit the opportunity to pay tax-exempt dividends. Consequently, tax avoidance behavior among owners (managers) through dividends may affect private firms' earnings management. Finally, a recent study on the consequences of the tax reform of 2005 documents that private firms opportunistically extended their fiscal years depending on the magnitude of the expected tax savings, whereas firms that did not change their fiscal year end exercised more tax-induced earnings management (Sundvik, 2017).

Hypotheses

Explicit contracts faced by all private companies are the contracts between the firm and tax authorities on company income taxation and between the shareholders and tax authorities on dividend taxation. These two types of contracts drive the earnings management strategies in opposite directions in Finland. First, the contract on shareholders' dividend taxation leads to managing earnings upward to take full advantage of dividend tax exemption. Second, the contract on the company income tax creates an incentive to manage reported earnings downward due to a high tax alignment.

We expect that these explicit contracts create an incentive for private companies to adhere to an *implicit* dividend contract of paying the maximum amount of tax-exempt dividends to shareholders while avoiding an unnecessary company income tax. The decision-making situation of the SME owner/manager can be described here as setting the level of dividends to be paid and then managing reported earnings either upward to enable dividend payments or downward to avoid corporate taxes from reported earnings that are not needed for dividend payments. The effect of tax-exempt dividends on earnings management works through actual dividends in this model. Moreover, earnings retained from prior years are available for dividend distribution in the current year, and when these retained earnings increase, the need for upward earnings management decreases. Under such circumstances, the importance of the dividend and tax-based driver for earnings management decreases.

Based on this discussion, we posit and test the following hypotheses:

H1: *Tax-driven dividend decisions.*

Actual dividends distributed by private companies are positively associated with the amount of maximum tax-exempt dividends allowed by the tax rules for the shareholders. More precisely, actual dividends distributed by private companies are expected to be clustered around tax-exempt dividends allowed by the tax rules.

H2a: *Dividend-driven (income-increasing) earnings management.*

When the dividends to be paid are larger than the cash flow from operations, then earnings management in private companies is positively associated with the dividend-driven need for income-increasing accruals that enable the dividend distribution.

H2b: *Tax-driven (income-decreasing) earnings management.*

When the cash flow from operations is larger than the dividends to be paid, then earnings management in private companies is positively associated with the tax-driven need for income-decreasing accruals that enable the avoidance of corporate income tax from income above the dividends to be paid.

H3: *The impact of retained earnings on earnings management.*

When the dividends to be paid are larger than the cash flow from operations, then earnings management in private companies is negatively associated with retained earnings from prior years. In addition, the positive association between earnings management and the dividend-driven need for income-increasing accruals is mitigated by retained earnings from prior years.

While the role of H1 is to confirm the findings of related prior studies (for example, Harju & Matikka, 2016; Kari & Karikallio, 2007) in our data using different statistical methodology (the truncated regression model) explained in the following, the other hypotheses (H2a, H2b, and H3) aim to provide new evidence for the use of discretionary accruals in private SMEs, thereby contributing to prior literature on earnings management in that segment of firms.

Data and models

The sample for this study was drawn from the 2/2011 VOITTO+ database maintained by Suomen Asiakastieto Oy, a Finnish credit rating and financial information company, in November 2011. The database contains financial and economic data related to Finnish companies. In addition to large public corporations, it provides financial statement information about approximately 180,000 private, mainly small and medium-sized, Finnish companies for the fiscal years 2006–2010.

We apply several filters on this population of firms to derive the final sample. First, we require that a complete set of financial statement information be available over the research period 2006–2010. Second, as taxation and dividend policy can differ markedly between companies representing different legal forms, only private companies with limited liability are selected for further analysis. Third, for taxation purposes, it may be more advantageous for consolidated companies (as compared to unconsolidated companies) to adjust their reported earnings. Therefore, we exclude companies with consolidated accounts. Fourth and finally, we further exclude companies from years when they did not pay dividends. The dividend nonpayers are beyond the scope of this study because their dividend decisions (and, probably, earnings management behaviors) are likely to be driven by factors other than those of dividend payers.[4] After these eliminations, we have a total of 100,478 annual observations for 43,189 private Finnish unconsolidated limited liability companies for the five-year period of 2006–2010. (The number of observations may vary depending on data requirements for individual tests.) Finally, to remove the effect of anomalous financial statement values on the results, we winsorize extreme data values below the first percentile or above the 99th percentile in the distribution of each financial statement item in the data.

To test our first hypothesis (H1), which suggests that private companies' dividend decisions covaries positively with tax exemption, we estimate the following truncated regression model with lower limit of the dependent variable set at zero (i and t refer to firm and year respectively):

$$\begin{aligned} DIVIDEND_{i,t} = {} & \alpha_0 + \alpha_1 TAXEXDIV_{i,t} + \alpha_2 SIZE_{i,t} + \alpha_3 ROA_{i,t} \\ & + \alpha_4 GROWTH_{i,t} + \alpha_5 RETEARN_{i,t} + \alpha_6 LEVERAGE_{i,t} \\ & + \alpha_7 DIVIDENDPY_{i,t} + \sum_{t=2007}^{2010} \beta_{t-1999} YEAR_t \\ & + \sum_{j=1}^{n-1} \beta_{j+11} INDUSTRY_j + e_{i,t} \end{aligned} \tag{1}$$

where the dependent variable $DIVIDEND_{i,t}$ is the amount of the total dividends distributed by the firm in year t, deflated by total assets at the end of year t–1. Our main variable of interest on the right-hand side is $TAXEXDIV_{i,t}$, which represents the maximal amount of tax-exempt dividends that the firm

[4]The Finnish Company Law (2006/624, Chapter 13) stipulates that the maximum amount a company with limited liability can distribute as dividends for any year is the so-called unrestricted equity capital *less* any R&D costs capitalized in the balance sheet and any other undistributable assets as defined in the corporate by-laws. *Unrestricted equity capital* consists of (after-tax) net income or loss for the fiscal year, retained earnings from prior years, a fund of invested unrestricted equity that may include, for example, the premium paid above par value in a share issue and any other funds or reserves that, according to corporate by-laws, are not part of the restricted equity capital. The dividends are paid typically once a year, and the dividend decision is made by the shareholders during their annual meeting, based on *confirmed financial statements* that have also been audited by an incumbent auditor in the event that the Auditing Law or company by-laws require that the financial statements be audited. While, as a general rule, dividends are paid annually, the Company Law does not restrict their payment semiannually or quarterly, though even then dividend decisions must be based on confirmed financial statements.

could distribute in year t. During our research period, the Finnish tax legislation allowed private companies to distribute tax-exempt dividends to shareholders if the amounts did not exceed 9 percent of the company's net worth or 90,000 euros per shareholder, whichever is lower. To account for size differences, the variable is deflated by total assets:[5]

$$TAXEXDIV_{i,t} = \frac{MIN\{MAX[0; 0.09 * NETWORTH_{i,t}]; n * 90,000\}}{TOTALASSETS_{i,t-1}} \quad (2)$$

where n = the number of shareholders.[6]

We augment the model by using the following controls:

- firm size ($SIZE_{i,t}$, defined by the logarithm of total assets at the end of t–1);
- profitability ($ROA_{i,t}$, defined by operating income in year t divided by total assets at the end of t–1);
- firm growth ($GROWTH_{i,t}$, defined by the growth rate of net sales from year t–1 to year t);
- retained earnings at the beginning of the year ($RETEARN_{i,t}$, defined by retained earnings at the end of t–1 deflated by total assets at the end of t–1);
- financial leverage ($LEVERAGE_{i,t}$, defined by total liabilities divided by shareholders' equity at the end of t); and
- dividends distributed in the preceding year ($DIVIDENDPY_t$, defined by dividends in year t–1 deflated by total assets at the end of t–1).

Instead of using the ordinary least squares (OLS) method to estimate Equation 1, we apply the truncated regression estimation to account for the fact that the distribution of the left-hand side variable is asymmetric because it can take only positive values.

To test our second and third hypotheses (H2a, H2b, and H3) on dividend-based earnings management, we estimate the following OLS regression:

[5]We use the book equity of a company as a measure of its "net worth." According to the relevant Finnish law on the valuation of assets for taxation (Laki varojen arvostamisesta verotuksessa, 1142/2005), *net worth* for an unlisted company with limited liability is the difference between its assets and liabilities. Assets include all current and noncurrent assets such as cash and cash equivalents, short-term investments and other liquid assets, inventories, and fixed assets such as plant, property, and equipment, and other noncurrent assets, valued at their acquisition cost less any write-downs or impairments. Liabilities include all liabilities, valued at their balance sheet value. Notable exceptions to this main rule are deferred tax receivables and tax liabilities that are *not* considered assets or liabilities in the calculation of *net worth* even though they are in the balance sheet. Another notable exception is so-called subordinated debt, which is regarded as a liability even when it is recorded under equity in the balance sheet. In conclusion, although these adjustments may occur in some instances, for a vast majority of companies, book equity appearing in their balance sheet is equal to their *net worth*, or at least provides a very useful approximation of it, even in the presence of "noise" caused by the exceptions mentioned previously.

[6]As data are not available for the number of shareholders of our sample firms, we assume that n = 1 in our empirical tests. To test the robustness of our findings to this assumption, we perform a sensitivity check to be reported in the following.

$$DACC(k)_{i,t} = \beta_0 + \beta_1 DIVTAXDRIVER_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 ROA_{i,t} + \beta_4 GROWTH_{i,t} + \beta_5 LEVERAGE_{i,t} + \sum_{t=2007}^{2010} \beta_{t-2001} YEAR_t + \sum_{j=1}^{n-1} \beta_{j+9} INDUSTRY_j + \varepsilon'_{i,t} \tag{3}$$

where the dependent variable $DACC(k)_{i,t}$ represents earnings management proxied by two alternative measures of discretionary accruals. The first measure (k = DP) is based on discretionary current accruals, as suggested by DeFond and Park (2001):

$$DACC(DP)_{i,t} = WC_{i,t} - \frac{Sales_{i,t}}{Sales_{i,t-1}} * WC_{i,t-1} \tag{4}$$

where $WC_{i,t}$ is the firm's net noncash working capital at the end of year t.

The second measure (k = MJ) is a measure of discretionary total accruals based on the Modified Jones model as proposed by Dechow et al. (1995):

$$DACC(MJ)_{i,t} = TA_{i,t} - \left[\gamma_1\left(\frac{1}{A_{i,t-1}}\right) + \gamma_2\left(\Delta REV_{i,t} - \Delta REC_{i,t}\right) + \gamma_3 PPE_{i,t}\right] \tag{5}$$

This model defines discretionary total accruals as the difference between observed total accruals ($TA_{i,t}$) and nondiscretionary accruals that are estimated as a linear function of the inverse of lagged total assets ($A_{i,t-1}$); change in sales revenues ($\Delta REV_{i,t}$); net of change in accounts receivable ($\Delta REC_{i,t}$); and plant, property, and equipment ($PPE_{i,t}$); all variables are scaled by total assets. Unlike the DeFond & Park model (4), in which each firm serves as a control for itself and requires no parameter estimation, the parameters (γ_1, γ_2, and γ_3) of the Modified Jones model (5) are obtained from cross-sectional regressions estimated separately for each of the n industries in the sample. This is done to account for industry-specific differences in the impact of economic fundamentals on nondiscretionary total accruals.

On the right-hand side of regression (3) is our main test variable, which measures the dividend and tax-based driver of earnings management. We define this variable as follows:

$$DIVTAXDRIVER_{i,t} = \frac{DIVIDEND_{i,t} - CFO_{i,t}}{TOTALASSETS_{i,t-1}} \tag{6}$$

The numerator of the $DIVTAXDRIVER_{i,t}$ is the difference between dividends paid ($DIVIDEND_{i,t}$) and cash flow from the firm's operations ($CFO_{i,t}$),[7] while total assets in the denominator is used as the size deflator. Assuming that the firm has no retained earnings available from prior years or is not willing to use those earnings for dividend distribution this year, the numerator represents the amount of the total accruals needed to report net income, which enables the firm to pay its dividends this year. If the firm pays *more* dividends than its cash flow from operations in year t, the result is a dividend-based incentive for the firm to manage earnings upward with positive (that is, income-increasing) accruals. Conversely, if the firm pays *fewer* dividends than its cash flow from operations, the firm will face a tax-based incentive to record negative (that is, income-decreasing) accruals, as any net income reported in excess of dividends is costly due to the tax consequences.[8] In conclusion, we can expect that the coefficient (β_2) of $DIVTAXDRIVER_{i,t}$ in Equation 3 is positive independent of whether the firm will require positive or negative accruals.

We augment model (3) with several controls. Consistent with regression (1), these include $SIZE_{i,t}$, $ROA_{i,t}$, $GROWTH_{i,t}$, and $LEVERAGE_{i,t}$. We also include indicator variables to control for fixed year and industry effects. Definitions of all variables used in the empirical tests are summarized in Table 1.

Empirical results

Descriptive statistics of the empirical distributions of all variables are shown in Table 2. As explained in the preceding section, continuous variables have been winsorized to their 1 percent percentiles, which should be kept in mind when one is interpreting these statistics.

Estimated Pearson and Spearman correlations between each pair of variables appear in Table 3. The table shows that, with very few exceptions (for example, the correlations between *DIVIDEND* and *DACC[MJ]*), all estimated correlations are statistically significant at the 10 percent level or better. This is at least partly attributable to the large sample size. Interestingly, the table reveals that the correlations between the actual dividend distribution (*DIVIDEND*) and the measure of tax-exempt dividends (*TAXEXDIV*) are relatively high, as expected (0.32 and 0.61) for Pearson and Spearman correlations respectively. Furthermore, the correlations of our measure of dividend and tax-based driver of earnings management (*DIVTAXDRIVER*) with discretionary accruals are even higher (about 0.43 and 0.52 for *DACC[DP]* and *DACC[MJ]* respectively).

[7]We use cash flow from operations rather than unmanaged earnings (defined by the difference between reported earnings and discretionary accruals) as the subtrahend because we wish to avoid structural endogeneity. If the latter were used, a serious endogeneity problem would arise because discretionary accruals would appear on both sides of Equation 3.

[8]Recall that there is a high financial-tax alignment in our institutional setting (Finland).

Table 1. Variables in empirical tests.

Variable	Definition
$CFO_{i,t}$	Cash flow from operations in year *t*, deflated by total assets at the end of year (*t*–1), where cash flow from operations equals net income before extraordinary items minus accruals (the change in noncash working capital [Δinventory + Δdebtors + Δother current assets – Δcreditors – Δother current liabilities] minus depreciation) of year *t*
$DACC(DP)_{i,t}$	Discretionary current accruals in year *t* deflated by total assets at the end of year (*t*–1). Discretionary current accruals is defined by the DeFond and Park (2001) model as follows: WC(*t*) – (Sales[*t*] / Sales[*t*–1] * WC[*t*–1]), where WC(*t*) = net noncash working capital items at the end of year *t*
$DACC(MJ)_{i,t}$	Discretionary total accruals in year *t* deflated by total assets at the end of year (*t*–1). Discretionary total accruals is defined by the Modified Jones model as proposed by Dechow et al. (1995) as residuals from regression where total accruals in year *t* (the change in noncash working capital [Δinventory + Δdebtors + Δother current assets – Δcreditors – Δother current liabilities] minus depreciation) is explained by the inverse of lagged total assets, change in net sales less change in accounts receivable from year *t*–1 to year *t*, and the amount of plant, property, and equipment at the end of year *t*, all variables deflated by total assets at the end of year (*t*–1).
$DIVIDEND_{i,t}$	Dividends for year *t* (paid in year *t* + 1) deflated by total assets at the end of year (*t*–1)
$DIVIDENDPY_{i,t}$	Dividends for preceding year t–1 (paid in year *t*) deflated by total assets at the end of year (*t*–1)
$DIVTAXDRIVER_{i,t}$	Dividend and tax-based driver of earnings management defined by $DIVIDEND_{i,t} - CFO_{i,t}$, i.e., dividends for year *t* (paid in year *t* + 1) minus cash flow from operations in year *t*, deflated by total assets at the end of year (*t*–1)
$GROWTH_{i,t}$	Sales(*t*) / Sales(*t*–1) – 1
$I\_ABOVEMAX_{i,t}$	Indicator variable = 1 if dividends for year *t* (paid in year *t* + 1) deflated by net worth at the end of year *t* > 0.095, otherwise 0.
$I\_BELOWMAX_{i,t}$	Indicator variable = 1 if dividends for year *t* (paid in year *t* + 1) deflated by net worth at the end of year *t* < 0.085, otherwise 0.
$LEVERAGE_{i,t}$	Total liabilities(*t*) / Total equity(*t*)
$PAYOUTDIF_{i,t}$	Dividends for year *t* (paid in year *t* + 1) minus net income for year *t*, deflated by total assets at the end of year (*t*–1)
$RETEARN_{i,t}$	Retained earnings at the end of year *t* deflated by total assets at the end of year (*t*–1)
$ROA_{i,t}$	Earnings before interests, taxes, and extraordinary items in year *t* deflated by total assets at the end of year (*t*–1)
$SIZE_{i,t}$	Ln (Total assets [*t*–1])
$TAXEXDIV_{i,t}$	Maximum tax-exempt dividends for year *t* defined by min {max (0; 9 percent * net worth *t*); 90,000 euros} deflated by total assets at the end of year (*t*–1).

Note. For all variables, subscripts *i* and *t* refer to firm and year respectively.

Table 2. Descriptive statistics.

Variable	Mean	St Dev	Min	Max	Lower quartile	Median	Upper Quartile	Nobs
CFO	0.1827	0.2380	−0.6667	1.4122	0.0429	0.1543	0.2998	95 547
DACC(DP)	−0.0104	0.2863	−1.3919	1.2873	−0.1354	−0.0044	0.1210	64 775
DACC(MJ)	0.0019	0.1814	−0.9461	0.9113	−0.0840	0.0018	0.0887	95 601
DIVIDEND	0.0877	0.0863	0.0050	0.6102	0.0384	0.0654	0.0955	100 478
DIVIDENDPY	0.0732	0.0796	0.0000	0.5374	0.0258	0.0559	0.0846	100 478
DIVTAXDRIVER	−0.0935	0.2293	−1.3103	0.7619	−0.2034	−0.0755	0.0313	95 601
GROWTH	0.0499	0.4877	−1.0000	4.8578	−0.1404	0.0216	0.1738	100 478
I_ABOVEMAX	0.4213	0.4938	0.0000	1.0000	0.0000	0.0000	1.0000	94 850
I_BELOWMAX	0.2704	0.4442	0.0000	1.0000	0.0000	0.0000	1.0000	94 850
LEVERAGE	1.3715	2.6300	0.0000	52.0000	0.1977	0.5710	1.4691	100 478
PAYOUTDIF	−0.0475	0.1525	−0.8500	0.5000	−0.1140	−0.0313	0.0276	100 238
RETEARN	0.4173	0.2583	−1.0000	0.9000	0.2130	0.4200	0.6275	100 478
ROA	0.1924	0.2172	−0.4350	1.2500	0.0539	0.1526	0.2927	100 478
SIZE	5.3701	1.3873	1.3863	10.0638	4.4188	5.3230	6.2676	100 478
TAXEXDIV	0.0559	0.0270	0.0012	0.1448	0.0346	0.0559	0.0762	100 478

Note. For variable definitions, see Table 1. Firm and year subscripts (*i* and *t*) suppressed here.

Tax-driven dividend decisions (H1)

Results from estimating the regression model (1) for dividend distribution are reported in Table 4. Overall, the results are compelling and show that consistent with H1, tax-exempt dividends are a very significant determinant of actual dividend decisions in our sample of dividend-paying private SMEs. This becomes clear from the estimated coefficient of the *TAXEXDIV* variable (0.7230), which is expectedly positive and statistically highly significant.

To examine the robustness of the findings with respect to our assumption that each sample company has only one shareholder (see footnote 6), we reestimate model (1) from a subsample with a net worth of less than 1 million euros. Given the rule for the maximum tax-exemption of dividends (min [90,000 EUR × number of shareholders; 9 percent × net worth]), the number of shareholders becomes irrelevant in that subsample, while the only effective limit for tax exemption is 9 percent of the company's net worth.

Column 2 in Table 4 indicates that the key conclusions are not affected by our assumption concerning the number of shareholders of the sample companies. The coefficient of our main variable of interest, *TAXEXDIV*, is still positive (1.2895) and even more significant, and the Rho^2 statistic is slightly higher (0.262 vs. 0.243). A look at the number of observations in the regressions in Table 4 reveals that for a vast majority of sample companies (approximately 93 percent), the number of shareholders is of no importance at all because the only constraint effectively limiting the amount of the tax-exempt dividends is the company's net worth.

To check for the possibility that the results reported in Table 4 are affected by companies being dividend payers in some years and nonpayers in others, we reestimate our truncated regression model by taking out from the sample

Table 3. Correlation matrix of the variables: below (above) main diagonal Pearson (Spearman) correlation estimates.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	*CFO*		−0.4035	−0.5082	0.2931	0.1748	−0.9214	0.3677	0.0602	−0.0441	−0.0104	−0.5149	−0.0169	0.6193	−0.0120	0.2715
			.000	.000	.000	.000	.000	.000	.000	.000	.010	.000	.000	.000	.003	.000
2	*DACC(DP)*	−0.4164		0.6904	−0.0217	−0.0596	0.4194	−0.0489	−0.0084	0.0123	−0.0175	−0.0592	−0.0603	0.0370	−0.0089	−0.0241
		.000		.000	.000	.000	.000	.000	0.036	.002	.000	.000	.000	.000	.027	.000
3	*DACC(MJ)*	−0.5021	0.7064		−0.0006	−0.0825	0.5316	0.0187	−0.0327	0.0334	−0.0539	−0.1426	−0.0394	0.1201	0.0146	0.0319
		.000	.000		.882	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
4	*DIVIDEND*	0.2673	−0.0130	−0.0016		0.6316	0.0013	0.0474	0.4786	−0.4439	−0.5520	−0.0775	0.4274	0.4523	−0.0790	0.6122
		.000	.001	.603		.000	.745	.000	.000	.000	.000	.000	.000	.000	.000	.000
5	*DIVIDENDPY*	0.1821	−0.0466	−0.0720	0.5105		0.0153	−0.0847	0.2398	−0.2609	−0.4979	0.0203	0.4236	0.2250	0.0070	0.4409
		.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.082	.000
6	*DIVTAXDRIVER*	−0.9376	0.4279	0.5234	0.0607	−0.0063		−0.3613	0.1180	−0.0805	−0.1200	0.5559	0.0868	−0.4844	−0.0146	−0.1363
		.000	.000	.000	.000	.043		.000	.000	.000	.000	.000	.000	.000	.000	.000
7	*GROWTH*	0.2842	−0.0468	0.0235	0.0540	−0.0586	−0.2836		−0.0026	0.0262	0.1935	−0.4216	−0.1639	0.4241	0.0029	0.0653
		.000	.000	.000	.000	.000	.000		.516	.000	.000	.000	.000	.000	.469	.000
8	*I_ABOVEMAX*	0.0527	−0.0069	−0.0304	0.4724	0.2919	0.1059	−0.0140		−0.5162	0.0616	0.2020	−0.1550	0.0566	−0.0886	−0.0735
		.000	.071	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
9	*I_BELOWMAX*	−0.0385	0.0060	0.0265	−0.3270	−0.2181	−0.0691	0.0233	−0.5264		0.0161	−0.1328	−0.0388	−0.0491	−0.1014	−0.0199
		.000	.122	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
10	*LEVERAGE*	−0.0476	−0.0142	−0.0314	−0.1962	−0.1821	−0.0195	0.0753	0.0769	−0.0248		0.0202	−0.7695	−0.1401	0.1277	−0.7829
		.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
11	*PAYOUTDIF*	−0.5137	−0.0600	−0.1403	0.0521	0.0110	0.5582	−0.3325	0.1839	−0.1087	0.0912		0.0633	−0.8430	−0.0342	−0.3126
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
12	*RETEARN*	−0.0523	−0.0507	−0.0271	0.0675	0.1103	0.0805	−0.1456	−0.1475	−0.0384	−0.4436	0.0746		0.0093	0.0778	0.6881
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.021	.000	.000
13	*ROA*	0.6177	0.0314	0.1167	0.4143	0.2482	−0.4899	0.3271	0.0628	−0.0551	−0.1477	−0.8352	−0.0438		0.0159	0.4338
		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
14	*SIZE*	−0.0591	0.0096	0.0186	−0.0843	−0.0047	0.0359	−0.0400	−0.0841	−0.0766	0.0747	0.0159	0.1168	−0.0369		−0.2487
		.000	.012	.000	.000	.128	.000	.000	.000	.000	.000	.000	.000	.000		.000
15	*TAXEXDIV*	0.2924	−0.0149	0.0467	0.3178	0.1986	−0.1920	0.0838	−0.0752	−0.0068	−0.5103	−0.3910	0.5984	0.4762	−0.3029	
		.000	.000	.000	.000	.000	.000	.000	.000	.027	.000	.000	.000	.000	.000	

Note. For variable definitions, see Table 1. Firm and year subscripts (*i* and *t*) suppressed here. *p* values are reported below the correlation coefficients.

Table 4. Truncated regression results for dividend distribution.

Panel A. Dependent Variable: *DIVIDEND*							
		(1) Total Sample of Dividend Paying Firm-Year Observations			(2) Subsample of Dividend Paying Firm-Year Observations with Net Worth < 1 Million EUR		
Independent variables	Exp. sign	Robust coeff.	*z*	Prob(*z*)	Robust coeff.	*z*	Prob(*z*)
INTERCEPT	?	−0.1907	−18.74	0.000	−0.1834	−18.17	0.000
TAXEXDIV	+	0.7230	8.82	0.000	1.2895	12.89	0.000
Control variables							
SIZE	?	−0.0009	−1.06	0.288	−0.0050	−6.04	0.000
ROA	+	0.2391	34.24	0.000	0.1981	26.39	0.000
GROWTH	-	−0.0082	−4.53	0.000	−0.0089	−4.89	0.000
RETEARN	-	0.0194	2.96	0.003	−0.0029	−0.42	0.675
LEVERAGE	-	−0.0274	−14.13	0.000	−0.0220	−11.80	0.000
DIVIDENDPY	+	0.8819	79.94	0.000	0.8853	78.26	0.000
Year indicators			Included			Included	
Industry indicators			Included			Included	
Nobs			100 478			93 053	
Wald chi-square (χ2)			12,403.14			8,245.74	
Prob (χ2)			0.000			0.000	
Rho^2			0.243			0.262	

Panel B. Conditional Marginal Effects at Means							
		(1) Total Sample of Dividend Paying Firm-Year Observations			(2) Subsample of Dividend Paying Firm-Year Observations with Net Worth < 1 Million EUR		
Independent variables	Exp. sign	dy/dx	*z*	Prob(*z*)	dy/dx	*z*	Prob(*z*)
TAXEXDIV	+	0.1886	8.73	0.000	0.3427	12.78	0.000
Control variables							
SIZE	?	−0.0002	−1.06	0.288	−0.0013	−6.09	0.000
ROA	+	0.0624	39.80	0.000	0.0527	29.03	0.000
GROWTH	-	−0.0021	−4.54	0.000	−0.0024	−4.90	0.000
RETEARN	-	0.0051	2.97	0.003	−0.0008	−0.42	0.675
LEVERAGE	-	−0.0072	−15.61	0.000	−0.0058	−12.76	0.000
DIVIDENDPY	+	0.2300	66.36	0.000	0.2353	65.58	0.000
Nobs			100 478			93 053	

Note. For variable definitions, see Table 1. Firm and year subscripts (*i* and *t*) suppressed here.

all those firms that switched their status from dividend payer to nonpayer or vice versa during the research period. In brief, the (untabulated) results are qualitatively the same as those reported in Table 4. For example, the coefficient of the *TAXEXDIV* variable (0.4030) is positive and very significant in our total sample of dividend paying companies as well in the subsample of companies with net worth less than 1 million euros (0.7057). The number of observations in these regressions (around 70,000 firm-years) indicate that a vast majority of the companies in our original samples in Table 4 did not change their dividend-paying status during the research period. In conclusion, our main finding concerning the positive association between tax-exempt dividends and actual dividend decisions in small private companies is insensitive to whether or not companies pay dividends consistently throughout the research period.

Regarding the economic significance of the results in Table 4, we estimate conditional marginal effects of the independent variables of the truncated regression (see, for example, Greene, 2017, pp. 922–924). The marginal effect of *TAXEXDIV* at means of the independent variables is 0.1886 in our total sample of dividend-paying companies respectively (see Panel B of Table 4). This implies that, other things being equal, an increase of 1 euro in tax-exempt dividends available to an average dividend-paying company yields an increase of approximately 19 cents in dividends paid to its shareholders. The corresponding increase in dividends is 34 cents in the subsample of companies with net worth less than 1 million euros (Panel B of Table 4). Overall, these amounts suggest that while the impact of a change in maximum tax-exempt dividends on dividends actually paid is clearly less than one-to-one, the change still is likely to have economic significance to the shareholders of these firms.

Additional insight into tax exemption as a determinant of dividend decisions is provided by Figure 1, which graphs the frequency distribution of companies according to dividends per net worth. The figure's horizontal axis represents dividend categories with a width of one percentage point. For example, the category marked with *9 percent* includes all companies that paid dividends between 8.5 percent and 9.5 percent of their net worth.[9] Consistent with H1 suggesting that actual dividends distributed by private companies are clustered around tax-exempt dividends allowed by the tax rules, the proportion of companies paying the maximum amount of tax-exempt dividends is approximately 30 percent, and when those companies paying close to 9 percent are also

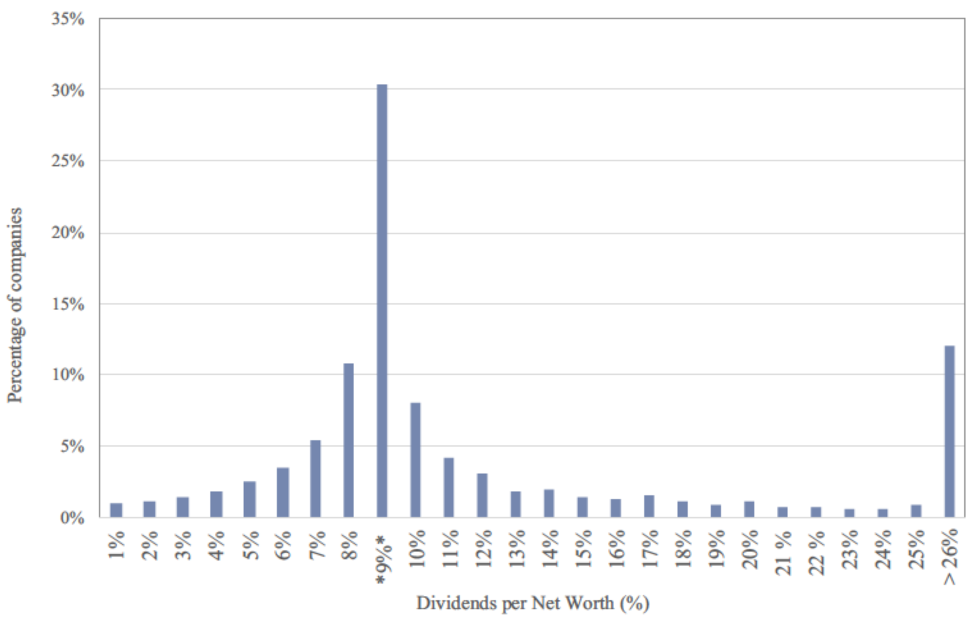


Figure 1. Frequency distribution of companies by dividends per net worth (n = 105,826).

[9]The width of the dividend categories (one percentage point) allows us to take into account potential noise in our measure (book equity) of a company's net worth; see footnote 5.

considered (the neighboring 8 percent and 10 percent categories), the total amount is about 50 percent. According to Chi-square statistic (nontabulated), the clustering of companies around the tax-exempt maximum dividend category is statistically highly significant when tested against the null hypothesis of a uniform distribution of companies in dividend categories between 0 percent and 25 percent.

Furthermore, Figure 1 illustrates that the distribution is skewed to the right, indicating that some, but not many, companies are willing to pay much more than the tax-exempt maximum allows. For example, approximately 12 percent of the sample companies paid 26 percent or more of their net worth, even at the cost of an increased tax burden attributable to the dividend tax paid by the shareholders and company income tax due to a higher taxable income.

Dividend and tax-driven earnings management (H2a and H2b)

Regarding our hypotheses on the dividend and tax-driven earnings management in private companies (H2a and H2b), the regression results from the estimation of model (3) appear in Table 5. The results indicate that, consistent with the hypotheses, earnings management in the sample companies is indeed driven by their dividend decisions and attempt to avoid company income tax. This is shown by the estimated coefficients of our dividend and tax-based driver of earnings management (*DIVTAXDRIVER*), which are expectedly positive and statistically very significant in our total sample of dividend-paying private companies (column 1), as well as in both subsamples (columns 2 and 3), regardless of the measure of earnings management used (see panel A for DeFond & Park and panel B for Modified Jones).

The economic significance of the results is shown, for example, by the significant positive coefficient 0.7701 of the *DIVTAXDRIVER* variable in column 2 of panel A in Table 5. It indicates that when a company pays *more* dividends than the amount of its cash flow from operations, then, other things being the same, an increase of 1 euro in dividends leads to a 77-cent increase in earnings management. This impact is also reflected as an equivalent increase in net income reported in the bottom row. Correspondingly, the significant positive coefficient 0.8195 of the *DIVTAXDRIVER* variable in column 3 of panel A in Table 5 suggests that when a company pays *fewer* dividends than the amount of its cash flow from operations, then, other things being equal, a 1-euro decrease in dividends leads to an 82-cent decrease in (after-tax) net income. Assuming a corporate tax rate of 25 percent, this decrease is reflected as a decrease of 1.09 euros (= 0.82 / [1–0.25]) in taxable income and a saving of 27 cents (= 25 percent × 1.09) in company income tax.

Overall, the results reported in Table 5 are consistent with the expectation that while some companies exercise income-increasing earnings management

Table 5. OLS regression results for earnings management.

Panel A. Dependent Variable: *DACC(DP)*										
		(1) Total Sample			(2) Subsample with *DIVIDEND* > *CFO*			(3) Subsample with *DIVIDEND* < *CFO*		
Independent variables	Exp. sign	Robust coeff.	*t*	Prob(*t*)	Robust coeff.	*t*	Prob(*t*)	Robust coeff.	*t*	Prob(*t*)
INTERCEPT	?	−0.0287	−4.62	0.000	0.0124	1.13	0.260	−0.0446	−5.16	0.000
DIVTAXDRIVER	+	0.8091	116.67	0.000	0.7701	49.35	0.000	0.8195	77.31	0.000
Control variables										
SIZE	?	−0.0023	−3.16	0.002	−0.0081	−6.39	0.000	0.0002	0.17	0.863
ROA	+	0.5051	67.53	0.000	0.5019	38.59	0.000	0.5149	55.33	0.000
GROWTH	+	0.0144	3.46	0.001	0.0167	2.45	0.014	0.0138	2.62	0.009
LEVERAGE	+	0.0053	11.53	0.000	0.0043	6.10	0.000	0.0060	9.87	0.000
Year indicators			Included			Included			Included	
Industry indicators			Included			Included			Included	
Nobs			64 775			21 769			43 006	
F value			n.a.			n.a.			n.a.	
Prob(F)			n.a.			n.a.			n.a.	
Adj. R^2			0.308			0.231			0.242	
Panel B. Dependent Variable: *DACC(MJ)*										
		(1) Total Sample			(2) Subsample with *DIVIDEND* > *CFO*			(3) Subsample with *DIVIDEND* < *CFO*		
Independent variables	Exp. sign	Robust coeff.	*t*	Prob(*t*)	Robust coeff.	*t*	Prob(*t*)	Robust coeff.	*t*	Prob(*t*)
INTERCEPT	?	−0.0351	−19.32	0.000	0.0042	1.26	0.2080	−0.0450	−18.08	0.000
DIVTAXDRIVER	+	0.6794	214.69	0.000	0.6296	78.17	0.0000	0.7059	154.30	0.000
Control variables										
SIZE	?	0.0005	1.61	0.108	−0.0064	−10.97	0.0000	0.0031	7.91	0.000
ROA	+	0.4631	125.56	0.000	0.4639	73.63	0.0000	0.4726	110.27	0.000
GROWTH	+	0.0368	29.88	0.000	0.0373	18.15	0.0000	0.0370	24.26	0.000
LEVERAGE	+	0.0042	18.77	0.000	0.0045	10.60	0.0000	0.0043	17.08	0.000
Year indicators			Excluded			Excluded			Excluded	
Industry indicators			Excluded			Excluded			Excluded	
Nobs			95 601			30 753			64 848	
F value			9,330.58			2,370.62			5,474.45	
Prob (*F*)			0.000			0.000			0.000	
Adj. R^2			0.542			0.436			0.484	

Note. For variable definitions, see Table 1. Firm and year subscripts (*i* and *t*) suppressed here.

when they must do so to pay their dividends, others follow the opposite policy of decreasing their reported earnings to avoid taxes while still paying their dividends. This conclusion can be drawn from the significant coefficients estimated for *DIVTAXDRIVER*, which are positive in both subsamples reported in columns 1 and 2 of Table 5. In particular, the positive coefficients estimated for firms with a need for earnings decreasing accruals lead to the conclusion that as *DIVTAXDRIVER* becomes more negative, the predicted value of the discretionary accruals variable on the left-hand side also decreases.

The impact of retained earnings from prior years on earnings management (H3)

Because firms can pay their dividends not only from current net income but also from retained earnings from prior years (see footnote 1), the need for accruals enabling the distribution of dividends in the current year can be expected to decrease as the amount of retained earnings available from prior years increases, thereby reducing the dividend-based incentive for income-increasing earnings management.

To test the impact of retained earnings, we augment the right-hand side of our regression (3) retained earnings from prior years, *RETEARN*, as well as its interaction with our main test variable, *DIVTAXDRIVER*. In accordance with our H3, the purpose of this is to test both the direct and indirect or mitigating effects of retained earnings on the impact of *DIVTAXDRIVER*. Our expectation is that companies paying more dividends than their cash flow from operations are in less need of positive accruals (and thereby exercise less income-increasing earnings management) when more retained earnings are available for dividend distribution. In the empirical tests, this should be reflected as negative coefficients of the *RETEARN* variable (direct effect) as well as its interaction with *DIVTAXDRIVER* (indirect effect).

The results from these tests appear in Table 6. The coefficients estimated for the *RETEARN* variable are significant and expectedly negative in the total sample (column 1) as well as in both subsamples (columns 2 and 3). This holds for both measures of earnings management (panels A and B). Thus, we have robust evidence that retained earnings from prior years is negatively associated with earnings management irrespective of whether dividends to be paid are larger or smaller than the cash flow from operations. As regards the mitigating (or indirect) effect of *RETEARN*, the negative coefficients estimated from the subsample with a need for income-increasing earnings management (column 2) prove to be significant and negative, as expected. By contrast, the results are mixed in the subsample with a need for income-decreasing accruals (column 3). This is because in panel A, for the *DACC(DP)* measure of earnings management, the coefficient proves to be positive (0.1283), whereas in panel B, for the *DACC(MJ)* measure, the corresponding coefficient is negative (−0.0545). In addition, the interaction term has an insignificant coefficient

Table 6. OLS regression results for earnings management: the impact of retained earnings.

Panel A. Dependent Variable: *DACC(DP)*

Independent variables	Exp. sign	(1) Total Sample Robust coeff.	(1) t	(1) Prob (t)	(2) Subsample with *DIVIDEND* > *CFO* Robust coeff.	(2) t	(2) Prob (t)	(3) Subsample with *DIVIDEND* < *CFO* Robust coeff.	(3) t	(3) Prob (t)
INTERCEPT	?	0.0096	1.46	0.145	0.0380	3.16	0.002	−0.0265	−2.82	0.005
DIVTAXDRIVER	+	0.8213	71.78	0.000	0.9000	28.21	0.000	0.7773	44.22	0.000
RETEARN	-	−0.0922	−19.32	0.000	−0.0697	−6.85	0.000	−0.0488	−6.02	0.000
DIVTAXDRIVER x RETEARN	-	−0.0331	−1.47	0.142	−0.3431	−5.58	0.000	0.1283	3.63	0.000
Control variables										
SIZE	?	0.0000	0.04	0.969	−0.0040	−3.13	0.002	0.0020	2.11	0.035
ROA	+	0.4936	65.36	0.000	0.4630	34.98	0.000	0.5160	55.25	0.000
GROWTH	+	0.0111	2.66	0.008	0.0121	1.78	0.076	0.0116	2.20	0.028
LEVERAGE	+	0.0011	2.10	0.036	−0.0004	−0.48	0.628	0.0025	3.59	0.000
Year indicators			Included			Included			Included	
Industry indicators			Included			Included			Included	
Nobs			64 746			21 752			42 994	
F value			n.a.			n.a.			n.a.	
Prob (*F*)			n.a.			n.a.			n.a.	
Adj. R^2			0.312			0.242			0.247	

Panel B. Dependent Variable: *DACC(MJ)*

Independent variables	Exp. sign	(1) Total Sample Robust coeff.	(1) t	(1) Prob (t)	(2) Subsample with *DIVIDEND* > *CFO* Robust coeff.	(2) t	(2) Prob(t)	(3) Subsample with *DIVIDEND* < *CFO* Robust coeff.	(3) t	(3) Prob (t)
INTERCEPT	?	−0.0156	−7.76	0.000	0.0124	3.20	0.001	−0.0301	−10.56	0.000
DIVTAXDRIVER	+	0.7185	152.90	0.000	0.7235	47.73	0.000	0.7273	110.11	0.000
RETEARN	-	−0.0473	−19.98	0.000	−0.0281	−5.95	0.000	−0.0372	−10.43	0.000
DIVTAXDRIVER x RETEARN	-	−0.1069	−10.52	0.000	−0.2503	−7.85	0.000	−0.0545	−3.80	0.000
Control variables										
SIZE	?	0.0014	4.24	0.000	−0.0043	−7.16	0.000	0.0037	9.16	0.000
ROA	+	0.4547	122.50	0.000	0.4424	69.06	0.000	0.4710	109.26	0.000
GROWTH	+	0.0349	28.47	0.000	0.0342	16.81	0.000	0.0361	23.74	0.000
LEVERAGE	+	0.0022	9.00	0.000	0.0017	4.16	0.000	0.0028	9.94	0.000
Year indicators			Excluded			Excluded			Excluded	
Industry indicators			Excluded			Excluded			Excluded	
Nobs			95 562			30 729			64 833	
F value			6,734.35			1,717.92			3,933.17	
Prob (*F*)			0.000			0.000			0.000	
Adj. R^2			0.545			0.445			0.486	

Note. For variable definitions, see Table 1. Firm and year subscripts (*i* and *t*) suppressed here.

(−0.0331) in the total sample for the *DACC(DP)* measure in panel A. In conclusion, the regression results reported in Table 6 are consistent with our H3, suggesting that earnings management in private companies is negatively associated with retained earnings from prior years and that these retained earnings mitigate the positive association between earnings management and the dividend-driven need for income-increasing accruals.

Additional tests

Next, we perform additional tests to examine the potential impacts of dividend tax exemption on earnings management and on dividend payout behaviors in our sample of private SMEs. In addition, we briefly discuss the robustness of our conclusions with respect to economic and accounting restrictions on the plausible amount of earnings management.

Impact of dividend tax exemption on earnings management

The association between earnings management behavior and the maximum tax-exempt dividends of the sample companies is illustrated in Figure 2a and 2b. They show for each dividend category (defined by dividends per net worth) the average signed earnings management measured using the DeFond & Park model (Figure 2a) and the Modified Jones model (Figure 2b).[10] These figures illustrate whether the maximum tax-exempt dividends (that is, 9 percent of net worth) are "sticky" in the sense that earnings management behavior in companies at or around this dividend category differs systematically from those that are farther away from this benchmark.

First, both figures indicate that, unlike "kinky earnings" around the benchmark of zero earnings (Dechow et al., 2003, among others), there are no discernible peaks or other "kinks" in earnings management graphs at or around the benchmark of maximum tax-exempt dividends (see the category marked with *9 percent* in the horizontal axes of Figure 2a and 2b).[11] Second, the broad tenor of both figures supports the view that income-increasing (decreasing) earnings management decreases (increases) with a company's dividend-to-net-worth ratio, and therefore, the earnings management of companies to the left from the 9 percent benchmark differs from that of the companies to the right from the benchmark. Figure 2b, which shows the average earnings management of companies as measured by the Modified Jones model, indicates that the 9 percent benchmark category is a cutoff point, as average earnings management in all dividend

[10] As in Figure 1, the dividend categories in Figures 2a and 2b have widths of one percentage point. For example, the dividend category denoted with *9 percent* includes all companies for which dividends fall in the range of 8.5 percent–9.5 percent of the company's net worth.

[11] Dechow et al. (2003) examine the role of earnings management in the "beating the benchmark" context where the benchmark is zero earnings. Unlike Dechow et al. (2003), the current article is an example of the "adhering to the benchmark" case, where the benchmark is the maximum tax-exempt dividend defined by the tax rules.

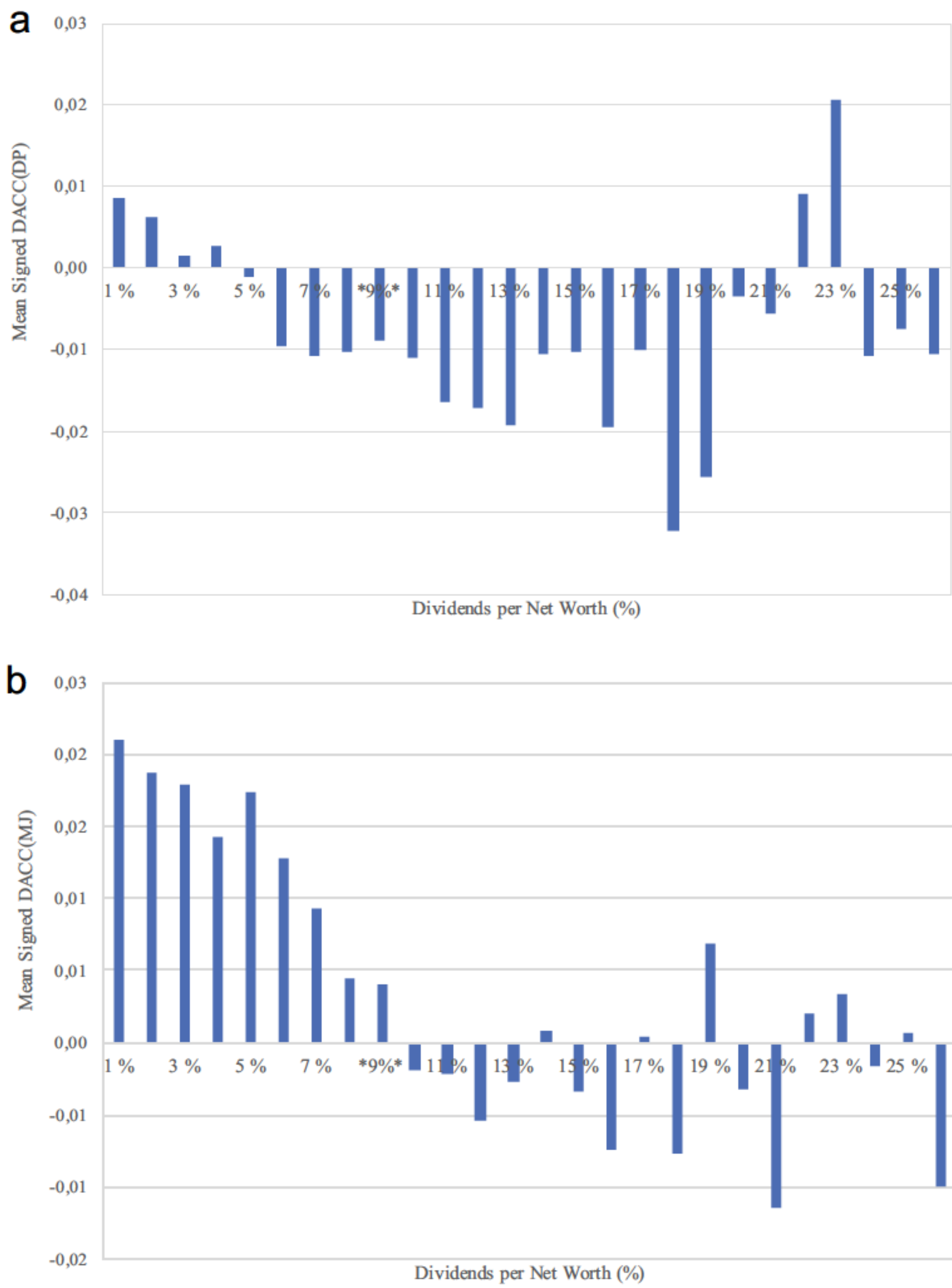


Figure 2. a) Mean signed discretionary accruals (Defond & Park) by dividends per net worth (n = 67,630). (b) Mean signed discretionary accruals (Modified Jones) by dividends per net worth (n = 101,473).

categories below 9 percent is positive, whereas it is negative in 11 categories to the right of the 9 percent benchmark and positive in only six categories.

Table 7. OLS regression results for earnings management: the impact of maximum tax-exempt dividends.

		(1) Dependent Variable: *DACC(DP)*			(2) Dependent Variable: *DACC(MJ)*		
Independent variables	Exp. sign	Robust coeff.	*t*	Prob (*t*)	Robust coeff.	*t*	Prob (*t*)
INTERCEPT	?	−0.0034	−0.52	0.605	−0.0144	−7.51	0.000
DIVTAXDRIVER	+	0.8617	74.56	0.000	0.7375	150.02	0.000
I_BELOWMAX	+	0.0169	6.63	0.000	0.0212	20.01	0.000
I_ABOVEMAX	-	−0.0621	−26.84	0.000	−0.0618	−58.68	0.000
DIVTAXDRIVER x I_BELOWMAX	+	0.0038	0.26	0.797	0.0079	1.31	0.189
DIVTAXDRIVER x I_ABOVEMAX	-	−0.0206	−1.53	0.127	−0.0298	−5.04	0.000
Control variables							
SIZE	?	−0.0039	−5.40	0.000	−0.0009	−3.04	0.002
ROA	+	0.5522	73.44	0.000	0.5141	153.58	0.000
GROWTH	+	0.0106	2.53	0.011	0.0336	28.46	0.000
LEVERAGE	+	0.0087	16.84	0.000	0.0074	33.49	0.000
Year indicators			Included			Excluded	
Industry indicators			Included			Excluded	
Nobs			64 248			94 850	
F value			n.a.			7,512.13	
Prob (*F*)			n.a.			0.000	
Adj. R^2			0.327			0.589	

Note. For variable definitions, see Table 1. Firm and year subscripts (*i* and *t*) suppressed here.

Insight into the impact of tax-exempt dividends is given in Table 7, which reports results from the estimation of our regression model (3), augmented with the indicator variables *I_BELOWMAX* and *I_ABOVEMAX*, and their interactions with our main test variable, *DIVTAXDRIVER*.

The significant positive (negative) coefficients of the *I_BELOWMAX* (*I_ABOVEMAX*) indicator are consistent with the view that, even after controlling for the effect of *DIVTAXDRIVER*, among others, the companies with a dividend distribution that is less (more) than the allowed tax-exempt maximum have exercised income-increasing (decreasing) earnings management more than those companies that have paid maximum tax-exempt dividends. This finding is insensitive to the earnings management measure used (see columns 1 and 2 in Table 7). However, with the exception of the interaction term *DIVTAXDRIVER* × *I_ABOVEMAX*, with a significant negative coefficient (−0.0298) in column 2 of Table 7, the coefficients estimated for all other interactions remain insignificant.

Nevertheless, putting together the findings from Table 7 and indications from Figures 2a and 2b leads to the conclusion that rather than being "sticky," maximum tax-exempt 9 percent dividends are a "water dividing" benchmark for earnings management in our sample of private SMEs. This is because there are no significant peaks in average earnings management at or around the 9 percent tax-exempt benchmark.[12] In addition, the companies below this

[12]To check for the possibility that positive and negative discretionary accruals cancel out each other when the earnings management measures are averaged, we computed average absolute (unsigned) discretionary accruals for companies in each dividend category. The (untabulated) results showed no systematic differences or peaks in averages based on absolute discretionary accruals at or around the 9 percent dividend category.

benchmark behave differently in their earnings management (that is, they exercise more income-increasing earnings management) as compared to companies above this benchmark. Overall, this finding is in line with our main argument of dividend and tax-driven earnings management in small and medium-sized private companies.

Impact of dividend tax exemption on payout decisions

To see whether private companies adjust their payout ratios to attain a tax exemption on dividends, we first graph the average payouts across the dividend categories in Figure 3. Instead of measuring payout by using the traditional payout ratio (dividends per net income), we compute *PAYOUTDIF* defined by the difference between dividends and net income, deflated by total assets (see Table 1).[13] The reason for the use of this transformation instead of the traditional payout ratio is that it avoids the notorious problems attributable to net income numbers that are negative or close to zero. In the first case, the ratio has a discontinuity at the point where the denominator becomes negative, while in the second case, the ratio "explodes" when the denominator approaches zero. The use of this transformation avoids both of these potential problems, which are otherwise likely in large samples such as ours.

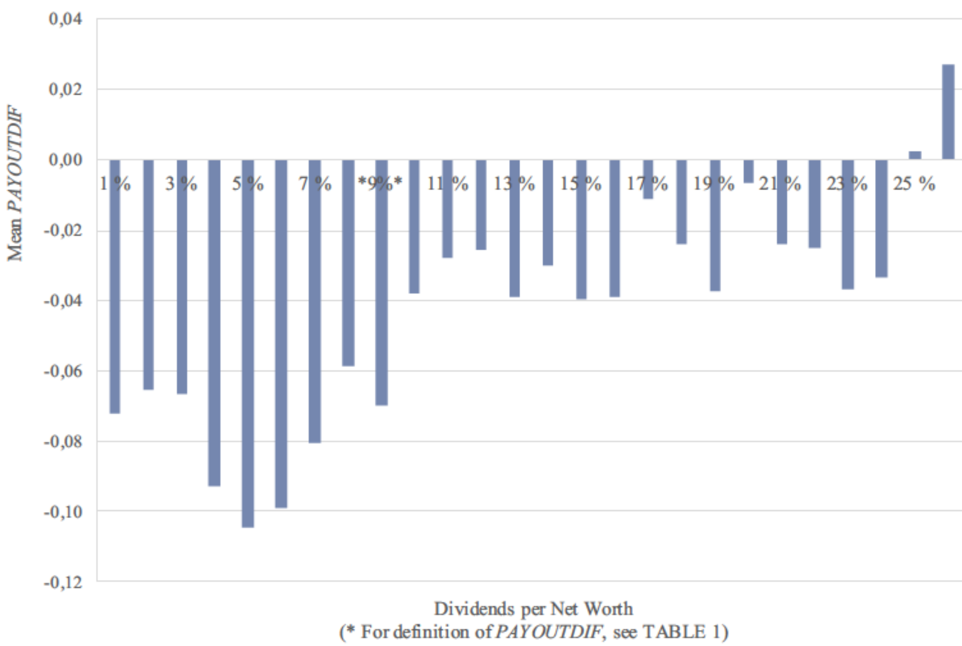


Figure 3. Mean PAYOUTDIF* by dividends per net worth (n = 105,826).

[13]Given this definition, *PAYOUTDIF* = 0, when the traditional payout ratio = 1.0; *PAYOUTDIF* > 0, when the payout ratio > 1.0; and *PAYOUTDIF* < 0 when the payout ratio < 1.0.

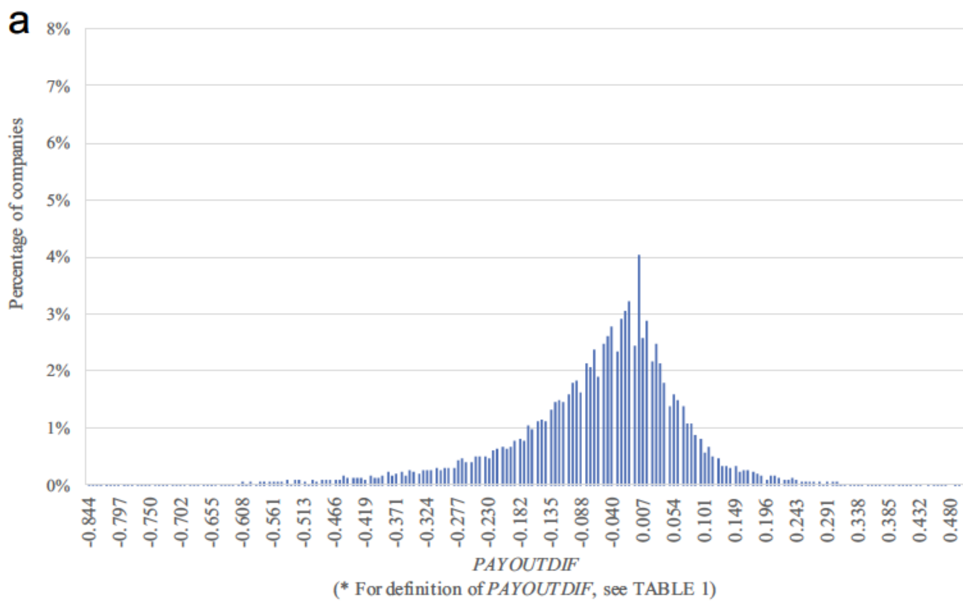
An observation from Figure 3 is that, apart from the two largest dividend categories (25 percent and ≥ 26 percent), *PAYOUTDIF* is, on average, negative, implying that the sample companies tend to distribute less of a dividend than their net income alone would allow. Among private SMEs, a plausible explanation for this is the aim of strengthening financial solidity for the future growth of the company by retaining a proportion of current earnings for that purpose. Another observation is that average *PAYOUTDIF* tends to be even smaller in dividend categories on the left than in those on the right. This is expected because the amount of distributed dividends is larger in categories on the right.

A notable detail in the payout decisions illustrated in Figure 3 is the local minimum in the maximum tax-exempt dividend category (marked with *9 percent*). The average *PAYOUTDIF* in this category is about −0.07, whereas it is approximately −0.06 in the 8 percent category and −0.04 in the 10 percent category. Given the large number of observations in these categories (11,377, 32,097, and 8,470 observations in the 8 percent, 9 percent, and 10 percent categories respectively), the differences are statistically significant. Thus, it seems that the companies paying the maximum 9 percent tax-exempt dividends adjusted their payout decisions more than did their peers in the neighboring (8 percent and 10 percent) dividend categories.

To gain further insight into the payout decisions of the companies with maximum tax-exempt dividends vis-à-vis companies paying less or more dividends than this maximum, we separately graph the frequency distributions of *PAYOUTDIF* in Figures 4a and 4b for the two groups of firms.

The observations from these figures are the following. First, the peak representing the percentage proportion of companies paying out all their distributable net income as dividends (their *PAYOUTDIF*, thus, being zero) is 4 percent among the maximum tax-exempt dividend category (see Figure 4a) and nearly 7 percent in the other dividend categories (see Figure 4b). This is consistent with the view that companies paying maximum tax-exempt dividends tend to adjust their payout decisions more often than do those that do not pay maximum tax-exempt dividends. This observation provides further evidence for our H1 that dividend decisions in private SMEs tend to be driven by the willingness to pay dividends up to the tax-exempt maximum allowed by the tax rules.

Second, the (untabulated) means −0.071 and −0.039 of the distributions in Figures 4a and 4b respectively indicate that, on average, the companies paying maximum tax-exempt dividends adjust their payout decisions more than do their peers paying dividends that are either more or less than the tax rules would allow for tax exemption. As regards other features of the distributions depicted in Figures 4a and 4b, it seems obvious that the variance of the distribution in Figure 4a is somewhat smaller and that the distribution is more peaked than that in Figure 4b. These visual observations are confirmed by corresponding (untabulated) statistics, which indicate



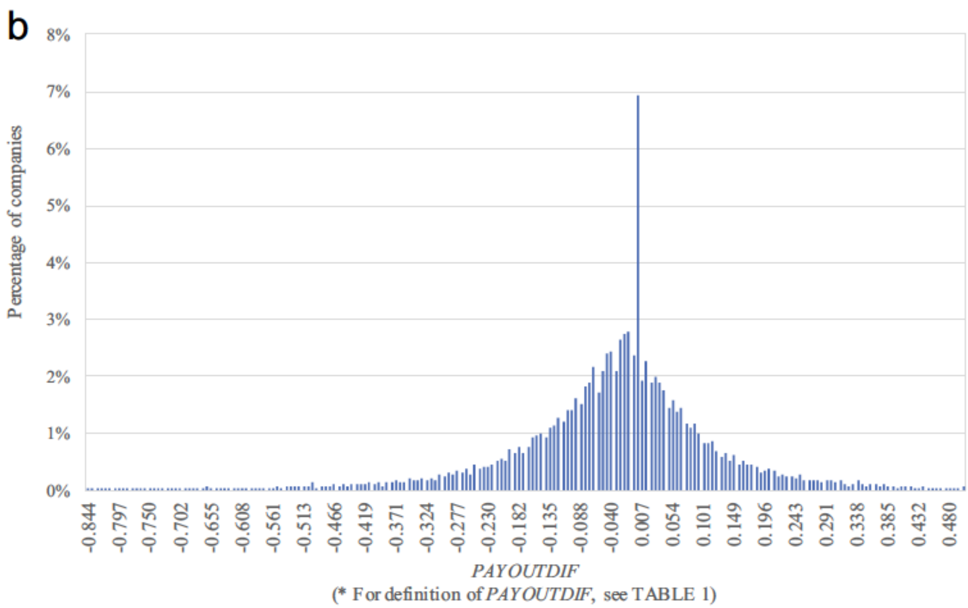


Figure 4. (a). Frequency distribution of companies by PAYOUTDIF* for subsample with dividends per net worth 9 percent (8.5 percent – 9.5 percent) (n = 32,136). (b) Frequency distribution of companies by PAYOUTDIF* for subsample with dividends per net worth ≠ 9 percent (< 8.5 percent or > 9.5 percent) (n = 74,480).

that the standard deviation (0.150) of the distribution shown in Figure 4a is smaller than the corresponding statistic (0.161) in Figure 4b, while the kurtosis (6.77) in Figure 4a is larger than the corresponding statistic (6.06) in Figure 4b.

To summarize, these findings suggest that companies paying the maximum amount of tax-exempt dividends (9 percent of net worth) differ from their peers in two respects. First, to attain the maximum tax exemption for dividends, they adjust their payout decisions more commonly than do their peers, as indicated by lower modes (peaks) of frequency distributions at the point where *PAYOUTDIF* is zero.[14] Second, the companies in this dividend category adjust their payout decisions not only more frequently but also in greater amounts than their peers, as indicated by the averages of the distributions. Third (and finally), the companies paying maximum tax-exempt dividends are more homogeneous than their peers in terms of their payout strategy. This finding is based on the smaller variance and larger kurtosis of their payout distribution compared to the corresponding distribution statistics of their peers.

The impact of economic and accounting restrictions on plausible degree of earnings management

The key explanatory variable of earnings management in our model is *DIVTAXDRIVER*, which is the difference between dividends to be paid and cash flow from operations. Although this variable captures the underlying economic need for accounting accruals (or earnings management) and provides solid empirical support for our hypotheses, it can be argued that companies are not always able to manage earnings, either downward or upward, as much as they would like. In actual practice, there are both economic and accounting restrictions for the company in terms of managing the accounting accruals imposed, for example, by GAAP and local accounting standards. Therefore, we conducted two simple robustness tests by estimating the maximum and minimum amounts of total accruals (the differences between reported net income and cash flow from operations) available to companies and then truncated *DIVTAXDRIVER* to these maximum or minimum boundaries whenever they were exceeded.

First, we conducted a test by truncating *DIVTAXDRIVER* to the maximum and minimum total accruals observed individually for each sample company during the research period. For all observations, we required all maxima to be nonnegative and all minima to be negative. This procedure yielded a total of 20,131 truncated observations (out of 49,822) for regression (3) based on earnings management estimated by the DeFond & Park model and a total of 30,157 truncated observations (out of 73,494) for the regression based on earnings management estimated by the Modified Jones model.

The signs and statistical significance remained the same; the explanatory power of the model improved by 1.9 percentage points for the regression of

[14]There are no adjustments of payout decisions when *PAYOUTDIF* is zero, as the companies pay out all distributable net income as dividends.

DACC(DP) and 2.3 percentage points for the regression of *DACC(MJ)*. However, we suspect that these results may suffer from endogeneity because company-level data on the maximum and minimum total accruals is endogenous, as it contains information about actual earnings management by that particular firm.

We then tried industry-level data to get more robust limits. We reestimated regression (3) where the *DIVTAXDRIVER* variable was truncated to boundaries based on the maximum and minimum total accruals determined separately for each industry. In total, 384 (598) observations were winsorized in regressions of the *DACC(DP)* and *DACC(MJ)* variables respectively. As the number of truncated observations in both regressions was so small, the results and conclusions remained virtually identical to the original results reported in Table 5. In conclusion, these tests on maximum and minimum limits on earnings management seem to indicate that, if anything, they offer the potential to improve the explanatory power of the model.

All three hypotheses find empirical support even after several robustness checks on measurement, methodology, sample selection, and variable definitions.

Conclusions

In this article, we provide, as far as we know, the first empirical evidence of the importance of dividends and dividend taxation as drivers of private SMEs' earnings management, which typically face much less, if any, political pressure and fewer capital market incentives to decrease information asymmetries through financial disclosures and stable dividend policies than do their public counterparts. Using an extensive sample of private SMEs in Finland during the five-year period of 2006–2010 and a different statistical methodology, we first confirm the findings documented in related prior studies (Harju & Matikka, 2016; Kari & Karikallio, 2007, among others), that is, that the dividends distributed by these companies are, to a very significant extent, determined by the maximum amount of tax-exempt dividends allowed by the tax rules.

Thereafter, we document that the earnings management exercised by these companies is driven by two concurrent but opposite forces: the need for positive accruals enabling their current dividend distribution and the need for negative accruals to avoid a company income tax. When companies need positive accruals because they want to distribute more dividends than their cash flows from operations, we find that these companies tend to manage earnings upward to meet the dividends to be paid. Conversely, when companies pay less of a dividend as compared to their cash flows from operations (thus facing a need for negative accruals to avoid a company income tax), we show that these companies manage their earnings downward. Moreover, we hypothesize and find evidence that retained earnings from prior years not only decrease income-increasing earnings management directly but also mitigate the impact of the need for positive accruals on income-increasing earnings management. Finally, we show the economic significance of the findings by indicating the economic impact of tax-exempt dividends on dividend decisions, as well as the impact of dividend decisions on earnings management behaviors and thereby on earnings numbers reported in the bottom row.

Overall, this article complements prior research on dividend-driven earnings management in large public corporations (Kasanen et al., 1996) by examining private small and medium-sized companies, thereby contributing to the branch of earnings management literature that is currently much less extensive and less researched than that on large public companies.

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