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WORKING PAPER

Earnings Management in Nonprofit Organizations: Does Governmental Financing Play a Role?

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Abstract

A vast amount of research has documented the existence of earnings management in for-profit settings. Nonprofit organizations are thought to pay less attention to the bottom line of the income statement. Earnings management research in nonprofit settings has therefore focused on the manipulation of expenses in order to improve efficiency ratios or taxable income, not reported earnings per se. Given a setting in which such ratios are not reported to the public, manipulation of the actual bottom line by nonprofit organizations is explored in light of the importance of governmental subsidies. The results suggest that nonprofit organizations drive their results towards the breakeven point and that manipulation seems to be intensified by increased governmental funding.

Introduction

Earnings management is an important area of accounting research. Healy and Wahlen's (1999) often cited definition sets the tone for several papers on earnings management. *'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'* (Healy & Wahlen, 1999, p.365). There is an ongoing flow of literature on companies' earnings management.[1] Motives for earnings management that have been documented over the years include manipulation of stock markets (report earnings growth, meet or beat the analysts' forecast), decrease of tax levels, avoidance of political costs and preservation of CEO reputation.

Companies use two techniques to manage reported earnings, i.e. 'real' earnings management and accounting manipulation. Among the 'real earnings management techniques' are: selling price cuts, just-in-time adoption, R&D budget cuts, etc. (Kinney and Wempe, 2004; Mande, File & Kwak, 2000, Roychowdhury, 2006). These techniques are more costly for the firm than 'simply' making use of discretion in accounting and financial reporting legislation in order to adjust reported numbers. Therefore, researchers have directed their attention to the use of accounting accruals as a tool for earnings management.

Recently, the scope of earnings management research broadened to the nonprofit and public sector. Although Healy and Wahlen (1999) use 'companies' in their definition,

neither motives nor techniques suggest that earnings management is limited to for-profit organizations. On the contrary, since economic performance is increasingly monitored by a society that demands accountability, earnings management may well be of importance in the third sector. Moreover, the growing economic importance of that sector (Marée, Gijselinckx, Loose, Rijpens & Franchois, 2008 ; U.N. Statistics Division, 2003) implies that an evaluation of financial reporting quality is relevant to numerous donors, governmental agencies, tax authorities, staff members and volunteers as well as accounting standard setters. The reliability of nonprofit financial reports is important. For instance, prior research indicates that donors use financial information in their decision to make donations to an organization (e.g. Parsons, 2003 and 2007; Tinkelman, 1999; Weisbrod & Dominguez, 1986).

Although earnings management research in nonprofit organizations is rather scarce in comparison to for-profit entities, a number of authors have clearly documented its existence. Nonprofit organizations are reported to adjust accounting numbers for several reasons: improving their efficiency ratios (Jones & Roberts, 2006; Keating, Parsons & Roberts, 2008; Khumawala, Parsons & Gordon, 2005; Krishnan, Yetman & Yetman, 2006;), avoiding taxes (Hofmann, 2007; Omer & Yetman, 2003, 2007) and avoiding small losses (Ballantine, Forker & Greenwoord, 2007; Leone & Van Horn, 2002).

Four factors distinguish this study from former research. Firstly, the focus is on reported income, not efficiency ratios nor taxable income. This implicates that the 'bare bottom line' (i.e. reported earnings) is under investigation. We contend that nonprofit

organizations use accounting discretion to manage results towards zero profit. Secondly, whereas most of the research is done in the U.S., where private donations are a main source of income to nonprofit organizations, this study uses data of nonprofits that are highly subsidized by the government. Therefore, the effect of subsidization on earnings management is considered. Thirdly, in contrast with earlier studies that focus on a specific sector, this paper uses data from the nonprofit sector in general. Lastly, whereas an important number of studies uses one technique to study earnings management, we use three commonly cited methods, creating some form of triangulation of evidence (see also Bouwens, Hollander & Schaepkens, 2004).

The remainder of the paper proceeds as follows. In the next section, previous literature on nonprofit earnings management is briefly discussed. Then, testable hypotheses are developed, followed by an explanation of the methodology. The last sections contain the description of the data , results of the analyses and conclusions.

Prior Research: Earnings Management in Nonprofit Organizations: Why and How?

In contrast to the seemingly endless flow of research on earnings management by companies, studies on nonprofit organizations are few.
At first glance, motivations for earnings management are less important in a nonprofit setting. Whereas businesses strive for earnings in order to distribute them to their shareholders, nonprofit organizations' first priority consists in providing programs and services that are of public benefit. Profits – or more accurately surpluses- might not be

much more than a side effect and are retained by the organization in order to provide for future programs. Although the realisation of profit is -and can not be- the main purpose of a nonprofit organization, Deneffe and Masson (2002) report that hospitals consider profit as an important objective (next to output). Brickley and Van Horn (2002) state that nonprofit hospitals have incentives to focus on financial performance.

In previous research, several reasons for nonprofits' earnings management are documented. Nonprofit organizations seem to modify reported expenses and results in order to demonstrate higher efficiency ratios, to reduce taxable income and to report small profits or a financial breakeven.

In the U.S., nonprofit organizations' efficiency is expressed in ratios. Expenses are classified as either fundraising, administrative or program expenses. Donors aspire 'good use' of their money, which is substantiated by a high program ratio, i.e. the percentage of total expenses categorized as program expenses, to decide upon donating money (Callen 1994; Greenlee & Brown, 1999; Weisbrod & Dominguez 1986).

The importance of the program ratio has driven nonprofit organizations to manoeuvring expenses from one category to another. Krishnan et al. (2006) demonstrate that fundraising expenses are misclassified as program expenses, leading to an understatement of the fundraising ratio and an overstatement of the program ratio. Using a different methodology, Keating et al. (2008) reach the same conclusion regarding the misuse of cost classification. Some expenses are difficult to categorize. Activities such as direct mailings can combine a fundraising appeal with public education efforts. The (joint) costs of this activity need to be allocated among program, fundraising and administrative

categories. Jones and Roberts (2006) as well as Khumawala et al. (2005) find evidence that charities use joint costs allocation decisions to influence program ratios.

Although nonprofit organizations usually can rely on a tax-exempt status, some of their income may still be taxable. In Hofmann's study (2007), associations are estimated to shift expenses towards their unrelated business income in order to decrease taxation. Omer and Yetman (2003) find an unusual large number of nonprofit organizations that report near zero taxable income. The same authors conclude that nonprofit organizations misreport taxable income by overstating taxable expenses (Omer & Yetman, 2007).

Finally, some authors find evidence that nonprofit organizations manage reported earnings to a range just above zero. Leone and Van Horn (2002) argue that nonprofit hospitals have motives to manage their reported earnings to a small profit. They find evidence that allowances of third party settlements and allowances for doubtful debtors are used to increase reported earnings. Ballantine et al. (2007) substantiate their hypothesis that English NHS Trusts use accounting flexibility (discretionary accruals) to achieve the financial breakeven point.

In summary, evidence of nonprofit organizations' attempts to manage reported financial numbers is limited but convincing. However, prior research is mainly dealing with expense classification and taxes. When reported earnings are studied, data are limited to one specific sector. In this paper, manipulation of reported earnings towards zero profit is discussed for organizations in the nonprofit sector at large. Moreover, the level of governmental financial aid is considered as an incentive for earnings management.

Hypothesis Development

Nonprofit organizations cannot actively pursue profit in order to redistribute it to the owners and are expected to spend their revenue on programs and services. Due to the maximization of programs under budget constraints, it can be expected that the distribution of surpluses/losses will be centered around zero, even in the absence of accounting manipulation. Nonprofit organizations that maximise the use of funds as program expenses while making sure that budget constraints are met, are showing reasonable 'real' earnings management. There are, however, reasons to assume that nonprofit organizations also manage the reported results towards zero profit making use of flexibility in accounting standards. Moreover, nonprofit organizations might be more inclined to manage earnings when important governmental funding is at stake.

Government subsidies as a reason for earnings management.

As Anheier, Toepler and Sokolowski (1997, p. 203) point out: '*public sector dependent organizations tend to find such government funding inadequate, see their dependence as problematic, are fearful of bureaucratization, feel political pressure, lament a lack of political concept and diagnose political insecurity.*' These authors also conclude that state dependent organizations are less likely to introduce austerity measures in the case of financial problems than their fee dependent counterparts. The former are more likely to try to increase funding by making 'appropriate contacts at the right political level' (p. 203). This indicates that state dependent organizations are well aware of the importance of government funding and are prepared to go a long way to ensure continuing financing.

Verbruggen, Christiaens and Milis (2010) conclude that formal compliance with financial reporting standards increases with dependence on governmental subsidies, indicating a willingness to meet the demands of the most important source of funding. Since prior research has shown that nonprofit organizations manage earnings when applying for (increased) debt funding (Bouwens et al., 2004) and in light of donations (Frank, Salkever and Mitchell, 1990), we argue that earnings management occurs in order to preserve governmental funding.

Bouwens et al. (2004) show that Dutch nonprofit hospitals manage earnings upwards in the year prior to and the year in which additional funding is received in the form of financial debt. They argue that '*managers also have incentives to manage the books in order to attract new or additional funding in the (nearby) future, that is both to obtain external funding and to obtain it under favourable conditions*' (Bouwens et al., 2004, p.9). Frank et al. (1990) report a negative correlation between (lagged) reported income and the level of donations. This indicates that donors take reported earnings into account when deciding on donations and are less inclined to donating money to profitable organizations.

We argue that, similar to the arguments of additional debt financing, reporting a loss can damage the reputation of the nonprofit organization in the eyes of subsidizing governments. The question might arise whether or not it is economically and/or socially desirable to subsidize an organization that reports losses. In the absence of and/or in combination with other performance indicators, governments might turn to income statements to evaluate the organization's financial status during the decision process.

Taking this into account, heavily subsidized organizations may be inclined to manage losses upwards in order to uphold governmental funding. This upward earnings management can be expected to occur close to the break-even point as well as further down the earnings distribution.

Nonprofit organizations might not only be avoiding losses, they may also benefit from downsizing reported profits. Most nonprofit organizations benefit from a tax-exempt status and a large number of organizations benefits from a substantial level of governmental subsidies. A budget conscious government (whether local, national or supranational) will monitor the results of these organizations, on the level of program services provided as well as on a financial level. Large profits may attract the attention of tax authorities as well as subsidizing governments. Similar to private and corporate donations, the level of subsidies might vary with reported earnings. When they do, nonprofits can be inclined to manage earnings downwards.

Other arguments for the 'drive towards zero profit'.

Nonprofit organizations avoid reporting a (small) loss for several reasons. CEO reputation and a decrease in cost of debts are documented grounds for nonprofits to manage earnings just above the breakeven point. Although the realisation of a profit is not the main concern of nonprofit organizations, reaching a breakeven is necessary in the end to justify the going concern hypothesis. Being profitable enables a nonprofit organization to build endowments, which in turn create possibilities for the organization to smooth program expenses (Fisman & Hubbard, 2005) and to safeguard the mission from decreases in revenue. This might also affect CEO reputation. Brickley and Van

Horn (2002) show that CEO turnover in nonprofit hospitals is relatively high and related to profitability. Eldenburg, Hermalin, Weisbach and Wosinka (2004) report that board and CEO turnover in hospitals is related to poor financial performance.

Other studies have shown that a reduction in the variability of earnings (Trueman & Titman, 1988) and beating the zero earnings benchmark (Jiang, 2008) decrease the cost of debt. Watts and Zimmerman (1986) and DeFond and Jiambalvo (1994) argue that firms make income increasing accounting choices when facing debt covenant violations.

Leone and Van Horn (2002) argue and show that hospitals avoid small losses through accounting manipulation because of the costs associated with reporting a loss. The same authors review reasons for downwards earnings management by nonprofit organizations. Reporting (important) profits puts nonprofit organizations at risk of losing their tax-exempt status (Weissenstein, 1997) as well as donations (Frank et al., 1990). Leone and Van Horn (2002) also include the negotiation power of third-party payers in the case of profit reporting hospitals as an argument for downwards earnings management. While this particular argument might be limited to hospitals, D'Souza, Jacob and Ramesh (2001) provide evidence for firms using earnings management to reduce labour renegotiation costs.

Overall, prior research has identified reasons for upwards as well as downwards earnings management in nonprofit organizations. Combined with the arguments for the effect of governmental subsidies as a reason for earnings management, the following hypotheses are stated:

H1. Small loss avoidance hypothesis: Nonprofit organizations manage earnings upwards to avoid small losses and report small profits.

H2. Drive towards zero hypothesis: Nonprofit organizations manage earnings upwards when pre-managed earnings are negative and vice versa.

H3. Goverment funding hypothesis: Earnings management increases with the importance of governmental funding.

Figure 1 summarizes the hypotheses: when unmanaged earnings are negative (positive), we expect upwards (downwards) earnings management. This drive towards zero is intensified when the nonprofit organization is highly dependent on governmental funding. We also expect small losses to be managed into small profits.

<<< Insert figure 1 here >>>

Sample Selection and Methodology

Sample selection

The hypotheses are tested on a set of Belgian nonprofit organizations. The arguments to use these data are threefold: (i) these organizations have been confronted with increased accounting and reporting requirements since 2006, leading to the use of accrual accounting and the public availability of standardized financial statements; (ii) an important number of the organizations are heavily subsidized, providing a possible reason for earnings management not tested so far and (iii) the nonprofit sector is of large importance in Belgium and is comparable to other open, modern economies. Therefore, it is in no respect a 'sui generis' case.

The 2006 accounting reform resulted in three different sets of Belgian nonprofit organizations. They were categorized as very large, large and small organizations according to the level of total assets, total revenue and number of employees. Very large organizations needed to switch to accrual accounting, draw up a full scheme of standardized financial statements and appoint an external auditor. For large organizations, accrual accounting and the short scheme of financial statements was made mandatory, approval by an external auditor was, and still is, voluntary. Small nonprofit organizations are still allowed to use cash accounting and their statements are not publicly available.

To be able to calculate all necessary variables, the full financial statement is needed. In September 2007, a list of all full scheme filers was provided by the National Bank of Belgium. The full scheme financial statements of 925 nonprofit organizations were keyed in manually for 2006. The same list of organizations was used to gather data for 2007 and 2008. In case of a switch from the full to the short scheme of financial statements in this period, all available data were gathered. However, some data with regard to subsidies are not available in the short scheme.

Methodology

The majority of current (corporate) earnings management studies focus on the use of discretion in accounting as a tool for earnings management. In these studies, three methodologies can be identified: the distibution of reported earnings, models of specific accruals (such as doubtful debts) and models that focus on aggregate accruals[2]. In the latter case, most often the Jones (1991) model is used, which splits accruals into a non-discretionary and a discretionary part. The existence of discretionary accruals is viewed

as a proof of earnings management. Leone and Van Horn (2002) examined the use of two specific accruals (third party allowances and doubtful debtors) as a means to report financial break-even in nonprofit hospitals. These authors also used the Jones (1991) model as a robustness check. Ballantine et al. (2007) and Bouwens et al. (2004) use Burgstahler and Dichev's (1997) distribution techniques as well as discretionary accruals models to show that English NHS Hospital Trusts and Dutch nonprofit hospitals respectively, use accounting discretion to report profit.

In the current paper, all three widely used techniques are applied to analyze the prevalence of earnings management.

Firstly, the distribution of reported earnings, as introduced by Burgstahler and Dichev (1997), is applied to test the hypothesis of loss avoidance. Graphical evidence is used to test whether an observable discontinuity exists in the distribution of reported earnings in the proximity of the zero earnings benchmark. This discontinuity is then more formally assessed using a test statistic which compares the actual and expected number of observations in intervals situated close to zero profit.[3] Secondly, we test whether a specific accrual is used as a tool for earnings management. This technique is supported by Marquardt and Wiedman (2004) as well as McNichols (2000). The accrual under investigation in this paper, the depreciation expense, is specific in a sense that one single item in the income statement is investigated as opposed to an aggregation of different accruals. The depreciation accrual is however not specific to a subsector, such as hospitals or universities. The choice for depreciation is based on the fact that it is widely used in all sectors, it is subject to some accounting discretion and it is of enough importance to influence reported income.

The importance of depreciable fixed assets in nonprofit financial statements is relatively high. In the sample used, they average 48 % of total assets. Furthermore, other noncash expenses that might be used to manage earnings are less important: inventory for example is non-existent in 52% of the 2006 sample statements. Debtors very often include money owed by the government, which makes them less susceptible to write-offs (in which estimation and thus discretion is often the case). Since parallels can be made with the balance sheet of public sector bodies, the findings of Van der Zahn and Pilcher (2008) and Stalebrink (2007) are relevant in defending the use of depreciation as a manageable accrual. Van der Zahn and Pilcher (2008) find that local governments reporting higher deficits and surpluses had higher levels of unexpected depreciation. They also document a significant positive association between unexpected depreciation and the level of capital contributions. Stalebrink's (2007) findings indicate that discretion in write-offs and depreciation is used to report small surpluses. Sundgren and Johansson (2004) report on the use of depreciation to alter reported results by non-public Finnish firms. The setting of that paper is similar to the current study, since these firms were recently confronted with an accounting reform that made audit and public financial statements obligatory.

In order to identify unexpected depreciation, the methodology of Marquardt and Wiedman (2004) is applied. The unexpected (discretionary) component of depreciation for period t is defined as

$$UDEP_{i,t} = \frac{DEP_{i,t}}{TA_{i,t-1}} - \frac{DEP_{i,t-1} x \dfrac{GROSSPPE_{i,t}}{GROSSPPE_{i,t-1}}}{TA_{i,t-1}} \qquad (1)$$

Where

UDEP$_{i,t}$ Unexpected depreciation for organization i in year t

DEP$_{i,t}$ Actual (reported) depreciation for organization i in year t

TA $_{i,t-1}$ Total assets for organization i in year t-1

Gross PPE $_{i,t}$ Gross plant, property and equipment for organization i in year t[4]

Lastly, in accordance with former studies by Bouwens et al. (2004), Leone and Van Horn (2002) and Ballantine et al. (2007), an aggregate accruals model is used based on the Jones (1991) model and the modified version by Dechow, Sloan and Sweeney (1995) (Hereafter referred to as the Jones model and modified Jones model, respectively).

For the Jones model, the following ordinary least squares regression model is used to estimate accruals as a function of the change in the level of activity (change in revenue) and the level of plant, property and equipment. Accruals are defined as the change in operating assets (inventory, accounts receivable) minus the change in operating liabilities (all non-financial short term debts) to account for changes in working capital and minus non-cash expenses such as depreciation and provisions. Abnormal or discretionary accruals are then defined as the error terms of the regression.

$$\frac{AC_{it}}{TA_{it-1}} = a\frac{1}{TA_{it-1}} + b_1\left(\frac{\Delta REV_{it}}{TA_{it-1}}\right) + b_2\left(\frac{PPE_{it}}{TA_{it-1}}\right) + \varepsilon_{it} \qquad\qquad (2)$$

Where

AC_{it} = total accruals for firm i in year t

ΔREV_t = revenues in year t – revenues in year t-1

PPE_t = gross property, plant and equipment in year t

TA_{t-1} = Total assets in year t-1

Dechow et al. (1995) proposed a modification to the original Jones (1991) model by subtracting the change in receivables from the change in revenue in order to capture sales-based manipulation. The modified Jones model is then:

$$\frac{AC_{it}}{TA_{it-1}} = a\frac{1}{TA_{it-1}} + b_1\left(\frac{\Delta REV_{it} - \Delta REC_{i,t}}{TA_{it-1}}\right) + b_2\left(\frac{PPE_{it}}{TA_{it-1}}\right) + \varepsilon_{it} \qquad (3)$$

Where $\Delta REC_{it} = $ receivables year t – receivables year t-1[5]

Results and Discussion

Descriptives

The analysis is based on a sample of 925 organizations that filed a full scheme of financial statements in 2006. In 2007 and 2008, 95 organizations switched from the full to the short scheme of financial statements, ended their activities or did not file financial statements.[6] The organizations are active in 20 different subsectors. The majority of organizations are to be found in health care (476 organizations) and education (146). But sectors such as agriculture and forestry, business related services, hotels (youth hostels, vacations for disabled persons), recycling, sports and leisure are also included in the sample.

The descriptive statistics for the pooled data are summarized in table 1. Mean total assets (mean total revenue) amount to 14.6 (11.3) million euro. The organizations are quite heavily subsidized, as is evidenced by the average subsidies of 3.6 million euro

representing on average 43.5 percent of total revenue. It can be noticed that the medians are much lower than the means, indicating skewed distributions.

In 73.4 percent of the cases, subsidies are granted to the organization and in 82.4 percent of all cases, donations are less than 1 percent of total operating revenue (untabulated). The main sources of funding are therefore subsidies and self-generated revenue.

<<< Insert table 1 here >>>

Unexpected depreciation and discretionary accruals: the drive towards zero?

The presence of earnings management is tested using two accruals measures. Firstly, the depreciation expense is split into an expected and unexpected part, using the methodology put forward by Marquardt and Wiedman (2004). Positive (negative) unexpected depreciation is consistent with downwards (upwards) earnings management. Secondly, discretionary accruals are calculated to indicate upwards (when positive) and downwards (when negative) earnings management. Accruals are estimated by sector. Due to the fact that some sectors have a very limited number of organizations, only 7 sectors were taken into account. This, in combination with missing data and the use of lagged data, reduces the total number of observations to 1498. As a sensitivity analysis, accruals were also estimated cross-sectional for the entire sample.

Table 2 summarizes the descriptive statistics on both measures. The mean and median discretionary accruals are slightly negative and very similar in magnitude in comparison with prior research by e.g. Bouwens et al. (2004). Differences in accruals are very limited when comparing the Jones and modified Jones model. Mean unexpected depreciation is

slightly negative, whereas the median unexpected depreciation is slightly positive. The mean level of unexpected depreciation is lower than in former studies. Van der Zahn and Pilcher (2008) reported a mean unexpected depreciation level of -0.13, whereas Marquardt and Wiedman (2004) reported -0.05. Accruals are both negative and positive, suggesting upwards as well as downwards earnings management. The percentages in table 2 suggest that downwards earnings management is more present than upwards earnings management (for discretionary accruals as well as unexpected depreciation).

<<< Insert table 2 here >>>

To test whether accruals are used to manage earnings upwards when pre-managed earnings are negative (and vice versa), the following regressions are used, similar to Leone and Van Horn (2002).

$$UDEP_{i,t} = a_0 + a_1 EBUDEP_{i,t} + a_2 EARNINGS_{i,t-1} + a_3 UDEP_{i,t-1} + \varepsilon$$

$$DA_{i,t} = b_0 + b_1 EBDA_{i,t} + b_2 EARNINGS_{i,t-1} + b_3 DA_{i,t-1} + \varepsilon$$

Where

$UDEP_t$ = Unexpected Depreciation year t

$EBUDEP_t$ = Earnings $_t$/TA $_{t-1}$ + Unexpected Depreciation$_t$

DA_t = discretionary accruals$_t$

$EBDA_t$ = Earnings $_t$/Total assets $_{t-1}$ – Discretionary accruals$_t$

$EARNINGS_{t-1}$ = Reported earnings $_{t-1}$/Total assets $_{t-2}$

When hypothesis 2 holds, we expect the sign of a1 to be negative and b1 to be positive. Since Kothari, Leone and Wasley (2005) showed that discretionary accruals are

positively correlated with prior year earnings, we expect the sign of a2 (b2) to be negative (positive). Lagged discretionary accruals and unexpected depreciation are added to the model to deal with (likely) autocorrelation (Leone and Van Horn, 2005)

<<< Insert table 3 here >>>

The regression results in table 3 confirm hypothesis 2. Earnings are managed downwards (upwards) when premanaged earnings are positive (negative), as is evidenced by the negative sign of the coefficient of earnings before discretionary accruals and the positive sign of earnings before unexpected depreciation. The coefficient of scaled earnings of the previous year also shows the expected sign. The explanatory power of the discretionary accruals model (0.714) is higher than the unexpected depreciation model (0.336), but both are acceptable and the analysis of multicollinearity diagnostics (untabulated) does not indicate problems. Overall, the 'drive towards zero' is confirmed by the regression analysis.

Loss avoidance

Using the method developed by Burgstahler and Dichev (1997), we examine the distribution of reported earnings (divided by total lagged assets) around the benchmark, in this case the financial breakeven point of zero profit. Graph 1 shows the distribution of reported earnings divided by lagged total assets close to the breakeven point (datapoints are in a range of -0.2 to 0.2 for the graphical presentation). The discontinuity around the breakeven point is visually clear. The number of observation in the interval just to the right of the breakeven point is clearly much more elevated than the number just to the

left. Following Burgstahler and Dichev (1997), this indicates that organizations manage reported earnings to a level just above the breakeven point, as suggested by hypothesis 1.

<<< Insert graph 1 here >>>

Table 4, panel A shows the results of the statistical analysis developed by Burgstahler and Dichev (1997), using interval widths of 0.5 percent. The interval just to the right of the breakeven point contains a significantly larger number of observations than is to be expected under the hypothesis of a normal distribution. The adjacent interval (small losses) contains significantly less observations than to be expected.

This observation is in line with hypothesis 1, stating that organizations will avoid small losses.

<<< Insert graph 2 here >>>

<<< Insert graph 3 here >>>

Graphs 2 and 3 represent the distribution of earnings before unexpected depreciation and earnings before discretionary accruals. The discontinuity around zero is considerably less visible or even non-existent, which confirms the use of the depreciation expense and accounting accruals as earnings management tools. This is confirmed by the results of the statistical tests (table 4, panels B and C). When accruals and depreciation are used to manage earnings towards zero, we would expect the standard deviation of unmanaged earnings (i.e. earnings before unexpected depreciation, EBUDEP, and earnings before discretionary accruals, EBDA) to be larger than for reported earnings and means to be

closer to zero for reported earnings. The distribution characteristics in table 5 show larger standard deviations for unmanaged earnings than for managed earnings.

<<< Insert table 5 around here >>>

To further analyse the loss avoidance hypothesis, the sample is split into four groups, based on their reported and unmanaged results: small profits (losses) are defined as less than (minus) one percent of total assets.

<<<Insert table 6 around here>>>

The percentage of organizations that reports a small profit is considerably larger than the percentage of organizations with unmanaged small losses (14.3 versus 6.4 percent in the case of unexpected depreciation, 15.3 versus 4.4 percent in the case of discretionary accruals). This is consistent with the analysis of the earnings distribution and the Burgstahler and Dichev (1997) statistical tests. In the UDEP-analysis (DA-analysis) , 20.6 (7.0) percent of all small profit reporters also show an unmanaged small profit. Almost 45 (35) percent of the small profits are the result of upwards earnings management, whereas 34.5 (58.3) percent is the result of downwards earnings management. Depreciation seems to be used more often for upwards earnings management, whereas the majority of discretionary accruals is negative (downwards earnings management). The conclusions based on the crosstabs are consistent with the hypothesis that organizations tend to avoid reporting a loss (H1). To do so, both upwards and downwards earnings management seem to be used. Overall, only 44.3 percent (UDEP) and 38.9 percent (DA) of unmanaged losses (of more than 1% of total assets) are

also reported as losses of that size. The stability of unmanaged into reported profits is higher: 87.8 percent (UDEP) and 76.9 percent (DA).

Unexpected depreciation in relation to subsidies

Hypothesis 3 states that earnings management increases with the level of subsidies. To test the hypothesis, univariate correlations (table 7) and OLS regression (table 8) is used.

<<< Insert table 7 around here >>>

Table 7, panel A shows the correlation between the importance of subsidies (expressed as a percentage of total revenue) and absolute values of discretionary accruals and unexpected depreciation. The correlation is non-significant in the case of discretionary accruals and positive in the case of unexpected depreciation, suggesting that earnings management through depreciation increases with the level of subsidies.

Panel B presents correlations according to the direction of the accruals measure. The evidence suggests that a higher level of subsidies coincides with more upwards as well as downwards earnings management in the case of unexpected depreciation. The correlations for discretionary accruals are not significantly different from zero at a 5% level.

In Panel C, the direction of earnings management is combined with the sign of unmanaged results. If the importance of subsidies drives earnings towards the break-even point, we would see higher levels of upwards (downwards) earnings management when unmanaged results are negative (positive). The results show that all measures based on discretionary accruals have non-significant correlations with the importance of subsidies.

The results for unexpected depreciation suggest more upwards earnings management when unmanaged results are negative, which is consistent with the analysis of loss avoidance and the distribution characteristics of earnings before unexpected depreciation. The correlation coefficients also suggest, however, that there is also more downwards earnings management for negative unmanaged results when subsidies are higher.

Overall, we find no significant correlations of discretionary accruals and subsidies. In the case of unexpected depreciation, an increased level of subsidies coincides with more earnings management (upwards as well as downwards) in the case of negative unmanaged earnings. This is consistent with hypothesis 3, but contradictory to hypothesis 2.

To further analyze the effect of subsidies on earnings management towards zero profit, the earlier used OLS regression is repeated, adding an interaction term of unmanaged earnings and the level of subsidies. The restated linear regressions are as follows:

$$UDEP_{i,t} = a_0 + a_1 EBUDEP_{i,t} + a_2 EARNINGS_{i,t-1} + a_3 UDEP_{i,t-1} + a_4 EBUDEPxSUBS_{i,t} + a_5 SUBSi,t + \varepsilon$$

$$DA_{i,t} = b_0 + b_1 EBDA_{i,t} + b_2 EARNINGS_{i,t-1} + b_3 DA_{i,t-1} + b_4 EBDAxSUBS_{i,t} + b_5 SUBS_{i,t}\varepsilon$$

Where

$UDEP_t$ = Unexpected Depreciation year t

$EBUDEP_t$ = Earnings $_t$/TA $_{t-1}$ + Unexpected Depreciation$_t$

DA_t= discretionary accruals$_t$

$EBDA_t$ = Earnings $_t$/Total assets $_{t-1}$ – Discretionary accruals$_t$

$EARNINGS_{t-1}$ = Reported earnings $_{t-1}$/Total assets $_{t-2}$

$SUBS_t$ = subsidies/total revenue year t

Once again, the coefficients that signal earnings management towards zero profit are a1 (expected to be positive) and b1 (negative). However, if subsidies increase the process of earnings management towards the breakeven point, the coefficients of the interaction terms (i.e. a4 and b4) are expected to be significant as well, in the same direction.

<<< Insert table 8 here >>>

Although the results of the bivariate correlations are mixed, the multivariate linear regression shows strong results: the coefficients of unmanaged earnings are significant in the expected direction, evidencing hypotheses 2 of earnings management towards the breakeven point. The coefficients of the interaction terms are significant as well, with the expected sign, suggesting that the level of subsidies increases the use of accruals to manage earnings towards zero, which is in support of hypothesis 3.

Conclusion

In this paper, earnings management of reported earnings by nonprofit organizations is scrutinized. Although previous research has provided some evidence that organizations manage earnings in order to improve efficiency ratios and that hospitals manage reported earnings to a breakeven point, so far no evidence has been provided of nonprofit organizations at large managing earnings to (small) profits. Furthermore, no former

research has investigated the effect of governmental subsidies on earnings management in nonprofit organizations.

In a sample of more than 700 organizations over a 3-year period, the use of the depreciation expense and other accruals as a tool for earnings management has found some support. To overcome the drawbacks associated with different methods commonly used in earnings management research, three methods are combined as a kind of 'triangulation' of evidence: unexpected depreciation, discretionary accruals and distribution characteristics of earnings measures. Firstly, all measures indicate that earnings management occurs in nonprofit organizations. We find discretionary accruals that are similar in size to earlier research results and indicate upwards and downwards earnings management. We identify the existence of unexpected depreciation expenses, which are however less important than in research done by Van der Zahn and Pilcher (2008) and Marquardt and Wiedman (2004). The distribution of reported earnings shows a clear discontinuity around zero profit, with significantly more (less) than expected observations of reported small profits (losses). The distribution of earnings before unexpected depreciation and earnings before discretionary accruals do not show a similar discontinuity. A crosstabs of unmanaged versus reported earnings also suggests loss avoidance. To test the hypothesis that nonprofits manage earnings towards zero profit, an OLS regression was performed to establish the relation between the direction of earnings management and the sign of unmanaged earnings. The results show, for unexpected as well as discretionary accruals, that unmanaged losses are managed upwards whereas unmanaged profits are managed downwards. These results are confirmed by the crosstabs of unmanaged earnings and reported earnings, in which we see that 55.7 to 61.1 percent

of unmanaged losses is manipulated upwards, according to the measure. In the case of unmanaged profits, 12.2 to 23.1 percent is directed downwards. The 'drive towards zero' is further evidenced by the smaller standard deviation of the distribution of unmanaged earnings (before unexpected depreciation as well as before discretionary accruals) than the distribution of reported earnings. Lastly, we tested whether earnings management is stronger in the case of high levels of subsidies. Here, we find mixed results in bivariate and multivariate analyses. Earnings management using the depreciation expense has a strong positive correlation with the level of subsidies, whereas discretionary accruals are not significantly correlated with governmental financing. Unexpected depreciation is higher when an organization relies more heavily on governmental financing, in cases of upwards as well as downwards earnings management. This relationship seems to be stronger when premanaged earnings are negative. This is in line with the third hypothesis, but partially inconsistent with the 'drive towards zero' hypothesis. In the multivariate analysis, however, earnings management towards zero profit is positively related to the level of subsidies for unexpected depreciation as well as discretionary accruals. These results confirm the hypothesis that earnings management towards zero profit occurs in nonprofit organization and that this type of earnings management is stronger when important governmental grants are involved.

Overall, the results suggests that accounting flexibility is used to manipulate reported results towards or just above zero profit in nonprofit organizations. However, even 'unmanaged' results are already very close to zero, which indicates that accounting manipulation is not the main reason why nonprofits- in general- report small profits.

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Tables

In '000 euro	Mean	Median	Standard deviation	N
Total assets	14 504	5 397	35 977	2 636
Total op. revenue	11 328	5 655	25 150	2 597
Total subsidies	3 641	1 077	7 484	2 506
Profit/loss	371	97	1 806	2 626
In %	Mean	Median	Standard deviation	N
Subsidies as percentage of operational revenues	43.47 %	32.18%	46.75%	2 500
Donations as a percentage of operational revenues	2.64 %	0.00 %	12.55 %	2 511

Table 1. Descriptive statistics on the organizations (pooled)

	Mean	Median	Standard deviation	% upwards earnings management	% downwards earnings management	N
Unexpected depreciation (UDEP)	-0.0143	0.0001	0.0684	42.6%	57.4%	1195
Discretionary accruals Jones model (DAJ)	-0.0134	-0.0110	0.1664	40.8%	59.2%	1498
Discretionary accruals modified Jones model (DAMJ)	-0.0127	-0.0113	0.1696	41.3%	58.7%	1498

Table 2. Descriptive statistics on unexpected depreciation and discretionary accruals

	UDEP	DA (original Jones model)
Constant	-0.014 (***)	0.017 (***)
EBUDEP$_t$	0.220 (***)	
EBDA$_t$		-0.755 (***)
EARNINGS$_{t-1}$	-0.042	0.213
UDEP$_{t-1}$	0.304 (***)	
DA$_{t-1}$		-0.157 (***)
R² adjusted	0.336	0.714
F	90.924	614.935
N	534	737

Table 3: regression of UDEP and DA (*** p<0.001; ** p<0.05; * p<0.1)

Panel A Reported earnings/lagged TA (n=1727)	Ni	E(Ni)	Test Stat	P
(-0.01; -0.005(	36	44		
(-0.005; 0(	56	110.5	-5.387	P<0.001
(0 ; 0.005(	185	83.5	7.126	P<0.001
(0.005; 0.01(	111	143.5	-2.540	P<0.001
Panel B Earnings before unexpected depreciation (n= 1700)	Ni	E(Ni)	Test Stat	P
(-0.01; -0.005(	35	52.5		
(-0.005; 0(	67	69	-0.2040	Non-sign.
(0 ; 0.005(	103	87	1.3730	Non-sign
(0.005; 0.01(	107	103	0.3316	Non-sign
Panel C Earnings before discretionary accruals (n= 1075)	Ni	E(Ni)	Test Stat	P
(-0.01; -0.005(	35	39.5		
(-0.005; 0(	46	34	1.5355	Non-sign.
(0 ; 0.005(	33	39.5	-0.9085	Non-sign
(0.005; 0.01(	33	32.5	0.0722	Non-sign

Table 4. Statistical test of observed discontinuity around the breakeven point
(with Ni is the number of observations in interval i, E(Ni) is the expected number of observations in interval I, Test Stat the test statistic of the difference between the actual and expected number of observations). Width of the interval is 0.5 percent. Significance cut-off at 5% level.

	Reported earnings	EBDA	EBUDEP
Mean	.0284	.0447	.0183
Median	.0211	.0301	.0168
Standard deviation	.0860	.1992	.1291

Table 5. Distribution characteristics of reported earnings, earnings before discretionary accruals and earnings before unexpected depreciation

	Panel A. Reported earnings versus EBUDEP				
		Reported earnings			
		Loss	Small loss	Small profit	Profit	Total
EBUDEP	Loss	158	21	57	121	357 (30.9%)
	Small loss	13	22	17	39	91 (7.9%)
	Small profit	4	9	34	27	74 (6.4%)
	Profit	11	9	57	558	635 (54.9%)
	Total	186 (16%)	61 (5.3%)	165 (14.3%)	745 (64.4%)	1157
	Panel B. Reported earnings versus EBDA				
		Reported earnings			
		Loss	Small loss	Small profit	Profit	Total
EBDA	Loss	139	31	62	143	375(25,2%)
	Small loss	15	10	17	39	81(5,4%)
	Small profit	14	6	16	30	66(4,4%)
	Profit	56	35	133	744	968(65%)
	Total	224(15%)	82(5,5%)	228(15,3%)	956(64,2%)	1490

Table 6. Crosstabulation of the number of organizations according to reported and unmanaged results

Spearman correlation of the percentage of subsidies with…	Discretionary accruals	Unexpected depreciation
Panel A		
Absolute value of earnings management measure	-0.052	**0.146***
Panel B		
Upwards earnings management	-0.074	**0.095 ****
Downwards earnings management	-0.038	**0.156 ****
Panel C		
Upwards earnings management when unmanaged results are negative	-0.022	**0.145***
Downwards earnings management when unmanaged results are positive	-0.050	0.012
Upwards earnings management when unmanaged results are positive	- 0.039	- 0.049
Downwards earnings management when unmanaged results are negative	- 0.076	**0.259 ****

Table 7. Spearman correlation coefficients for measures for earnings management with the importance of subsidies (subsidies/total revenue). For easier interpretation, the absolute value of discretionary accruals and unexpected depreciation was used to calculate correlation coefficients. (*** significant at 1% level, ** significant at 5% level)

	UDEP	DA (original Jones model)
Constant	-0.009 (**)	0.005
$EBUDEP_t$	0.091 (***)	
$EBDA_t$		-0.437 (***)
$EARNINGS_{t-1}$	-0.023	0.005 (**)
$UDEP_{t-1}$	0.239 (***)	
DA_{t-1}		-0.200 (***)
EBUDEP x SUBS	0.581 (***)	
EBDA x SUBS		-0.597 (***)
SUBS	-0.016 (**)	0.021 (**)
R² adjusted	0.502	0.767
F	999.289	463.189
N	487	702

Table 8: regression of UDEP and DA (*** p<0.001; ** p<0.05; * p<0.1)
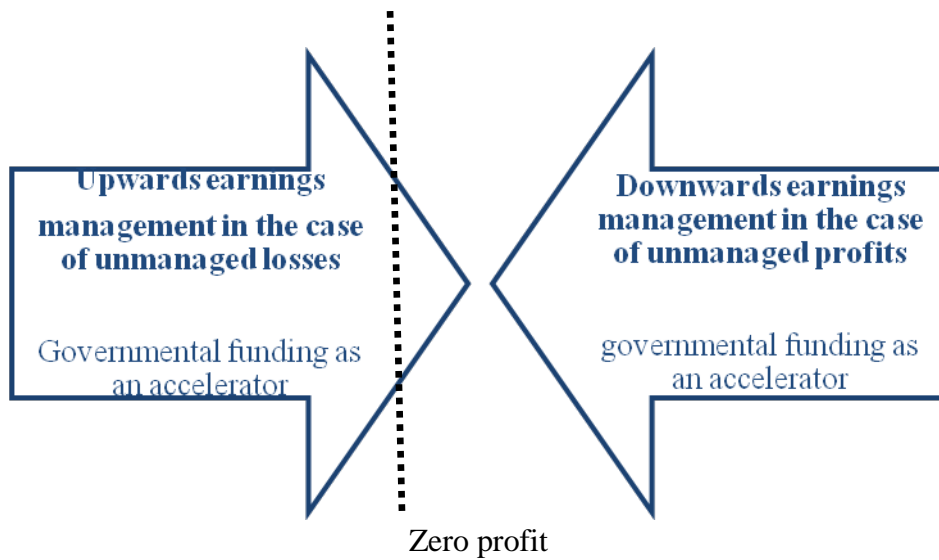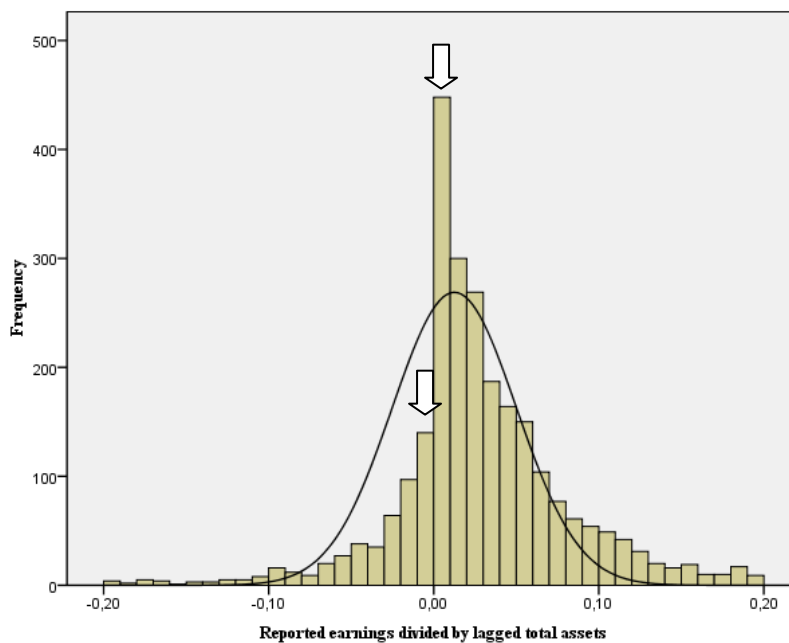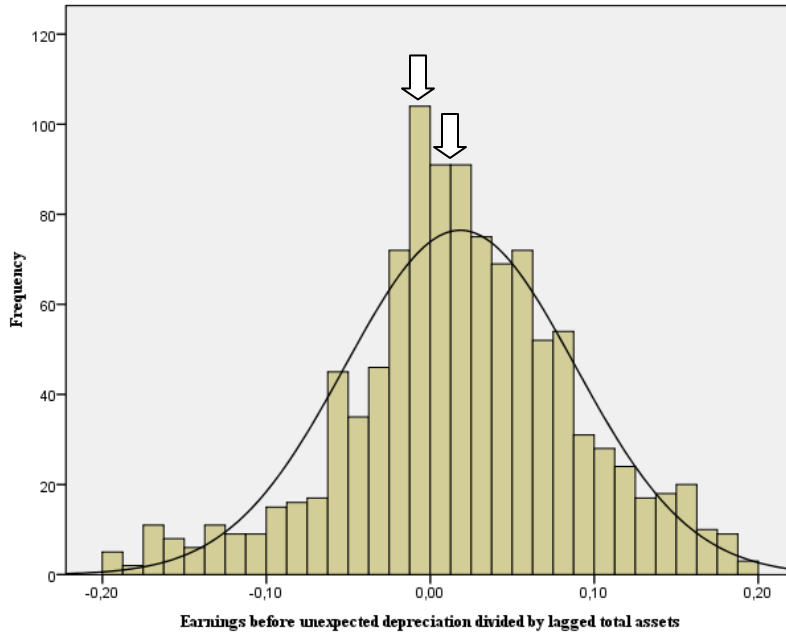
Graphs and figures

Figure 1. The drive towards zero profit and loss avoidance in nonprofit organizations

Graph 1. Distribution of reported earnings before unexpected depreciation divided by lagged total assets. (width of the intervals is set at 0.5%, observations are limited between -0.2 and 0.2 for graphical reasons)

Graph 2. Distribution of EBUDEP (earnings before unexpected depreciation divided by lagged total assets. (width of the intervals is set at 0.5%, observations are limited between -0.2 and 0.2 for graphical reasons)
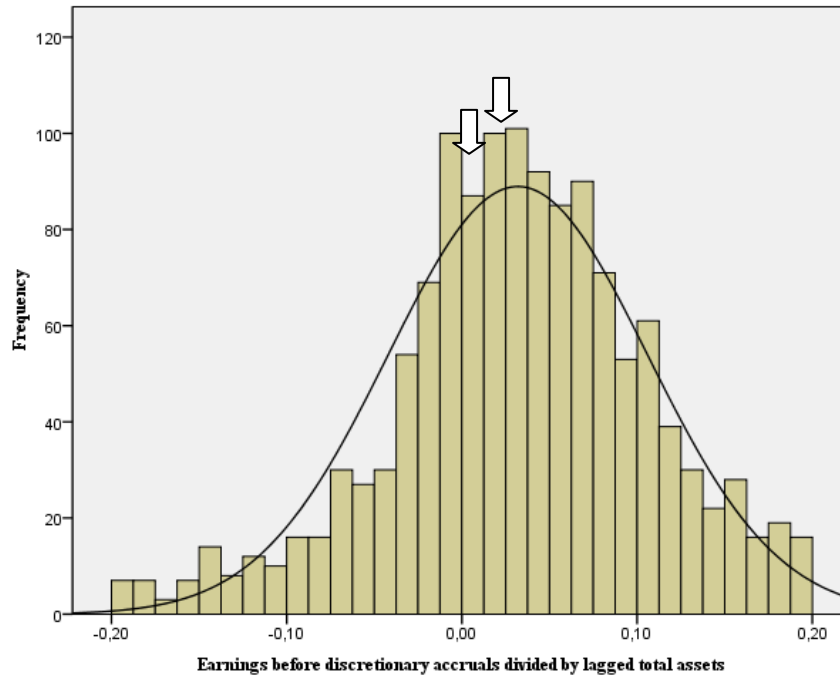
Graph 3. Distribution of EBDA (earnings before discretionary accruals divided by lagged total assets). (width of the intervals is set at 0.5%, observations are limited between -0.2 and 0.2 for graphical reasons)

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[1] Healy and Wahlen (1999), McNichols (2000), Fields, Lys and Vincent (2001) are excellent reviews on earnings management literature.

[2] Accruals are defined as the change in non-cash current assets minus the change in non-cash current liabilities minus the depreciation expense.

[3] The expected variance is measured as $Np_i (1-p_i) + \frac{1}{4} N (p_{i-1} + p_{i+1})(1- p_{i-1} - p_{i+1})$, where p_i is the probability that an observation will fall into interval I and N is the number of observations.

[4] A small minority of organizations has intangible assets. In those cases, depreciation is the sum of the depreciation expense on PPE and intangibles. The variable PPE is then corrected with the value of these intangibles.

[5] All other variables are defined as in equation (2)

[6] Therefore, the number of observations varies accross the analyses and is given in each table.