NONPROFIT ORGANIZATIONS: FINANCIAL REPORTING, AUDITING AND EARNINGS MANAGEMENT

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Faculty of Economics and Business Administration

Dedicated to Tom, Jarne and Lars
My examples of determination, inspiration and passion

Opgedragen aan Tom, Jarne en Lars
Mijn voorbeelden van volharding, inspiratie en passie

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In 2002 werd het wetgevend kader van de financiële rapportering door Belgische verenigingen en stichtingen grondig gewijzigd. Voor de overgang van de oorspronkelijke situatie, waarbij de VZW-wet van 1921 nauwelijks enige verplichting oplegde op het vlak van boekhouding en rapportering, naar de nieuwe situatie waarin het voeren van een dubbele boekhouding, het publiek beschikbaar stellen van de daaruit voortvloeiende jaarrekening en de externe audit van deze jaarrekening voor de zeer grote verenigingen en stichtingen werd verplicht, werd een overgangsperiode van enkele jaren voorzien. Concreet hield dit in dat in 2007 de eerste jaarrekeningen van verenigingen en stichtingen in grote getale publiek beschikbaar werden gesteld via de Balanscentrale van de Nationale Bank van België. Deze wetswijziging, het socio-economische belang van de sector en de rijke schat aan nieuwe informatie vormen samen de vruchtbare voedingsbodem voor dit doctorale onderzoek.

De jaarrekeningen van verenigingen en stichtingen bevatten belangrijke informatie voor diverse stakeholders. Daarom moet de kwaliteit van de aangeboden informatie gegarandeerd worden via het volgen van boekhoudstandaarden. In de eerste studie wordt de 'formele' kwaliteit van de eerste jaarrekeningen getest aan de hand van een compliance index. Via 19 tests wordt nagegaan in welke mate de jaarrekeningen van de verenigingen voldoen aan de basiscriteria van de 'Generally Accepted Accounting Principals'. Uit het onderzoek blijkt dat, hoewel de gemiddelde kwaliteit van de jaarrekeningen hoog ligt, er toch nog steeds aandachtspunten bestaan voor de rapporterende vereniging, de wetgever en de accounting professionals. Vervolgens worden de verschillen in kwaliteit verklaard vanuit de 'Resource Dependence Theory' en – in mindere mate- vanuit de Institutionele Theorie. Er werd onder meer vastgesteld dat afhankelijkheid van subsidies en financiële schulden bijdragen tot een betere toepassing van de boekhoud- en rapporteringsstandaarden.

In de tweede studie wordt onderzocht of verenigingen en stichtingen aan winststuring doen en, zo ja, of dit wordt beïnvloed door de mate van subsidiëring. Op basis van regressie-analyse wordt vastgesteld dat het boekhoudkundig resultaat in beperkte mate wordt

gestuurd naar het nulpunt en dat dit in bepaalde omstandigheden wordt beïnvloed door de mate van subsidiëring.

In het derde onderzoek wordt de externe audit van de non-profit jaarrekeningen onder de loep genomen. Er wordt een model opgesteld voor de verklaring van de hoogte van het honorarium van de auditor. Uit de resultaten blijkt dat de complexiteit van de cliënt een belangrijke verklarende factor is, consistent met voorgaand onderzoek. De grootte van de auditor (en niet noodzakelijk de merknaam van de auditor) en zijn sectorspecialisatie zijn mede bepalend voor de hoogte van het ereloon. Risico-factoren en afhankelijkheid van subsidies spelen daarentegen nauwelijks een rol.

In het vierde onderzoek wordt nagegaan of subsidiëring een invloed kan hebben op de agency-problemen binnen een non-profit organisatie. Aan de hand van twee soorten subsidies wordt empirisch getest of subsidiëring leidt tot een andere verhouding tussen het management en de Raad van Bestuur van de organisatie. Hoewel het onderzoek eerder exploratief is en de proxy voor de agency-problemen nog verbeterd kan worden, duiden de resultaten op de toename van agency-problemen bij de subsidiëring van grote investeringen onder de vorm van kapitaalsubsidies.

Dit proefschrift brengt een nieuwe kijk op diverse aspecten van financiële rapportering door non-profit organisaties. Gegeven de Belgische setting waarin subsidies een belangrijke bron van inkomsten vormen, werden nieuwe inzichten verworven in de relatie tussen overheidssubsidiëring, de boekhouding, financiële rapportering en audit van verenigingen en stichtingen.

EXECUTIVE SUMMARY

The legislation on financial accounting and financial reporting for Belgian nonprofit organizations changed fundamentally in 2002. To facilitate the switch from the original situation – in which the law of 1921 specified nearly any obligations- to the new obligation of accrual accounting, public financial reports and external financial audits, a transition period of a few years was installed. Thus, a large number of standardized annual accounts or financial statements of nonprofit organizations were made public through the Central Balance Sheet Office of the National Bank of Belgium in 2007. The legislative change, the social and economic importance of the nonprofit sector and the new and rich set of data combined into a rich soil for this doctoral research.

The annual accounts of nonprofit organizations behold important information for a diverse set of stakeholders. Therefore, the quality of the information needs to be guaranteed by accounting and reporting standards. In the first study, the 'formal' quality of the first annual accounts are measured in a compliance index. Using 19 tests, we assess the degree to which basic criteria of the 'Generally Accepted Accounting Principles' are met. The results show that, although the average level of compliance is high, there are some flaws that deserve the attention of the reporting organization, the legislator and the accounting professionals. The differences in compliance are explained using 'resource dependence theory' and – to a lesser extent- institutional theory. We conclude that dependence on subsidies and dependence on financial debts are linked with higher levels of compliance. The use of an external auditor also increases the quality of the financial statements.

In the second study we assess whether or not nonprofit organizations manage reported earnings and if this is influenced by the level of subsidization. Using regression analysis, we conclude that profit and loss are managed –to a limited extent- towards zero profit. This pattern of earnings management is stronger for heavily subsidized organizations under specific circumstances.

The third study focuses on the external audit of nonprofit financial statements. A model is constructed to explain the audit fee. The results show that the complexity of the client is an important explanatory factor, consistent with prior research. The size of the auditor (not

necessarily the brand name) and his sector specialization help explain the level of the audit fee. Risk factors and resource dependence, on the other hand, do not seem to influence audit pricing.

In the final paper, we investigate whether subsidies influence agency problems within nonprofit organizations. Using two different types of subsidies, we try to test empirically whether subsidies influence the relationship between the management and the board of directors of nonprofit organizations. Although the research is exploratory and the proxy for the unobservable agency problems might be improved, the results indicate stronger agency problems in the case of subsidization of large investments in the form of capital subsidies.

Overall, this dissertation sheds light on different aspects of nonprofit financial reporting. Given the Belgian setting, in which subsidies are an important source of revenue, additional insights were gained in the relationship between governmental funding and financial accounting, reporting and auditing.

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CHAPTER 1. INTRODUCTION

Nonprofit accounting, auditing and financial reporting is the focus of this doctoral thesis. At the starting point of this research project, Belgian nonprofits underwent a change in accounting legislation that provided a unique setting in which research was new, exploratory and challenging. In this introduction, we will briefly explain the change in the legislative environment, the financial characteristics of the Belgian nonprofits and the research questions arising from the combination of both.

Whereas financial reporting rules and regulations are and have been quite strict for Belgian for-profit companies since the introduction of Laws and Royal Decrees in the 70's and 80's introducing, amongst others, two obligatory standardized reporting formats, the original nonprofit legislation of 1921 introduced nearly any accounting and reporting rules.

This free-of-obligations situation has changed for Belgian nonprofit organizations since the introduction of a new Law on 2 May 2002, which changed the original law of 27 June 1921.

Belgian "large" and "very large" nonprofit organizations[1] now have to apply basically the same rules as enterprises. This means that they have to use accrual accounting, draw up standardized annual accounts (containing balance sheet, income statement and detailed notes to the accounts, as well as a social report) and make these annual accounts publicly available through the National Bank of Belgium. The public in general, as well as any

[1] Very large nonprofit organizations exceed at least two of the following criteria: (1) balance sheet total of 3.125.000 euro, (2) total revenue of 6.250.000 euro, (3) 50 employees expressed ad full-time equivalents. Nonprofit organizations with at least 100 full-time equivalent employees are always considered to be very large NFPs. Large NFPs exceed at least 2 of the following characteristics: (1) 5 full-time equivalent employees, (2) balance sheet total of 1.000.000 euro, (3) revenues of 250.000 euro. All other NFP's are considered to be small. Note that small nonprofit organizations do not have to comply with the for-profit rules. For these organisations, there is no obligation for accrual accounting (cash based accounting is still sufficient), nor for publication and audit of the annual accounts.

governmental department or oversight body, can now easily be informed about the financial position of the nonprofit organization.

Because the original common law (27 June 1921) on nonprofit organizations contained nearly any rules on accounting and public reporting, several sector-specific rules have been created over time to assure adequate accounting and reporting practices. As a result, about 75 differing sector-specific regulations can be identified. The new common law acknowledges this issue and states in article 27 that nonprofit organizations that are submitted to specific laws or governmental regulations on accounting practice are not bound by the new common law under the condition that the former are at least equivalent to the latter. This concept of equivalence has not contributed to the transparency of the obligations for nonprofit organizations. Auditors, accountants and management are confronted with a complicated mix of legislations.

The new common law was not strongly welcomed by the organizations. The original transitional measures for existing nonprofits had to be prolonged to give them additional time to comply. This means that the first annual accounts according to the new legislation have been deposited at the National Bank of Belgium in 2007, after being approved by the board of directors and, in the case of very large nonprofit organizations, an external auditor.

In Belgium, nonprofit organizations have different sources of income. While trading revenue and governmental subsidies are the most important sources of revenue for most of the nonprofit organizations, donations are – on average- a very modest or even non-existing revenue. This is in contrast to the situation in the UK or the US, where most of the earlier research on nonprofit accounting has focused on. This dependence on governmental subsidies, combined with the legislative changes that have made annual accounts richer on information and available to the public, provide a unique setting for empirical accounting research.

The main research questions of this doctoral research are the following:

- What is the level of quality of the first nonprofit annual accounts and can we explain differences in quality?

- Do Belgian nonprofits manage their accounting earnings towards zero and is this driven by their dependence on subsidies?
- What are the determinants of nonprofit financial audit fees? Does auditor specialization and resource dependence play a role?
- Are subsidies a source of agency problems?

These four research questions were addressed in as many papers. The papers can be found in chapters 2 to 5.

CHAPTER 2. CAN RESOURCE DEPENDENCE AND COERCIVE ISOMORPHISM EXPLAIN NONPROFIT ORGANIZATIONS' COMPLIANCE WITH REPORTING STANDARDS?

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ABSTRACT

Nonprofit organizations worldwide are confronted with an increasing demand for accountability and improved financial transparency. Financial reporting by nonprofit organizations is no longer an exception; it has become a rule. The usefulness of a financial report to an organization's stakeholders depends on its quality. The latter is safeguarded by reporting standards as well as the commitment of the organization to fully implement these standards. Although resource dependence and coercive isomorphism have been used in earlier nonprofit research, no empirical research has linked these theories to compliance with financial reporting standards. Using a unique setting in which a large number of (very) large Belgian nonprofit organizations are confronted with far-reaching changes in financial reporting regulations, the effect of resource dependence and coercive isomorphism on accounting and financial reporting compliance is documented.

INTRODUCTION

Nonprofit organizational behavior has been the subject of extensive research. Quite often, resource dependence theory and institutional theory have been used as theoretical frameworks to explain several aspects of organizational structure and performance. Executive leadership (Heimovics, Herman & Jurkiewicz, 1993), market orientation (Macedo & Pinho, 2006) and board involvement (Hodge & Piccolo, 2005), board size and board structure (Stone, Hager & Griffin, 2001) as well as financial vulnerability (Trussel, Greenlee & Brady, 2002) have been linked to and explained by dependence of nonprofit organizations on external resources. Board strategy (Parker, 2007), knowledge management (Currie & Suhomlinova, 2006) and mission endangerment (Dolnicar, Irvine & Lazarevski, 2008) are just a few research topics based on institutional theory. Moreover, both theories have been combined to explain differences in strategies between for-profit and nonprofit organizations (Schmid, 2001) as well as nonprofit governance (Guo, 2007) and administrative structure (Tolbert, 1985).

To date, little attention has been paid to one aspect of nonprofit behavior: do nonprofit organizations comply with financial reporting standards and how might this (non)compliance relate to resource dependence and institutionalisation? In this paper, an empirical approach is used to measure as well as explain nonprofit organizations' relative compliance with (reformed) financial reporting regulation. Although a Belgian setting is used, the situation is similar to other countries in which the nonprofit sector is dealing with an increased call for accountability and financial transparency.

Compliance is necessary to safeguard the quality of financial reports and the usefulness of these reports to the stakeholders of the organization who are calling for increased accountability (Benjamin, 2008) and improved transparency. In the U.S. for example, one of the recommendations of the Panel on the Nonprofit Sector (2005) entails the preparation and auditing of financial statements in accordance with Generally Accepted Accounting Principles (GAAP) to improve the quality of financial information. Adequate financial

reporting can be an essential element of legitimacy (Meyer, 1983) [2]and trustworthiness in a growing third sector (Koning Boudewijnstichting, 2008;UN Statistics Division, 2003).

The contribution of this research is twofold. Firstly, the use of resource dependence and institutional theory (more specifically coercive isomorphism) are broadened to an aspect of organizational conduct that has not been dealt with before. A contribution is made to existing literarure by linking financial reporting compliance to both theories. Secondly, the levels of (non-) compliance and their analysis indicate problems and flaws, enabling standards setters to provide qualitative standards and/or guidance to the nonprofit sector.

The remainder of this paper is built up as follows: section 2 gives an overview of previous research into financial reporting compliance. The theoretical framework of the research is set out in section 3. In section 4 research hypotheses and methodology are explained. The empirical framework and data are to be found in section 5, followed by analysis and results in section 6. Conclusions and issues for further research end this paper.

COMPLIANCE WITH ACCOUNTING AND DISCLOSURE REGULATION: PREVIOUS RESEARCH

Defining quality of accounting and financial reporting as well as measuring them has been the subject of past research. Given that 'beauty is in the eye of the beholder', financial reporting quality can be defined differently for different users, sectors, countries, legislations or research agendas. However, two broad methodological approaches can be identified. Some authors measure quality of financial reports using one single measure, while others capture quality using an index that combines different aspects of disclosure and/or GAAP compliance.

Recent US nonprofit financial reporting research has focused on elements of expense misreporting and accruals quality as a 'single measure' of quality of financial statements.

[2] Meyer (1983, p.235) describes accounting structures as myths… The myths are important: they help to hold the organisation together with their justifications… legitimate the organisation with the controlling external environment.

Roberts (2005) and Jones and Roberts (2006) have explored misreporting of expenses of joint fundraising and charitable activities. Krishnan, Yetman and Yetman (2006) found evidence of understating fundraising and administrative expenses in order to increase program expenses and program ratios. Yetman and Yetman (2006) also used accruals quality as well as understated fundraising and administrative expenses as a measure of reporting quality. Trussel (2003) assessed the likelihood that charitable nonprofit organizations manipulate financial information. In a non-US setting , Jegers and Houtman (1993) based their research on the number of logical and arithmetical errors in hospitals' financial statements.

Using an index to measure compliance with (new) accounting and disclosure standards is a time-honoured methodology in public sector accounting research. Ingram and Copeland (1981), Ingram (1984), Robbins and Austin (1986) and Allen and Sanders (1994) are examples of a first wave of public sector accounting research, focusing on *disclosure* of financial information by public authorities. More recently Krishnan and Schauer (2000) and Pina and Torres (2003) employed a similar methodology in nonprofit and international settings.

Broadening the index from compliance with disclosure requirements to financial reporting compliance *in general*, Christiaens (1999) and Da Costa Carvalho, Camoes, Jorge and Fernandez (2007) turned their attention to the implementation of business-like accounting principles in the public sector. Their compliance indices include disclosure requirements as well as other features related to compliance with newly introduced accounting and reporting standards: in addition to elements of disclosure, essential characteristics of financial reporting according to accrual accounting are listed.

In the aforementioned studies both unweighted and weighted indices are used. However, Robbins and Austin (1986) and Ingram and DeJong (1987) found no significant differences between performance of unweighted and weighted indices.

Although these studies focus primarily on governmental accounting, the context of changing accounting legislation and 'professionalization' (Anheier, 2002) are so similar to the current modifications in the nonprofit setting that a similar methodology can be considered. The use of this methodology allows for a response to two voids in the existing literature. Little

research has been performed to provide a general indication of financial accounting and reporting compliance of nonprofit organizations (as opposed to single measures of incidental or intended misreporting) in the entire third sector (as opposed to a single subsector, quite often the health sector).

THEORETICAL FRAMEWORK

This paper builds on two theories that have been used separately as well as intertwined in previous nonprofit research. Oliver (1991), Carpenter and Feroz (2001), Guler, Guillén and Macpherson (2002), Greening and Gray (1994) and Guo (2007) have used the convergent insights of resource dependence theory (Pfeffer and Salancik, 1978) and institutional theory (DiMaggio and Powell, 1983) to gain insight into several aspects of nonprofit behavior.

Nonprofit organizations are characterized by their reliance on government funding, private donations and fees. This dependence on outside resources makes them vulnerable to both changes in the flow of resources and institutional pressures.

According to resource dependence theorists, organizations are driven to compliance with the requirements of strategic resource providers in order to deal with the pressures of uncertainty and scarcity in their environment (Froelich, 1999). These resources can be material resources (money, human resources), information and social or political support (legitimacy). Organizations will survive if they can manage the flow of resources, by maintaining autonomy and manage their dependencies on external groups (Hager, Galaskiewicz and Larson, 2004; Fernandez, 2008). The degree of dependence increases with concentration and importance of the provided resources (Froelich, 1999), which means that organizations that depend heavily on one or very few resource providers are likely to experience stronger constraining influences from their environment.

Institutional theory refers to these constraining influences as coercive, mimetic and normative isomorphism in order to explain why organizations are driven to similarity. *Coercive isomorphism* stems from pressures on the organization by other organizations on which the former depends*. Mimetic isomorphism* is the process in which organizations deal with uncertainty or ambiguity by 'copying' other organizations. *Normative isomorphism*

stems from professionalization. Formal education and professional networks lead to the spread of insights, models and normative rules. Although all three isomorphic mechanisms can influence organizational behavior, the current paper draws largely on coercive isomorphism to explain financial reporting compliance. The reasons are threefold. Firstly, the new accounting and reporting standards are introduced by the government, identified by DiMaggio and Powell (1983) as the most direct mechanism of institutional diffusion. Secondly, because of the fact that the new legislation has been introduced very recently, mimetic and normative isomorphism are likely to follow in a later stage. Lastly, coercive isomorphism has been and can be linked to resource dependence in the case of nonprofit organizations.

Coercive isomorphism and resource dependence theory both imply that the choices of an organization are limited by external pressures. Resource dependence theory stresses the pressures shaped by those who control scarce resources (Oliver, 1991). In the case of coercive isomorphism, these pressures stem from the institutional environment that sets and enforces the rules. In the case of nonprofit organizations, both loci of power (at least partially) coincide, since the government is the institution that sets the rules as well as controls important resource flows. Whereas resource dependence focuses on the differing strategies of organizations to ensure continuing financing, institutional theory emphasizes the fact that organizations tend to adopt similar strategies to ensure their continuation. Therefore, resource dependence and institutional theory provide a theoretical background to explain nonprofits' compliance with financial reporting regulation.

RESEARCH QUESTION, METHODOLOGY AND HYPOTHESES

RESEARCH QUESTION

Building on resource dependence and coercive isomorphism, this research focuses on revealing whether these concepts can provide insight into the efforts made by nonprofit organizations to ensure compliance with accounting and financial reporting standards. This

leads to the following research question: **Can resource dependence and coercive isomorphism help us explain the level of compliance with accounting and reporting standards in nonprofit organizations?** The question comprises two components: measuring and explaining the level of compliance.

The compliance index, presented in Table 2-1, is an instrument to *measure* compliance with new accounting legislation or standards. Characteristics described in Generally Accepted Accounting Principles (GAAP) as being essential for qualitative financial reporting, are embedded in the index. To *explain* the level of compliance, an empirical setting is used in which a large number of nonprofit organizations are confronted with invasive and new accounting and reporting legislation. The degree to which these entities are devoted to comply with the regulation is essentially the choice of the organizations, since no effective monitoring or strict controls are implemented by the government. This unique empirical setting allows for testing the effect of resource dependence and institutional theory on nonprofit organizational behavior, using regression techniques (similar to e.g. Allen and Sanders, 1994; Christiaens, 1999; Giroux and McLelland, 2003).

MEASURING COMPLIANCE: DEFINING A COMPLIANCE INDEX

In this study, an index is constructed, measuring several aspects of financial reporting compliance, based on previous research[3] (section 2 and appendix). The items in the index have not been weighted, since prior research indicated no significant differences in performance between weighted and unweighted indices (Robbins and Austin,1986; Ingram and DeJong,1987). The index is a quantitative measure of qualitative aspects of financial accounting and reporting, referred to in the frameworks of both FASB and IASB (Financial Accounting Standards Board and International Accounting Standards Board) as well as in several other national accounting regulations. To reach a true and fair view, four requirements need to be met: objectivity, quality of information, periodicity and prudence.

[3]Reviews on index-based accounting research can be found in Christiaens (1999).

These requirements can be achieved using different principles and concepts: accrual basis, matching, going concern, consistency, materiality, faithful representation, basis of valuation, entity and no offsetting (Stolowy and Lebas, 2006). The index consists of quantifiable measures related to these principles and directly observable in financial statements. All elements, except for the number of pages, are translated into binary scores. This results in an overall score of compliance, ranging from 0 to 19 with a higher score indicating a higher degree of compliance. The composition of the index can be found in Table 2-1. In this table, references are provided to previous research using the same or similar constructs to measure financial reporting compliance.

Timeliness is tested on the timeframe required by Belgian legislation. *Reliability* of the financial statements depends on the skills of the preparer as well as the approval of an unbiased outside professional. Therefore, two checks have been provided: are the financial statements approved by an external auditor and has an external accountant[4] been involved in preparing the statements. *Comparability* is based on the requirements to provide accounting policies and last year's figures in the financial statements. *Relevance* relates to the level of detail of the financial statements. *Completeness* is based on testing three disclosure requirements as well as evidence of full application of accrual accounting. The principles of *matching, entity, classification and mechanical accuracy* all test the meticulousness of switching from cash accounting to accrual accounting.

[4] There is no information available on the accounting skills (education, training) of internal staff. If the organization uses the services of an external accountant, his/her name can be mentioned on the financial statements. This ensures the user of the statements of the involvement of a professional.

Principle	*Measure*		
Timeliness *(periodicity)*	Timely approval by the board	According to Belgian law, financial statements need to be approved within 6 months after the end of the accounting period. Both dates are available in the financial statements. *Within 6 months = 1, Later = 0*	Christiaens (1999); Owusu-Ansah & Leventis (2006); Dixon et al. (1991)
	Timely handover at the National Bank of Belgium	According to Belgian law, financial statements need to be made public (= handed over to the National Bank) within 30 days after the approval by the board. Both dates are available in the financial statements. *Within 30 days = 1, Later = 0*	
	Made public within 7 months after end of accounting year	If previous measures are interpreted less strictly, the financial statements need to be made public within 7 months after the end of the accounting period. (E.g. 4 months for approval by the board + 2 months for publication → score 1 on first measure, 0 on second measure and 1 on this measure.) *Within 7 months = 1, Later = 0*	
Reliability *(quality of information)*	Approval by an external auditor	An *unqualified* audit report is considered to be a clear sign of reliability (faithful representation) and is coded as *1*. All other reports (*qualified, adverse, disclaimer*) are scored *0.*	Krishnan & Schauer (2000); Robbins & Austin(1986); Giroux & McLelland (2003)
	Use of an external accountant	Since nonprofit organizations have never before been obliged to use accrual accounting techniques and may not have skilled staff, the use of an accountant is an attempt to increase reliability of financial statements. *Yes= 1, No = 0*	Giroux and McLelland (2003) assess certificate of achievement
Comparability *(consistency)*	Balance sheet of previous year reported	Legislative requirement *Yes= 1, No= 0*	Krishnan & Schauer (2000); Ingram & Copeland (1981); Christiaens (1999), Pina and Torres (2003)
	Disclosure of accounting policies	Legislative requirement *Yes= 1, No = 0*	
Relevance *(materiality)*	Complete scheme used necessarily or voluntarily according to legal criteria	Legal criteria (total assets, total revenues and number of personnel) were used to assess whether the nonprofit organization uses the complete scheme of financial statements *voluntarily (1)* or is *obliged to (0).* If the scheme is used voluntarily, the organization is willing to provide far more detailed financial statements than required by law.	Krishnan & Schauer (2000)
	Number of pages	Is an indicator of the quantity of the information provided by the nonprofit organization. The percentiles of the number of pages are used to award a score of 0 (organizations ranked in the lowest 20%), 0.25, 0.5, 0.75 or 1 (highest 20%)	Dixon et al. (1991)
	Euro or thousands of euro: mentioned correctly on first page?	Financial statements are either in euro or in thousands of euro and this is mentioned on the first page. This has been checked using the statements of the next year as well as the auditors' report. *Correct = 1, Incorrect = 0*	

Completeness *(accrual basis and quality of information)*	'Typical' in accrual accounting is the presence of debtors and creditors	If all debtors and creditors are zero, then this item is scored 0. If at least one debtor or creditor is different from zero, this item is scored 1. Yes = 1, No = 0	Ingram (1984); Da Costa Carvalho et al. (2007), Pina &Torres (2003)
	Disclosure of social report	Legal requirement if the number of staff exceeds 20. *(not)Required and disclosed = 1* *Required and not disclosed = 0* *Not required and not disclosed = 1*	
	Disclosure of audit report	Legal requirement if an external auditor has been appointed. *Same coding as the social report*	Krishnan & Schauer (2000); Giroux & McLelland (2003)
	Is there qualitative information about provisions in the notes	Whether or not this information is provided is at the discretion of the organization. *Yes= 1* *No = 0* *No but no provisions in balance sheet = 1*	Christiaens (1999), Da Costa Carvalho et al. (2007)
Matching	Presence of accrued/deferred charges/income in balance sheet	These accounts are considered to be a typical characteristic of accrual accounting. *Yes=1* *No = 0*	Christiaens (1999), Da Costa Carvalho et al. (2007)
Entity	Presence of 'Funds of the organization' in the balance sheet (comparable to 'capital')	Switching from cash accounting to double entry accounting requires valuation of the assets, liabilities and as a result also the 'funds of the organization'. *Yes = 1* *No = 0*	
Classification *(accrual accounting, no offsetting)*	Sign of debtors, creditors, cash and cash equivalent has to be positive.	Correctness of accounting data in the balance sheet according to Belgian GAAP. *Yes = correct = 1* *No = incorrect = 0*	Christiaens (1999), Ingram & Copeland (1981)
	Presence of retained profit OR retained loss (not both)	Correctness of accounting data in the balance sheet according to Belgian GAAP *Yes = correct = 1* *No = incorrect = 0*	
Mechanical accuracy *(quality of information)*	Twenty tests on logical and arithmetical errors are conducted	Testing of totals and subtotals in balance sheet and income statement; match between information in the notes, the balance sheet and the income statement. *No errors = 1* *At least one error = 0*	Christiaens (1999), Jegers & Houtman (1993); Weets & Jegers (2000)

TABLE 2-1. COMPOSITION OF THE COMPLIANCE INDEX

EXPLAINING COMPLIANCE: DEFINING HYPOTHESES

Using resource dependence theory and coercive isomorphism, we hypothesize that organizations which depend heavily on government funding will be more willing to make the

necessary efforts to comply with new rules and make sure that their financial reporting is up to a high standard. If nonprofit organizations believe that the flow of governmental funds is conditional on conformity with the new accounting regulations, this is a form of pressure on the organizations to comply and adjust their structure and activities to be able to do so.

H1. The level of compliance will be higher when nonprofit organizations are depending more heavily on governmental resources.

Nonprofit organizations can be financed by financial debts. Given their nonprofit characteristics, these organizations often attempt to negotiate below-market interest rates. In order to obtain financial loans (and particularly at beneficial conditions), organizations have to be able to present reliable financial information. Financial institutions are professional users of financial statements. They have the knowledge, the ability, the experience as well as the custom to scrutinize financial statements before making investment decisions. Leverage has been used in previous research, for example by Robbins and Austin for governments (1986), by Jegers and Houtman for hospitals (1993) as well as by Yetman and Yetman for nonprofit organizations (2006).

H2. The level of compliance will be higher when nonprofit organizations are depending more heavily on debt-financing by financial institutions.

Previous research has resulted in mixed evidence on the effect of financial information on private donations to nonprofit organizations. The effect of efficiency ratios on donor decisions has been studied by several authors. Weisbrod and Dominguez (1986) as well as Posnett and Sandler (1989) document the effect of 'price' (low price is high efficiency) on donations. They assume donors use an accounting ratio out of the latest available financial statements to judge the organization's efficiency. Tinkelman (1998) concludes that accounting/efficiency ratios affect the contribution decision of large donors, not of small individual donors. He argues that in the case of small donors, '*gifts may often be made on impulse, or after a very cursory decision process*' (p. 379). Parsons (2007) focuses on summarized financial accounting information and concludes that some donors are more likely to respond positively to a fundraising campaign when favorable financial accounting

information is provided. Overall, the proof of usefulness of financial information to donors and their decision making process is not overwhelming.

Building on resource dependence, a positive relationship between the importance of public donations and the willingness of nonprofits to comply with financial accounting and reporting standards can be expected. In the research by Schokkaert and Van Ootegem (1998, p. 23) for example, Flemish donors indicated in a survey that the following statements are important when making a donation decision: '*organizations need to provide feed-back on what they accomplished with the money they raised*' and '*I would like to know exactly what happened with the money they raised*'. However, even within the confines of resource dependence, there are reasons why such as relationship might be absent in this case. In this paper's empirical setting the private donors are confronted with 'raw' (i.e. no efficiency ratios or graphical and summarized information, just balance sheet and income statement) accounting information for the very first time. The probability that potential donors will use this rather complex information to decide on donations, will be lower than in cases where ready-to-use information is provided to them. Furthermore, these financial statements lack information on the programs provided by the organization and merely contain financial information.

Although we suspect a resource dependence relationship, it is hypothesized that compliance with financial reporting standards is not important to organizations that rely on private donations due to the fact that the public in general needs different information. The hypothesis is therefore formulated as follows:

H3. The level of compliance will not be higher when nonprofit organizations are depending more heavily on financing by donations of the public in general.

We hypothesize that external audits are a form of coercive isomorphism. When financial statements are required to be audited by an external, professional audit firm, the government enforces compliance with their new accounting regulation. In its final report to the U.S. Congress in June 2005 the Panel on the Nonprofit Sector (2005) stated that '*having financial statements prepared and audited in accordance with Generally Accepted Accounting Principles and auditing standards improves the quality of financial information*

available to governing boards, government officials, and the public (p.5)' Although it may seem obvious that external auditing increases the level of quality of financial reporting, this is not necessarily the case. Although an external auditor needs to assure that the content of the financial statements gives a true and fair view of the organization's financial status and result, it is still the board of directors who is responsible for the financial statement that is made public. We do not only test the quality of the content of the report (such as the entity principle, the use of accrual accounting) which is checked by the auditor. We also assess formal aspects of compliance such as timeliness, disclosure of financial policies, disclosure of the social report and audit report, which probably are not influenced by the auditor.

H4. The level of compliance will be higher when nonprofit organizations' financial statements are subject to an external audit.

In addition to the resource dependence and coercive isomorphism explanation, three control variables concerning 'professionalism' are taken up in the study. This is primarily based on previous research (Jegers & Houtman, 1993; Christiaens, 1999; Giroux and McLelland, 2003; Da Costa Carvalho et al, 2007) and adds 'being able to' comply to the hypotheses of 'being forced into' compliance.

Firstly, most studies take the size of the company, government or organization into account, hypothesizing that compliance is positively associated with size. It can be suggested that large organizations have the necessary resources in terms of finance, knowledge and experience to ensure qualitative financial reporting. Size can be measured in different ways: total assets (or the natural logarithm of total assets), total revenue (Krishnan & Schauer, 2000) or staff number (Da Costa Carvalho et al., 2007).

Next to the size of the *individual* organization, the size of the '*group*' to which the organization belongs can be of importance. In some cases, nonprofit organizations have the same address, share the same board members or have connected administrative, financial, logistic or human resources services, although they are legally separate organizations. When this is the case, organizations are called 'affiliated organizations' (mentioned in the financial statements). When organizations work closely together, the size of the individual legal entities may be less important to explain compliance than the scale of the group.

Secondly, since the board has to approve the financial statements before they are made public, the knowledge and experience of the members on 'doing business' and on financial reporting may be crucial to the quality of the reports. A more professional or experienced board may also have impact on the attitude towards financial reporting obligations and the consequences of below-standard financial administration, decision-making and reporting. This level of professionalism is proxied by the fact that the board holds at least one 'institutional' member (i.e. another organization or company). It is expected that size (of the organization and of the group) as well as 'professional' board members will have a positive effect on compliance levels.

EMPIRICAL FRAMEWORK

BACKGROUND

Recent changes in the Belgian accounting regulation for nonprofit organizations provide a unique setting for compliance research. Whereas financial reporting rules and regulations have been reformed and harmonized quite strictly for Belgian for-profit companies since the late 70's, the original Nonprofit legislation of 1921 introduced less specified and only general accounting and reporting rules. Only in specific circumstances nonprofit organizations were obligated to disclose financial reports. This free-of-obligations situation has changed significantly for Belgian nonprofits since the introduction of a new Law on 2 May 2002 (Belgisch Staatsblad). The situation evolved from a heterogeneous and rather unclear regulation to the obligation to use accrual accounting, draw up standardized financial statements and make them publicly available. The public in general, as well as any bank, sponsor, governmental department or oversight body, can now be informed about the financial position of nonprofit organizations.

Compliance is basically a choice and a responsibility of the organization. Financial statements are only subject to mandatory external audit in the case of very large organizations and governmental oversight is limited to the mere fact that financial statements are made public. There is no assessment of their quality. Therefore, the efforts made to comply are at the discretion of the organization.

The financial statements are publicly available in a PDF-format. To be useful for statistical analysis, the relevant information was keyed into statistical software (manually). Because of possible input-problems that might have an influence on the element of accuracy, several checks were performed, covering all items of all non-compliant cases.

DESCRIPTIVE STATISTICS ON THE NONPROFIT ORGANIZATIONS

At the end of August 2007, two months after the official deadline to deposit the financial statements at the National Bank, 943 full scheme nonprofit financial statements were available. [5]The variance in size of the organizations that filed a full scheme of financial statements is immense. Balance sheet totals range from 65 thousand euro to over 1 billion euro. The number of employees varies from zero to over 8000.

For a small number of organizations it was not clear whether the statements were in euro or thousands of euros.[6] The one percent highest and one percent lowest balance sheet totals and revenue amounts were omitted from the study. This was also the case for the one percent highest number of staff (not one percent lowest, since a large number of organizations reports no staff at all) since analysis revealed probable errors in the data.

[5] There are two schemes of standardized financial statements: the abbreviated scheme (obligatory for large nonprofit organizations, voluntary for small nonprofit organizations) and the full scheme (obligatory for very large nonprofit organizations, voluntary for large and small nonprofit organizations. Only the full scheme of statements contains the necessary data to calculate the independent variables. At the time of data collection, the following numbers of financial statements were available: 943 full scheme statements, 3083 abbreviated and 516 unstandardized schemes were available. After winsorizing the dataset of full schemes, 565 organizations are very large, 330 are large and 30 were either small or did not report the necessary data to determine the size of the organization.

[6] Checks have been performed using 2006 audit reports and 2007 financial statements.

Furthermore, small organizations (i.e. not meeting the legal criteria for (very) large organizations) were omitted from the analysis. This decreases the number of cases from 943 to 895 (very) large organizations.

ANALYSIS AND RESULTS : LEVEL OF COMPLIANCE

An index was developed to test whether or not basic GAAP are applied by the nonprofit organization and whether or not disclosure is at a level that ensures usefulness of the financial statements. As discussed earlier, the index consists of 19 tests to assess the level of timeliness, reliability, comparability, relevance, completeness, entity, matching, classification and mechanical accuracy of the accounting and financial reporting process.

	N° of items tested	*Min/max score for the item*	*Mean*	*Median*
Timeliness	3	1 / 3	2.60	3
Reliability	2	0 / 2	0.78	1
Comparability	2	0 / 2	1.51	2
Relevance	3	0 / 3	1.88	2
Completeness	4	1 / 4	3.50	4
Matching	1	0 / 1	0.93	1
Entity	1	0 / 1	0.72	1
Classification	2	1 / 2	1.99	2
Mechanical accuracy	1	0 / 1	0.67	1

TABLE 2-2. SUMMARY OF RESULTS OF THE COMPLIANCE INDEX

Table 2-2 summarizes the results on each part of the index. For every item, the numbers of tests as well as the minimal, maximal, mean and median scores are presented. The spread of scores is for most tests equal to the number of tests, indicating that there are organizations that do not comply with any of the items as well as organizations that are fully compliant. It can be noted that reliability and relevance are the only two principles for which more than

half of the organizations do not meet all of the criteria. Other principles such as classification, matching and completeness result in a better score.

Item		*Percentage with score 0*	*Percentage with score 1*
Timeliness	Time1	1.5	98.5
	Time2	34.2	65.8
	Time3	4.0	96.0
Reliability	Reliab1	30.9	69.1
	Reliab2	91.2	8.8
Comparability	Compa1	9.7	90.3
	Compa2	39.0	61.0
Relevance	Relev1	63.1	36.9
	Relev2	n/a	n/a
	Relev3	3.5	96.5
Completeness	Compl1	1.6	98.4
	Compl2	0.8	99.2
	Compl3	12.0	88.0
	Compl4	35.3	64.7
Matching	Match	7.2	92.8
Entity	Entity	27.7	72.3
Classification	Class1	0.6	99.4
	Class2	0.9	99.1
Mechanical acc.	Acc1	32.6	67.4

TABLE 2-3. DETAILS OF THE ELEMENTS OF THE COMPLIANCE INDEX

A more detailed analysis of the compliance index is put forward in Table 2-3. It can be noted that almost 40 percent of financial statements do not contain information on accounting procedures or accounting policies. About the same percentage (35 percent) does not disclose the reasons for provisions, when these appear on the balance sheet. Also very remarkable is the fact that nearly 28 percent of organizations do not disclose 'funds of the

organization' (comparable to equity funding in companies). A possible explanation is the fact that none of the different sector-specific regulations, in place before the new common law regulations, demanded such information to be disclosed (Christiaens, Vanhee, Verbruggen & Milis, 2008). Almost one out of three financial statements has not been audited or has a qualified opinion/disclaimer. In an assessment of reliability, this comes down to the conclusion that doubts can be expressed on the reliability of the financial statements. The item of 'mechanical accuracy' consists of 20 tests aiming to assess the logical and arithmetical coherence of the financial statements. A score of 1 indicates that the organization complies with all accuracy tests, whereas financial statements containing at least 1 logical or arithmetical error were scored zero. The results in Table 2-3 indicate that one out of three financial statements contains at least 1 'mechanical' error.

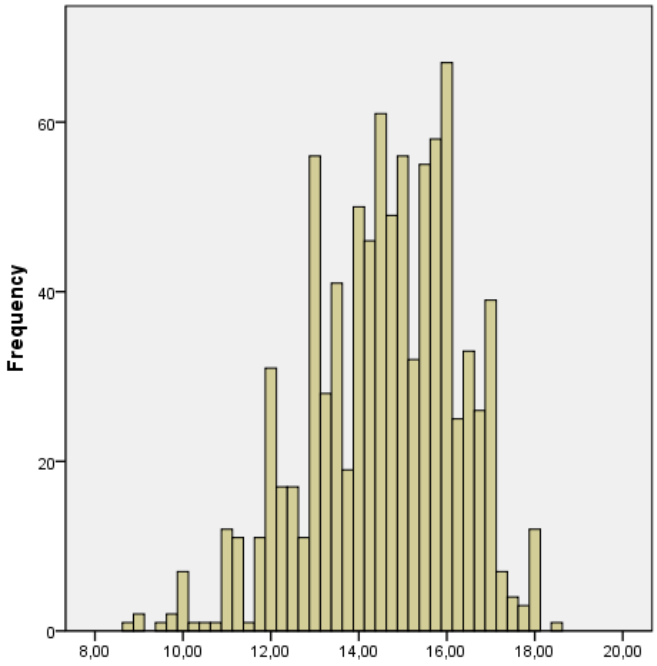

FIGURE 2-1. GRAPHICAL PRESENTATION OF COMPLIANCE INDEX SCORES

The overall compliance index score (Figure 2-1) ranges from 8.75 to 18.5 (note that the maximum score is 19), with a median of 14.75, a mean of 14.59 and resembles a normal distribution. The average adequacy of financial statements is rather high, but there is quite

important variance in the level of compliance with the different elements of the index (cf. supra).

ANALYSIS AND RESULTS: EXPLAINING THE LEVEL OF COMPLIANCE

MODEL SPECIFICATION

Ordinary least squares regression is used to explain the level of compliance with accounting and financial reporting requirements. The dependent variable (the score on the compliance index) is explained by the variables described below and put forward in the hypotheses in section 4. The full model is specified as follows:

Compliance index = $\beta 0 + \beta 1$ SUBS + $\beta 2$ DEBTS + $\beta 3$ PUBLIC + $\beta 4$ AUDIT + $\beta 5$ SIZE + $\beta 6$ GROUP +$\beta 7$ BOARD + ε

DESCRIPTIVE STATISTICS ON THE INDEPENDENT VARIABLES

To test the hypotheses related to resource dependence and coercive isomorphism, three variables are defined: dependence on governmental resources (subsidies as a percentage of total revenue: SUBS); dependence on financial loans (financial debts as a percentage of total assets: DEBTS) and the dependence on donations by the public (donations as a percentage of total revenue: PUBLIC). The impact of audit (hypothesis four) is measured by the presence/absence of an external auditor (AUDIT). To control for the effects of size, two variables are introduced in the model: SIZE represents the natural logarithm of revenue of the organization (Krishnan & Schauer, 2000); GROUP is the number of affiliated

organizations[7] and is a proxy for the size-effect of the group. Whether or not there are institutional members of the board (companies, governmental institutions) is represented by the variable BOARD.[8] All variables are computed using financial statement data that are publicly available.

	Variable			***Mean***	***Median***	***St.dev.***	***Min/ Max***	***% of 0/1***	***Expect.***
H1	Dependence subsidies	SUBS	Subsidies/total revenue (%)	40.6	23.0	38.8	0.0 / 100.0		+
H2	dependence financial debts	DEBTS	Financial debts/total assets (%)	15.5	4.7	21.2	0.0 / 130.0		+
H3	Dependence donations	PUBLIC	Donations/total revenue (%)	17.0	0.0	37.6	0.0/ 100.0		0
H4	Use of auditor	AUDIT	No (0), Yes (1)					17.3 / 82.7	+
	Size of the organization	SIZE	LN(total revenue)	15.5	15.5	1.1	12.5 / 19.3		+
	Group size	GROUP	Number of related organizations [7]	1.6	0.0	3.2	0.0 / 21.0		+
	Institutional members on the board	BOARD	Presence of organizations /corporations in the board (No=0, Yes=1)					96.2 / 3.8	+

TABLE 2-4. DESCRIPTIVE STATISTICS ON INDEPENDENT VARIABLES AND EXPECTED CORRELATION WITH COMPLIANCE LEVEL

Table 2-4 summarizes the characteristics of the independent variables as well as their expected correlation with the compliance index. Nonprofit organizations rely more heavily on the government as a source of financing than on private donations (on average 40

[7] Affiliated organizations are legal entities (for-profit as well as nonprofit) that are tied to the organization in one of the following ways: ownership, same address, connected administrative/financial/logistic/human resources services. The names of these organizations are listed in the financial statements.
[8] The names of board members are listed in the financial statements.

percent versus 17 percent of total revenue). On average, 15.5 percent of total assets is financed by financial loans. More than 80 percent of financial statements have been audited by an external auditor. The average size of a group of organizations is 2.6 (i.e. the organization itself + 1.6 others), but this can increase up to 22 entities. In only 3.8 percent of cases, another organization/corporation is represented in the board. It is expected that all of the variables have a positive relationship with the degree of compliance. However, doubts can be expressed on the usefulness of financial statements for individual donors. If the statements are not read by donors, there is no pressing necessity for organizations to file compliant financial statements.

CORRELATIONS AND REGRESSION RESULTS

Pearson correlation coefficients are shown in Table 2-5. All pair wise correlations (including Spearman rho, which are not tabulated) are below 0.5, indicating that problems of multi-collinearity are not likely to occur. All correlations between the compliance index and the main as well as control variables are positive, as expected.

	Index	*Subs*	*Debts*	*Public*	*Audit*	*Size*	*Group*	*Board*
Index	1							
subs	.138**	1						
debts	.172**	.165**	1					
Public	.101**	.084*	.111**	1				
Audit	.349**	-.066	.119**	.034	1			
Size	.150**	-.069*	-.028	.010	.446**	1		
Group	.228**	-.117**	-.076*	.103**	.191**	.116**	1	
Board	.116**	-.086**	-.053	.004	.045	.049	.081*	1

TABLE 2-5. PEARSON CORRELATIONS OF INDEPENDENT VARIABLES AND COMPLIANCE INDEX (SIGNIFICANCE AT .01 (**) AND .05 (*) LEVEL, 2-TAILED)

Table 2-6 summarizes the results of the linear models designed to explain the level of compliance with accounting and reporting legislation. In the first four models, each hypothesis is tested separately, adding the control variables. Each of the main variables (SUBS, DEBT, PUBLIC and AUDIT) is significant in explaining the variance in the compliance index. In all models, except for the one where audit is taken into account, the control variables are all significant. Once AUDIT is taken up in the model, SIZE is no longer significant.

The full model is listed in the last column (coefficients as well as standardized coefficients). It can be noticed that the effect of public donations is no longer significant, nor is the size of the individual organization when the other variables are introduced. The remaining five explanatory variables are significant (in the hypothesized direction). The F-value of the full model is significant at $p<0.001$, indicating that the model is well-specified. The adjusted R^2 of 0.201 (R^2 is 0.207) is satisfactory. None of the multi-collinearity tests reveal problems.

	Model 1	Model 2	Model 3	Model 4	Full model	
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Standardized Coeff.
H1. SUBS	0.008 ***				0.008 ***	.183 ***
H2. DEBT		1.354 ***			0.727 **	.097 **
H3. PUBLIC			0.300 **		0.186	.043
H4. AUDIT				1.416 ***	1.337 ***	.307 ***
Size (ln of revenue)	0.197 ***	0.187 ***	0.192 ***	-0.008	0.000	.000
Group	0.118 ***	0.113 ***	0.103 ***	0.083 ***	0.097 ***	.186 ***
Board	0.931 **	0.886 **	0.811 **	0.788 **	0.948 ***	.116 ***
Constant	11.084 ***	11.341 ***	11.45 ***	13.47 ***	12.92 ***	
R^2 adj.	10.8 %	10.4 %	7.8 %	15.7 %	20.1 %	20.1%
N	737	738	739	739	736	736

TABLE 2-6. LINEAR REGRESSION RESULTS

(where $p<0.05$ is *, $p< 0.01$ is ** and $p<0.001$ is ***)

The full model confirms all four hypotheses, underlining the presence and importance of coercive isomorphism and resource dependence. The results indicate that organizations which are highly dependent on governmental subsidies are presenting more adequate financial reports. The coefficient of the subsidies variable is positive (with $p < 0.001$) in all reported models. This is fully in line with the first hypothesis and documents the influence of dependence on the government on financial reporting compliance.

The findings also show that the presence of financial debts is significant in explaining the level of compliance in all models. Nonprofit organizations that depend on financial debts are more inclined to comply with accounting and reporting standards. This confirms the second hypothesis that, due to dependence on financial institutions that scrutinize financial reports, organizations are driven to a high level of financial reporting compliance.

Dependence on public donations is not significant in explaining the level of compliance in the full linear model. This is in line with hypothesis 3 but contradictory to some of the previous literature on the effect of financial information on donations.

As hypothesized (H4), audited financial statements display significantly higher levels of compliance. This validates the idea of coercive isomorphism having an influence on the willingness of nonprofit organizations to comply with new accounting legislation.

The average level of reporting adequacy is higher for nonprofit organizations that are part of a larger group. Note that the size of the organization itself is not significant.

Having institutional members on the board of directors has a positive influence on reporting adequacy. This control variable was introduced as a measure of 'professionalism' of the organizations. This result is similar to the conclusions of Christiaens' study on public sector accounting reform (1999).

Overall, the statistical analysis of the data demonstrates that dependence on governmental resources and financial loans urges the organizations to assure the quality of their financial reports. Dependence on donations from the public at large does not seem to have the same influence.

ROBUSTNESS TESTS

Although the use of indices is a longstanding tradition in compliance and disclosure research, a one-fits-all index has not yet been developed. So far, different indices have been used to effectively mirror the research question and empirical setting. To circumvent this issue, elements of earlier indices have been combined. To make sure that the construction of the index does not influence the conclusions on the main hypotheses built around resource dependence, several robustness checks have been performed resulting in the same conclusions on all hypotheses.

Since audit is part of the compliance index as well as one of the explanatory variables, a robustness test has been performed on an index that excluded the audit-test. Audit is still a significant and positive explanatory factor. Although audit is part of the original index as well as an independent variable, it must be stressed that different concepts were used. In the index two items were tested: 1) is the statement *approved* by an auditor and 2) is the audit report *attached* to the statement. These are elements of reliability and completeness. There is no one-on-one match with the independent variable: was an external auditor *involved*. When this is the case, the audit-tests in the index can be zero, one or two.

The combination of tests included in the index has been changed, omitting tests with an 'administrative' nature (such as mechanical accuracy or euro versus thousands of euro). The index was limited to 12 and 15 tests. None of the combinations gave rise to different conclusions regarding the hypotheses. We also ran regression tests on the separate items in the compliance index. Hypothesis 1 was confirmed in 5 tests (reliability, relevance, completeness, entity and accuracy). Hypothesis 2 was confirmed for reliability, comparability, relevance and entity. Audit was a significant factor in reliability, comparability and matching. The fact that audit was not a significant factor in all separate regressions shows that hypothesis 4 is not an obvious statement or tautology.

A robustness test has also been performed on the measure for dependence on public donations. Instead of a continuous variable, dummy variables have been used taking 5 percent, 20 percent and 50 percent of donations in total revenue as cut-off points. This

analysis is inspired by the distribution of the factor 'PUBLIC' (over half of the organizations do not receive donations). In neither case, the results for donations changed. Also, size has been proxied by total assets, total revenue and total expenses. All variables lead to the same conclusions on the effect of size. Lastly, building on previous research, measures of financial distress (Chang and Tuckman, 1991) (operating margin, presence of accumulated losses and resource concentration index) were added to the linear model. Neither of these measures was significant in explaining the level of compliance.

CONCLUSIONS AND ISSUES FOR FURTHER RESEARCH

This study uses resource dependence theory and the concept of coercive isomorphism (as a part of institutional theory) to explain nonprofit organizations' compliance with accounting and reporting standards.

Nonprofit organizations depend on outside sources of funding to assure their survival. The choices and conduct of the organization are bound by the pressure to ensure legitimacy and financial or material support. Accounting and reporting compliance can be analyzed as a mean to safeguard the flow of resources to the organization. When organizations are convinced that governmental subsidies, public donations or financial loans are linked with or depend upon financial reporting compliance, they will make the necessary efforts to ensure that compliance. The government is an important source of funding as well as the enforcer of the rules. In the latter role, they can 'coerce' compliance by obligations such as external audits of financial statements.

An empirical approach is applied to measure and explain financial reporting compliance in a setting in which an important number of Belgian (very) large nonprofit organizations are confronted with far-reaching legislative changes. With no or very little external and governmental control over financial statements' quality, the degree of compliance with the newly introduced regulations is essentially at the discretion of the organizations.

It is hypothesized and empirically confirmed that organizations that rely on governmental resources and financial loans are more strongly inclined to comply. This is completely in line with resource dependence theory.

Dependence on donations from the public is not significantly influencing reporting compliance. This may be due to a lack of interest in financial information by private donors. Previous research shows mixed results on that matter. Early research by Weisbrod and Dominguez (1986) and Posnett and Sandler (1989) provides evidence that donors use accounting ratios to judge organizational efficiency and decide on whether or not to make a contribution. These results were fine-tuned by Tinkelman (1998), who argues that accounting ratios are useful to large donors, not to small individual donors. A recent study by Parsons indicates that 'some donors' make use of summarized financial accounting information. The current result may be explained by the fact that the Belgian public is not yet used to nonprofit financial statements as well as to the fact that these are 'raw' accounting data which are not presented in easy-to-understand efficiency ratios.

In general, the hypotheses built on resource dependence hold. This is also the case for the coercive isomorphism hypothesis: external audit of financial statements positively influences the level of compliance with new financial reporting standards. However, we need to address the limitation of our measure of coercive isomorphism. The variable AUDIT does not only capture organizations that are obligated to have their financial statements audited, but also organizations that voluntarily hire an external auditor. We are not able to distinguish coerced audit (through the new common law or through pre-existing sectoral legislation) from voluntary audit. In that sense, the variable AUDIT may not only capture coercive isomorphism, but also resource dependence or even other forms of isomorphism. The theoretical difference between the two lies in the fact that coercive isomorphism explains why organizations are similar whereas resource dependence explains why organizations maintain different strategies (in this case voluntary audit to be more compliant) in order to preserve funding.

Our results lead to issues that need to be addressed in the near future. Firstly, only (very) large Belgian organizations filing a full scheme of financial statements have been analyzed. This means that the index can also be applied to the extensive dataset of large nonprofits filing an abbreviated scheme, which can then be compared to measure the effects of differences in size, financial strength and staff. Secondly, further research might reveal

whether or not the form of presenting financial data might be influencing the effect on donation decisions. Does the donor react the same way to 'raw' accounting data (balance sheet, income statement) as he/she does to easy to understand efficiency ratios? The same argument can be made for 'culture' as an explanatory variable. Most research on donations has been performed in the U.S. and the U.K., where the attitude towards the nonprofit sector and donations as well as the involvement of the government in the sector might be different from countries such as Belgium. Thirdly, the effect of audit as such has been documented in this research. However, no specification has been made on audit fee, audit quality or industry specialization. Finally, since the changes in accounting legislation are very recent, no empirical evidence can be found on two other aspects of isomorphism. In the future, normative as well as mimetic isomorphism may start to play an important role in explaining financial reporting compliance.

Despite the limitations, this study offers a contribution to the existing literature in two ways. Firstly, resource dependence and institutional theory have been proven important in an area of organizational conduct that has not been studied before. Although both theories have been used to explain different aspects of organizational conduct and management, such as several characteristics of the board (Heimovics et al., 1993; Hodge and Piccolo, 2005; Parker, 2007), governance (Guo, 2007), strategy (Schmid, 2001), financial vulnerability (Hager et al., 2004), no studies were found explaining financial accounting and reporting compliance. Secondly, the use of an index as a measure of financial reporting compliance is introduced in the nonprofit setting, providing a more general indication of financial accounting and reporting compliance (as opposed to a single measure of incidental or intended misreporting) that can be applied in the entire third sector (as opposed to specific subsectors such as health). Financial reporting quality is a major concern in the quest for increased accountability and therefore worth measuring.

Moreover, this study enables standard setters to analyze flaws and provide qualitative standards and/or guidance to the nonprofit sector. The use of the index has made it abundantly clear that an important number of financial statements lack quality. The details of the index can guide standard setters, professional accountants, managers and staff of

organizations to avoid quality issues in the future. Furthermore, the findings also indicate that current financial statements are not useful to donors. Follow-up research can look into the type of information that is needed for donors –if any- in order to support their donation decision. Given the growing importance of the third sector and the ever-increasing call for financial accountability and transparency, the quality of financial statements has to be monitored, nurtured and controlled.

APPENDIX

Year	Authors	Accounting	Reporting	Compliance	N° of items	Weighted (W) or not (UW)	Sector	Primary questions and findings
1981	Ingram & Copeland		x		17	UW	Public sector - municipalities (US)	Identification of main areas of noncompliance (index), causes (questionnaire) and potential corrective actions.
1984	Ingram		x		8 / 12	UW	Public sector – states (US)	Mapping the extent to which states follow accounting practices and report on them. Explain the level of compliance: urbanization (+), political competition (+), newspaper circulation (-), auditor (+)
1986	Robbins & Austin		x		27	W and UW	Public sector – cities (US)	Identification of the extent of disclosure. Explaining the level of disclosure: city government form (-), long-term debt per capita (+) and intergovernmental revenue (-). No significant difference in the explanatory power of both indices (W versus UW).
1991	Dixon et al.		x		52	UW	Universities	Identification of reporting practices (financial + non-financial)
1993	Jegers & Houtman	x	x			UW	Nonprofit sector - hospitals	Number of numerical and logical errors in hospitals' financial statements. Size increases compliance.

1999	Christiaens	x	x	66	UW	Public sector – Municipalities (Belgium)	Identification of cross-sectional differences in compliance with new accounting regulation. Experience, consultants' support, level of education, training of the employee and size of the municipality are positively related to compliance.
2000	Krishnan & Schauer		x	8	UW	Nonprofit Sector (US(health and welfare)	The score on the compliance index is used as an audit quality measure. 1) Reporting by the organizations is inconsistent. 2) Size of the audit firm (+), client size (+), financial health (+), client wealth (-) and participation in a peer-review process (+) impact audit quality.
2000	Weets & Jegers	x		216	UW	Private sector-Belgium	The index consists of 216 tests for mechanical accuracy. Compliance increases with the size of the auditor.
2003	Giroux & McLelland		x	3	UW	Public sector – cities (US)	The index consists of three factors: a certificate of achievement, a big 6 audit and unqualified audit opinion. Disclosure increases with size and financial viability and depends on the management structure of the city.
2003	Pina & Torres	x	x			Public sector - international	International comparison of the content of financial statements submitted by central governments (linked to their accounting system: cash versus accrual accounting in annual accounts and budgets)
2007	Da Costa Carvalho et al.	x		26	UW	Public sector – municipalities (Portugal)	Adoption of accounting practices (budgetary, financial and cost accounting) is listed in an index. Determinants of compliance are: size (-), budgetary surplus (+), grants received (+), urban (+) versus rural, number of staff (+) and average district compliance (+).

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CHAPTER 3. DO NONPROFIT ORGANIZATIONS MANAGE EARNINGS TOWARDS ZERO PROFIT AND DOES GOVERNMENTAL FINANCING PLAY A ROLE?

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ABSTRACT

Prior 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. Considering a different institutional setting characterized by the absence of such ratios and the presence of important governmental subsidies, management of the actual bottom line is explored and analyzed in the light of the importance of governmental subsidies. The results of our analysis suggest that organizations drive their results towards zero profit and that this is intensified by increased governmental funding under specific circumstances.

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. Motives for earnings management that have been documented over the years include manipulation of stock markets, decrease in 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 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 has broadened out to include 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 nonprofit 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, notwithstanding the results in

chapter 2, some 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 relatively scarce in comparison to that concerning 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).

Three factors distinguish this study from previous research. First, in contrast to the majority of former nonprofit studies, we focus on reported income, rather than efficiency ratios or taxable income. This implies that we look directly at the 'bottom line'. We contend that nonprofit organizations use accounting discretion to manage results towards zero profit. Second, whereas most of the research is done using U.S. data, where private donations are a main source of income to nonprofit organizations, we use data from (Belgian) nonprofits that are highly subsidized by the government. Therefore, the effect of subsidization on earnings management is considered. Finally, while earlier studies in this field have focused on the issue within a specific sector, we use data from organizations in the nonprofit sector at large.

The remainder of the paper proceeds as follows. In the next section, we briefly discuss prior literature on nonprofit earnings management. Next, 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 significant amount 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. 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 or zero profits. In the U.S., nonprofit organizations' efficiency is expressed in terms of ratios. Expenses are classified as either fundraising, administrative or program expenses. Donors aspire to 'good use' of their money, which is substantiated by a high program ratio, i.e. the percentage of total expenses categorized as program expenses, when deciding upon donating money (Callen 1994; Greenlee & Brown, 1999; Weisbrod & Dominguez 1986). The importance of the program ratio has driven nonprofit organizations to shift expenses from one category to another (Khumawala et al., 2005; Jones and Roberts, 2006; Krishnan et al., 2006; Keating et al., 2008). 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 considered to shift expenses towards their unrelated business income in order to reduce their tax. Omer and Yetman (2003 and 2007) conclude that nonprofit organizations misreport taxable income by overstating taxable expenses. Finally, some authors find evidence that nonprofit organizations manage reported earnings to a range just above zero. Leone and Van Horn (2002) show that nonprofit hospitals have reasons for managing their reported earnings so as to produce a small profit. Ballantine et al. (2007) substantiate their hypothesis that English National Health Service Trusts use accounting flexibility (discretionary accruals) to achieve zero (or small) profit.

In summary, evidence of nonprofit organizations' attempts to manage reported financial numbers is limited but convincing. However, prior research has mainly been dealing with expense classification and taxes. When reported earnings are studied, data are limited to one specific sector. In this paper, management 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 to be an incentive for this type of 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. Therefore, it can be expected that the distribution of surpluses/losses will be centered around zero, even in the absence of accounting manipulation. There are, however, reasons to assume that nonprofit organizations also manage the reported results towards zero profit in a way that makes use of flexibility in accounting standards. Moreover, nonprofit organizations might be more inclined to manage earnings when important governmental funding is at stake. To substantiate these hypotheses, we refer to previous research on the relationship between funding (subsidies, debt financing and donations) and financial reporting (earnings, earnings management and compliance) by nonprofit organizations. In addition, and given the dataset at hand, we refer to analyses by the Belgian Court of Audit of the subsidization process in different areas of the nonprofit sector.

FUNDING 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 event 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 (2011) conclude that formal compliance with financial reporting standards increases with dependence on governmental subsidies and financial debts, indicating a willingness to meet the demands of the most important source of funding.

Prior research (Bouwens et al., 2004; Frank, Salkever and Mitchell, 1990) has further shown that nonprofit organizations can have incentives to manage earnings to preserve or obtain funding. Bouwens et al. (2004) show that Dutch nonprofit hospitals manage earnings upwards both 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 donate money to profitable organizations. These research results indicate that nonprofit organizations can be motivated to engage in earnings management in order to receive additional funding. In the case of financial debts, it is clearly important to show positive results and financial strength in order to convince financial institutions of creditworthiness. Therefore, it can be expected that earnings are managed upwards. When trying to increase donations, theory and evidence suggest that earnings should be managed downwards in order to show the need for funds.

The ‘optimal’ level of earnings and thus the direction of earnings management is less clear when we investigate subsidies as a source of funding. There are reasons for upwards as well as downwards management. We argue that, as in the case 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 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 maintain governmental funding.

Nonprofit organizations might not only be avoiding losses, they may also benefit from downsizing reported profits. Governments (whether local, national or supranational) will monitor the results of organizations applying for or receiving subsidies, on the level of program services provided as well as on a financial level and may be less keen to start or continue subsidizing organizations with large profits. As in the case of private and corporate donations (Frank et al., 1990), the level of subsidies might vary inversely with reported earnings. When they do, nonprofits can be inclined to manage earnings downwards.

INSTITUTIONAL EVIDENCE ON THE RELATIONSHIP BETWEEN SUBSIDIES AND EARNINGS

The paper draws on Belgian data for empirical analysis of the hypotheses. In order to complement and support the theoretical expectations explained in the previous section, we shed light on the practice of grant application, decision-making and follow-up through comments made by the Belgian Court of Audit. This court exercises external control over the budgetary, accounting and financial operations of the Federal State, the Communities, the Regions, the Provinces and the public service institutions depending upon them. This evidence

shows that profitability is indeed explicitly considered by Belgian authorities in order to decide upon whether and by how much to subsidize nonprofit organizations in various sectors. Moreover, in line with our remarks on the appropriate direction of earnings management, some specific examples indicate that nonprofit organizations in point of fact receive conflicting signals about the relation between profit and subsidies. In the auditor's report to the Flemish Parliament on the subsidization of the arts sector (Vlaams Parlement,2006,p. 8) , we read that '*the absence of correct and uniform annual accounts hamper the level of control over other conditions for subsidization such as the required minimum percentage of own income and the accumulation of reserves.*' As for these reserves, the report also mentions (p. 32) that '*the annual growth in reserves cannot be higher than ten percent of the subsidies for that year or the amount of own income if this is less than ten percent of the subsidies. Accumulated reserves cannot be higher than 20 percent of the average working expenses of the previous three years.*' In a similar audit report concerning nonprofit organizations in the tourism sector (Vlaams Parlement, 2010, p. 18) the Court stated that '*the annual accounts of an organization can be relevant in assessing the financial strength of the applicant or in judging accumulated profits and revenue from subsidies*'. The same report specifically indicates that: '*subsidies can only be diminished or taken back in the event of profit.*'(p. 23). In the report on large subsidies by the Flemish Community (Vlaams Parlement, 1999, p. 19) we find that '*the lack of transparency concerning the existence of other revenue for the nonprofit organization is a major issue. The legislation on whether or not other sources of revenue and the accumulation of reserves is allowed is unclear*.' Evidence in the sector of social work suggests that profitability ratios are taken into account when analyzing applications for subsidies. Profits that are lower than one percent of revenue are deemed negative signals, losses are 'red lights' in the decision-making process of subsidization (Naert and Tack, 2009, p.35).

Thus, the institutionally driven evidence confirms that (i) annual accounts are taken into consideration when an organization applies for subsidies, that (ii) high accumulated reserves and profits can hamper the approval of subsidies or even trigger the withdrawal of approved subsidies while (iii) on the other hand losses are considered as 'warning signs'. Organizations

may take a 'better safe than sorry' attitude towards reporting profit when confronted with confusing or unclear signals by the government concerning the relation between profitability and subsidization.

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

H1. <u>Drive towards zero hypothesis</u>: Nonprofit organizations manage earnings upwards when pre-managed earnings are negative and vice versa.

H2. <u>Goverment funding hypothesis</u>: Earnings management towards zero profit increases with the importance of governmental funding as a source of revenue.

To measure the importance of government funding, the percentage of subsidies in total operating income is used.

SAMPLE SELECTION AND METHODOLOGY

SAMPLE SELECTION

The hypotheses are tested using a set of Belgian nonprofit organizations. The arguments in favor of using these data are threefold: (i) these organizations have been confronted by 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 organizations are heavily subsidized, providing a possible rationale for earnings

management not tested so far and (iii) the nonprofit sector is of considerable importance in Belgium.

The 2006 accounting reform resulted in the fact that very large Belgian nonprofit organizations needed to switch to accrual accounting and draw up a full scheme of standardized financial statements. For large organizations, accrual accounting and the short scheme of financial statements was made mandatory, while small nonprofit organizations are still allowed to use cash accounting and their statements are not publicly available.

To be able to calculate all the necessary variables, a full scheme 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 for 2006[9]. The same list of organizations was used to gather data for 2007 and 2008. Out of the 925 organizations, four are excluded from the analysis due to missing data on the sector, 21 have at least one missing financial statement or were liquidated during the investigated time period and 59 were excluded due to missing data within the financial statements. Thus, data of 841 organizations were used over a three-year period, which is 68 percent of all full scheme filers in 2006.

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 distribution of reported earnings, models of specific accruals and models that

[9] The currently available number of full scheme financial statements for 2006 is 1.243. There are 4.346 short schemes for 2006.

focus on aggregate accruals[10]. In the last case, the Jones (1991) model is most often 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 of reporting zero profit 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. In the current paper, a specific accrual as well as aggregated accruals are used to analyze the prevalence of earnings management.

First, we test whether a specific accrual is used as a tool for earnings management. The accrual under investigation in this paper, depreciation, is specific in the 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 of depreciation is based on the fact that it is widely used in all sectors, it is subject to some accounting discretion and it can be of sufficient importance to influence reported income. The importance of depreciable fixed assets in nonprofit financial statements is relatively high. In the sample used, they average 44.7 percent of total assets. 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

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

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

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

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
$PPE_{i,t}$	Gross depreciable assets for organization i in year t

Second, in accordance with 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. 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 minus the change in operating liabilities to account for changes in working capital and minus non-cash expenses such as depreciation and provisions. Due to the short time period and small sample size, abnormal or discretionary accruals are estimated within the sample, similar to Leone and Van Horn (2002) and defined as the error terms of the following regression:

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

Where

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

REV_{it} = revenues in year t – revenues in year t-1 for organization i

PPE_{it}= gross depreciable assets for organization i in year t

$TA_{i,t-1}$= Total assets for organization i in year t-1

As discussed earlier, the Jones model has been used extensively in for-profit earnings management research. To assess whether or not the model is appropriate for use in nonprofit settings, the nature and importance of the accounts need to be analyzed. Inventory is of little importance in an average nonprofit financial statement (in the sample, inventory ranges from zero to 43 percent of total assets, with an average of less than one percent). However, the valuation of inventory can be more difficult in nonprofit organizations and therefore more susceptible to earnings management. Accounts receivable (on average 19 percent of total assets) originate from 'commercial' activities of the organization as well as from subsidies. In both cases, they are susceptible to earnings management. Commercial accounts receivable are subject to doubtful debt expenses, similar to for-profit companies. For accounts receivable that originate from subsidies one needs to assess whether or not the subsidy can be recognised as revenue and can be entered in the balance sheet as account receivable. In several Belgian hospitals, for example, this issue has frequently given rise to qualified audit opinions. Similarly, the recognition of revenue from subsidies can influence accrued and deferred income accounts and therefore accruals.

RESULTS AND DISCUSSION

DESCRIPTIVES ON THE ORGANIZATIONS IN THE SAMPLE

The analysis is based on a sample of 841 organizations that filed a full scheme of financial statements in 2006, 2007 and 2008. The organizations are active in 20 different subsectors

according to the 'traditional' NACE-BEL classification. However, according to the, arguably more appropriate, classification of the satellite accounts for the Belgian nonprofit sector (Pacolet et al., 2001; Marée et al., 2008) six different areas of activities can be discerned: Culture, sports and recreation (14 organizations), education and research (201), health care (57), social services (436), law, advocacy and politics (52) and other areas of activity (81). [11]

In '000 euro	*Mean*	*Standard deviation*	*Perc.25*	*Median*	*Perc. 75*	*N*
Total assets	14 810	34 975	2 905	5 771	12 324	2 523
Total op. revenue	11 434	24 072	3 580	5 861	10 078	2 523
Total subsidies	3 616	7 200	0	1 129	4 879	2 523
Profit/loss	381	1 800	5	101	317	2 523
In %	*Mean*	*Standard deviation*	*Perc.25*	*Median*	*Perc.75*	*N*
Subsidies as percentage of operating revenues	42.79	38.86	0.00	32.57	83.76	2 523
Donations as a percentage of operating revenues	2.97	13.56	0.00	0.00	0.19	2 523

TABLE 3-1. DESCRIPTIVE STATISTICS ON THE ORGANIZATIONS (POOLED)

Descriptive statistics for the pooled data are summarized in Table 3-1. Mean total assets (mean total revenue) amount to 14.8 (11.4) million euro. The organizations are considerably subsidized, as is evidenced by the mean subsidies of 3.6 million euro representing on average 42.8 percent of total operating revenue. It can be noticed that the medians are much lower than the means, indicating skewed distributions. In 74.0 percent of the cases, subsidies are granted

[11] Satellite accounts are a comprehensive statistical system to describe the activities of the nonprofit sector. They are proposed by the UN Statistics division in collaboration with Johns Hopkins Center for Civil Studies.

to the organization and in 63.6 percent of all cases, donations are less than 1 percent of total operating revenue (not tabulated). The main sources of funding are therefore subsidies and self-generated revenue.

Further details on the organizations on a sector-by-sector basis are shown in Table 3-2. There are substantial differences in average size of the organizations. Mean and median total assets tend to be high in health care, advocacy and 'other' organizations. Average profitability, expressed as result divided by total assets, ranges from 2.40 percent in education/ research to 4.57 percent in 'other activities'. Mean dependence on subsidies ranges from 4.37 percent (other activities) to 72.33 percent (education/ research). Overall, dependence on donations is low, ranging from 0.09 percent in health care to 9.59 percent in law, advocacy and politics. The percentage of selected working capital accounts and depreciable assets in total assets are shown in panel B of Table 3-2. Although there are sector differences, the overall picture is quite similar: depreciable assets and accounts receivable are an important part of total assets, whereas inventory is negligible. The differences in the characteristics of the balance sheet and income statement can give rise to differences in earnings management techniques. This analysis is provided in the next section.

	Sector 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6
PANEL A						
N	42	603	171	1308	156	243
total assets (000 euro)						
Mean	13 297	9 687	33 307	8 855	24 735	40 451
Median	7 448	4 326	10 708	5 352	12 822	14 184
Standard deviation	14 010	25 990	62 130	14 870	33 210	72 110
Mean total operating revenue (000 euro)						
Mean	11 567	8 605	38 218	8 129	17 059	13 762
Median	7 161	6 026	15 045	5 065	8 707	7 034
Standard deviation	12 780	20 010	61 010	12 850	27 280	20 530
Mean Profit/loss (000 euro)/ (% of total assets)						
Mean	386 / 3.0	172 / 2.4	1017/4.0	186 / 2.5	991 / 2.6	1107/4.6
Median	30 / 0.3	106 / 2.5	317 / 3.2	85 / 1.9	143 / 1.5	146 / 1.4
Standard deviation	184 / 16	179 / 19	2022/4.6	608 / 5.7	3303 / 17	3459/12
PANEL B						
Subsidies as % of total operating revenue						
Mean	41.91	72.33	15.98	42.38	21.42	4.37
Median	46.39	87.54	.00	29.31	.64	.00
Standard deviation	35.95	31.90	28.48	36.46	31.08	12.72
Donations as % of total operating revenue						
Mean	6.95	1.97	.09	2.93	9.59	2.74
Median	.00	.00	.00	.00	.00	.00
Standard deviation	22.52	9.47	.54	13.92	23.44	13.01
Gross depreciable assets as % of total assets						
Mean	40.98	64.19	32.82	52.82	17.80	21.33
Median	21.77	69.84	31.98	58.72	8.57	7.37
Standard deviation	40.32	25.42	21.63	29.20	21.99	30.12
Inventory as % of total assets						
Mean	.24	.38	.77	.89	.55	.63
Median	.10	.03	.07	.09	.00	.00
Standard deviation	.33	.85	1.63	2.89	5.93	2.66
Accounts receivable as % of total assets						
Mean	31.69	11.42	35.74	18.58	21.70	22.17
Median	17.50	7.38	30.82	11.39	17.07	8.17
Standard deviation	33.49	14.54	21.01	18.43	20.59	26.13

TABLE 3-2. DESCRIPTIVE STATISTICS ON THE ORGANIZATIONS PER SECTOR

(Sectors are defined as: 1. Culture, sports and recreation, 2. Education and research, 3. Health care, 4. Social Services, 5. Law, advocacy and politics, 6. Other activities)

UNEXPECTED DEPRECIATION (UDEP) AND DISCRETIONARY ACCRUALS (DA): DESCRIPTIVES

As explained, the presence of earnings management is tested using two accruals measures. Accruals according to the Jones model are estimated within sample per sector in order to take differences between sectors into account. Due to the fact that this analysis requires 2-year lagged data, the number of observations of UDEP and DA is limited to one-year data, in casu 841 organizations. The data are winsorized at mean value +/- three standard deviations in order to mitigate outlier effects.

Table 3-3 summarizes the descriptive statistics for both earnings management measures. For the sample as a whole, the mean and median unexpected depreciation expenses are slightly positive (0.0003 and 0.0009 respectively). In the entire sample, 58.3 percent of unexpected depreciation is positive (downwards earnings management). In 3.7 percent of cases, unexpected depreciation is zero due to the absence of depreciable fixed assets. Mann-Whitney U-tests (not tabulated) indicate that mean unexpected depreciation is significantly higher in the sector of education/research when compared to social services, health care and advocacy, law and politics. The same tests (not tabulated) also show that the mean rank of gross depreciable fixed assets in total assets is higher in education/research than in all other sectors. This might indicate that the importance of these assets in the balance sheet gives rise to earnings management through depreciation expenses. Furthermore, since positive unexpected depreciation is a measure of downwards earnings management, the high mean ranks can suggest a higher instance of downwards earnings management, which is supported by the data in Table 3-3 (approximately 71 percent downwards earnings management in this sector).

Mean and median discretionary accruals are slightly negative in the entire sample. T-tests show that average discretionary accruals do not significantly differ from zero, with the exception of the education/research sector. This appears inconsistent with the general assumption in linear regression that error terms are zero on average but can be explained by the absence of a constant factor in the regression (Eisenhauer, 2003). Once again, the dominance of downwards

earnings management in this sector when compared to all other sectors is apparent from the univariate data in Table 3-3 (panel B).

Panel A ***Entire sample***	*Mean (median)*	*Standard deviation*	*% upwards earnings management*	*%downwards earnings management*	*% equal to zero*	*Number*
Unexpected depreciation (UDEP)	.0003 (.0009)	0,01093	38.0%	58.3%	3.7%	841
Discretionary accruals Jones model (DA)	-0.0099 (-0.0091)	0,1125	42.7%	57.3%	0%	841
Panel B **Per sector** **(N, year 2008)**	***Sector 1*** ***(14)***	***Sector 2*** ***(201)***	***Sector 3*** ***(57)***	***Sector 4*** ***(436)***	***Sector 5*** ***(52)***	***Sector 6*** ***(81)***
Mean UDEP	.0003	.0016	-.0014	-.0001	-.0020	.0015
Median UDEP	.0001	.0025	-.0006	.0009	.0000	.0000
Stand.dev.	.0176	.0125	.01078	.0099	.0108	.0109
% upwards	42.9	27.4	59.6	38.3	48.1	40.7
%downwards	50.0	70.6	36.8	60.1	42.3	44.4
% zero	7.1	2.0	3.5	1.6	9.6	14.8
Mean DA	.0389	-.0198	-.0067	-.0049	-.0065	-.0249
Median	.0075	-.0220	-.0017	-.0056	.0122	-.0057
Stand.dev.	.2372	.0831	.0851	.0998	.1583	.1744
% upwards	50.0	27.4	49.1	53.2	59.6	42.0
%downwards	50.0	72.6	50.9	46.8	40.4	58.0

TABLE 3-3. DESCRIPTIVE STATISTICS ON UNEXPECTED DEPRECIATION AND DISCRETIONARY ACCRUALS (WINSORIZED)

(1. Culture, sports and recreation, 2. Education and research, 3. Health care, 4. Social Services, 5. Law, advocacy and politics, 6. Other activities)

UNEXPECTED DEPRECIATION, DISCRETIONARY ACCRUALS AND SUBSIDIES: THE DRIVE TOWARDS ZERO PROFIT?

To test whether accruals are used to manage earnings upwards when pre-managed earnings are negative (and vice versa), two methods are used. Firstly, the characteristics of the distribution of reported earnings will be compared to those of the distributions of unmanaged earnings, i.e. earnings before unexpected depreciation (EBUDEP, reported earnings plus unexpected depreciation) and earnings before discretionary accruals (EBDA, reported earnings minus discretionary accruals). Secondly, regression analysis is used, similar to Leone and Van Horn (2002). Due to the observed differences in the univariate analysis of the earnings management measures, the analysis is conducted separately for the education/research sector on one hand and all other sectors on the other hand.

In Table 3-4, the characteristics of reported earnings and unmanaged earnings are summarized. The differences between reported earnings and EBUDEP are very small. The differences between reported earnings and EBDA, however, seem to confirm the first hypothesis. The mean and median of managed earnings (0.0283 and 0.0236) are closer to zero than those of unmanaged earnings (0.0390 and 0.0278). Furthermore, the boundaries of the first and third quartile of managed earnings are closer to zero than the boundary for EBDA (0.000 versus -0.0157 and 0.0464 versus 0.082). All of these elements indicate a shift towards zero for reported earnings when compared to unmanaged earnings.

	Reported earnings/ lagged total assets (TA)	EBUDEP= earnings before unexpected depreciation/lagged TA	EBDA= earnings before discretionary accruals / lagged TA
Mean	.0283	.0280	.0390
Median	.0236	.0200	.0278
Variance	.013	.013	.024
Q1	.0000	-.0010	-.0157
Q3	.0464	.0482	.0802

TABLE 3-4. DESCRIPTIVE STATISTICS ON MANAGED (REPORTED) AND UNMANAGED (EBUDEP AND EBDA) EARNINGS (WINSORIZED)

For the two earnings measures, separate regressions are used. To test the first hypothesis, EBUDEP and EBDA are introduced into the models. In order to test for the effect of subsidization on earnings management (hypothesis 2), the interaction terms EBUDEP*SUBS and EBDA*SUBS are used. To control for earnings management in the light of other sources of revenue (Bouwens et al., 2004, Frank et al., 1990), the dummy variables DONAT and NEWLOAN are added to the model. They have the value one when donations are a source of revenue and when new financial loans are contracted. In the case of donations, a dummy variable is used to deal with the highly skewed distribution of the continuous variable (percentage of donations in total revenue) which leads to outlier problems. In view of the fact that Kothari, Leone and Wasley (2005) have shown that discretionary accruals are positively correlated with prior year earnings, lagged earnings are added to the model. Finally, lagged discretionary accruals and unexpected depreciation are added to the model to deal with (likely) autocorrelation.

$$(a) UDEP_{i,t} = a_0 + a_1 EBUDEP_{i,t} + a_2 EARNINGS_{i,t-1} + a_3 UDEP_{i,t-1} + a_4 SUBS_{i,t} + a_5 EBUDEP_{i,t} * SUBS_{i,t} + a_6 DONAT_{i,t} + a_7 NEWLOAN_{i,t} + \varepsilon$$

$$(b) DA_{i,t} = b_0 + b_1 EBDA_{i,t} + b_2 EARNINGS_{i,t-1} + b_3 DA_{i,t-1} + b_4 SUBS_{i,t} + b_5 EBDA_{i,t} * SUBS_{i,t} + b_6 DONAT_{i,t} + b_7 NEWLOAN_{i,t} + \varepsilon$$

With:

$UDEP_t$ = Unexpected Depreciation

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

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

SUBS $_{i,t}$ = subsidies as percentage of total operating revenue

DONATi,t= donations as percentage of total operating revenue: 0 when equal to 0, 1 otherwise

NEWLOANi,t = 1 when new financial loan in year t, 0 otherwise

DA_t = discretionary accruals in year t

$EBDA_t$ = Earnings $_t$/TA $_{t-1}$ – discretionary accruals $_t$

Subscripts i, t = organization i in year t

Since hypothesis 1 is formulated symmetrically and the signs of unmanaged earnings as well as of earnings management measures are important, we split the sample into groups according to the unmanaged result. In the case of unexpected depreciation, the sample is split into a group where EBUDEP is positive and one where EBUDEP is negative.

Since we expect downwards (upwards) earnings management in the group with positive (negative) unmanaged results and the sign of unexpected depreciation is positive (negative) in the case of downwards (upwards) earnings management, we expect the sign of coefficient a1 to be positive in both groups when hypothesis 1 holds. To analyse whether earnings management towards zero profit increases with the importance of subsidies as a source of revenue, the interaction term EBUDEP*SUBS is incorporated into the analysis. When hypothesis 2 holds, we expect a5 to be positive in both subsamples.

The analysis for discretionary accruals is similar to the analysis for unexpected depreciation. We split the sample into positive and negative unmanaged results (EBDA) in order to test H1. If the hypothesis holds, we expect coefficients b1 to be negative. In the case of unmanaged losses, we expect upwards earnings management, which is measured by positive discretionary accruals and vice versa. Similarly, we expect the coefficient of the interaction term (b5) to be negative.

The expected signs of the coefficients for the control variable DONAT are positive for UDEP and negative for DA when it is consistent with downwards earnings management. Since Bouwens et al. (2004) report upwards earnings management in the case of additional financing, we expect the sign of the control variable NEWLOAN to be negative in the case of unexpected depreciation and positive in the case of discretionary accruals. Finally, we expect the sign of lagged discretionary accruals and lagged unexpected discretionary accruals to be negative, due to the reversal of accruals (DeFond and Park, 2001) and the sign of the coefficients for lagged earnings to be positive in the case of discretionary accruals (Kothari et al., 2005) and negative for unexpected depreciation.

Since the univariate data show that the earnings management patterns are different in the sector of education/research, this sector is excluded from the global analysis and a separate analysis is made for this sector.

Before performing the regressions described above, we analyze the correlation coefficients for the variables. The Spearman correlations for the unexpected depreciation analysis are shown in Table 3-5, the correlations for discretionary accruals in Table 3-6. As expected, the correlation between UDEP and EBUDEP is positive (with one exception). However, correlations are low and not significant. The correlation between UDEP and EBUDEP*SUBS is positive as expected, with the exception of the education/research sector, for which a dominance of downwards earnings management was already apparent. Once again, correlations are weak. The high Spearman correlations between EBUDEP and SUBS on the one hand and the interaction term on the other hand, show that multicollinearity may be present in the regression analyses.

	UDEP	EBUDEP	EARN t-1	UDEP t-1	SUBS	EBUDEP *SUBS	DONAT	NEW LOAN
UDEP		.007 (a) -.050 (b) .058 (c) .099 (d)	-.156** -.022 -.161 -.291	.120* .033 .096 .091	.034 -.069 .139 .082	.028 .059 .060 -.004	.012 .007 .111 .000	.027 -.074 .047 -.217
EBUDEP			.389** -.145 .496** -.121	-.047 -.153 -.054 -.022	.062 -.032 -.138 .025	.446** .331** .762** .581**	.034 -.014 -.244** .042	-.072 .080 -.122 .196
EARNt-1				-.079 -.123 -.171* -.199	.023 .058 .105 -.151	.174** -.120 .500** .114	-.049 .002 -.148 .201	-.100 .044 -.090 .388*
UDEPt-1					.003 .101 .113 .162	.007 -.136 .048 -.187	.012 -.011 .086 -.134	-.018 -.177* .088 -.068
SUBS						.856** -.901** .384** -.662**	.446** .350** .208** .255	.014 .145 .245** .306
EBUDEP* SUBS							.377 -.277** -.147 .073	-.005 -.072 .066 -.130
DONAT								-.043 .127 .024 -.029

TABLE 3-5. SPEARMAN CORRELATION COEFFICIENTS (UNEXPECTED DEPRECIATION) FOR 4 SUBSAMPLES

EBUDEP positive and sector is not education/research (a), EBUDEP negative and sector is not education/research (b), EBUDEP positive and sector is education/research (c), EBUDEP negative and sector is education/research (d). Significance (two-tailed) at 0.05 level (**) and 0.10 level (*).

The correlation coefficients of EBDA and DA (Table 3-6) are highly significant in the expected (negative) direction. This is also the case for the interaction term, although the correlation is much stronger in the education sector than in all others. Once again, high correlations between SUBS and EBDAxSUBS indicate the danger of multicollinearity.

	DA	EBDA	EARN t-1	DA t-1	SUBS	EBDA *SUBS	DONAT	NEW LOAN
DA		-.594** (a) -.536** (b) -.506**(c) -.339**(d)	.054 .107 .102 -.006	-.073 -.068 .212** -.077	.104* .000 .003 .186	-.086 -.139 -.384** -.405**	.112* .009 .011 -.159	.114* -.101 .066 -.160
EBDA			.183** -.042 .377** .043	.014 .084 -.107 .260	-.068 .059 -.075 .010	.304** .240** .732** .678**	-.111* -.024 -.110* .211	-.201** .068 -.106 .196
EARNt-1				.129** .010 .053 .192	.074 -.006 .083 -.190	.165** -.019 .398 .199	-.078 .020 -.128 .188	-.072 -.051 .032 -.015
DAt-1					.081 -.056 .101 -.198	.051 .079 -.018 .314	.077 .065 .055 .087	.102* .117 .041 -.144
SUBS						.857** -.902** .460** -.572	.454** .335** .226** .050	.102* -.021 .098 .272*
EBDA* SUBS							.336** -.285** -.019 .234*	.029 -.005 .000 -.068
DONAT								.118* -.019 .018 .108

TABLE 3-6. SPEARMAN CORRELATION COEFFICIENTS (DISCRETIONARY ACCRUALS) FOR 2 SUBSAMPLES

EBDA positive and sector is not education/research (a), EBDA negative and sector is not education/research (b), EBDA positive and sector is education/research (c), EBDA negative and sector is education/research. Significance (two-tailed) at 0.05 level (**) and 0.10 level (*)

The results of the OLS regression analyses on UDEP are shown in Table 3-7. First, it is important to explain that the regression of the UDEP-model for all sectors excluding education/research (when EBUDEP is positive) is not well specified. The F-value of the model is not significant (at the 0.05 level) and the adjusted R^2 is zero. Table 3-7 shows 5 regressions: all sectors excluding education and research and the regression for the education and research sector. Regressions (a) and (b) have low explanatory power, but are well-specified. In these models, there is some

evidence to support the first hypothesis that earnings are managed towards zero (evidenced by the positive parameter of EBUDEP). There is no convincing evidence that this is intensified with the degree of subsidization. However, the models (b), (d) and (e) deal with multicollinearity, as is shown by the high variance inflation factors (VIF). These VIFs are up to 6.2, which is higher that the common cut-off value of five. Therefore, the sign and significance of the coefficients may be distorted. To deal with this, the models are adjusted using the interaction variable EBUDEPxSUBSLARG. In these models, SUBSLARG takes the value one when SUBS is larger than the sector median value and zero otherwise.

The results of these models are summarized in Table 3-8. Once again, model (c) is not well-specified. We therefore must conclude that we are not able to explain the level of unexpected depreciation in the case of positive unmanaged results. When unmanaged results are negative (b), there is some support for the hypothesis that earnings are managed upwards, but this is not influenced by the level of subsidization. In the sector of education and research, the model is not well-specified when unmanaged earnings are negative. Depreciation is used to manage earnings downwards only when there are high levels of subsidization.

The conclusion for unexpected depreciation is therefore that univariate data show that unexpected depreciation has very low mean values and is -on average- not sufficient to significantly change reported earnings. This is confirmed by the small differences in the distribution characteristics of unmanaged results (EBUDEP) and reported earnings. Furthermore, the multivariate analysis shows that the models have very low explanatory power and the support for the hypotheses is very limited. This analysis is consistent with the findings of Marquardt and Wiedman (2004) for companies but inconsistent with the results of Van der Zahn and Pilcher (2008) for local governments.

The results of the regression analysis for discretionary accruals are summarized in Table 3.9. Since the univariate results show a much higher instance of downwards earnings management in this sector relative to the other sectors, we have performed a separate regression analysis on DA for this sector. First, it is important to notice that the explanatory power of these models is

much higher than in the case of unexpected depreciation (up to 61 percent) and that the results for all sectors except education/research are not driven by multicollinearity. Since this was the case in the sector of education/research (not tabulated), we have used the interaction term EBDAxSUBSLARG in all models to ensure that collinearity does not drive the results.

In all regressions the negative coefficients for EBDA confirm the first hypothesis that earnings are managed towards zero profit. As for the influence of subsidies, the results are consistent with the second hypothesis in the entire sample and in the sample of positive unmanaged results. However, the coefficient of the interaction term is not significantly different from zero in the case of unmanaged losses and is even positive in the negative EBDA subsample of education/research. Therefore, we have only partial support for the second hypothesis: subsidies seem to intensify downwards earnings management and do not affect the intensity of upwards earnings management except for the sector of education/research in which upwards earnings management is weaker in case of higher subsidies.

The coefficients of the control variables of lagged discretionary accruals (Leone and Van Horn, 2002) are consistent with prior research. This is also the case for lagged earnings (Kothari et al., 2005) except for the sector of education in which they are not significant. The coefficients of donations and new loans are not significantly different from zero, which is not consistent with prior research by Bouwens et al. (2004). This may be explained by the fact that donations as well as financial loans are not important sources of funding in this sample of organizations.

Overall, the support for earnings management towards zero profit is more convincing when it is measured by aggregate discretionary accruals. This type of earnings management is intensified with higher levels of subsidization, but only when unmanaged earnings are positive.

	Expected	Regression UDEP(a) All sectors, excluding education/research All EBUDEP		Regression UDEP(b) All sectors, excluding education/research NEGATIVE EBUDEP		Regression UDEP(c) All sectors, excluding education/research POSITIVE EBUDEP		Regression UDEP(d) Sector education/research NEGATIVE EBUDEP		Regression UDEP(e) Sector education/research POSITIVE EBUDEP	
		Coefficient	T-value	Coefficient	T-value	Coefficient	T-value	Coefficient	T-value	Coefficient	T-value
Constant		-.000	-.025	-.003	-.578	.001	1.339	-.014	-2.094**	.009	2.886**
EBUDEP	+	.019	2.654**	.040	1.796*	.004	.451	-.190	-3.121**	-.063	-2.183**
EARNINGS	-	-.007	-1.555	.013	.994	-.009	-1.859	-.006	-.354	-.033	-3.320**
$UDEP_{t-1}$	-	-.055	-1.503	-.004	-.048	-.047	-1.175	-.455	-2.769**	-.120	-1.808*
SUBS		-.002	-1.394	-.005	-1.108	.001	.434	.037	2.978**	-.011	-2.178**
EBUDEPxSUBS	+	.034	2.016**	.064	1.137	.002	.077	.419	3.198**	.153	3.105**
DONAT	+	.000	.403	.002	1.161	-.001	-.579	-.001	-.195	.001	.614
NEWLOAN	-	.000	-.419	-.002	-.870	.000	-.038	-.008	-1.756*	.001	.335
N		640		188		452		41		160	
R^2 adjusted		.042		.088		.000		.332		.059	
F-value		4.960***		2.576***		.750		3.835**		2.433**	
VIF max		1.940		6.211		2.550		6.026		5.760	

TABLE 3-7. REGRESSION ANALYSES ON UNEXPECTED DEPRECIATION.

(where $p<0.05$ is *, $p<0.01$ is ** and $p<0.001$ is ***)

	Expected	Regression UDEP(a) All sectors, excluding education/research All EBUDEP		Regression UDEP(b) All sectors, excluding education/research NEGATIVE EBUDEP		Regression UDEP(c) All sectors, excluding education/research POSITIVE EBUDEP		Regression UDEP(d) Sector education/research NEGATIVE EBUDEP		Regression UDEP(e) Sector education/research POSITIVE EBUDEP	
		Coefficient	T-value	Coefficient	T-value	Coefficient	T-value	Coefficient	T-value	Coefficient	T-value
Constant		.000	.609	.000	.119	.002	1.903*	.001	.170	.005	2.717**
EBUDEP	+	.013	1.955*	.043	1.990**	.000	.032	-.019	-.420	-.019	-1.008
EARNINGS	-	-.008	-1.720*	.013	1.038	-.010	-1.984**	.002	.107	-.030	-3.089**
$UDEP_{t-1}$	-	-.058	-1.594	-.023	-.285	-.048	-1.188	-.536	-2.778**	-.085	-1.299
SUBSLARG		-.002	-2.524**	-.003	-1.438	-.001	-.505	.001	.076	-.002	-1.007
EBUDEPxSUBSLARG	+	.034	3.235**	.028	.970	.013	.861	.002	.035	.073	2.642**
DONAT	+	.001	.604	.002	1.139	.000	-.269	.001	.217	.001	.363
NEWLOAN	-	-.001	-.577	-.002	-.874	.000	-.091	-.007	-1.299	.000	.001
N		640		188		452		41		160	
R^2 adjusted		.054		.110		.000		.104		.048	
F-value		6.227***		4.285**		.797		1.666		2.140**	
VIF max		1.869		3.136		2.009		2.628		2.996	

TABLE 3-8. REGRESSION ANALYSES ON UNEXPECTED DEPRECIATION: ADJUSTED INTERACTION TERM

(where p<0.05 is *, p<0.01 is ** and p<0.001 is ***)

	Exp	Regression DA(f) All sectors, excluding education/research All EBDA		Regression DA(g) All sectors, excluding education/research NEGATIVE EBDA		Regression DA(h) All sectors, excluding education/research POSITIVE EBDA		Regression DA(i) Sector education/research NEGATIVE EBDA		Regression DA(j) Sector education/research POSITIVE EBDA	
		Coeff.	T-value	Coeff.	T-value	Coeff.	T-value	Coeff.	T-value	Coeff.	T-value
Constant		.003	.638	.007	.686	-.009	-1.113	.066	1.889*	-.017	-2.137**
EBDA	-	-.609	-21.701***	-.705	-8.587***	-.546	-13.938***	-.337	-2.013*	-.200	-3.362**
EARNINGS	+	.153	4.308***	.178	2.440**	.150	3.565***	.071	.419	.111	2.909**
DA_{t-1}	-	-.119	-4.477***	-.080	-1.952*	-.138	-3.909***	-.278	-1.999*	.074	1.279
SUBSLARG		.003	.420	-.013	-.997	.019	1.936	.056	1.206	.035	3.150**
EBDAxSUBSLARG		-.143	-3.282**	-.141	-1.298	-.229	- 3.473**	.535	2.108***	-.437	-5.019***
DONAT	-	.007	1.101	.001	.102	.009	1 .032	-.066	-1.832*	-.013	-1.582
NEWLOAN	+	.002	.269	-.007	-.618	.006	.742	-.064	-1.860*	-.003	-.408
N		640		229		411		40		161	
R^2 adjusted		.611		.514		.520		.306		.412	
F-value		144.187***		35.515***		64.354***		3.459**		17.030***	
VIF max		1.834		3.369		2.280		2.565		3.057	

TABLE 3-9. REGRESSION ANALYSES ON DISCRETIONARY ACCRUALS

(where p<0.05 is *, p<0.01 is ** and p<0.001 is ***)

CONCLUSION

SUMMARY

In the current paper, we explored earnings management in the Belgian nonprofit sector, divided into six subsectors according to satellite accounts. Based on previous research into the interaction between funding (subsidies, financial debts, donations) and financial reporting (compliance, earnings management) and into the practices regarding subsidies in Belgium, we investigated nonprofit entities' earnings management towards zero profit and the interaction with the level of subsidies.

Using a specific accrual (depreciation) as well as an aggregate accruals model (Jones, 1991), we try to triangulate evidence while accounting for possible differences between sectors. Overall, the evidence for depreciation as a tool for earnings management is unconvincing. The results of the Jones model are much stronger.

The bivariate evidence suggests that earnings management occurs in different nonprofit subsectors. However, the sector of education/research is significantly different from the others: downwards earnings management is far more dominant. The composition and subsidization of the sector might explain the difference in results. The sector largely consists of schools which are very heavily subsidized, since education is 'free of expense' in Belgium, meaning that tuition fees are zero or very low in comparison to other countries such as the United Kingdom or the United States. These subsidies largely depend on the number of students, the cost of staff and the cost of infrastructure. The subsidies are therefore based on expenses. Given this 'cost plus' way of subsidization as well as the near-zero likelihood of bankruptcy, there are no or only very limited incentives for schools to manage earnings upwards. Furthermore, schools have a strong tradition of using and reporting budgets rather than financial statements. Therefore, schools may not benefit from upwards earnings management.

The characteristics of managed and unmanaged earnings as well as the multivariate analysis based on discretionary accruals show strong evidence of earnings management towards zero

profit. The comparison of reported and unmanaged results shows that the former is more centred around zero profit. Furthermore, regression analysis shows that earnings are managed downwards when premanaged earnings are positive and vice-versa.

When analyzing the effect of subsidies on this earnings management pattern, we conclude that there is evidence that downwards earnings management in the case of unmanaged profits is accelerated by high levels of subsidization, whereas there is no such evidence for effects on upwards earnings management in the case of unmanaged losses. In the sector of education and research, upwards earnings management is slowed down in case of high levels of subsidization.

CONTRIBUTIONS TO SCHOLARSHIP

Since earnings management studies are few in the nonprofit sector, this study contributes to the emerging field of research. First, the cross-sector approach shows that, while earnings management seems prevalent in the entire sector, the level, direction and means of earnings management can differ sector-by-sector. Second, to our knowledge, this is the first research paper that links earnings management with the level of subsidization.

APPLIED IMPLICATIONS

There are also some practical implications to this study. First, it is important for subsidizing governments to have information about how nonprofit entities react to information on the relationship between profit and subsidies, which is often unclear and confusing. Clearly, it is important for governments to specify how the statements are used in the process of deliberating about subsidization. Furthermore, it is important for governments and standard setters to identify opportunities and reasons for earnings management when analyzing regulations for subsidization parallel to accounting standards' flexibility and interpretation. Lastly, follow-up research is needed when new types of subsidies are introduced. Recently, the subsidization regulations in Belgian education have changed. It is important for the government to analyse whether this new type and level of subsidies increase efficiency in education as well as whether it changes earnings management practices.

LIMITATIONS AND DIRECTIONS FOR FURTHER RESEARCH

Overall, the paper provides evidence that earnings management is prevalent in different nonprofit subsectors. Since the current sample did not allow for such an analysis, further research can investigate whether there are sector-specific accruals that are more appropriate than the depreciation expense used in this study. Although we have made an attempt to use several subsectors in order to measure the extent of earnings management beyond the scope of a specific subsector, the results indicate that specific sector research is still needed to get more insight in the use of specific accruals. The institutional evidence shows that, although the overall problem regarding the unclear relationship between reported profit and subsidies is unclear, a sector-by-sector analysis may provide a more tailored and stronger analysis of earnings management motives. Furthermore, when larger samples with varying subsidization levels and subsidization types are at hand, a sector- and subsidy-specific analysis may also teach us whether specific rules concerning subsidies give rise to different forms of earnings management. Furthermore, it may be interesting to analyse whether a 'competition' for subsidies influences the degree and direction of earnings management. Finally, we see opportunities in follow-up research that combines efficiency measurement (e.g. data envelopment analysis) and earnings management measures. It may be the case that earnings management is used as a signal of efficiency (consistent with for-profit entities signalling information through earnings management, e.g. Sun and Rath, 2008) or to cover up inefficiencies.

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CHAPTER 4. AUDIT PRICING IN A REFORMED NONPROFIT MARKET

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ABSTRACT

In contrast to the extant research on audit fees of for-profit companies, literature on non-profit audit fees is scant. In this paper, audit fee determinants of previous research are tested in a nonprofit market that is characterized by a relatively low dominance of Big4 auditors, low litigation risk, small nonprofit entities, high levels of subsidization and recent legislative reforms. Using OLS on a sample of nonprofit entities, we find that some known determinants such as auditor size and client complexity hold their ground. However, our findings on client profitability and auditor specialization show that refinements of audit fee models need to incorporate audit market characteristics, agency problems and signaling.

Following the influential work by Simunic (1980), a vast amount of research has explored the determinants of audit fees. The scope of this research ranges from the threat of oligopolistic markets (Johnson, Walker, & Westergaard, 1995; Pearson & Trompeter, 1994) and fee premiums for the large audit firms (Palmrose, 1986), to the practice of low-balling (Craswell & Francis, 1999; Simon & Francis, 1988), the prevalence of non-audit services and related auditor independence problems (Ashbaugh, LaFond, & Mayhew, 2003; Davis, Ricchiute, & Trompeter, 1993; Ezzamel, Gwilliam, & Holland, 2002), the price effect of industry specialization (Craswell, Francis, & Taylor, 1995; Cullinan, 1998; Ferguson, Francis, & Stokes, 2003) and the role of internal audit (Felix, Gramling, & Maletta, 2001) and governance mechanisms (O'Sullivan & Diacon, 2002).

Whereas most of the studies focused on the private sector and particularly on listed companies, the growing demand for accountability in the public and nonprofit sector set a new stream of research in motion. Auditing in the public sector has been on the research agenda since the 1980's (Rubin, 1988; Baber, Brooks, & Ricks, 1987; Ward, Elder, & Kattelus, 1994; Basioudis & Ellwood, 2005; Clatworthy, Mellett, & Peel, 2002). Nonprofit organizations seem to be the next in line to be confronted with stringent financial reporting regulation and the obligation of external auditing of these reports. Studies on audit fees in universities (Mellett, Peel, & Karbhari, 2007) and charities (Beattie, Goodacre, Pratt, & Stevenson, 2001) in the UK, identified determinants of audit fees in these specific submarkets and compared the fees for these organizations with their for-profit counterparts. A recent study of 125 very large nonprofit organizations in the US expands these results by investigating the effect of resource dependence, internal control and governance mechanisms, as well as by leaving the boundaries of a specific subsector (Vermeer, Raghunandan, & Forgione, 2009).

In this paper, we investigate audit fees of nonprofit organizations in a specific setting. External audit has only recently (2006) been made mandatory for very large Belgian

nonprofit organizations[12]. This obligation is part of an extensive reform of accounting and reporting requirements for Belgian nonprofits. As such, audit clients as well as auditors are facing new challenges: (i) new accounting legislation; (ii) new standardized financial statements that are inspired by, but significantly different from, for-profits' format of the financial statements; and (iii) a relatively new audit environment.

In this paper, we want to address two research questions. First, we want to develop a model for non-profit audit fees and determine whether known determinants of audit fees in the for-profit sector are also reflected in nonprofit audit fees. As Tate (2007) points out, even in a well-established, mature audit market, there are significant differences between external auditing in a nonprofit and a for-profit setting. Dissimilarities in organizational structure, culture, goals, financial concerns, stakeholders and risk imply diversity in the way audit clients and auditors experience the audit process. Second, we want to investigate whether dependence on government fees is related to audit fees. Since Belgian nonprofit organizations are heavily subsidized and the government has made financial reporting and financial auditing mandatory, the question arises whether subsidization increases audit complexity and demand for audit quality which can both be reflected in the audit fee.

This paper differs from previous research in four ways. First, since the Belgian audit market in general is not characterized by a dominance of BIG4 auditors (Weets & Jegers, 1997; Willekens & Achmadi, 2003; Van Caneghem, 2010), we use continuous measures of auditor size combined with the more traditional BIG4 – Non-BIG4 dichotomy. Second, since differences between an audit of a nonprofit organization and one in a for-profit company are presumably large (cf. supra, Tate 2007), we check whether auditor specialization in the nonprofit sector affects audit fees. Thus, we contribute to that field of the literature. Third, whereas previous studies used several proxies for audit effort, we extend the traditional measures with information on the characteristics of the audit firm (number of staff,

[12] Nonprofit organizations are defined as very large when two or more of the following criteria are surpassed: number of staff (50 full time equivalents), Total revenues (6250000 euro) and total assets (3125000 euro) or when more than 100 full time equivalents are employed.

percentages of junior auditors, and average fee per hour) as a proxy for the cost of performing an audit. This coincides with what Hay, Knechel and Wong (2006, p. 146) describe as a 'production-based specification of the audit fee model'. Fourth, similar to Vermeer et al. (2009), we use measures of resource dependence. We view the level of resource dependence as a determinant from the demand-side of audit services, adding to that line of research (e.g. (Knechel & Willekens, 2006)). In contrast to Vermeer et al. (2009), we are able to test for dependence on public donations as well as governmental funding (through grants or subsidies).

The paper proceeds as follows. Section 2 contains an overview of the literature on audit fee determinants, followed by hypotheses in section 3. The data collection and methodology are explained in section 4. Next, the results of the OLS regression are discussed and the paper ends with a conclusion and issues for further research.

PREVIOUS RESEARCH ON AUDIT FEE DETERMINANTS

There is a large body of literature on audit fee determinants. The original audit fee model of Simunic (1980) has been extended over time with several experimental variables added by as many authors. In general, three main groups of determinants can be identified: audit client, auditor and audit engagement characteristics. In this brief literature review, we rely heavily on the meta-analysis by Hay et al. (2006), adding research results of the period following their analysis and focusing on nonprofit findings. Although we focus primarily on auditor characteristics in this paper, the literature on other explanatory variables is discussed in order to identify the effects of possible control variables.

AUDIT CLIENT CHARACTERISTICS

The *size* of the client influences the effort required by the auditor and thus the audit fee. Almost all previous studies find a (nonlinear) positive relation between client size (measured

as the natural logarithm of total assets, total sales or total staff) and the audit fee (generally transformed to its natural logarithm). Overall, size of the client is the most important explanatory factor in previous research (Hay et al., 2006, p.164). In the nonprofit sector studies, Mellett et al. (2007) and Beattie et al. (2001) found a positive association between total revenue of the organization and the level of the audit fee, whereas Vermeer et al. (2009) found the same result for total assets as a measure of client size. The *complexity* of the engagement is not only determined by the size of the client, but also by its organizational structure and its scope of activities. Often used determinants include the number of subsidiaries, the number of locations, the presence/importance of foreign activities, the number of business segments or industries. In the nonprofit sector, the number of trading subsidiaries (Beattie et al., 2001) is positively associated with the audit fee level. Evidence on other proxies for complexity such as number of trading outlets, number of branches and overseas activities is, however, mixed. In the United States, the complexity of a single audit has a positive impact on audit fees (Vermeer et al., 2009). [13]

Inventories and debtors have been used as a proxy for the extra audit effort required for particular assets. In the nonprofit studies by Mellett et al. (2007) and Beattie et al. (2001), a positive relationship was identified between the importance of inventories in total assets and audit fees. Vermeer (2009) found a positive correlation between the combined importance of accounts receivable and inventory and nonprofit clients' audit fees. In their meta-study, Hay et al. (2006, p.170) identify all three measures as important drivers of audit fees, but favor the combined measure of inventories and receivables over the separate measures.

Some characteristics of the audit client influence the level of the *inherent audit risk* and therefore the effort and price associated with the financial audit. Measures of profitability (either a dummy variable for the existence of a loss or the continuous measure of net income divided by total assets), leverage (debts divided by total assets) and liquidity (current

[13] In the United States, a single audit is a financial and compliance audit performed in organizations that expend at least 500,000 dollar of Federal grants.

ratio , quick ratio or similar) are applied as measures of audit risk. Overall results on profitability are mixed, which according to Hay et al. (2006, p.170) may be due to a nonlinear relationship between loss and risk. In the nonprofit sector, profitability is not significantly linked with audit fees (Mellett et al., 2007), whereas leverage is not significantly (Mellett et al, 2007) or positively (Vermeer et al., 2009, Basioudis et al., 2005) associated with audit fees. Higher liquidity ratios coincide with lower audit fees (Vermeer et al., 2009) as can be expected. The evidence on the relationship between the level of *internal control / corporate governance* and audit fees is mixed (Hay et al., 2006). Knechel and Willekens (2006) analyze audit fees from a 'demand' perspective and differentiate internal control according to its mandated/voluntary status. They find that there is a negative association between internal control and audit fees if internal controls are mandated, whereas there is a positive relationship between the demand for external audit services for companies with high levels of voluntary internal control and governance mechanisms.

AUDITOR CHARACTERISTICS

Typically, three aspects related to the auditor are incorporated in audit fee studies: audit quality, auditor tenure and location. Auditor size and auditor specialization are often used as proxies for *audit quality*.

The BIGN (4,5,6 or 8 depending on the timing of the study) versus Non-BIGN dichotomy yields convincing results in favor of a brand name premium in the majority of studies (Hay et al., 2006, p.176). In the nonprofit studies, Vermeer et al. (2009) find a positive relationship between BIG4 firms and audit fees. In a similar vein, the UK-studies of Mellett et al. (2007) and Basioudis et al.(2005) show that BIGN auditors charge higher fees than second-tier or mid-tier auditors. Beattie et al. (2001) do not find a significant difference between BIG6 and Non-BIG6 auditors for grantmaking charities, whereas there is a brand name premium for fundraising charities. These authors use a resource dependence argument to explain the findings: fundraisers need to convince the public of their trustworthiness, which may be signalled by the use of a BIG6 auditor. This enables BIG6 auditors to make use of a better

bargaining position and to charge higher fees. The findings of Tate (2007, p.58) that BIG5 audited nonprofit organizations rely more heavily on contributions, whereas Non-BIG5 audit clients rely more heavily on government grants seem to confirm this explanation.

The effect of auditor specialization on audit fees is unclear. Previous studies yield mixed results, which may be due to a problem of operationalization of this concept (Neal & Riley, 2004). Two broad views on specialization are used: the market share analysis and the portfolio share analysis. In a market share view, a specialist is the audit firm that is the market leader in a sector, or the holder of a market share above a certain cut-off point relative to market concentration. A continuous variable based on the actual market share has also been employed. These measures have been used in the nonprofit audit fee literature by Tate (2007), Beattie et al. (2001) and Basioudis et al. (2005). Whereas Beattie et al. (2001) find some evidence for a Non-BIG6 specialist premium, Basioudis et al. (2005) do not find a statistically significant relationship between auditor specialization and audit fees. In the portfolio analysis, specialists are identified by analyzing the number of audit engagements (audit fees) in a specific sector, relative to the total number of engagements (total audit fees) of the audit firm. To our knowledge, this analysis has not been applied to nonprofit audits. A combination of a market share measure and a portfolio measure of specialization is recommended by Neal & Riley (2004, p. 175): '*Therefore, in many studies, researchers may be best served if they can capture both attributes of auditor specialization*.'

An often cited reason to change auditor is to obtain a lower audit fee (see Tate, 2007 for evidence based on nonprofits). Two measures are commonly used for *auditor tenure*: a recent auditor switch (dummy) and the actual duration of the current auditor tenure. Hay et al. (2006) find better results for the dummy variable than for the continuous measure and therefore favor the use of a switch-dummy. Basioudis et al. (2005) are the only authors using a tenure variable in the nonprofit studies. They find no statistically significant relationship between an auditor switch within the last three years and the audit fee.

The *location* of the audit firm may explain higher 'production costs' and therefore higher audit fees. In all nonprofit UK studies (Mellett et al., 2007; Beattie et al., 2001 and Basioudis et al., 2005), London based auditors charge higher audit fees.

Some characteristics of the audit engagement can be helpful in explaining audit fee levels. Audit firms are confronted with seasonal effects in the demands for their services. The '*busy season*' in audit engagements is related to the fact that for the majority of audit clients, the end of the accounting period coincides with the end of the calendar year. Hay et al. (2006) find mixed evidence on the effect of a busy season audit, depending on the country under investigation and the time frame. In the nonprofit study by Beattie et al. (2001), no statistically significant relationship was found. To measure the level of *difficulty* of an audit, two proxies are often used: the existence of an important time lag between the end of the accounting period and the date of the audit report (positive relationship with audit fees is reported in the meta-analysis by Hay et al (2006)) and the issuance of an audit opinion that is different from unqualified. The latter variable is marked as a 'less important driver for audit fees' by Hay et al. (2006, p. 178). In previous nonprofit studies, the report lag was not found to have a statistically significant correlation with audit fees by Beattie et al. (2001). The type of the audit opinion has, to our knowledge, not yet been studied for nonprofit entities. Finally, the relationship between the fees for audit services and nonaudit services has received a great deal of attention. The relationship between both fees is a priori ambiguous. On the one hand, a negative relationship can be expected due to cross-subsidization or spill-overs of knowledge. On the other hand, audit clients looking for nonaudit services might be more complex or troubled organizations, resulting in a positive relationship between audit and nonaudit fees. According to Hay et al. (2006), the overall research results are strongly positive and significant. In the nonprofit studies, Beattie et al. (2001) also find a strong positive relationship. Basioudis et al. (2005), however, report a (marginally) significant negative relationship.

The results of previous research are summarized in Table 4-1 . The different determinants of audit fees are listed in the first column, followed by their expected relationship with audit fees. The results of the meta-analysis by Hay et al (2006) are then followed by the results of the nonprofit audit fee studies.

Determinant	*Expect.*	*Meta-analysis* by Hay et al. (2006)	*Nonprofit studies* Basioudis et al. (2005) Beattie et al. (2001) Mellett et al. (2007) Vermeer et al. (2009)
Audit client			
Size	+	+	+
Complexity: several measures such as number of subsidiaries, number of segments, number of industries, foreign activities etc.	+	+ for many measures	Trading subsidiaries:+ Single audit: + Other measures: NS
Inventories/debtors	+	+	+
Audit risk:			
Profitability	-	Negative (Mixed)	NS
Leverage	+	Positive	+ and NS
Liquidity	-	Negative	-
Internal control	-	Mixed	+
Governance	?	Mixed	+
***Resource dependence*:**			
fundraising (1) versus grantmaking (0)			+
donation income			NS
trading income			+ and NS
Auditor			
***Audit quality**:*			
Big'N' auditor	+	+	Evidence in support of a Big'N' premium, but with some variation (compared to whom? In which nonprofits?)
Specialization	?	mixed	Weak support for NonBig 'N' specialist premium or non-significant results
Auditor tenure	+	+	NS
Expensive (metropolitan) location	+	+	+
Audit engagement			
Busy season	+	mixed	NS
Report lag	+	+	NS
Opinion (other than qualified)	+	'less important'	NS
Non-audit services	?	+	mixed

TABLE 4-1. BRIEF OVERVIEW OF FORMER RESEARCH ON THE DETERMINANTS OF AUDIT FEES.

(Positive (negative) relationships are marked with '+' ('-'), whereas statistically insignificant relationships are marked 'NS')

RESEARCH QUESTIONS

Given the results and focus of earlier research, we want to address two research questions. First, we want to develop a model for non-profit audit fees and determine whether known determinants of audit fees in the for-profit sector are also reflected in non-profit audit fees. Apart from taking audit client characteristics and audit engagements characteristics into account, we focus on the auditor (size, specialization and structure). This analysis complements earlier research due to (i) the difference between a for-profit and a nonprofit audit (Tate et al., 2007) and (ii) the differences in audit market characteristics such as BIG4 dominance, litigation risk, client size and commercial risk between earlier nonprofit research(in the UK and the US, Beattie et al., 2001, Mellett et al., 2007 and Vermeer et al., 2009) and the current paper (Belgium).

Second, we want to investigate whether dependence on government fees is related to audit fees. Since Belgian nonprofit organizations are heavily subsidized and the government has made financial reporting and financial auditing mandatory, the question arises whether subsidization increases audit complexity and demand for audit quality which can both be reflected in the audit fee.

HYPOTHESES

As in most other studies, we test the effect of the size (brand name) of the auditor on the audit fee level. The Belgian audit market is characterized by a moderate market share of the BIG4 auditors (Weets & Jegers, 1997; Willekens & Achmadi, 2003; Van Caneghem, 2010). Furthermore, the traditional view (DeAngelo, 1981) that the difference between BIG4 and NonBIG4 firms captures differences in audit quality , does not hold in Belgium (Sercu, Vander

Bauwhede, & Willekens, 2002; Vander Bauwhede & Willekens, 2004). Therefore, we test the effect of auditor size on audit fees using the traditional BIG4 – NonBIG4 dichotomy as well as a distinction between large and small auditors based on their number of audit staff. We state that:

H1. Large audit firms receive audit fee premiums

The Belgian nonprofit sector has recently undergone legislatory changes that affect accounting and reporting practices. Although there is a law that has made accrual accounting and external auditing mandatory for all very large Belgian nonprofit organizations, heterogeneity still exists due to different sector regulations (Christiaens, Vanhee, Verbruggen, & Milis, 2008). This heterogeneity results in ambiguity on the role of the external auditor (Christiaens, Dierick, Reheul, Van Caneghem, Vanhee, & Verbruggen, 2011). Combined with the organizational differences (such as the existence of important grants and donations, the absence of shareholders, the presence of volunteers) and the impact of these differences on the audit process, the audit of a nonprofit organization may necessitate other kinds of competences and experiences with respect to a for-profit enterprise's audit. Therefore, specialization may be an important factor in the audit fee determination process.

As discussed in the previous section, research on the link between specialization and audit fee levels has resulted in mixed evidence. Theoretically, specialization can have a positive as well as a negative impact on audit fees. A positive effect may result from the premium that a client is willing to pay for the audit quality or the signalling effect of hiring a specialist auditor. On the other hand, specialization may induce experience effects for the auditor, resulting in lower fees (Cairney & Young, 2006). Since Belgian nonprofit organizations represent a relatively small audit market (in 2007, 1748 audits were performed) and the Belgian audit market in general is not characterized by a large dominance of BIG4 auditors (Willekens & Achmadi, 2003), portfolio shares as well as market shares will be relatively low. Therefore, using cut-off values to determine which auditor is (and is not) a nonprofit sector specialist can lead to under- or over-estimation of the degree of specialization. Thus, similar

to Beattie et al. (2001) we use continuous instead of dichotomous variables to measure sectorspecialization.

In former empirical research, the price effect of specialization has shown to be negative as well as positive. Experience effects give rise to a decrease in the expense per client and therefore in the audit fee of the client (Cullinan, 1998; Low, 2004). As Cairney and Young (2006, p. 50) stipulate: '*auditor specialization provides a cost-based competitive advantage because the cost of developing expertise is spread over more clients'*. Furthermore, since we are dealing with a new market, auditors may try to gain sufficient market share by asking lower audit fees. This will enable them to reach experience effects in the future. Wang, Sewon & Iqbal (2009) conclude that in the Chinese emerging markets, second-tier firms developed industry expertise in order to gain economies of scale and reduce service fees as a strategy to win future clients looking for low-priced audits. Similarly, we would expect to see a negative relationship between specialization and audit fees.

However, empirical research has also shown (Craswell, Francis, & Taylor, 1995; Cullinan, 1998; Mayhew & Wilkins, 2003; Ward, Elder, & Kattelus, 1994) that a market specialist is rewarded by a fee premium. Clients may be willing to pay more for a specialist that delivers higher audit quality (Balsam, Krishnan, & Yang, 2003; Krishnan, 2003; Maletta & Cartwright, 1996) (Maletta & Cartwright, 1996). This may be an important signal to shareholders or, more generally, stakeholders. For example, Knechel, Naiker, & Pacheco (2007) show that firms switching to a specialist auditor experience significant positive abnormal returns. For nonprofits -given the absence of shareholders- banks, governments and donors are addressed as sources of revenue and funding. The question arises whether or not nonprofit entities are interested in paying higher fees for a specialist auditor in order to signal quality to these stakeholders. Furthermore, Craswell et al. (1995), Casterella, Frances, Lewis, & Walker (2004) as well as Carson & Fargher (2007) report that the occurrence of fee premiums depends on client size. Since the nonprofit sector is often characterized by relatively small organizations when compared to for-profit sectors, the likelihood of specialization fee premiums is lower. In conclusion, it seems less likely that the degree of

willingness of nonprofit organizations to pay a market share specialist premium is as high as that of the listed companies to which most of the former research relates.

Overall, the arguments for specialist price discounts seem stronger than the reasons to pay a specialist price premium. We hypothesize that the correlation between specialization and audit fees in this new nonprofit market is negative. Therefore, we state that

H2. The degree of nonprofit sector specialization is negatively related to audit fees.

The audit fee of a client is determined by the number of audit hours, the composition of the audit team and the cost per audit hour. We gathered data that allows to use the composition of the audit firm as an explanatory factor in a 'production cost' analysis of audit pricing. Given the fact that seniority/expertise gives rise to higher wages and therefore higher costs, we hypothesize that

H3. The audit fee per client is negatively related to the percentage of junior auditors in the total staff of the audit firm.

Hypothesis 4 deals with resource dependence. Former research on this topic has resulted in mixed evidence. Vermeer et al. (2009) find no statistically significant relationship between donation income (as a percentage of total income) and audit fees, whereas Beattie et al. (2001) show that fundraising nonprofits pay higher audit fees than their grantmaking counterparts. Belgian nonprofit organizations are characterized by an important dependence on governmental grants and are much less depending on donations. Former research (Verbruggen, Christiaens, & Milis, 2011) has shown that compliance with accounting and reporting standards increases with dependence on grants. Also, survey data on Belgian nonprofits (Christiaens, Dierick, Reheul, Van Caneghem, Vanhee, & Verbruggen, 2011) show that 55 percent of the respondents indicate that external auditing of the financial statements is useful to justify governmental grants. These respondents also indicate that the financial audit performed by an external auditor is different from and complementary to an audit by subsidizing governments. Furthermore, from a supply-side view, auditing grants may require additional audit efforts. Therefore, we hypothesize that:

H4. Dependence on governmental subsidies is positively related to audit fees.

Our approach for analyzing audit fees is based on OLS regressions, consistent with previous research. In all regressions presented in this paper, the dependent variable is the natural log of audit fees. The independent variables are described in Table 4-2 and briefly explained below.

As in the literature review, we situate the variables in three categories: audit client, audit firm and audit engagement characteristics. Characteristics that measure the complexity and risk attributed to the client are defined similarly to previous research: total assets (in the natural log form, LNTA) and the percentage of stock and accounts receivable in total assets (ARINV) measure the complexity of the client and are expected to be positively related to audit fees. Profitability (PROFITAB), leverage (LEVERAGE) and the current ratio (LNCURRENT) measure the risk associated with the financial situation of the audit client. The current ratio is transformed into its natural log to mitigate outlier effects and reduce the skewness of the distribution.[14] Dependence on subsidies (PERCSUBS) is expected to be positively related to audit fees, as explained in hypothesis 4. Donations (DONAT) are added to the model as a control variable (Beattie et al. (2001), Vermeer et al. (2009)). Due to the extreme skewness of this variable (80 percent of organizations do not receive donations), it is transformed into a dummy variable (one when donations are received, zero otherwise). Other dummy variables are added to the model to control for sector-specific characteristics. Six subsectors are identified: Culture, sports and recreation (1), education and research (2), health care (3), social services (4), advocacy (5) and other (6).

[14] Skewness is reduced from 41.466 in the distribution of CURRENT to 2.017 in the distribution of LNCURRENT.

Determinant	*Hypoth. /Control*	Definition	*Expectation*
Audit client			
LNTA	C	Natural log of total assets	+
ARINV	C	(Accounts receivable+ inventory)/Total assets	+
PROFITAB	C	Net profit of the period/Total assets	-
LEVERAGE	C	Total debt/Total assets	+
LNCURRENT	C	Current assets/Current liabilities (nat.log)	-
PERCSUBS	H4	Grants/total operating revenue	+
DONAT	C	Dummy variable to indicate the presence of donations	?
SECTOR	C	Dummy variables to indicate the subsector to which the nonprofit organization belongs	?
Auditor			
BIG4	H1	Dummy variable: 1 when the auditor is a Big 4 firm, 0 otherwise	+
LNSTAFF	H1	Natural log of the number of staff of the audit firm	+
LARGE	H1	Dummy variable: 1 when LNSTAFF of the auditor is larger than the median value, zero otherwise	+
LN_ENGAG	H2	Natural log of the number of audit engagements in the nonprofit sector	-
FEE_HOUR	C	Average fee per audit hour, calculated as total audit fee of the audit firm/number of audit hours performed (on yearly basis)	+
JUNIOR	H3	Percentage of junior auditors in total staff of the audit firm	-
Audit engagement			
DELAY	C	Number of days between end of the accounting period and date of the audit report	+
UNQUALIFIED	C	Dummy variable: 1 when unqualified auditors' report, 0 otherwise	-

TABLE 4-2. DEFINITION OF VARIABLES

The characteristics of the auditor are also summarized in Table 4-2: the influence of brand name and auditor size is measured by the BIG4-dummy variable (BIG4) as well as by a continuous measure of auditor size (LNSTAFF). The variable LNSTAFF is also expressed as a dummy variable LARGE in which audit firms with LNSTAFF larger than the median value are assigned the value one, the others have the value zero. As such, the variable LARGE captures all BIG4 firms as well as the large(st) Non-BIG4 auditors.

Auditor specialization is measured as the natural log of the number of engagements(LN_ENGAG) of the audit firm in the nonprofit sector. This variable captures the experience of the auditor in the sector and is a market share approach to specialization. Since we want to measure the experience effect that arizes from an increasing number of audit engagements, we take the natural logarithm of the number of engagements. The learning curve is typically expressed as : $A_n=aN^b$, with A_n= the effort required to produce the last nth unit, a= the effort needed for the production of the first unit, N= the cumulative number of units produced and b= the learning exponent. This relationship can also be expressed as $LN(A_n) = LN(a)+bLN(N)$. Therefore, the number of engagements is transformed into its natural log. The slope of this learning curve, b, can be estimated by OLS. Usually, the slope of the learning curve is interpreted as the constant percentage decrease in effort every time output is doubled.

Given the fact that we assume a negative correlation between the number of engagements and the audit fee, a portfolio approach to specialization seems less suitable. In the portfolio measure, an increasing number of nonprofit audit engagements at a lower audit fee would fade out the effect of auditor specialization. Furthermore, the nonprofit sector is a very small sector when compared to all other for-profit sectors in the total portfolio of the audit firm. However, given the fact that Neal and Riley (2004) suggest the use of either a combination of market share and portfolio share or a weighed measure of sectorspecialization, we introduce a weighed measure as a sensitivity test. The weighed measure is the natural log of the number of engagements multiplied by the percentage of nonprofit audit fees in total audit firm revenue.

The final two auditor-related variables are FEE_HOUR and JUNIOR. The first variable is a measure of the average fee that the audit firm bills per hour. The second variable is the percentage of junior auditors in the audit firm. Both variables are linked to a production function approach to the audit fee and are proxies for the fee per hour charged to a specific client and the composition of the audit team. The last panel of Table 4-2 summarizes the audit engagement characteristics. Audit complexity has been measured in previous research by the time gap between the end of the accounting year and the date of the audit report (DELAY) and the type of auditors' report. A late auditors' report or a report that is anything other than unqualified, is a proxy for a difficult audit process. In this paper, the dummy variable UNQUALIFIED takes the value one when the report is unqualified. Therefore, we expect a negative relationship with the audit fee.

All Belgian audit firms need to report audit fees, number of staff and number of billed hours to the Institute of Auditors (IBR, Instituut van de Bedrijfsrevisoren). At the time of the data collection, data for 2006 and 2007 were available, as well as the majority of data for 2008. In these collected data, nonprofit clients were identified. In the three-year period for which data are available, the number of missing data was at a minimum in 2007. Therefore, data for that year are used in the analysis. When data for 2007 were missing in the auditor's reporting to the Institute, the most recent available data (2008 or 2006) were used. To calculate portfolio shares, missing audit fees were replaced by the average of the audit fee in 2006 and 2008.

In 2007, the auditors reported 1748 nonprofit audit engagements (political parties, social insurance entities and pension funds were not defined as nonprofits due to the absence of mandatory financial statements or the financial nature of their activities). The financial data for the audited organizations were retrieved from the BELFIRST database and from the website of the National Bank of Belgium. The data on the audit engagement and sectors were retrieved from the National Bank of Belgium. For 382 organizations, the audit fee was not reported and for 11 organizations the sector could not be determined. In 462 cases, the financial statements did not allow to calculate dependence on subsidies or donations, reducing the number of usable cases to 893. Thereof, 151 (16.9 percent) were audited by a

BIG4 auditor, 742 (83.1 percent) by a non-BIG4 auditor. In 146 cases, the auditor's report was not made public and in 7 cases we did not have sufficient data to determine the auditor characteristics. This reduced the number of usable cases to 740. For none of the BIG4 auditors, an average fee per audit hour was disclosed by the audit firm in their report to the Institute of auditors. An overview of the number of cases is presented in Table 4-3.

	Total	BIG4	Non-BIG4
Total number of audits	**1748**	**284 (16.2%)**	**1464 (83.8%)**
-Fee unknown	-382	- 38	- 344
- Sector unknown	-11	- 1	- 10
-missing data financial statements	-462	- 94	- 368
Number (client characteristics)	**893**	**151**	**742**
-missing data on audit engagement (unqualified/delay)	-146	-40	-106
-missing data on auditor characteristics	-7	-0	-7
Number (client/auditor/engagement)	**740**	**111 (15.0%)**	**629 (85.0%)**
-missing data on average audit fee/hour	-200	-111	-89
Number with fee/hour in the analysis	**540**	**0**	**540**

TABLE 4-3. NUMBER OF OBSERVATIONS

DESCRIPTIVE STATISTICS

Descriptive statistics are reported in Table 4-4 for the continuous variables used in the audit fee models. Two variables were winsorized at the five percent (profitability, fee per hour) and one percent (leverage, delay) level to mitigate the disturbing effects of outliers in the regression analysis. The current ratio was transformed to its natural log to deal with a high level of skewness and (this was also the case in Basioudis & Elwood, 2005). The average audit fee is 5257.74 euro. The average total assets of the audit clients is 17.8 million euro, but the distribution is heavily skewed. The average audit client has a leverage of 49 percent and profit is three percent of total assets. Dependence on subsidies ranges from zero to 100 percent, with an average of 33 percent. Dependence on donations (not tabulated) is only one percent on average and 80 percent of organizations do not receive donations. The auditor characteristics in Table 4-4 are based on the number of audit engagements. Therefore, an auditor performing 20 audits in the sample of 740 organizations will be taken into consideration as many times in this table.

	Min.	Max.	Perc25	Perc75	Mean	Std.dev.	Skewness	Kurtosis
FEE	471.00	100150.00	2150.00	5671.75	5257.74	3302.50	6.21	65.37
LNFEE	6.15	11.51	7.67	8.64	8.21	.77	.64	.82
TA (000)	8.4	1235708	2208.04	11774.21	17790.75	6059.92	13.14	234.29
LNTA	9.03	20.93	14.61	16.28	15.48	1.47	.046	.97
ARINV	.00	.99	.068	.29	.21	.20	1.58	2.24
LEVERAGE wins.1%	.03	1.24	.27	.67	.49	.27	.484	-.371
PROFITAB. Wins.5%	-.06	.15	.0052	.061	.0356	.05	.48	.204
LNCURRENT	-1.71	6.72	.309	1.29	.91	.93	1.50	5.48
PERCSUBS	.00	1.00	.006	.83	.46	.37	-.019	-1.56
DELAY Wins.1%	57	261	113	157	135.53	34.96	.13	1.20
LNSTAFF	.00	6.17	1.04	3.32	2.51	1.83	.71	-.51
JUNIOR	.00	.82	.25	.64	.45	.25	-.34	-.96
FEE_HOUR Win5%	37.71	118.97	64.55	92.20	77.60	18.16	-.122	-.195
LN_ENGAG	.00	4.86	2.08	3.99	2.98	1.19	-.43	-.48
LN_PORTF	-2.81	4.93	-.24	1.63	.42	1.56	-.39	-.32

TABLE 4-4. DESCRIPTIVE STATISTICS ON CONTINUOUS VARIABLES USED IN THE AUDIT FEE MODELS FOR 740 NONPROFIT ORGANIZATIONS

The descriptives for the audit firms (one datapoint for each audit firm) are presented in Table 4-5. The data are shown for all audit firms as well as for BIG4 and Non-BIG4 firms separately. The number of audit engagements (not tabulated) in the nonprofit sector varies from one to 61 in Non-BIG4 audit firms and from 11 to 129 for the BIG4 auditors. The mean percentage of nonprofit audit fees in total audit fees (not tabulated) is 8.87 percent and 0.12 percent for Non-BIG4 and BIG4 respectively. The audit fee per hour is clearly influenced by outliers (ranges from 27 to 1753 euro per hour) and was therefore winsorized at the 5% level at both tails of the distribution. This variable is only available for Non-BIG4 auditors. Overall, the data suggest large differences in characteristics between BIG4 and Non-BIG4 firms.

	Min.	Max.	Mean	Std.dev.	Skewness	Kurtosis
LNSTAFF						
BIG4 (n=4)	5.69	6.17	5.97	.22	-.61	-2.41
Non-BIG4 (n=130)	.00	4.55	1.24	1.01	.84	.26
LN_ENGAG						
BIG4	2.40	4.86	3.95	1.08	-1.54	2.72
Non-BIG4	.00	4.11	1.61	1.61	.24	-.53
LN_PORTF						
BIG4	-2.88	-1.47	-2.28	.60	.99	1.40
Non-BIG4	-1.89	4.93	1.29	1.17	.37	.32
FEE_HOUR (WIN5%)						
Non-BIG4	37.71	118.97	75.41	19.72	.21	-.17
JUNIOR						
BIG4	.37	.82	.67	.20	-1.83	3.44
Non-BIG4	.00	.80	.34	.25	-.13	-1.30

TABLE 4-5. DESCRIPTIVES ON THE CHARACTERISTICS OF ALL AUDIT FIRMS ACTIVE IN THE 740 NONPROFIT ORGANIZATIONS (SAMPLE)

BIVARIATE ANALYSIS

All Spearman correlation coefficients are shown in Table 4-6. When analyzing the bivariate correlation between the audit fee (natural log) and the characteristics of the audit client and the audit engagement, we notice that the correlation with total assets (natural log), the size of the auditor (dichotomous (.194) as well as continuous (.285)) and the health care sector (sector 3) as well as sector 6 (which is the most business-like nonprofit subsector) are high and positive. On the other hand, the subsector of education and research (sector 2) seems to pay lower audit fees. This may be explained by the fact that this sector has consistently worked with public tenders. Consistent with our expectations, the correlation between an unqualified report and the audit fee is negative. Contrary to our expectations, the correlation between dependence on subsidies and the audit fee is negative when we do not

control for other factors (most importantly the sector). This is also the case for LN_ENGAG and JUNIOR. These correlations, however, may be explained by the size of the auditor.

When analyzing the characteristics of the auditor, it becomes obvious that there are very high correlations between BIG4/LNSTAFF on the hand and almost all auditor characteristics on the other hand. The high correlation between BIG4/LNSTAFF and the natural log of the number of nonprofit audit engagements (LN_ENGAG) as well as the percentage of junior auditors in the firm indicates that combining the BIG4 dummy/LNSTAFF with the other auditor characteristics in a single regression, might induce collinearity problems. This is an important argument to make separate regressions according to the size of the audit firms.

	LNFEE	LNTA	ARINV	PRIOFITAB	LEVERAGE	LNCURRENT	PERCSUBS	NAT	SECT1	SECT2	SECT3	SECT4	SECT5	SECT6	BIG4	LNSTAFF	LNENGAG	FEE_HOUR	JUNIOR	DELAY
LNTA	**.537**	1																		
ARINV	.041	**-.221**	1																	
PROFITAB	-.040	**-.131**	.049	1																
LEVERAGE	.001	**-.132**	**.306**	-.188	1															
LNCURR	-.010	.060	**-.314**	.265	**-.646**	1														
PERCSUBS	**-.197**	**-.184**	**-.095**	.049	-.014	**.124**	1													
DONAT	.024	.026	**-.124**	**-.079**	-.055	.058	**.213**	1												
SECT1	-.016	-.091	.041	**-.074**	.021	-.030	-.070	-.048	1											
SECT2	**-.214**	-.071	**-.182**	**.112**	-.006	**.198**	**.494**	-.001	**-.125**	1										
SECT3	**.273**	**.292**	**.209**	-.019	.056	-.032	**-.081**	**-.106**	-.054	**-.220**	1									
SECT4	-.041	**-.105**	.032	**-.081**	**-.118**	**-.151**	**-.178**	**.221**	**-.132**	**-.540**	**-.232**	1								
SECT5	-.037	-.050	-.018	.046	-.063	.070	-.064	-.068	-.051	**-.207**	**-.089**	**-.218**	1							
SECT6	**.158**	.049	.041	-.003	**.167**	-.066	**-.294**	-.146	-.055	**-.226**	**-.097**	**-.238**	**-.091**	1						
BIG4	**.194**	**.184**	.042	-.041	.072	**-.087**	**-.102**	-.059	-.029	**-.085**	.059	**-.104**	.049	**.171**	1					
LNSTAFF	**.285**	**.230**	**.092**	-.029	.029	**-.083**	**-.160**	-.053	-.065	**-.091**	.059	**-.089**	.061	**.173**	**.620**	1				
LN_ENGAG	.060	**.089**	**.086**	-.012	.093	-.053	.005	-.043	**-.098**	.017	.017	**-.138**	.046	**.096**	**.592**	**.729**	1			
FEE_HOUR	**.111**	.009	.083	-.024	**.104**	-.082	**-.115**	-.019	-.016	.014	.014	.038	-.006	**.106**	.	**.276**	**.249**	1		
JUNIOR	**.125**	**.090**	.047	-.037	.012	**-.089**	**-.110**	**-.084**	-.027	.025	.025	-.019	-.009	**.116**	**.589**	**.557**	**.453**	-.033	1	
DELAY	.052	.050	.068	**-.084**	.096	**-.083**	-.040	-.029	**-.117**	.087	.087	-.018	-.148	**.079**	**.106**	**.146**	**.156**	.002	.119	1
UNQUAL	**-.146**	**-.082**	-.069	.059	**-.158**	**.131**	.035	.005	.057	**-.211**	-.211	.065	.020	-.062	.045	-.029	.039	.053	.004	**-.135**

TABLE 4-6. SPEARMAN CORRELATION COEFFICIENTS BETWEEN ALL VARIABLES (TWO-SIDED, SIGNIFICANT CORRELATIONS AT 5% LEVEL ARE BOLDED)

MULTIVARIATE ANALYSES

Since all auditor-size variables correlate strongly with variables measuring auditor characteristics (percentage of juniors, fee per hour) and with the specialization measure, we perform separate regressions to test the relationship of these variables with audit fees. In a first set of regressions, hypothesis 1 is tested (auditor size) on different combinations: BIG4 versus Non-BIG4, BIG4 versus large Non-BIG4 auditors, large Non-BIG4 versus small Non-Big4 auditors and large versus small auditors.

The full OLS model is stated as follows (with the definition of variables as in Table 4-2 and SIZE is either the BIG4 variable or the LARGE variable)

$$\begin{aligned} LNAUDFEE = {} & b_0 + b_1 LNTA + b_2 ARINV + b_3 LEVERAGE + b_4 PROFITAB \\ & + b_5 LNCURRENT + b_6 PERCSUBS + b_7 DONAT + b_8 SECTOR \\ & + b_9 DELAY + b_{10} UNQUALIFIED + b_{11} SIZE + \varepsilon \end{aligned}$$

The results of the OLS regressions are presented in Table 4-7. The sector of education and research was used as the reference sector for the analysis. The adjusted R^2 of the different models ranges from .367 to .435, which is satisfactory but lower than in similar for-profit firms research (Beattie (2000) reports R^2 around 60 percent). The results show strong support for hypothesis 1. In the full sample, the audit fees of larger auditors, whether measured by BIG4/NonBIG4, LARGE/SMALL or continuously by LNSTAFF, are always significantly higher than the fees of the smaller audit firms. In model 2, BIG4 auditors are compared to large Non-BIG4 auditors. Here, the fee premium for the B4 auditor is only marginally significant. Although in most research, BIG4 premiums are documented, this result is consistent with results reported by Van Caneghem (2010) in the Belgian audit market (for-profit organizations). Finally, in model 3, only Non-BIG4 auditors are analyzed. Once again, larger auditors have significantly higher fees than their smaller counterparts. In summary, the first hypothesis is largely supported by the data. However, the size of the auditor seems more relevant than the BIG4 brand name.

Client characteristics were tested in all models. Complexity of the client is positively associated with the level of the audit fee: total assets (ln) as well as the percentage of

accounts receivable and inventory in total assets have consistent and highly significant coefficients in all models. When assessing audit risk, we conclude that leverage nor liquidity help to explain audit fee levels. Contrary to our expectations, profitability is positively associated with the audit fee (at the 10 percent level). This is different from previous nonprofit research, where the variable was not significant. Furthermore, the effect seems to be driven by the smaller auditors (profitability is not significant when the sample only consists of larger auditors). Whereas Hay et al. (2006) suggest that mixed results may be due to a non-linear relationship (in which a reduction in profitability does not have the same impact when the company was already making a loss versus reporting a small profit), our results suggest that market characteristics may (also) drive the relationship. A nonprofit organization is allowed to report a profit, but is not expected to. Therefore, the existence of profit may reflect an 'ability to pay' higher audit fees or lower price elasticity in more profitable organizations. The difference between the results of the current study and previous research as well as the difference between larger and smaller auditors in the current study can help identify the conditions under which the 'ability to pay' signal leads to increased audit fees. First, the audit risk environment (litigation and commercial risk) needs to be taken into consideration. When risk is low, profitability is less important in assessing audit risk and audit effort which gives room to ability to pay effects. Second, the market characteristics define the bargaining power of both parties. In a nonprofit market where audit is mandatory but the choice of the auditor is at the discretion of the client, pressure on prices will be high. Since we do not observe the positive relationship between profitability and audit fees for larger auditors, this may indicate that these auditors have sufficient bargaining power to be able to charge 'standard' fees which makes the ability to pay less important. Further research is needed to determine whether this observation is the result of an 'ability to pay' effect in which non-dominant auditors charge higher fees to nonprofit clients who seem more likely to be able to afford higher fees whereas dominant auditors do not take this into account.

In none of the models, dependence on subsidies (and donations) is significant in explaining audit fees. Therefore, the results do not support hypothesis 4 that fees are higher when nonprofits depend on subsidies.

The delay of the audit report is not significant (consistent with the findings in Van Caneghem, 2010), whereas the type of audit report is highly significant in 4 of the 5 models, in the expected direction. Similar to profitability, the type of audit report is no longer significant when the sample only consists of large auditors.

Models testing the relationship between auditor size and audit fees						
SAMPLE		**ALL auditors**	**ALL auditors**	**ALL auditors**	**BIG4 and LARGE Non-BIG4**	**Non-BIG4 auditors**
Variables	**Expect.**	**Model 1a**	**Model 1b**	**Model 1c**	**Model 2**	**Model 3**
CONSTANT		3.356***	3.287***	3.335***	2.964***	3.741***
LNTA	+	.304 ***	.303***	.297***	.333***	.277***
ARINV	+	.471***	.452***	.441**	.406**	.470***
LEVERAGE	+	.016	.026	.033	.061	-.036
PROFITAB.	-	.834*	.804*	.826*	.255	.841*
LNCURRENT	-	.009	.007	.010	.031	-.010
PERCSUBS	+	-.015	-.004	.001	-.088	.019
DONAT		.070	.060	.069	.136	.049
SECTOR1		.372**	.404**	.391**	.359	.319**
SECTOR3		.292**	.295**	.305**	.333**	.255**
SECTOR4		.110*	.116*	.113*	.151*	.092
SECTOR5		.157*	.161*	.148	.092	.163*
SECTOR6		.323**	.329***	.314**	.396**	.257**
DELAY	-	.000	.000	.000	-.001	.000
UNQUALIFIED	-	-.147**	-.129**	-.138**	-.063	-.146**
BIG4	+	.240***			.120*	
LARGE	+		.214***			.186***
LNSTAFF	+			.061***		
R^2Adj.		.411	.417	.418	.435	.367
F		35.328	36.291	36.431	21.202	25.253
Max VIF		1.81	1.81	1.81	1.90	1.93
N		740	740	740	395	629

TABLE 4-7. OLS REGRESSION RESULTS FOR AUDITOR SIZE

(where p<0.05 is *, p<0.01 is ** and p<0.001 is ***)

Next, the auditor characteristics are tested separately for different sizes of auditors to ensure multicollinearity problems do not influence the results. The following regression model is tested:

$$LNAUDFEE = b_0 + b_1 LNTA + b_2 ARINV + b_3 LEVERAGE + b_4 PROFITAB + b_5 LNCURRENT + b_6 PERCSUBS + b_7 DONAT + b_8 SECTOR + b_9 DELAY + b_{10} UNQUALIFIED + b_{11} LNSTAFF + b_{12} JUNIOR + b_{13} LN\_ENGAG + \varepsilon$$

Due to the fact that the variable 'FEE_HOUR' is not available for the BIG4 auditors, the model is extended with this variable only in samples that consist entirely of Non-BIG4 auditors. In the sample of BIG4 auditors only, the variable JUNIOR was redefined as a dummy variable (0 for the lowest two percentages, 1 for the highest two) to mitigate the effect of multicollinearity. Using the actual percentages leads to very high VIF-values. The results of the regression are shown in Table 4-8.

The explanatory power (R^2a) of the models ranges from .334 to .516 depending on the samples. Overall, the results strongly support the second hypothesis that nonprofit sector specialization is negatively related to audit fees. Whether this is the result of lowballing or experience effects cannot be determined in the current research setting. If the coefficient of LN_ENGAG is capturing a learning or experience effect, the learning curve involved ranges from 80 to 92 percent (depending on the type of auditor). The coefficient 'b_{13}' is the result of log r/log 2, with r= the learning rate. In this case, log 0,8/log 2 is approximately 0.3, the coefficient of LN_ENGAG in the BIG4 model. A learning rate of 80 percent indicates that the price of the last unit is 80 percent of the price of the first unit every time production is doubled. However, some caution is needed when interpreting these results. First, the experience curve is usually expressed in terms of the cost of production. Since audit price does not fully reflect audit cost, the former may be a crude proxy of the cost depending on how strongly cost reductions are reflected in price reductions. Second, as explained before, we cannot determine whether the negative coefficient of LN_ENGAG is the consequence of lowballing or experience.

As explained in section 4, we tested LN_WEIGH, a weighed measure of auditor specialization according to a market share as well as a portfolio share analysis (not tabulated). The

weighed measure (number of engagements x percentage of nonprofit audit fees in total audit revenue of the firm) was not significant in all models, except for the models including BIG4 firms. This confirms our expectation that when audit fees are negatively correlated to the number of audits, the second term of the weighed factor is a weak measure for specialization. Only when the number of audits is very high (as in the case of the BIG4 auditors), the first factor will be strong enough to capture the (negative) specialization effect. Therefore, the result is consistent with the existence of an experience curve.

The third hypothesis regarding the percentage of junior auditors is not supported by the data. There are several possible explanations for this insignificant result which may be explored in further research. First, the percentage of junior auditors in the firm may not reflect the percentage of auditors in the nonprofit audit team. Second, the percentage of juniors may be strongly driven by the size of the firm. Third, the lower expense of junior auditors may not be reflected in audit pricing.

Models testing auditor characteristics							
		LARGE auditors	SMALL auditors	SMALL auditors	BIG4 auditors	NonBIG4 auditors	NonBIG4 auditors
Variables	Exp.	Model4	Model5a	Model5b	Model6	Model7a	Model7b
CONSTANT		3.456***	4.087***	3.209***	4.162	3.845***	3.493***
LNTA	+	.324***	.253***	.282***	.394***	.271***	.286***
ARINV	+	.401**	.460**	.455**	.185	.441**	.435**
LEVERAGE	+	.120	-.030	-.027	.397	.061	.048
PROFITAB.	-	.085	1.651**	1.94**	.177	.869*	.758
LNCURRENT	-	.014	-.003	.005	.131	.000	.003
PERCSUBS	+	-.037	.075	.120	-.299	.060	.072
DONAT		.152*	-.016	.049	.194	.052	.099
SECTOR1		.281	.341**	.458**	.773	.242*	.245
SECTOR3		.327**	.292**	.184	.486*	.238**	.209**
SECTOR4		.114	.098	.065	.352	.052	.011
SECTOR5		.114	.225*	.341**	.099	.153	.221**
SECTOR6		.379***	-.008	-.113	.398*	.207**	.184
DELAY	-	.000	.001	.001	.000	.000	.000
UNQUALIFIED	-	-.024	-.163*	-.200**	-.195	-.115*	-.108
JUNIORS	-	-.196	.292*	.199	.190	.048	.048
LN_ENGAG	-	-.211***	-.137***	-.135***	-.305**	-.123***	-.137***
LNSTAFF	+	.122**	.044	.109	-.147	.136***	.145***
FEE_HOUR	+			.005***			.002
R^2Adj.		.456	.334	.397	.516	.383	.409
F		20.438	11.132	11.300	8.333	23.902	21.755
Max VIF		2.88	2.10	2.23	2.43	1.98	2.02
N		395	345	283	111	629	540

TABLE 4-8. OLS REGRESSION RESULTS FOR AUDITOR CHARACTERISTICS

(where p<0.05 is *, p<0.01 is ** and p<0.001 is ***)

In sum, the data on Belgian nonprofit organizations largely support a price premium for large auditors and a price reduction for nonprofit sector specialists. The audit fee does not seem to be driven by resource dependence. Neither subsidies nor donations affect the audit fee. And finally, the structure of the audit firm as a whole is not reflected in individual audit fees.

This paper is the first to analyze pricing models in the Belgian audit market of nonprofit organizations. The specific characteristics of the audit environment enable us to test previous audit fee models when (i) the BIG4 auditors are not as dominant, (ii) clients as well as auditors are relatively inexperienced with the audit process in a nonprofit setting, (iii) the market is newly reformed, small and developing. Since there is only a limited number of studies on audit fees in the nonprofit sector, the current paper extends previous research on two important dimensions. First, we tested whether or not known determinants of audit fees identified in previous (mostly for-profit sector) research are also reflected in nonprofit organisations' audit fees.

Measures of client complexity are highly important in explaining audit fees and comparable to for-profit studies, suggesting that auditors duplicate knowledge on for-profit audit complexity in non-profit audit fees.

Measures of audit risk, however, are not used in the same manner. Liquidity and leverage are insignificant in explaining audit fees. Although the meta-study by Hay et al. (2006) shows that there is a positive (negative) relationship with leverage (liquidity), non-significant results are also often the case. We also need to take into consideration that (i) the litigation risk and commercial risk is quite low when auditing a (small) nonprofit organization, (ii) this is even more so the case in Belgium, where litigation risk is traditionally lower than in e.g. the US or the UK.

The relationship between audit fee and profitability is positive for smaller auditors. This result, which prima facie is unexpected and opposite to theoretical expectation, can help to shed light on previously mixed results reported by Hay et al. (2006). Since this relationship is not the key research question in the current paper, we suggested that follow-up research addresses the relationship between market characteristics (maturity of the market, mandatory versus voluntary audit, bargaining power of audit clients and audit firms) and profitability as a determinant of audit fees.

In contrast to earlier studies (non-significant) but in line with theoretical expectations, an unqualified audit report is negatively related to audit fees. One possible explanation for the negative relationship is the fact that clients are not yet familiar with accounting regulations, internal control systems and auditing procedures resulting in more complex audits, qualified opinions and higher fees. Follow-up research can look into this effect by analyzing whether or not this variable remains significant when the audit market becomes more mature and clients as well as auditors get more experienced.

The test of auditor characteristics shows that, similar to previous research, larger auditors charge higher fees. The size of the auditor does not necessarily needs to be reduced to a dichotomous BIG4 versus NonBig4 variable, since results show that continuous measures of size are equally important in explaining differences in audit fees.

Auditor specialization is negatively associated with lower audit fees. Whereas the relationship between specialization and fees is ambiguous in a for-profit setting, the expectations in a non-profit setting are negative. The signaling effect of hiring a specialist auditor is smaller due to the absence of stockholders. Therefore, the willingness to pay higher fees for a specialist will also be lower. From a supply-side view, since this is a newly established market, learning effects may play an important role and drive fees downwards. On the other hand, the negative relationship between the number of audits and the fees may also be caused by lowballing in a price-conscious market. Our inability to disentangle learning effects from lowballing effects is therefore a drawback of the paper and a suggestion for further research.

Second, the effect of resource dependence (tested previously by Beattie et al. (2001) and Vermeer et al. (2009)) is tested in an environment where governmental grants are an important source of revenue. Although previous research shows that dependence on subsidies is positively correlated with financial reporting compliance and financial audit is deemed important by nonprofit organizations in order to justify subsidies, the percentage of subsidies is not significantly correlated with audit fee (even when controlling for differences between sectors). This is also the case for donations, which could be expected, due to the low importance of donations in the Belgian setting. At this

point in time, we still need to identify why there is no relationship. Several explanations are possible: (i) the government does not pay attention to financial audit information in the procurement process of subsidies, (ii) subsidies do not increase the audit effort, (iii) subsidies are audited by governmental auditors, not by financial auditors, (iv) audit clients are not convinced that higher quality audits are important in receiving/justifying subsidies.

The current paper extends knowledge on nonprofit audit fees and is important to practice as well. Overall, the results show that the audit fee model of a non-profit organization differs from a for-profit client due to the characteristics of the client and the audit market. The comparison with former research has helped to either confirm or refine previous findings. First, the study confirms the conclusion in previous research that larger firms charge higher fees and that measures of client complexity are strong determinants of audit fee levels. However, the results alos show that audit fee models need to be refined under differing circumstances. Lower litigation and/or commercial risk, the absence of shareholders which induces lower agency problems and signaling effects are possible explanations for differences in the audit fee determinants (the absence of client risk determinants, the ability to pay effect of profitability, and the negative relationship between price and specialization). Dependence on governmental subsidies, a key difference in the financing of for-profits and non-profits is not significant in explaining audit fee levels.

The relatively low explanatory power of the audit fee models (when compared to previous for-profit research) indicates that further research is needed to better explain nonprofit audit fees. A comparison with for-profit audit fees in a similar market may further help to clarify differences in the determinants of audit fees. Furthermore, future analysis of audit fees may help to distinguish lowballing from experience curve effects in the specialization variable.

The results of the current study are important to audit clients as well as auditors. First, audit clients need to be aware of the difference in pricing between smaller and larger auditors, between specialists and non-specialists and the effect of profitability on the fee

level. Given the fact that previous research (Vander Bauwhede and Willekens, 2004) did not identify differences in quality between large and smaller audit firms, this information is relevant in their auditor choice decision. Second, if the relationship between audit fees and specialization can be explained by learning effects, the presence and shape of such a curve is important to auditors.

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CHAPTER 5. AGENCY CONSEQUENCES OF GOVERNMENT FUNDING IN NONPROFIT ORGANIZATIONS

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ABSTRACT

Nonprofit organizations often rely on governmental grants to finance their social programs. Under certain circumstances, the procurement of these grants causes an agency-relation between the board of directors and the management of the organization. Using archival data from a substantial number of nonprofit organizations' financial statements, the influence of different types of government grants on the agency-relation between board and management is tested. The study reveals an increase in the agency-relationship depending on the level of efforts necessary to attain the grants.

INTRODUCTION

There is little discussion on the importance of nonprofit organizations in today's economy. The number of organizations, their employment figures, as well as their economic importance is growing in several countries (Marée et al. 2008, U.N. Statistics Division 2003). The academic debate on the reasons for existence, management and efficiency of nonprofit organizations is ongoing.

Nonprofit entities differ from their for-profit counterparts in several aspects. In terms of financing, there are three major differences: nonprofits are bounded by a non-distribution constraint, they do not have formal owners and, therefore, they have different sources of funding. Unlike for-profit firms, organizations quite often heavily rely on donations and grants to finance their operations. Contrary to a commonly held belief, nonprofit organizations are allowed to make profits. This surplus, however, cannot be distributed to anyone who exercises control over the firm (Hansmann 1980). Equity is not raised through owner contributions, but built through profit accumulation, which are basically excess donations and grants. Tuckman and Chang (1992) argue that this accumulation of equity is a goal of the nonprofit organization.

Due to the lack of formal ownership and the absence of residual claimants, agency problems (Fama and Jensen 1983) are shaped differently in nonprofit organizations than in for-profit firms. In a very broad sense, agency problems can arise when one person (the agent) is hired to take actions or make decisions on behalf of the other (the principal). Difficulties in this relationship can arise when two conditions are met: (i) the objectives of the principal differ from the objectives of the agent and (ii) the actions taken by the agent are hard to observe (so-called hidden actions). In for-profit settings, agency problems have been documented where managers act as agents and shareholders are principals. As Jensen and Meckling (1976) pointed out, the interest of these managers is different from the interest of the owners. As explained, in a nonprofit organization, there is no ownership in the sense that a founder, board member or member of the organization holds the right to residual claims. Du Bois et al. (2004) and Olson

(2000) argue that, although there is no legal ownership, the nonprofit board does have the right to monitor and control, serving as a principal in an agency-relation with management.

Although academics agree on the existence of agency problems in nonprofit organizations, scientific research in this area is less prevalent than in for-profit corporations. In this paper, we consider the agency-relation between nonprofit board and nonprofit executive staff. We argue that time-consuming applications for governmental grants (as part of the fundraising activities of the board) increase the distance between board and management, due to decreased monitoring activities by the former. This increased distance results in discretionary spending by the agent, similar to previously documented agency costs in a for-profit setting.

This paper contributes to the literature in different ways. First, while there is ample research on financial implications of agency-related issues in for-profit companies, this aspect has received little attention in non-profit organizations. Second, this paper focuses on the impact of governmental funding on agency issues whereas former research by Core et al (2006) has dealt with donations. In contrast to large private or corporate donors, government is (as a rule) not represented in the board of directors. Third, rather than focusing on a specific nonprofit sector such as health care or education, the nonprofits in the current paper stem from a variety of sectors.

This paper is structured as follows: after a brief survey of related research in the next section, we spell out testable hypotheses. This is followed by a methodological discussion and the analysis of the results. The paper ends with a conclusion and issues for further research .

PREVIOUS RESEARCH

In this paper, we use a financial measure (level of cash and equivalent) as a proxy to measure the extent of agency problems between non-profit board and management. We argue that this agency problem is elicited by government grants. Therefore, this section addresses two issues:

(1) governmental funding and non-profit board and management, (2) financial consequences and measures of agency problems.

THE EFFECT OF GOVERNMENTAL FUNDING ON BOARD, MANAGEMENT AND AGENCY ISSUES.

Several authors have documented the effects of growing reliance on government grants on the composition of and relationship between the board of directors and executive staff of the nonprofit organization. There seems to be a sharp contrast between two streams of literature. Some authors argue that the board provides direction in such key areas as financial management and management of relationships with the government (Harlan and Saidel 1994, Saidel and Harlan 1998, Olson 2000, Provan 1980). Others argue that nonprofit boards are insignificant participants in the process of contracting with the government (Bernstein 1991a, Gronbjerg 1991).

More recently, Alonso et al. (2006) discussed the consequences of reliance on governmental funds in terms of the tasks and composition of the board. They argue that the function of the board becomes highly important in providing financial resources for the future. The board has to take care of the strategic forecasts and the alliances with these providers. Guo (2007) examined the effect of higher levels of government funding on the representative power and strength of the board. In order to gain legitimacy in the eyes of the government and in search of (increased) government funding, nonprofit boards may consist largely of 'corporate, professional and social elites – who are more likely to have linkages with public funding agencies, as well as expertise in grant writing' (p. 461). This is consistent with the findings of Stone et al. (2001) that heavily subsidized nonprofit organizations tend to have more professional boards, consisting of businesspeople rather than community representatives.

Guo (2007) also states that dependence on government funding generally shifts organizational power from the board to the chief executive. The reasons for this shift are threefold. Firstly, government grants can increase the size of the organization, making it more difficult for the

board to monitor daily management. Secondly, applying for grants may demand more time than board members are willing to spend. Applying for these grants requires specialized skills and knowledge, increasing the information gap and the distance between the board and executives. Finally, when government funding is associated with defined program goals, the role of the board in program planning and goal setting is minimized. Bernstein (1991a) found that government funding led to higher ambiguity in the roles and responsibilities of boards and staff.

To summarize, board composition, strength and involvement may vary according to the level and form of governmental aid to the organization. There is some agreement about the fact that increased governmental funding tends to lead to a more professional board of directors that is involved in government contracting. Whether or not agency problems are to a greater or lesser extent present in nonprofit entities compared to for-profit corporations is beyond the scope of this paper. The essence is that the different levels of efforts necessary to attain government funding can affect the monitoring role of the board as well as shift power from the board towards management and thus elicit agency problems.

FINANCIAL ASPECTS OF AGENCY PROBLEMS

Research on the effect of agency problems on nonprofit organizations' financial status is scant, although Jensen (1986) stated that the decision on how to use internal funds is a central element in the conflict between principal and agent. Whether (self-interested) managers choose to spend cash quickly rather than stockpile it as cash reserves is subject to some discussion. According to the flexibility hypothesis, self-interested managers will prefer to hoard cash in order to have more flexibility in future investment decisions (Jensen 1986). Hansmann (1990) also suggests that nonprofit managers will build cash reserves rather than provide services in order to ensure their self-interest such as a lower workload and higher job security. The spending hypothesis however states that managers will choose to spend cash quickly to

realize firm growth (Jensen and Meckling 1976). This last hypothesis is the basis for a commonly used measure of agency problems: higher management pay (Core et al., 2006; Du Bois et al., 2004; Fisman and Hubbard, 2005, Gore, 2009). Harford et al. (2008) conclude that 'self-interested managers choose to spend cash quickly rather than gain flexibility through stockpiling it' in their research on the relation between corporate governance, agency problems and firm cash holdings. These authors use the level of cash as a proxy for increased spending due to agency problems.

HYPOTHESIS DEVELOPMENT

Former research (Jensen, 1986) clearly identified the existence of an agency relation between the board of directors and the management of nonprofit organizations. However, the two existing views on the role (and strength) of the board are conflicting. Some authors state that the board is essential in attaining resources for the organization (Harlan and Saidel, 1994; Saidel and Harlan, 1998; Olson, 2000; Alonso et al. 2006). As such, boards take on the role of facilitator and 'political advocate'. Harlan and Saidel (1994) state that 'they serve important procurement functions when they participate in grant preparation and press for support of grant applications in meetings with government funders.' Other authors suggest that managers are more involved in these processes and boards tend to fulfill an almost ceremonial function. For instance, Bernstein (1991a, p. 187) found that 'managers seem to view the Board as irrelevant in terms of the major political issues regarding contracted services'.

According to the first stream of arguments, boards will be actively pursuing government funding, which often is a technical and time-consuming effort. These efforts by the board can decrease the amount of time and effort to monitor management, thus increasing board-management distance and agency related problems. In the second line of arguments, boards play no role in contracting governmental funds.

In fact, these seemingly opposite views can be combined, once one allows for a more detailed analysis. Specifically, one can argue that the involvement of the board depends on the nature of governmental grants. In the Belgian case, for instance, two major types of grants can be distinguished. The first type is a yearly renewable, operational grant. Grants received by schools that depend on the number of students are one such example. Once a nonprofit organization is operational and has received these grants, the next application can be considered to be a 'routine' (although time-consuming) job, and can be dealt with by daily management. In the light of the previous discussion, there is little or no need for the board to be involved in this type of government contracting. The second type of grants can be called a 'capital grant'. It fundamentally differs from the first type in the sense that it is awarded to a nonprofit organization for important investments. Therefore, the application for these grants as well as the follow-up and procurement are complicated processes that require board intervention. In our example of schools, the purchase of a new building by the school might give rise to the application for capital grants. It seems obvious that the board is involved in such a process. This reconciliatory view is supported by Gronbjerg (1991, p. 14): '*The type and amount of work and the nature of decisions nonprofits face in managing funding relationships differ considerably depending on how restrictive the funding source is and also on whether the contract or grant is new or continuing*.' Frumkin and Kim (2002) also support this view, stating that there are differences in the amount of oversight that is attached to government funding.

In conclusion, we combine differing views on board involvement and management power in light of the type of funding. We identify two types of governmental grants that are very different in terms of the effort needed to procure them. Operating grants are yearly renewable grants for which the involvement of the board is unnecessary. Therefore, the procurement of these grants is in the hands of management. The second type, capital grants, are often associated with large investments in fixed assets and thus with high-level decisions. Here, the board is actively involved in the process. In the first case, the board has time to monitor management, who have a 'sense of ownership' of the received funds. In the latter case, the board is involved as a facilitator, leaving less time for their monitoring role. This indicates that

the agency-relation between board and management is influenced by the type of funding by the government. Whether this self-interested behavior of the agent results in higher pay or higher administrative expenses is not the main question of this paper. Higher expenses lead to decreased cash (and equivalent) levels. Therefore, lower cash levels are used as a proxy for self-interested behavior by management. Furthermore, since management is less involved in the process of contracting with the government, a sense of 'ownership' may go lost, making it easier for management to be less parsimonious contrary to funds attracted by their own efforts. Once again, the increased spending is proxied by a lower level of cash and cash equivalent. Figure 5-1 depicts the hypothesized relationship between governmental funding and the level of cash (and cash equivalent).

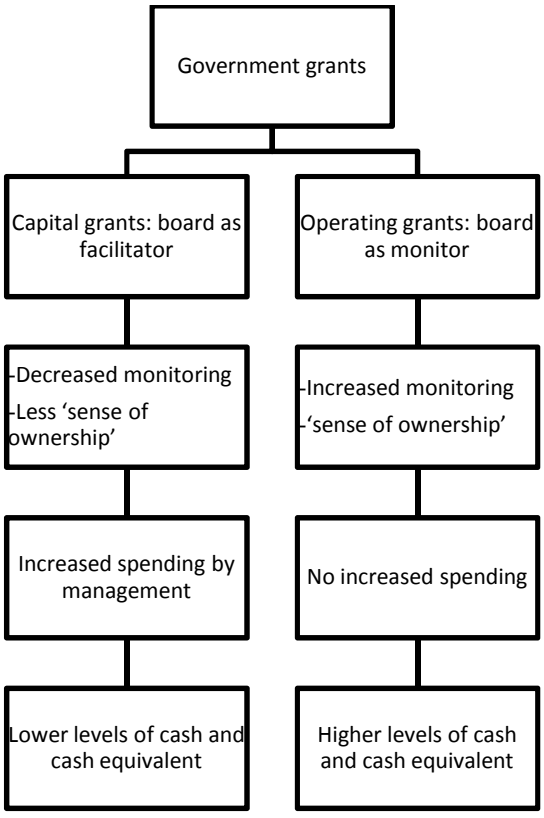

FIGURE 5-1. HYPOTHESIZED EFFECTS OF GOVERNMENTAL FUNDING ON CASH LEVELS

The argumentation and hypothesis brought forward are built on the spending hypothesis, while discarding the flexibility hypothesis which states that managers rather save money to assure future investments. There are several reasons for this choice. Firstly, in nonprofit organizations, future investments that serve the personal interest of the manager are less available than in corporations (e.g. take-overs). Secondly, the evidence brought forward by Core et al. (2006) suggests that the flexibility hypothesis holds in cases where large donors are members of the board. In this study, donations are very limited and the sponsor at interest is the government, not holding a seat on the board. The arguments of Hansmann (1990) in favor of the flexibility hypothesis are a lower workload and higher job security. This paper does not look into the purpose of the spending (i.e. extra program expenses versus personal expenses) and therefore cannot take the effect on workload into account. As for higher job security, except in cases where spending is so dramatic that it causes the failure of the organization, management is quite well protected by Belgian social laws.

Therefore, we hypothesize that government funding of nonprofit organizations affects agency problems between board and executive staff. We argue that capital grants will increase the distance between board and management, leading to increased spending by the latter and lower levels of cash and cash equivalent. This is in contrast with operating grants, for which management is responsible, leading to increased monitoring by the board, lower levels of spending and higher levels of cash. Formally stated, the two hypothesis are as follows:

H1: higher capital grants are associated with lower levels of cash and cash equivalent.

H2 : higher operating grants are associated with higher levels of cash and cash equivalent.

METHODOLOGY

In contrast to a large number of former studies using survey or case study data to capture contextual and organizational characteristics, data from financial statements are used to

examine the effects of an agency-relation between board of directors and management of nonprofit organizations. Correlation coefficients and multivariate (OLS) regression analyses of financial ratios are used to assess the existence of agency problems. For three important reasons, the current study uses data from Belgian nonprofits. First, the Belgian nonprofit sector is hardly a *suis generis* case, as it is similar to that observed in other modern economies. Second, Belgian nonprofit organizations often rely on governmental grants. Nevertheless, donations, membership fees and commercial income can also be identified as a funding source in the financial statements of these organizations. Finally, and importantly, two very distinct forms of governmental grants can be singled out: capital grants and operational grants. The respective characteristics of these grants are precisely such that they are likely to affect the roles and responsibilities in the organization, in the way indicated in the previous section. As indicated above, we need a proxy to test for the existence of agency-relations, given that the latter are as such non-observable. This is the weakest point of all agency-related studies, since any observable effect of the 'hidden' actions would result in the disappearance of the actual agency problem. Whereas levels of management pay are used in earlier nonprofit research, the current paper uses the level of cash and cash equivalent as an indicator of agency-related problems. This approach is similar to the methodology used by Harford et al. (2008). The level of cash and cash equivalent is scaled by total assets in order to correct for the size of the organization (C&CE). As a sensitivity analysis, we also performed regressions on cash and cash equivalent scaled by other factors, namely total assets minus cash and cash equivalent (Harford et al 2008, Opler et al. 1999) and total revenue (Harford et al. 2008).

The main independent variable to test the influence of governmental grants on agency behavior is the importance of capital grants. Capital grants (reported in the balance sheet of nonprofit organizations) are scaled by total assets (CAPgrant). As the argument is that these grants are of such importance that intensive board involvement is needed, at the expense of the latter's monitoring role, a negative relationship with the dependent variable is expected. Similarly, given the hypothesis that yearly renewable, operating grants demand less involvement by the board and are mainly procured by management, a second independent grant-related variable is

introduced. This variable measures the importance of these grants on the statement of activities (similar to profit and loss account or income statement) of the organization and is computed as operating grants scaled by total revenue (OPERgrant).

Since the level of cash and cash equivalent can evidently be influenced by other factors, a number of control variables are added to the model. A first group relates to the availability of funding sources, which influences the level of cash regardless of the existence of agency problems, a second group refers to the need to re-invest in fixed assets, as we now explain.

The level of cash and cash equivalent does not merely depend on current decisions by the organization to save or spend money. Past decisions (which can themselves be subject to agency problems) influence the structure of the balance sheet. When organizations have accumulated wealth in the past, building equity through excess donations, fees and subsidies, cash levels will probably be higher. We therefore expect a positive relationship between the importance of equity (defined as assets minus liabilities and minus capital grants) and the level of cash and cash equivalent. In order to correct for size, equity is scaled by total assets (SELFFIN).

Next to equity, liabilities can be an important funding source. Therefore, we added long-term financial liabilities to the OLS-model. The variable (scaled by total assets) serves as a control variable (FINDEBT). However, in line with previous arguments, it can be expected that boards are actively involved in the procurement of important and long term commitments of a financial loan. Therefore, a negative relationship with cash levels can be expected (Opler et al. 1999). Furthermore, a more prudent nonprofit organization will be reluctant to this type of commitments, using it as a last resort when cash is unavailable to finance long-term investments. This is also indicative of a negative relationship between long-term loans and cash levels.

To measure the need to re-invest in new fixed assets, the percentage of accumulated depreciation is added to the model. When accumulated depreciation divided by the historical

purchase price of the assets (AGEassets) is high, the need to reinvest in new assets is high as well, which may lead to stockpiling cash reserves in order to finance future investments. Therefore, a positive relationship between the age of the assets and cash levels is expected.

The OLS-regression model as well as the definitions of the variables can be found in Table 5-1. In order to control for sector-related differences, the independent variable is corrected with the median level of cash and cash equivalent per sector (Harford et al. 2008). To avoid influence of outliers, all explanatory variables are winsorized at the one percent level of each tail of the distribution. Former studies identified variability in revenue as an explanatory factor of the level of cash hoarding (Fisman and Hubbard 2005; Core et al. 2006). Therefore, the standard deviation of revenue divided by the mean revenue over the past three years (VARrev) is included as a control variable. Since the direction of the variability may be of importance, two more variables are added to the model. A dummy variable (DUMdecrease) for the change in subsidies and donations (one is a decrease in 2007, zero is an increase in 2007) as well as an interaction term (VARrev x DUMdecrease) control for negative versus positive changes in revenue. Due to data availability since 2006, these variables can only be computed for the last year of the three year time horizon. It can be expected that higher variability and a former decrease in subsidies and donations is positively related with high cash levels as a result of a more parsimonious policy.

For a full understanding, we have also extended the model by using interaction terms of CAPgrant and the control variables SELFFIN, FINDEBT and AGEassets. As such, we investigate the possible moderating effects of the control variables on the agency-effects induced by capital grants. Assuming that CAPgrant is negatively correlated with the level of cash, we expect that this effect may be mitigated when there are substantial financial debts or when assets are older. In these cases, monitoring levels of the board may be increased due to the need for repayment of the loan and reinvestment, so weakening the information asymmetry between board and management. Furthermore, the outside monitoring by the creditor may also decrease the possibilities of the agent to spend cash quickly. Therefore, a positive interaction effect can be

expected. The opposite is expected when the level of self-financing is high and the organization can be considered to be financially stable. In these cases, monitoring efforts of the board may be low, even more so when a lot of effort is needed to attain capital grants. Therefore, we would expect the interaction effect to be negative.

Regression model	$C\&CE = \alpha + \beta_1 CAPgrant + \beta_2 OPERgrant + \beta_3 SELFFIN + \beta_4 FINDEBT + \beta_5 AGEassets + \beta_6 VARrev + \beta_7 DUMdecrease + \beta 8\ CAPxSELF + \beta 9\ CAPxFIN + \beta 10\ \ CAPxAGE + \varepsilon$	
Variable	*Expected sign of β*	*Definition*
C&CE		Cash and Cash equivalent *(Cash at bank and in hand + Short term financial investments) / Total assets*
CAPgrant	-	Importance of capital grants *Capital grants / Total assets*
OPERgrant	+	Importance of operating grants *Operating grants / Total revenue*
SELFFIN	+	Control variable Equity build with past excess revenue and own funds *(Own funds + reserves + retained earnings)/ total assets*
FINDEBT	-	Control variable *Long-term financial loans / total assets*
AGEassets	+	Control variable *Accumulated depreciation / historical cost of depreciable fixed assets*
VARrev	+	Control variable *Standard deviation of revenue (t-2 to t) / mean revenue (t-2 to t)*
DUMdecrease	+	Control variable *1 if subsidies and donations decreased in t-1 versus t-2, 0 otherwise*
VARxDECR	+	Control variable *Interaction term of VARrev and DUMdecrease*
CAPxSELFDUM	-	Interaction term CAPgrant x SELF financing
CAPxFINDEBT	+	Interaction term CAPgrant x FINancial debt
CAPxAGE	+	Interaction term CAPgrant x AGEassets

TABLE 5-1. REGRESSION MODEL AND DEFINITION OF VARIABLES

In 2006, Belgian nonprofit organizations were confronted with a new obligation to use accrual accounting techniques and to make financial reports publicly available. Depending on the size of the organization, the standard format of financial reports is either a 'full report' (very large organizations) or an 'abbreviated report' (large organizations). Small nonprofits are not obligated to publish standardized financial reports. Data regarding operating and capital grants are only available in full financial reports. In September 2006, 925 full financial reports were electronically available (eighty percent of the population of full report filers). Additional data for this list of organizations were gathered for 2007 and 2008. Since some organizations ended their activities in this period, or switched from a full report to an abbreviated report, some data regarding grants are missing.

The organizations are active in twenty sectors. Similar to other countries (see e.g. Core et al. 2006), the largest sectors are education (59.5% of the sample) and health care (18.6%). Smaller sectors are – amongst others- sport and leisure (3.7%), business-related activities (3.7%), tourism (1.1%), research and development (0.5%). For 54 organizations (5.8%), the sector is undefined.

The mean, median and standard deviation of all variables are shown in Table 5-2. The mean level of cash and cash equivalent relative to total assets is 30.8 percent. The median of 23.2 percent is significantly lower, indicating a skewed distribution. To take sector differences into account, cash levels are corrected by the median per sector. This correction is only performed for sectors with at least 5 observations per year. The mean level of sector-corrected cash levels is 6.3 percent.

For all explanatory variables, descriptive statistics are reported before and after winsorizing at the one and 99 percentile. Differences in the means of all variables due to winsorizing are limited. Obviously, standard deviations are reduced by omitting the extreme values of the distribution.

Variable	*Number*	*Mean*	*Median*	*Standard deviation*
C&CE	2695	,3079	,2322	,2512
(corrected by sector median)	(2475)	(,0633)	(,0000)	(,2374)
CAPgrant	2721	,1061	,0204	,1564
(winsorized at 0.00 and 0.62)	(2721)	(,1049)	(,0204)	(,1517)
OPERgrant	2500	,4251	,3196	,3903
(winsorized at 0.00 and 0.99)	(2500)	(,4258)	(,3196)	(,3884)
SELFFIN	2701	,4187	,4102	,4128
(winsorized at -0.30 and 0.99)	(2701)	(,4268)	(,4102)	(,2758)
FINDEBT	2706	,1594	,0455	,2209
(winsorized at 0.00 and 0.84)	(2706)	(,1575)	(,0455)	(,2130)
AGEassets	2549	,4723	,4694	,2346
(winsorized at 0.00 and 0.98)	(2549)	(,4721)	(,4694)	(,2342)
VARrev	840	0,1037	0,0632	0,1564
(winsorized at 0.01 and 0.85)	(840)	(0,1003)	(0,0632)	(0,1321)
DUMdecrease	925	703 cases with increase (76%), 222 with decrease (24%)		

TABLE 5-2. DESCRIPTIVE STATISTICS

(all continuous variables are winsorized at 1% and 99% levels)

The distributions of CAPgrant, FINDEBT, OPERgrant and VARrev are skewed. The mean value is (significantly) higher than the median value. It can be noted that, on average, 10.6 percent of total assets are financed by capital grants. About 40 percent of the organizations do not receive capital grants, but for three percent of the organizations it is the main financing source (not tabulated). This is similar to the importance of financial debts. More than 38 percent of organizations do not have financial long term and short term debts (not tabulated), leading to

an average of 16 percent of total assets. Only in ten percent of the cases are financial debts the main source of financing (not tabulated). The analysis of revenue shows that operating grants make up 43 percent of total revenue on average. The degree of self-financing and the percentage of accumulated depreciation (AGEassets) are normally distributed with a mean of, respectively, 41 and 47 percent.

Since the differences between the original and winsorized data are very limited, the latter are used in the univariate analysis as well as in the OLS regression to mitigate the influence of outliers. The correlation coefficients are tabulated in Table 5-3. All correlation coefficients of the dependent variable with the explanatory variables have the expected sign, with the exception of the variability of revenues. Prior research (Core et al. 2006) shows that a greater variability in revenue leads to accumulation of cash as a 'rainy day reserve'. Here, the negative coefficient is insignificant. The negative sign might be induced by the fact that variability does not take the 'direction' of the change into account. The correlation of the interaction terms and the dependent variable do not have the expected sign, except for CAPxSELF. All interaction effects have a negative correlation with the level of cash and equivalent. The correlations between explanatory variables are modest and do not suggest exclusion of variables for reasons of multicollinearity except for the interaction terms.

	C&CE	CAPgrant	OPERgrant	SELFFIN	FINDEBT	AGEasset	VARrev	DUMdecrease	VAR x DECR	CAPxSELFFIN	CAPxFINDEBT
C&CE	1										
CAPgrant	**-.339**	1									
OPERgrant	**.089**	**.163**	1								
SELFFIN	**.493**	**-.298**	-.020	1							
FINDEBT	**-.338**	-.022	**.168**	**-.421**	1						
AGEasset	**.237**	**-.204**	**-.156**	**.039**	**-.317**	1					
VARrev	-.001	**-.142**	**-.122**	**.098**	-.043	**.113**	1				
DUMdecrease	.062	**-.149**	-.062	.037	.043	*.086*	**.222**	1			
VAR x DECR	.059	**-.125**	**-.125**	.043	-.056	**.173**	**.720**	**.548**	1		
CAPxSELFFIN	**-.179**	**.723**	**.141**	**.066**	**-.179**	**-.152**	**-.150**	**-.164**	**-.130**	**1**	
CAPxFINDEBT	**-.364**	**.583**	**.020**	**-.380**	**.396**	**-.225**	*-.074*	*-.077*	-.058	**.179**	**1**
CAPxAGE	**-.261**	**.871**	**.120**	**-.251**	**-.065**	**.032**	**-.133**	**-.102**	**-.095**	**.655**	**.433**

TABLE 5-3. PEARSON CORRELATION COEFFICIENTS.

Correlations that are significant at the 1% (5%) level are shown in bold (italic)

MULTIVARIATE RESULTS AND SENSITIVITY ANALYSIS

We performed an ordinary least squares regression on the cash levels (cash and cash equivalent scaled by total assets) corrected for sector differences (by subtracting sector median). To present a full analysis of the data, the parameter estimates of six models are summarized in Table 5-4. For a full understanding, we first estimated the effects of the main variables (model one) and control variables (models two and three) separately to explore the explanatory power of the main variables. All models are well-specified, as is evidenced by the F-value.

Variable	*Expect.*	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 6 Stand.*
Constant		.081 ***	-.160 ***	-.199 ***	-.073 ***	-.107 **	-.111**	
CAPgrant	-	-.542 ***			-.390***	-.364***	-.323***	-.215
OPERgrant	+	.090 ***			.103***	.104***	.103***	.168
SELFFIN	+		.383 ***	.391***	.274***	.287***	.309***	.344
FINDEBT	-		-.103 ***	-.074 *	-.221***	-.188***	-.188***	-.168
AGEasset	+		.173 ***	.244***	.116***	.185***	.182***	.174
VARrev	+			-.281 **		-.304 **	-.312**	-.152
DUMdecrease	+			.036		.022	.020	.031
VARxDECR	+			.321 **		.347 **	.352**	.145
Year 2007		.011	.001		.006			
Year 2008		.005	-.009		-.004			
CAPxSELFDUM	-						-.213**	-.070
CAPxFINDUM	+						-.019	-.008
CAPxAGEDUM	+						.000	.000
R^2 adjusted		.137	.276	.316	.345	.374	.375	
F-value		85.378 ***	163.80 ***	55.87 ***	161.33 ***	54.11 ***	39.82 ***	
N		2133	2133	711	2133	711	711	

TABLE 5-4. ORDINARY LEAST SQUARES REGRESSION OF SECTOR-CORRECTED CASH LEVELS.

(*** P < .001, ** P < .05, * P < .1)

Models four, five and six are the main models of interest, since they combine the main variables with the control variables. For model six, unstandardized as well as standardized coefficients are reported. The difference between the models consists in (i) the inclusion of variability of revenue and decrease in revenue in models five and six, which reduces the dataset to a one-year period and a lower number of observations and (ii) the inclusion of interaction terms to test for moderating effects of the control variables on the agency-effect induced by capital grants. In models one, two and four, year dummies are added to the model as control variables. The explanatory power of the full models is satisfactory: the adjusted R^2 ranges from 34.5 (model 4) to 37.5 (model 6) percent. The F-value is significant, indicating a good fit of the model.

The coefficients of both main variables are highly significant, in the predicted direction. Higher capital grants (operating grants) are linked with lower (higher) cash holdings. These findings confirm the hypothesis that the type and importance of grants influences the cash levels of a nonprofit organization, which, in turn, is affected by the existence of agency problems.

As hypothesized, the level of self-financing and the state of the assets (percentage depreciated) give rise to higher cash levels, whereas the level of debt financing is related to lower levels of cash and cash equivalent. Earnings variability has a significant and negative relationship with the independent variable. This is in line with the univariate findings, but in contradiction with previous research (Core et al. 2006). The negative relationship can be explained by the direction of the changes in revenue, not merely the extent of the changes. When organizations are confronted with large declines in revenue, they act differently than in the case of large growth of revenue. In the first case, more parsimonious behavior occurs, leading to higher cash levels. In the second case, organizations are more inclined to spend cash more quickly. This is confirmed by the significantly positive coefficient of the interaction term (variability x decrease), This indicates that a decrease in strongly varying revenue in the previous period is consistent with higher cash levels in the current period.

The last model also includes interaction variables to test for the moderating effects of financial debts, self-financing and the need to reinvest on the relationship between CAPgrant and the

level of cash and equivalent. Including all interaction variables in the model (not tabulated) leads to multicollinearity problems (indicated by Variance Inflation Factors larger than 10). Therefore, we changed the control variables to dichotomous variables taking the value of 1 when it is larger than the mean value and 0 otherwise. Only the variable CAPxSELF is significant, in the expected negative direction. This suggests that the agency effect of higher discretionary spending is increased by high self-financing. In other words, outside monitoring by creditors and possibly increased inside monitoring due to financial debts or older assets do not seem to be present or at least not to a significant degree.

Overall, the regression analysis is consistent with the hypotheses formulated in section 3 of this paper and therefore supports the argument that time-consuming applications for capital grants influence the relationship between board and management of the nonprofit organization. This effect is not present when operating grants are concerned. Similar to the results of Hughes and Luksetich (2004) who find that 85% of government support is going into an increase in net assets , we find that higher operating grants are related to higher cash balances.

Four types of sensitivity analyses were performed to test the robustness of the model for different definitions of the variables. Firstly, a regression analysis on cash levels (cash and equivalent scaled by total assets) that are not corrected for sector differences showed very similar results. The direction and level of significance of the dependent variables are exactly the same as for models four to six. Dummies were added to these models to test for the effect of different subsectors. Several sectors have significantly higher cash levels (business related services, tourism, recreation/arts/sports, recycling), whereas cash levels tend to be lower in educational nonprofits. These sector dummies are not significant when added to the original models, indicating that the correction with the sector median is effective. Secondly, in the original model, total assets were used as a deflator for all variables except operating subsidies. As a sensitivity analysis, operating grants were scaled by total assets without changes to the results and conclusions. Thirdly, total revenue was used as a deflator on all variables. In those models, financial debts and operating grants are not significant in explaining the level of cash

and equivalent, resulting in a lower explanatory power (R^2 adjusted 27.6 percent in model 4 and 29.5 percent in model five). Finally, we tested model five adding the original interaction terms (i.e. using the continuous instead of the dichotomous interaction term) one-by-one to avoid multicollinearity. Similarly to model six, only SELFxCAP was significant in explaining cash levels. Overall, the sensitivity analyses result in very similar conclusions as the original OLS models.

CONCLUSIONS AND ISSUES FOR FURTHER RESEARCH

A central hypothesis of this paper is that government funding of nonprofit organizations can increase the distance between board and management and result in agency problems, depending on the level of involvement of board and management in the procurement of the grants. We use data on a substantial number of organizations and differentiate between two types of grants: capital and operating grants. The first type of grants are received for (substantial) investments in fixed assets, for which the involvement of the board is needed. Consistent with the often used spending hypothesis, this would lead to higher management spending and decreased cash levels. The second type of grants, operational grants, are not expected to be a source of agency problems since they are recurring grants for which no effort of the board is needed.

Consistent with the hypothesis that managers choose to spend cash quickly and consistent with the idea of increased agency problems in the case of capital grants, we find (using OLS) that cash levels (when controlled for funding choices and sectoral differences) are lower when capital grants are important and higher when operating grants are more important. This indicates that contracting with the government can change the internal relations of an organization, creating distance between nonprofit board and nonprofit management. As such, we contribute to the research on nonprofit agency problems and their financial consequences. We also shed light on the influence of governmental funding on spending patterns. This can be important for scholars as well as practitioners. Nonprofit board members need to be aware of the consequences of a trade-off between their role as monitor vis-à-vis their role as political

facilitator. When we conclude that the type of grants and their respective influence on spending patterns within nonprofit organizations differ, this can also be important information for subsidizing governments and their role as an alternative monitor in the use of the funds.

This paper is, to our knowledge, the first to examine the effect of subsidies on agency relationships within nonprofit organizations and we end it by pointing at some limitations that need to be addressed in further research. Agency problems are the result of hidden actions which, by definition, are not observable. Therefore, a proxy is needed to measure the influence of the agency relation. In the current paper, the level of cash and equivalent was used as a measure of (increased) spending by management. Follow-up research may further look into this by using a different measure, such as management pay (which is typically not publicly available). Alternatively, cost efficiency (using data envelopment analysis, as in Callen and Falk, 1993) might also be used as an indicator of the existence of agency problems.

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CHAPTER 6. CONCLUSIONS

In this dissertation, the accounting and financial reporting of nonprofit organizations are scrutinized. Four broad research questions were formulated:

- What is level of quality of the first nonprofit annual accounts and can we explain differences in quality?
- Do Belgian nonprofits manage their accounting earnings towards zero and is this driven by their dependence on subsidies?
- What are the determinants of nonprofit financial audit fees? Does auditor specialization and resource dependence play a role?
- Are subsidies a source of agency problems?

In chapter two, the first question is examined using a large sample of Belgian nonprofit financial statements. The effects of resource dependence and coercive isomorphism (institutional theory) on the willingness of nonprofit organizations to deliver high quality financial reports is tested in an environment characterized by (i) a recent legislative obligation to publish financial accounts, (ii) high levels of governmental subsidization and (iii) discretionary levels of commitment to reporting quality. The results showed that the quality of the reports is high, but that variation in quality exists. This variation is explained by resource dependence: organizations that are highly dependent on subsidies or on financial loans tend to show higher quality levels of financial reporting. External auditing of the reports (made mandatory by the government) is also significant in explaining the quality of financial reporting.

The second research question is the main focus of chapter three. We hypothesized that nonprofit organizations use flexibility in accounting to manage earnings towards zero profit. We also hypothesized that this type of earnings management increases with the level of

subsidization. To test these arguments, two methodologies were used: a single accruals measure (unexpected depreciation) as well as an aggregrate accruals measure (Jones model). Whereas the specific accrual is not able to capture earnings management, the Jones model results in some interesting conclusions. First, earnings management seems to be present in all nonprofit subsectors. However, the sector of education and research has distinct features: there is a distinct trend of downwards earnings management when compared to other subsectors. Second, the hypothesis that earnings are managed towards zero profit is substantiated. Furthermore, this process is intensified when there are higher levels of subsidization but only for downwards earnings management in case of unmanaged profits.

Combining these two views on financial reporting quality shows that high levels of subsidization increase the formal aspects of financial reporting (chapter two) but can hamper the quality of earnings reporting (chapter three). The evidence also suggest that there is no clear view on how the government uses financial reports in the decision process of subsidies. More research is needed in that area to make sure that financial reports serve their goals and to guide standard setters on how to improve the usefulness of the financial statements. Donations (individual or corporate) are a relatively unimportant source of funding in Belgium at this point in time. However, given the budgetary constraints of the government and the professionalization of the nonprofit sector, nonprofit organizations may become increasingly aware of the opportunities and importance of donations. It would be interesting to investigate whether the results of the current studies change if donations were to become increasingly important.

Since one of the results in chapter two showed that external auditing increases the formal quality of the nonprofit financial statements, we turned our attention to the audit of nonprofit financial statements in chapter four. We tried to develop a model that explains audit fees in a setting that is different from former research in several ways. We tested known determinants of audit pricing in an environment that is characterized by (i) relatively small clients, (ii) low commercial and litigation risk, (iii) low dominance of Big Four auditors and (iv) the absence of formal shareholders. We found that determinants related to auditor size and client complexity

are important factors in explaining audit fee levels, which is a confirmation of prior developed theory and empirical findings. However, we also identified differences in audit fee models: the positive association between profitability of the client and audit fee levels may be explained by an 'ability-to-pay' effect for smaller auditors that do not have the same negotiation power as large auditors. We also found a negative relationship between the number of audit engagements in the sector and audit fee levels. This negative association may be due to learning effects, lowballing or the unwillingness to pay higher fees to a specialist in the absence of shareholders (less agency conflicts and lower need for signaling). To separate lowballing from experience effects, follow-up research is needed. Over time, the first effect will theoretically disappear in the case of unchanged auditors whereas lower fees will persist when the learning curve is at work. In contrast to chapters two and three, we did not identify a resource dependence effect of subsidies on audit fee levels. As mentioned previously, the use of financial reports and audit reports by governmental agencies can be important follow-up research.

Finally, a possible agency effect of subsidies was examined in chapter five. We hypothesized that the procurement of subsidies can influence the agency relationship between nonprofit board and management. When the board is responsible for or involved in contracting with the government, the monitoring role may be hampered. This may lead to increased distance between board and management and higher levels of self-interested behavior by the latter. We hypothesized that this is not the case when management is involved in the procurement of the subsidies. Then, the board can execute its monitoring role and management may have a stronger sense of ownership of revenue, leading to more parsimonious behavior. This hypothesis is tested using two different types of subsidies: capital and operating grants. The results show that the first type of subsidies can lead to increased agency problems between board and management, captured by lower levels of cash and equivalent.

Overall, this dissertation sheds light on different aspects of nonprofit financial reporting. Given the Belgian setting, in which subsidies are an important source of revenue, additional insights

were gained in the relationship between governmental funding and financial accounting, reporting and auditing.