INSTITUTIONALISATION OF MANAGEMENT ACCOUNTING IN FAMILY BUSINESSES – EMPIRICAL EVIDENCE FROM AUSTRIA AND GERMANY*

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This study investigates whether family businesses (FBs) differ from non-family businesses (NFBs) regarding the institutionalisation of management accounting. Furthermore, it analyses whether FB-specific contextual factors such as the existence of non-family management and the level of family influence affect the establishment of discrete management accounting departments. Six hypotheses are formulated and tested based on survey results from 479 firms from Austria and 418 firms from Germany. Our results indicate that FBs establish fewer management accounting departments than NFBs do and that the heads of management accounting in FBs are less likely to hold a university degree compared with their counterparts in NFBs. Moreover, within FBs, larger firm size and the existence of non-family management are positively correlated with the establishment of management accounting departments, where firm size acts as the strongest predictor. As firm type (FB vs. NFB) emerged as a significant contextual factor for the institutionalisation of management accounting, this factor should be included in future studies of the organisation and set-up of the corporate management accounting function. Moreover, deeper investigation into the drivers and

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outcomes of FB-specific management accounting institutionalisation is needed.

Keywords: Management Accounting, Management Accounting Department, Management Accountant, Family Business, Agency Theory, Stewardship Theory, Resource-Based View of the Firm Theory, Austria, Germany

INTRODUCTION

For several centuries, family businesses (FBs) have been serving as the backbone of most national economies worldwide because approximately 60–85% of all companies are FBs (IFERA, 2003). Although research in the field of FBs has recently managed to reduce the gap between real-world importance and academic recognition, there remain several under-researched aspects of FBs (Chua *et al.*, 2003; Heck *et al.*, 2008). One aspect that has received limited attention so far is the role of management accounting in FBs (Salvato and Moores, 2010; Hiebl, 2012). Management accounting is an important factor in FBs for both balancing family and business interests and facilitating the business succession process. When describing an FB using the three-circle model (Gersick *et al.*, 1997), the system "FB" is composed of three subsystems: business, ownership and family. These subsystems are both overlapping and strongly interdependent. Considering the coordinating effect of certain common management accounting practices, such as controlling, planning and budgeting, management accounting can help coordinate and control both the targets and the needs of an FB's three subsystems (Songini, 2006; Moores and Craig, 2006; Songini and Gnan, 2009). Furthermore, recent findings (Giovannoni *et al.*, 2011) have indicated that management accounting is not only a step in the professionalisation process of FBs, but that it also fosters knowledge transfer to non-family managers and succeeding generations. This is because the informal information that was originally acquired by family members becomes formalised following the institutionalisation of management accounting in the firm.

In order to narrow the existing research gap between FBs and management accounting, in this paper we examine the specific institutionalisation of management accounting in FBs. We focus on this aspect because organisational configuration and management accounting systems are heavily interdependent (Moores and Yuen, 2001; Cassia *et al.*, 2005). Therefore, the institutionalisation of management accounting in FBs should differ substantially from that in non-family businesses (NFBs). Furthermore, understanding how practitioners set up management accounting differently in FBs and NFBs ought to be a good starting point for an increased understanding of the specialties of management accounting in FBs (Scapens, 2006). This could also be a step towards developing a theory regarding the causes and effects of management accounting in FBs and explaining how to organise and practice management accounting in an FB (Malmi and Granlund, 2009).

Hence, this article aims to answer the following two research questions:

1. What, if any, are the differences between FBs and NFBs concerning the institutionalisation of management accounting?
2. How do FB-specific context factors influence the institutionalisation of management accounting?

To be clear at the outset, in this paper we refer to “the institutionalisation of management accounting” as the organisational design of the management accounting function, which is in line with the Germanic management accounting and controlling research tradition (Weber and Schäffer, 2008). In this regard, we consider a firm’s management accounting function to be institutionalised if a discrete management accounting department operates this function. Therefore, in this paper we study the firm’s main operators of the management accounting function (discrete management accounting department or other), managerial level of the head of management accounting and educational level of the head of management accounting.

Our paper adds to both the FB and the general management accounting literature. We find that FBs show a lower level of management accounting institutionalisation than do

NFBs: FBs establish fewer management accounting departments and the heads of management accounting in FBs less often hold a university degree than do their counterparts in NFBs. Moreover, this paper shows that within the group of FBs, growing firm size, the employment of non-family managers and a lower level of family influence are positively correlated with a higher institutionalisation of management accounting in terms of the establishment of discrete management accounting departments. Our results indicate that the institutionalisation of management accounting in FBs differs from that of management accounting in NFBs. Thus, family influence should be included as an important contextual variable in studies of the organisational design and set-up of the corporate management accounting function.

The remainder of this paper is organised as follows. Section 0 briefly presents the theoretical frameworks on which we build this empirical study: agency theory, stewardship theory and the resource-based view (RBV) of the firm theory. In Section 0, we derive six hypotheses from these general theories and the related research on FBs and management accounting. Section 4 describes the research methods used. Our hypotheses are tested in Section 5, based on survey responses from 479 Austrian and 418 German firms. In Section 6, we discuss our results and in Section 7, we conclude this paper, provide directions for further research and acknowledge the limitations of this study.

THEORETICAL BACKGROUND

To generate hypotheses and discuss the results, we refer to agency theory, stewardship theory and the RBV. Agency theory (e.g., Jensen and Meckling, 1976) deals with the relationship between a principal and one or several agents. The principal delegates tasks to the agent, while the agent can in turn use the principal's resources to fulfil his or her given tasks. Conflicts in this relationship can arise if the principal's and the agent's targets do not match or if the principal has to make a considerable effort to control the agent's actions (Fama and Jensen, 1983). For instance, the agent might use the principal's resources to follow his or her individual goals rather than those of the principal. Consequently, additional costs may occur or certain actions might need to be carried out to align the principal's and the agent's targets. These costs and any other disadvantages that are created through the principal–agent relationship are referred to as agency costs. In management research, this theory is often used to analyse conflicts between business owners (principals) and their management teams (agents) and to suggest ways to overcome these conflicts and thus reduce agency costs. Some scholars have argued that because in FBs the business owners and managers are the same person, agency costs are lower compared with NFBs (Anderson and Reeb, 2003; Le Breton-Miller and Miller, 2009). However, there is also evidence that in owner-managed FBs agency costs arise because of suboptimal management by family members (Schulze *et al.*, 2003; Lau, 2010) and because these managers also behave as self-serving agents in several situations (Davis *et al.*, 2010). For instance, Davis *et al.* (2010) showed that non-family employees in FBs believe that family members are only concerned about the family's interests not about employees’ needs.

Particularly when analysing FBs, another approach is often used to describe principal–agent relationships: stewardship theory (Davis *et al.*, 1997; Corbetta and Salvato, 2004). Stewardship theory sees managers as stewards who are motivated intrinsically and who assign higher utility to pursuing the organisation's goals than they do to pursuing self-serving goals (Davis *et al.*, 1997). For instance, family members act as stewards when they put aside personal interests for the sake of the FB (Le Breton-Miller and Miller, 2009; Eddleston *et al.*, 2010). However, stewardship theory might also apply when there are non-family managers in an FB. For example, if both owners and managers follow the stewardship model, target conflicts could be minimised and organisational performance maximised (Vallejo, 2009; Davis *et al.*, 2010). Therefore, agency costs in FBs should be lower than they are in NFBs (Corbetta and Salvato, 2004; Davis *et al.*, 2010). A stewardship culture in FBs can also affect accounting practices because FBs have a lower level of income smoothing than do NFBs, which can be explained by their long-term orientations and lower reliance on short-term financial performance (Prencipe *et al.*, 2011).

The RBV has mainly been used in strategic management research to explain why some firms perform better than do others (Sirmon and Hitt, 2003). In general, the RBV rests on the assumption that the comparative advantages of a firm are based on its available resources and their management (Wernerfeldt, 1984; Mahoney, 1995). FBs usually have a specific set of resources, which on one hand builds up strategic assets, but on the other hand imposes special challenges (Sirmon and Hitt, 2003; Eddleston *et al.*, 2008). For instance, FBs have more patient shareholders, pronounced survival ability and more flexible organisational structures. However, they tend to struggle to attract highly qualified employees and to overcome FB-specific hurdles such as business succession (Habbershon and Williams, 1999; Neubauer, 2003; Kansikas and Kuhmonen, 2008; Fattoum and Fayolle, 2009). By combining all the internal resources of an FB that exist because of family involvement, research has also created the concept of "familiness" (Zellweger *et al.*, 2010). Familiness serves as a unique resource that might explain performance differences between FBs and NFBs (Chrisman *et al.*, 2005; Tokarczyk *et al.*, 2007).

HYPOTHESIS DEVELOPMENT

Institutionalisation of management accounting in FBs and NFBs

In this section, we examine the effect of firm type (FB vs. NFB) on the institutional aspects of management accounting, such as the establishment of a discrete department for management accounting and the organisational level and education of the head of that department. With regard to the countries under investigation in our study, an important clarification has to be made in advance. One peculiarity of the organisational structures of firms located in German-speaking countries is the separation of management and financial accounting (Becker and Messner, 2005; Messner *et al.*, 2008), which often results in the existence of separate management accounting and financial accounting departments.

In terms of agency theory, formal management accounting procedures in general, especially the existence of a management accounting department, usually increase the transparency of managerial actions and thus they can be interpreted as mechanisms of management control (Merchant and van der Stede, 2007). By using the information produced by a management accounting department, the principal can establish remuneration packages and adopt performance management systems in order to align the principal's and the agent's interests (Malmi and Brown, 2008). Drawing on stewardship theory, such goal alignment is not as necessary in FBs as it is in NFBs (Corbetta and Salvato, 2004; Jaskiewicz and Klein, 2007), as the personal union of owners and managers as well as reciprocal trust lower the need for control mechanisms (Vallejo, 2009; Moog *et al.*, 2011). Hence, the establishment of a department for management accounting should offer fewer benefits to FBs compared with such a department in NFBs. Moreover, when considering owner-managed FBs, a paternalistic family CEO (Kets de Vries, 1993) who is willing to take substantial entrepreneurial risks (Memili *et al.*, 2010) might not welcome a critical business advisor, which could also be part of a management accounting department's role (e.g., Granlund and Lukka, 1998; Byrne and Pierce, 2007). When regarding management accounting practices other than controlling, such as planning and budgeting (e.g., Byrne and Pierce, 2007; Malmi and Brown, 2008; Horngren *et al.*, 2010), there is less need for a management accounting department in FBs. Because family managers tend to have deep firm- and market-specific knowledge (Sirmon and Hitt, 2003; Wah, 2004; Eddleston *et al.*, 2010), they require few formalised planning and budgeting procedures such as those that a management accounting department might support. Therefore, the notion is evident that in FBs there is a lower reliance on institutionalised management accounting, which leads to the first hypothesis:

H1: FBs establish departments for management accounting to a lesser extent than do NFBs.

If a firm creates a department for management accounting, the question arises at which hierarchical level the head of management accounting is employed. When comparing the typical organisational structures of FBs with those of the rest of the corporate world, a flat hierarchy (Dailey *et al.*, 1977; Rajan and Wulf, 2006) might seem to be a special resource of FBs in the sense of the RBV. However, a flat hierarchy might also lead to a dysfunctional organisation and limit the FB's growth prospects (Lambrecht and Lievens, 2008). Therefore, it remains unclear whether a flat hierarchy serves as a strength or a weakness in FBs. In any case, it can be assumed that this type of organisational structure also applies to the hierarchical instalment of the head of management accounting in FBs. Furthermore, because of their common stewardship cultures, FBs usually have lower levels of formalisation (Upton *et al.*, 2001; Vallejo, 2009), which also generally leads to fewer hierarchical levels in such firms. Thus, the head of management accounting in FBs on average should obtain a higher managerial level compared with his or her counterpart in NFBs. In light of the foregoing, we formulate the following hypothesis:

H2: In FBs, the head of management accounting obtains a higher managerial level compared with his or her counterpart in NFBs.

The education of management accountants is organised differently in our focus countries of Austria and Germany compared with the US or UK. For instance, in Austria and Germany professional accounting certificates do not play a major role in assessing a management accountant's education level (Jones and Luther, 2005). In the German-speaking area, there are also no generally accepted professional management accounting qualifications such as a “Chartered Management Accountant” or “Certified Management Accountant”. Future management accountants rather read generalist business administration studies, but within these studies, they may specialise in accounting or management accounting topics (Ahrens, 1999; Ahrens and Chapman, 2000). Therefore, they usually do not hold specialised accounting degrees, but more general business administration degrees such as *Diplomkaufmann* or *Magister der Sozial- und Wirtschaftswissenschaften*. Moreover, university education in general is less common in our focus countries compared with Anglo-Saxon countries (European Commission, 2009). Thus, in Austria and Germany not every head of management accounting can be expected to hold a university degree.

Independent of these country-specific aspects, the findings of previous studies based on the RBV have suggested that FBs attach less importance to a manager's university education than do NFBs, especially those that are owner-managed (Fiegener *et al.*, 1996; García Pérez de Lema and Duréndez, 2007). Highly qualified and academically trained managers might also avoid working for FBs because of limited professional growth prospects and limitations on wealth transfer (Covin, 1994; Sirmon and Hitt, 2003; Barnett and Kellermanns, 2006). Moreover, patriarchal owner-managers are likely to decide on resource allocation entirely independently (Schulze *et al.*, 2003; Degadt, 2003; Wah, 2004; Lau, 2010), and they might not appreciate being challenged by potentially better educated subordinates, such as university-trained heads of management accounting. Drawing on agency theory, the controlling family might also prefer not to hire management accountants that have academic training because these recruits might require more decision power based on their academic expertise (Holland and Boulton, 1984; Klein and Bell, 2007; Hiebl, 2012), which would interfere with most families' goals of undivided decision power (Gedajlovic *et al.*, 2004). Hence, we hypothesise the following:

H3: Heads of management accounting in FBs less often hold a university degree compared with heads of management accounting in NFBs.

Contextual factors of management accounting institutionalisation in FBs

Regardless of firm type, firm size usually serves as a predictor of organisational complexity (Blau, 1970). As complexity increases, there is also a need for more coordination within a firm (Kahn *et al.*, 1964). To master this increased complexity and the need for coordination, firms turn to management accounting practices such as strategic planning, budgeting and controlling (Moores and Mula, 2000; Upton *et al.*, 2001; Moog *et al.*, 2011). Thus, firm size is correlated positively with the need for management accounting and, as a consequence, the institutionalisation of management accounting. Empirical evidence can also validate this theoretical assumption (Cassia *et al.*, 2005). However, no results are yet available on whether this relationship is also valid for FBs. That is why we want to test in our study if increased FB size promotes the establishment of management accounting departments. Agency theory might support this argumentation, too. As an FB flourishes and grows from generation to generation, and the more its ownership structure becomes dispersed, the more control mechanisms are necessary and the more it starts to resemble an NFB (Gersick *et al.*, 1997; Kellermanns, 2005). As pointed out in Subsection 0, an NFB is more likely to create a management accounting department. Thus, as an FB grows in size (as measured by the number of employees) and increasingly resembles an NFB, the likelihood of management accounting becoming institutionalised also increases. Therefore:

H4: The more employees an FB has, the higher is the likelihood that it has established a management accounting department.

Returning to the RBV, Kellermanns (2005) proposed that family involvement should affect an FB's resource allocation. Moreover, Lindow *et al.* (2010) recently showed that organisational structures in FBs are generally related to family influence. Hence, we want to examine the relationship between the level of family influence and the institutionalisation of management accounting, which might serve as a valuable resource to the FB (Toms, 2010). Drawing on stewardship theory in FBs, the utility of control mechanisms such as management accounting departments should be correlated negatively with the level of family influence because the more a family is involved in a business, the more mutual trust should prevail in the firm (Corbetta and Salvato, 2004; Davis *et al.*, 2010; Pearson and Marler, 2010). Furthermore, the notion that along with growth and ownership dispersion an FB resembles an NFB (Kellermanns, 2005), and thus the level of family influence decreases, supports our fifth hypothesis:

H5: The level of family influence is correlated negatively with the establishment of management accounting departments in FBs.

Another potential contextual factor that affects the institutionalisation of management accounting in FBs is the existence of non-family management team members. For instance, previous studies have shown that non-family Chief Financial Officers (CFOs) promote more sophisticated capital budgeting, strategic financial planning and modern cash management techniques (Filbeck and Lee, 2000; Caselli and Di Giuli, 2010; Lutz *et al.*, 2010). In general, non-family management becomes necessary as FBs grow (in terms of age and size) because family members can no longer fill all management positions or no longer want to (Chua *et al.*, 2003; Block and Jaskiewicz, 2007). Usually, non-family managers in FBs are tasked with professionalising the FBs' processes and business conduct in general (Dyer, 1989; Duller *et al.*, 2011; Payer-Langthaler *et al.*, 2012).

One element of this process of professionalisation might be the introduction of management accounting practices (Songini, 2006; Songini and Gnan, 2009) and, subsequently, the establishment of a management accounting department. Referring to agency theory, the owners of FBs could establish management accounting departments in order to gain transparency about a non-family manager's actions (Chua *et al.*, 2003; Merchant and van der Stede, 2007). In light of this argumentation, the establishment of a management accounting department can clearly be regarded as an agency cost (Fama and Jensen, 1983). This view is also supported by recent findings that show that non-family employees within FBs perceive agency behaviour by the firm's leadership team to a higher extent than do family employees (Davis *et al.*, 2010). Thus, we hypothesise the following:

H6: FBs that employ non-family managers are more likely to establish a management accounting department than are FBs that have management teams that consist entirely of family members.

METHODOLOGY

Sample

To test our hypotheses we contacted Austrian and German firms with at least 50 employees. We chose firms with at least 50 employees as the target audience of our study, as among small firms (i.e., those that have fewer than 50 employees according to the European Commission, 2003), the vast majority of firms do not install a specific function to deal with management accounting such as a discrete management accounting department (Cassia *et al.*, 2005). Thus, we expected to be better able to compare the influence of family involvement on the institutionalisation of management accounting in medium-sized and large firms.

One of the European Commission's (2003) criteria to distinguish medium-sized and large firms from small firms is at least 50 employees. Firms with at least 50 employees can thus be regarded as either medium-sized (50 to 249 employees) or large (more than 249 employees) (European Commission, 2003). Although number of employees – besides sales turnover and total assets – is only one of the European Commission's (2003) criteria to characterise micro, small and medium-sized enterprises, we chose this measure as a proxy for firm size, as in large-scale surveys in the German-speaking area, firms are often reluctant to report on financial measures such as turnover and total assets. Therefore, the focus on number of employees was one of our efforts to increase our response rate. Furthermore, various proxies for firm size such as number of employees, sales turnover and net assets are known to strongly correlate with each other, thereby enabling the use of one measure to sufficiently capture the aspect of firm size (Singh, 1986).

As part of a broader research project, we contacted 5,406 firms in Austria during July and August 2009 and 7,550 firms in the German federal states of North Rhine-Westphalia and Lower Saxony from November 2009 to January 2010. These numbers represent the entirety of firms with at least 50 employees in these regions, which were listed in the address databases we used (for Austria: Compass Database; for Germany: Amadeus Database). We sent an invitation and a link to an online survey by e-mail to the CEOs of these firms. This e-mail contained introductory information on the study and offered participants information on the results, which was sent to them immediately after the completion of our analyses. Owing to financial constraints, we could not offer participants a choice between an online and a paper version; thus, instead of token cash incentives (as recommended by Millar and Dillman, 2011), we offered them information on the results. After sending a follow-up e-mail to non-respondents, we received 1,422 responses, which represents a gross response rate of 11%, which is in line with comparable studies in the German-speaking area (e.g., Ossadnik *et al.*, 2004; Schachner *et al.*, 2006; Eierle and Haller, 2009; Schraml, 2010; Becker *et al.*, 2011).

Of these 1,422 responses, 436 cases could not be evaluated, as the returned questionnaires answered fewer than four questions. Thus, 986 survey responses turned out to be evaluable. In addition, we had to eliminate 89 survey responses because of missing information regarding the number of employees or because the actual number of employees quoted was lower than 50 (although we only contacted firms that were recorded in the address databases as having at least 50 employees, some participating firms themselves stated in the survey that they had fewer than 50 employees and consequently were excluded from further analysis). Thus, the remaining 897 survey responses served as the sample for the present paper (479 from Austria, 418 from Germany). To control for non-response bias, we compared early respondents (first third) with late respondents (last third) (Leslie, 1972) for the questions on firm size (see subsection "Measures") and on firms' membership to the divisions of the Economic Chambers. The absence of a non-response bias was supported because no significant differences could be detected between these groups (Fowler, 2009).

We tested all hypotheses for the combined Austrian/German dataset as well as for each individual country dataset in order to enable cross-country comparisons. As hypotheses 1–3 focus on the influence of firm type (FB vs. NFB), the entire sample of both FBs and NFBs was used to assess the conformability of these hypotheses. By contrast, to test hypotheses 4–6, only the FBs in our sample were used, as these hypotheses focus on contextual factors within this group.

Measures

For hypotheses 1 to 3, the FB status of a firm served as the independent variable. In order to distinguish between FBs and NFBs, we employed Klein's (2000) Substantial Family Influence (SFI) concept. We decided to use this concept, as it is proven to be a reliable concept for FB definition in empirical research (Lindow *et al.*, 2010; Hiebl *et al.*, forthcoming). Furthermore, using the SFI concept also enables later comparisons of our study with other empirical FB studies conducted in German-speaking countries (e.g., Klein, 2000; Lutz *et al.*, 2010; Duller *et al.*, 2011; Payer-Langthaler *et al.*, 2012).

To judge the FB status of a company, the SFI concept looks at family involvement in the company's equity, executive board and supervisory board. The company's individual SFI score is calculated by adding the family's share (from 0 for no family share to 1 for full family share) in these three aspects and can thus range from 0 to 3. According to Klein (2000), a firm can be classified as an FB if the family holds a least some share in the firm's equity and reaches an SFI score of at least 1. Using the SFI concept, we thus assessed the FB/NFB status of the 812 firms in our dataset. For Austria, we identified 199 (46.1%) FBs and 233 (53.9%) NFBs, while in the German dataset we classified 246 (64.7%) firms as FBs and 134 (35.3%) as NFBs.

The binary dependent variable "existence of a management accounting department" (hypotheses 1, 4, 5 and 6) was generated by asking survey participants who carries out the management accounting practices in their firms. We offered them four potential operators of management accounting tasks as well as the option "others". Among these four potential operators was the category "discrete management accounting department". If survey participants opted for this category, we coded the binary variable "existence of a management accounting department" as 1. All other categories were coded as 0. We also asked survey participants at which managerial level the head of management accounting was situated and whether he or she holds a university degree. Thus, the dependent variable "managerial level of the head of management accounting" (hypothesis 2) was ordinal in nature and ranged from 1 (first managerial level) to 4 (fourth managerial level). The dependent variable "head of management accounting with academic training" (hypothesis 3) was coded as 1 if the respective head of management accounting held a university degree and as 0 if not.

Similarly, for the group of FBs, the independent variable "firm size" (hypothesis 4) was binary in nature and thus featured two categories: "between 50 and 249 employees" (representing medium-sized firms) and "250 or more employees" (representing large firms). To test hypothesis 5, within the group of FBs, the level of family influence served as the independent variable. Thus, for the purpose of this study, we considered an SFI value between 1 and 2 to represent a medium level of family influence and an SFI value larger than 2 to be a high level of family influence (Hiebl *et al.*, forthcoming).

Finally, the independent variable "existence of non-family management" (hypothesis 6) was coded as 1 if survey participants stated that within the respective firm's executive board, there were also members that did not belong to the controlling family. The variable was coded as 0 if only family members formed the executive board.

RESULTS

Institutionalisation of management accounting in FBs and NFBs

Table 1 shows the descriptive statistics and univariate test results based on Mann–Whitney *U* tests concerning the influence of the contextual variable "firm type" (FB vs. NFB) on the three aspects of the institutionalisation of management accounting: the existence of a separate management accounting department, the academic training of the head of management accounting and the hierarchical level of the head of management accounting. Boxes shaded grey indicate statistically significant results.

In our data, we find support for H1 and partial support for H3. We can thus confirm that FBs establish separate management accounting departments to a lesser extent than do NFBs and that the heads of management accounting in FBs mostly have a lower level of education than do their counterparts in NFBs. From our data, we find only limited support for H2, which suggested that the heads of management accounting reach a higher hierarchical level in FBs compared with NFBs. Although in all three datasets the average hierarchical rank of the head of management accounting shows a lower mean (which translates into a higher level of hierarchy) for FBs compared with NFBs, the Mann–Whitney *U* test does not indicate statistically significant results.

Table 1. Influence of firm type on the institutionalisation of management accounting (descriptive and statistical test results).

		Austria		Germany		Overall	
		FBs	NFBs	FBs	NFBs	FBs	NFBs
Firms with discrete management accounting department	n	78	141	88	64	166	205
	Percentage	41.3%	66.8%	38.3%	50.8%	39.6%	60.8%
	p-value (Fisher test)	0.000***		0.015**		0.000***	
Managerial level of head of management accounting (1 = highest level)	N	75	125	79	58	154	183
	Mean	1.77	1.87	1.78	1.86	1.78	1.87
	p-value (MWU test)	0.192		0.453		0.130	
Head of management accounting with academic training	n	43	91	63	51	106	142
	Percentage	58.1%	75.2%	84.0%	89.5%	71.1%	79.8%
	p-value (Fisher test)	0.010**		0.259		0.046**	

Level of significance: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Table 2 presents additional descriptive statistics regarding the main operator of management accounting practices in FBs. These results show that units other than specific management accounting departments perform management accounting practices in FBs more often than they do in NFBs. In particular, management team members, assistants to these management team members and the financial accounting department are found to frequently use management accounting practices in FBs.

Coming to our third hypothesis, which suggested a lower level of university education among heads of management accounting in FBs, for the Austrian and overall datasets this hypothesis was confirmed (each at $p < 0.05$). Further, for heads of management accounting in Germany, university training is more common in NFBs than it is in FBs.

Hence, overall we consider this hypothesis to be confirmed, although not at a statistically significant level for all three datasets.

Table 2. Operators of management accounting practices (descriptive results).

Main operator of management accounting practices	**Austria**		**Germany**		**Overall**	
	FBs	NFBs	FBs	NFBs	FBs	NFBs
Discrete management accounting department	41.3%	66.8%	38.3%	50.8%	39.6%	60.8%
Management / assistants to management	22.8%	10.4%	31.3%	20.6%	27.4%	14.2%
Financial accounting department	29.1%	20.4%	24.8%	23.8%	26.7%	21.7%
External accountants / consultants	6.9%	1.9%	5.2%	3.2%	6.0%	2.4%
Other operator	0.0%	0.5%	0.4%	1.6%	0.2%	0.9%
N	189	211	230	126	419	337

Regarding the differences between the two country datasets, our data show that German firms (both FB and NFB) establish fewer management accounting departments than do Austrian firms. In Germany, management team members or their assistants perform management accounting practices more often than they do in Austria. However, if there exists a management accounting department, its head more often holds a university degree in German firms compared with Austrian firms. The lower average level of education of Austrian heads of management accounting is consistent with the lower percentage of graduates in the general Austrian population compared with Germany (European Commission, 2009).

Contextual factors of management accounting institutionalisation in FBs

Hypotheses 4, 5 and 6 deal with the influence of contextual factors on the institutionalisation of management accounting in FBs. The descriptive statistics and test results presented in Table 3 show that all three hypotheses are confirmed for all three datasets. Turning to our fourth hypothesis, a positive relationship between firm size and the institutionalisation of management accounting can also be found for FBs. The different levels of the institutionalisation of management accounting between medium-sized and large firms (European Commission, 2003) are considerable. In the overall dataset, more than three in four large FBs have established a specific management accounting department, whereas among medium-sized FBs only one in four firms have done so.

Table 3. Influence of FB contextual factors on the institutionalisation of management accounting (descriptive and statistical test results).

		Firms *with* discrete management accounting department					
		Austria		Germany		Overall	
		Share	N	Share	N	Share	N
Firm size (number of employees)	50-249	26.1%	36	23.2%	38	24.5%	74
	≥ 250	82.4%	42	75.8%	50	78.6%	92
	p-value (Fisher test)	0.000***		0.000***		0.000***	
Level of family influence	Med. (1≤SFI <2)	54.1%	53	43.7%	59	48.1%	112
	High (SFI≥2)	27.5%	25	30.5%	29	29.0%	54
	p-value (Fisher test)	0.000***		0.029**		0.000***	
Existence of non-family management	Existent	58.6%	51	45.0%	58	50.5%	109
	Nonexistent	26.0%	26	29.3%	29	27.6%	55
	p-value (Fisher test)	0.000***		0.011**		0.000***	

Level of significance: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

As proposed by hypothesis 5, we found a negative correlation between family influence and the existence of management accounting departments. The differences between FBs with a medium and those with a high level of family influence were also notable. Of FBs with a high level of family influence, only 29% have established a management accounting department. However, among FBs with a medium level of family influence roughly half (48%) have done so. Finally, the sixth hypothesis, which suggested a positive relationship between the existence of non-family management and the existence of management accounting departments, was also confirmed for all three datasets.

Logistic regression

Because all three of the contextual factors of management accounting institutionalisation in FBs discussed in Subsection 0 provided significant results, we next assessed which of these factors acts as the strongest predictor of the existence of a separate management accounting department. Thus, we performed a logistic regression analysis (Hilbe, 2009) for the FBs in our sample.

For the purpose of this study, the binary variable “existence of a discrete management accounting department” (existence vs. nonexistence) was built up in a logistic regression model using the three covariates “firm size” (medium-sized vs. large), “existence of non-family management” (existence vs. nonexistence) and “level of family influence” (medium vs. high). In a further model, we included all possible first- and second-order interactions. However, the results showed that these interactions should not be included in the final model. Thus, only the results of the first model are discussed below.

Table 4. Logistic regression modulation.

Step	**0**	**1**	**2**
-2 Log-Likelihood	556.938	450.942	445.271
Change per step		105.996	5.671
Overall change		105.996	111.667
Significance of stepwise change		0.000	0.017
AIC	134.627		26.961
BIC	138.655		39.046
Absolute term (b_0)	-0.426	-8.484	-8.925
Firm size (b_1)		2.447	2.316
Existence of non-family management (b_2)			0.566
Correct prediction of the nonexistence of a management accounting department	100.0%	90.0%	90.0%
Correct prediction of the existence of a management accounting department	0.0%	56.1%	56.1%
Overall correct prediction	60.5%	76.6%	76.6%

We used stepwise forward selection to select the variables,, while a change in log-likelihood served as the criterion. Table 4 shows the development of the particular steps. In step 0, only the absolute term β_1 was estimated. In step 1, the covariate “firm size” was included and in step 2 “the existence of non-family management” was incorporated. The third potential covariate “level of family influence” did not provide a significant contribution to the model, which provides a result as follows:

$$\log\left(\frac{P(y_i = 1)}{P(y_i = 0)}\right) = -8{,}925 + 2{,}316 \cdot \text{firm size} + 0{,}566 \cdot \text{existence of non-family management}$$

Both goodness-of-fit statistics (Pearson 2.651 and Deviance 2.737) were not significant, which means that there are no differences between the observed data and the data estimated using our model. Other criteria (e.g., AIC, BIC) also confirmed the chosen model. The pseudo R-squared measures were 0.236 (Cox & Snell), 0.319 (Nagelkerke) and 0.201 (McFadden).

Table 5. Logistic regression coefficients.

Covariate	Reference class	Regression coefficient		
		β	$\exp(\beta)$	p
Firm size	Medium-sized	2.316	10.135	0.000
Existence of non-family management	Nonexistence	0.566	1.761	0.017

Table 5 presents the estimated regression coefficients β, magnitudes of effect $\exp(\beta)$ and associated Wald significances of our final model. Our model indicates that large FBs show a 10-fold higher probability of having established a separate management accounting department compared with medium-sized FBs. Further, FBs that employ non-family managers show a 1.76-fold higher likelihood of having established a management accounting department compared with FBs using a family-only management team. Both the magnitude of effect and change in log-likelihood show that non-family management increases the probability of the existence of a management accounting department, but firm size is clearly the strongest predictor of a management accounting department. Level of family influence turned out to be the weakest predictor of a separate management accounting department, although the univariate analysis also showed significant results.

DISCUSSION

Our results confirm that firm type (FB vs. NFB) serves as a strong predictor of the establishment of a management accounting department. Only 40% of the FBs in our overall dataset have established a separate management accounting department compared with 61% of the NFBs. These results also support the notion that stewardship behaviour might prevail within FBs and that FBs make use of the FB-specific resource "familiness". Because of mutual trust, high value commitment and tacit firm and market knowledge (Davis *et al.*, 2010), the mechanisms to control, coordinate, plan and budget seem to offer fewer benefits to FBs than they do to NFBs (Corbetta and Salvato, 2004; Jaskiewicz and Klein, 2007; Moog *et al.*, 2011).

Therefore, if there are fewer management accounting departments in FBs, the question arises of whether such firms simply use management accounting practices to a lesser extent or recruit other institutions to perform these practices. Previous research offers support for both ideas. Firstly, large FBs differ little from NFBs in their use of strategic and operational management accounting practices (Schachner *et al.*, 2006; Feldbauer-Durstmüller *et al.*, 2007; Hiebl *et al.*, 2012; Speckbacher and Wentges, 2012; Hiebl *et al.*, forthcoming). Furthermore, Upton *et al.* (2001) found that the majority of FBs use formalised strategic plans. Nevertheless, the findings of these studies did not indicate whether FBs use management accounting practices less intensely and, therefore, have less need for a specialised management accounting department. Secondly, Lindow *et al.* (2010) found that family influence is correlated positively with centralised organisational structures. This infers that organisational units other than separate departments of management accounting often perform management accounting practices in FBs.

In the additional descriptive results presented in Table 2, we found that in FBs, members of the management team, assistants to these management team members and the financial accounting department are frequently in charge of management accounting practices in FBs. External accountants or consultants also turned out to be a regular source of accounting knowledge for (family) enterprises. This finding can be interpreted in light of the further need to professionalise management accounting and create more discrete management accounting departments and thus expertise in FBs (Songini, 2006). However, considering the often found superior performances of FBs compared with NFBs (e.g., Anderson and Reeb, 2003), this lower level of formalisation in management accounting practices in FBs does not necessarily imply lower performance or the need for more professional and/or separate management accounting departments. This factor also closes the circle on the main idea of stewardship in FBs. Owing to the lower need for monitoring and control, resources otherwise needed for these practices (such as a management accounting department) can be allocated to increasing firm performance (Corbetta and Salvato, 2004; Davis *et al.*, 2010). FBs, especially those with an explicitly entrepreneurial culture (Memili *et al.*, 2010), would rather allocate resources to where they promise immediate results and not to supporting functions such as management accounting. Furthermore, according to stewardship theory, family members do not need this type of management accounting information to document their own achievements for the subsequent presentation to shareholders or directors, who might use it to judge further assignments, promotion or remuneration.

The hypothesis that in FBs the heads of management accounting are situated at a lower hierarchical level than they are in NFBs did not find support in our data. Despite a slightly higher than average managerial level for the heads of management accounting in FBs compared with NFBs (see Table 1), we conclude that firm type does not significantly influence the hierarchical level at which the head of a management accounting department is employed. FBs create management accounting departments less frequently, but if they do so, they differ little from those in NFBs when it comes to managerial level. Thus, in our study we find little evidence of the FB-specific resource “flat hierarchy” (Dailey *et al.*, 1977; Lambrecht and Lievens, 2008). Admittedly, one number (the managerial level of the head of management accounting) alone cannot explain the complex construct of hierarchy (Rajan and Wulf, 2006). Hence, further research is needed to clarify whether FBs truly show a flatter hierarchy than do NFBs and to evaluate the consequences on governance and performance. Still, our results add to management accounting research by showing that the head of management accounting is usually situated at the second highest hierarchical level, just below the management board.

By contrast, we can mostly confirm the hypothesis of FBs’ lower reliance on academic training with our data. Our results therefore reinforce previous findings that have shown that FBs attach less importance to academic training (Fiegener *et al.*, 1996; García Pérez de Lema and Duréndez, 2007). We show that this finding is also true for the heads of management accounting in FBs. Yet the question remains why. One reason could be that academically trained management accountants avoid FBs because they offer lower total compensation packages (Anderson and Reeb, 2003) or lower promotion prospects (Covin, 1994; Barnett and Kellermanns, 2006) compared with NFBs. Another explanation could be found in the agency behaviour of the controlling family. Because family members claim all decision-making power in an FB, such enterprises might avoid recruiting employees that have a university education under the assumption that these new recruits are likely to challenge the family’s decisions or claim decision-making power for themselves (Holland and Boulton, 1984; Gedajlovic *et al.*, 2004). Moreover, the family might also want to avoid the higher personnel costs associated with university graduates, which could be another reason for the superior financial performances of FBs. Further research is needed to investigate why FBs employ fewer academically trained employees or why they avoid hiring such workers given that a university education might serve as a valuable resource to the business (Sirmon and Hitt, 2003).

Moving to the contextual factors that drive the establishment of discrete management accounting departments in FBs, our data support the notion that larger FBs establish management accounting departments more often than do medium-sized ones. This supports the notion that as they grow in size, FBs also depend on the information generated by management accounting departments. This phenomenon can be interpreted against two backdrops. On one hand, larger FBs show an increased need for coordination, more formalised procedures and greater delegation (Moores and Mula, 2000; Upton *et al.*, 2001) compared with medium-sized ones. A separate management accounting department can thus serve as a key resource to cope with these needs (Songini, 2006; Merchant and van der Stede, 2007). On the other hand, as an FB grows it is likely that family influence decreases over time (e.g., via the employment of non-family managers or directors) (Gersick *et al.*, 1997) and that the FB-specific stewardship culture of mutual trust and low management control diminishes. Hence, a firm introduces control mechanisms as proposed by agency theory, and a management accounting department can serve as a resource to control management. Furthermore, from the presented logistic regression results, firm size has evolved to become the most important driver of the establishment of management accounting departments in FBs. Thus, it can be concluded that increased complexity and the need for coordination and formalisation in larger FBs are the main drivers for the establishment of a separate management accounting department (Moores and Mula, 2000). The proposals of agency theory agree with this finding, because larger FBs seem to show a greater need for goal alignment, which is partly solved by introducing institutionalised management accounting (Songini, 2006).

The negative correlation between level of family influence and the establishment of discrete management accounting departments (H5) can also be viewed in light of stewardship and agency theory. In FBs that have a high level of family influence and family involvement, mutual trust among family stewards does not require extensive, formalised control mechanisms (Corbetta and Salvato, 2004; Vallejo, 2009). Likewise, a lower level of family influence requires more control mechanisms, because it cannot be assumed that all participating parties act in line with company policies. Thus, firms introduce mechanisms in order to align the interests of the controlling family with those of external shareholders and stakeholders (Fama and Jensen, 1983; Schulze *et al.*, 2003). In this vein, the controlling family normally uses incentive compensation and monitoring (Chua *et al.*, 2009; Block, 2011). Both monitoring and incentive compensation rely on detailed and formalised information. Because this information can be gained via management accounting practices such as planning, controlling and budgeting (Merchant and van der Stede, 2007), the circle closes to an increased need for institutionalised management accounting in FBs that have a lower level of family influence.

Further, the existence of non-family management in the FB turned out to be a relevant contextual factor for the establishment of discrete management accounting departments. The increased need for both management control and professionalisation, as might be driven by a non-family manager, offers a sound explanation for this positive relationship (Songini, 2006). However, we rather assess professionalisation as the more likely explanation for this finding. For instance, non-family CFOs, who are often the first non-family managers hired by FBs (Filbeck and Lee, 2000), tend to rely on more formalised information provided by a management accounting department to justify decisions or to gather the information needed for decision making (Gedajlovic *et al.*, 2004). Furthermore, the head of management accounting normally reports to the CFO (Horngren *et al.*, 2010) rather than directly to the board of directors, which is the body most likely to perform management control (Merchant and van der Stede, 2007). Clearly, the information provided by a management accounting department might also be used to monitor non-family managers. However, we argue that non-family managers rely heavily on professionalisation to justify their existence in the FB, especially in the CFO role, and thus that they also drive the introduction of management accounting departments as a step towards the professionalisation of FBs (Songini, 2006; Lutz *et al.*, 2010; Hiebl, 2012).

CONCLUSIONS

Previous research has paid limited attention to the specific organisation of the management accounting function in FBs (Salvato and Moores, 2010). However, our results indicate that FBs substantially differ from NFBs regarding the institutionalisation of management accounting and that further research is needed to understand the underlying drivers of the findings summarised below. We found that FBs establish separate management accounting departments to a significantly lesser extent compared with NFBs and that the heads of management accounting in FBs less often hold a university degree. Our findings also show that a larger size, a lower level of family influence and the existence of non-family management team members promote the establishment of management accounting departments in FBs.

Implications for research

Our results add to the FB and the management accounting literature in several ways. First, drawing on the RBV, our findings further reinforce the notion that FBs attach less importance to university education among their employees (Fiegener *et al.*, 1996; García Pérez de Lema and Duréndez, 2007). Because FBs with a higher level of family influence less often establish a management accounting department, it can be argued that the FB-specific resource of familiness (Tokarczyk *et al.*, 2007; Zellweger *et al.*, 2010) lowers the need for formalisation and management control. Therefore, we can also confirm that different levels of family influence affect an FB's organisational structure (Kellermanns, 2005; Lindow *et al.*, 2010). However, in our data we found no support for FBs having flatter hierarchies compared with NFBs.

Second, referring to agency and stewardship theories, the less frequent establishment of management accounting departments in FBs delivers further evidence of stewardship-like cultures in such enterprises, because one vehicle to implement agency control mechanisms would be formalised management accounting systems (Songini, 2006). However, we found that a significantly larger number of management accounting departments exist in large FBs compared with medium-sized ones. Furthermore, firm size turned out to be by far the strongest predictor of the existence of institutionalised management accounting in FBs. Hence, we conclude that stewardship theory might apply to medium-sized FBs, but not to the same extent to large FBs. As our study shows, large FBs show higher levels of agency control mechanisms, which enables us to conclude that growing FBs more and more resemble NFBs (Gersick *et al.*, 1997; Kellermanns, 2005). Corresponding with Klein's (2000) SFI concept, one step in the transition from an FB to an NFB is the employment of non-family management members because non-family management decreases the level of family influence. Consistent with the findings of previous studies (e.g., Filbeck and Lee, 2000; Songini, 2006; Lutz *et al.*, 2010), our data show that the existence of non-family managers promotes professionalisation, for instance through the introduction of a separate management accounting department. In our view, non-family managers actively drive the establishment of management accounting departments because they rely on more formalised information as the basis of decision making and to signal impact in order to justify their employment in the FB.

Third, our results may serve as a motive for further management accounting research. Recently, management accounting scholars have called for the development of management accounting theory that allows practitioners to build improved management accounting systems (Malmi and Granlund, 2009). We have shown that FBs implement less formalised management accounting systems; however, previous research has found that they often show better financial performances than do NFBs (e.g., Anderson and Reeb, 2003). Thus, we conclude that less formalised management accounting systems do not necessarily harm firm performance and that they might even be a driver of firm performance, because resources otherwise used (e.g., for internal pro-forma reporting) are reallocated to operations that promise the direct enhancement of performance. Therefore, we propose that management accounting research should further study the drivers of the lower level of formalisation in FBs and try to transfer these findings to general management accounting theory, which might also help organise management accounting systems in NFBs more efficiently. One cause for this proposed relationship might be the existence of a stewardship-like culture in FBs, which could be difficult to transfer to NFBs. However, as recent FB research has shown (Davis *et al.*, 2010), non-family managers can also act as stewards and can equally promote a trust-based relationship among employees, which could be an enabler for less formalisation.

In any case, we clearly do not argue that management accounting practices offer no value to FBs or to NFBs. We rather theorise that a healthy balance of management accounting formalisation offers adequate support to management without harming firm performance. In particular, in German-speaking countries highly formalised management and cost accounting systems are in use (Ewert and Wagenhofer, 2007). Reducing complexity and the generation of separate management and financial accounting information, which is common in German-speaking regions, might be one path towards this healthy balance. Moreover, further research might also help explain why FBs establish management accounting departments to a lesser extent and describe the roles management accountants play in FBs compared with NFBs. The lower appreciation of university education in FBs also offers further research opportunities.

Implications for practice

Our results also provide important implications for FB practice. First, FB owners might take our results as an indication that when growing their FBs in size, employing non-family managers on their management boards or when generally decreasing family influence in the FB (e.g., by selling shares to non-family members), a higher need for an institutionalised usage of management accounting is likely to arise. Put differently, FB owners might anticipate that such developments could increase the need for more formalised information and might proactively install management accounting departments to more easily and more fluently integrate and inform non-family managers, shareholders or directors. Moreover, our results indicate that FBs might have difficulties in attracting well-educated management accountants. Thus, in order to also improve their value proposition to highly qualified and professional employees, FB owners might think of creating more attractive career paths for such non-family employees, including the opportunity to make it to the FB's management board even without family ties.

Second, management accountants who consider working for FBs could use our results to better estimate what standing and requirements management accountants might have or face in a specific FB. For instance, they could assume that compared with NFBs, their formal education would be less important in FBs. Moreover, they could also expect that in FBs, which are (partly) managed by non-family executives or which are larger in size, they might rather find institutionalised management accounting and thus not have to establish such practices in the first place or extensively promote the benefits of management accounting information to the management team. By contrast, management accountants seeking to build up a management accounting function more or less from scratch could use our results to presume that such an opportunity might rather arise in medium-sized firms with a higher level of family involvement compared with larger firms with no or only low family influence.

Eventually, other stakeholders such as creditors or non-family investors could also use this paper's results as an indication of the extent to which management accounting might be institutionalised in FBs. Before engaging in FBs, they could estimate the likelihood of the existence of formalised management accounting information based on the contextual factors firm size, family involvement and the existence of non-family managers. Having already engaged in FBs, they could then facilitate a higher degree of management accounting institutionalisation by suggesting including non-family managers in the FB's management team as well. Through this approach, they could pave the way for more formalised information in order to be better able to control the development of their investments.

Limitations

Our study has some limitations, which we acknowledge at this point. First, we only studied FBs and NFBs within the German-speaking area. Thus, our results cannot be readily transferred to other cultural settings and they require further testing in other countries. Second, even though we attempted to increase the response rate by avoiding too detailed questions on financial information and by sending out reminders to non-respondents, our study's response rate remains low by international standards. Although studies from the German-speaking area often operate with response rates of around 10%, this response rate implies that our results should be interpreted with care. Third, we focused on one concept to distinguish between FBs and NFBs, namely the SFI concept. There remains a variety of other potential FB definitions, which might produce different results. Therefore, a replication of our study using different FB definitions might be worthwhile. Fourth, owing to restricted space in the survey with corporate executives, we had to focus on selected contextual factors behind the establishment of management accounting departments. However, there might be both more contextual factors and different management accounting outcomes behind why FBs differ from NFBs. Thus, additional contextual factors such as industry sector, firm lifecycle stage and competitive environment as well as different signs of management accounting institutionalisation could be investigated in future research.

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