Multiple directorships in unlisted SMEs

Wim Voordeckers
Hasselt University
KIZOK Research Centre for Entrepreneurship and Innovation
Agoralaan gebouw D, 3590 Diepenbeek – Belgium

Tensie Steijvers
Fund for Scientific Research (FWO) post doctoral research fellow
Hasselt University
KIZOK Research Centre for Entrepreneurship and Innovation
Agoralaan gebouw D, 3590 Diepenbeek – Belgium

Roger Mercken
Hasselt University
KIZOK Research Centre for Entrepreneurship and Innovation
Agoralaan gebouw D, 3590 Diepenbeek – Belgium

Abstract

During the last decade, several studies examined the benefits and detriments of multiple directorships in listed firms. Recently, more formal governance guidelines for SMEs emerged and strongly recommended the adoption of outside directors, making the discussion about multiple directorships in unlisted SMEs relevant as well. Results reveal that a busy board positively influences performance except for high growth ventures in which a busy board seems to be detrimental to performance. Results also suggest that a busy CEO negatively influences performance. However, the board's busyness and firm growth seem to moderate the busy CEO-performance relationship. A busy board would compensate for the negative performance effect of a busy CEO. Furthermore, high growth ventures seem to require full commitment of the CEO and suffer from lower performance if the CEO is busy. Our hypotheses were tested in the unique Belgian setting with the Belfirst database containing detailed financial and directors' information.

Key words: board of directors, SMEs, multiple directorships

1. Introduction

During the last decade, the corporate governance debate received increasing attention in the academic world, driven by various scandals worldwide in well known publicly traded firms. Nevertheless, governance questions also exist in small and medium-sized enterprises (SMEs) (e.g. Huse, 2000; Uhlaner et al., 2007). Since the majority of firms worldwide is small or medium-sized, good governance practices for this category of firms may be very important for global economic development and growth (Gabrielsson and Huse, 2005). Although various governance mechanisms exist, it is widely acknowledged that the board of directors is the most imperative governance instrument for SME's. Managers of SME's are often inspiring entrepreneurs with excellent technical or product knowledge, but unfortunately, do have little general management experience (Forbes and Milliken, 1999). Therefore, well-functioning boards of directors in smaller privately held firms may have significant added value, particularly from a strategy and networking perspective (Johannisson and Huse, 2000; Voordeckers et al., 2007; Pugliese and Zhang, 2007).

The development of a board of directors often starts with the introduction of outside directors (Gabrielsson and Huse, 2005). Consequently, the adoption of outside directors is one of the key recommendations found in recent SME governance guidelines (e.g. Lane et al., 2006) and codes (e.g. the Belgian Code Buysse (Uhlaner, et al., 2007)). However, even when only a small fraction of SME's would have the intention to adopt outside directors, the demand for outside directorships would increase exponential, exceeding the current supply of directors by a large extent. When the demand for outside directors increases, current directors will be main candidates for additional directorships because of their experience as director. This trend is expected to extend the phenomenon of multiple directorships towards the population of SME's.

Multiple directorships bring about both threats and opportunities. Arguments in favor of multiple directorships are the valuable experience in active boards (Zajac and Westphal, 1996; Kroll et al., 2008), the provision of knowledge to support key strategic decisions (Harris and Shimizu, 2004), reputational benefits (Kiel and Nichelson, 2006; Di Pietra et al., 2008), access to key resources (Pfeffer and Salancik, 1978) and organizational legitimacy (DiMaggio and Powell, 1983). On the other hand, the workload of directors serving on multiple boards increases significantly. Hence, the risk increases that they can no longer adequately perform their director roles, especially regarding their monitoring duties (Ferris et al., 2003; Kiel and Nicholson, 2006).

To date, both in practice as well as in the academic community, a debate is going on about these benefits and detriments of multiple directorships and their effect on performance and value creation. However, prior studies only concentrated on publicly traded firms and provided inconclusive results (e.g. Ferris et al., 2003; Harris and Shimizu, 2004; Perry and Peyer, 2005; Kiel and Nicholson, 2006; Fich and Shivdasani, 2006; Jiraporn et al., 2008; Di Pietra et al., 2008). For example, Fich and Shivdasani (2006) found that firms with boards consisting of directors with multiple directorships ("busy" directors) are likely to have a decline in the quality of corporate governance, i.e. the effectiveness of outside directors as corporate monitors declines. On the contrary, Harris and Shimizu (2004) concentrated on the contribution of busy directors on key strategic decisions and found that they are sources of knowledge and enhance performance.

In addition to the debate about attracting busy directors, the debate about allowing the firm's own executives to accept additional directorships is at least as relevant. Since CEO's and senior executives have experience in decision management, they are usually main candidates for board membership. Allowing the CEO or other executives to accept external directorships potentially increases their executive abilities and effort. However, there is also

an opportunity cost of the executive's time which may lead to lost value creating opportunities (Conyon and Read, 2006). Because the CEO is often the dominant person in SME's (Feltham et al., 2005), the discussion about busy executives in a SME environment seems to be especially relevant for the position of the CEO. Empirical evidence on this issue is rather scant. A recent study by Perry and Peyer (2005) found that when agency concerns exist, additional directorships by executives of public listed firms seem to have negative effects on firm value. When agency concerns are less significant, multiple directorships by executives seem to be value enhancing.

Although the increasing pressure for active boards in small and medium-sized firms makes the debate of the performance effects of multiple directorships very important for SME's as well, empirical evidence on this issue – as far as our knowledge - does not exist. Therefore, the purpose of this study is to examine if the theoretical advantages of (1) a *busy board* and (2) a *busy CEO* outweigh the disadvantages in a SME environment taking into account the interaction between the busyness of the board and the busyness of the CEO and the moderating effects of the life cycle. To test our hypotheses, we use a sample from the Belgian Belfirst database of Bureau Van Dijk, containing detailed information concerning firm financial data and multiple directorships of directors of all incorporated Belgian firms including SME's.

Our study contributes to the literature in several ways. First, our study is among the first that empirically examine the validity of two opposing predictions about busy boards and busy CEO's in *non listed SMEs.* Whereas previous studies in the context of publicly listed firms investigated the performance effects of a busy board (Ferris et al., 2003; Fich and Shivdasani, 2006) *or* busy executives (Perry and Peyer, 2005), we investigate both effects simultaneously and in interaction with each other. Multiple directorships have advantages and disadvantages for boards in general as well as CEOs. However, we propose that the balance between the

advantages and disadvantages – and as a consequence the effects on performance - differs for a CEO compared to the board in general. Because of the predominance of service needs in SME's vis-à-vis control needs (Bammens et al., 2008), we expect positive performance effects from a busy board. On the opposite, because of the often highly dominant position of the CEO in SMEs (Feltham et al., 2005), we expect that the negative effects (e.g. time constraints) of a busy CEO will dominate the positive effects (e.g. increase in executive ability (Conyon and Read, 2006)) although the negative performance effects are expected *to be moderated* by a busy board.

Secondly, governance needs of SMEs are essentially related with specific firm contingencies such as the firms' change over the stages of the organizational life cycle (Grundei and Talaulicar, 2002; Lynall et al., 2003). Consequently, the impact of a busy board or a busy CEO on firm performance is also expected to be moderated by the organizational life cycle. Therefore, we test several *multiplicative interaction regression models* (Brambor et al., 2006; Kam and Franzese, 2007) in which we calculate interaction effects and the *marginal effects* of our main variables under study (busy CEO's, busy directors and life cycle effects) which could provide significant statistical relationships even if the coefficient on the interaction term is insignificant (Brambor et al., 2006).

Thirdly, our results also provide indirect information about the dominant theoretical perspective that is most likely to explain board roles in SMEs, conditional on life cycle effects. And finally, our results also provide important input for the practical debate about limiting directorships. For example, in order to avoid potential negative impact on firm performance, the US National Association of Corporate Directors (1996) and the Council of Institutional Investors (2003) have limited the number of directorships held by directors of publicly traded firms. However, these measures initiated a severe debate as they were not supported by the empirical evidence (e.g. Ferris et al., 2003; Harris and Shimizu, 2004). To

date no similar rules exist for private SME's. Our results provide suggestions about the desirability of similar limitations in governance recommendations for this category of firms.

In the next section, theoretical arguments in favor or against multiple directorships are further discussed and hypotheses derived. In the subsequent section, the data and empirical methodology are discussed. Finally, our results are presented and discussed.

2. Literature review

Several theoretical perspectives (e.g. agency theory, resource based view, resource dependency theory) argue that multiple directorships may be valuable. *Agency theory* proposes that a board of directors with independent outside directors may be an effective instrument to monitor the agents' behavior and as such, reduces agency costs (Fama and Jensen, 1983). From this point of view, early agency theory suggested that directors serving on multiple boards signal their reputation as monitoring specialists (Fama and Jensen, 1983) and offer better monitoring avoiding wealth destructing decisions (Ferris et al., 2003). However, boards not only add value through their monitoring duties (Zahra and Pierce, 1989). Besides the control role, several service, strategy or resource dependency related tasks of the board - which are often labeled the "service role" - could be deducted from additional theoretical perspectives (Van den Heuvel et al., 2006). For example, *resource dependency theory* suggests that a key role for directors serving on multiple boards may be their linking role of the firm with its environment (Hung, 1998; Huse, 2005). As such, multiple directorships enlarge the director's experience, network and commercial contacts. This may open new markets for the firm and provide access to vital sources e.g. bank finance. Furthermore, the *resource based view* recognizes that a board of directors can be a valuable resource leading to competitive advantage through the professional and personal

qualifications of the individual directors (Gabrielsson and Huse, 2005). Hence, busy directors would have more knowledge to provide profound advice in key strategic decisions (Harris and Shimizu, 2004). To act effectively, a board needs to consist of directors with different skills, experience and contacts in terms of their functional, industrial and educational background (Kiel and Nicholson, 2006; Pugliese and Zhang, 2007). "Busy" directors may be busy because they are good contributors (Harris and Shimizu, 2004). Hence, busy boards are assumed to have more board capital - consisting of director experience, expertise, reputation and network ties - which is argued to have a positive effect on both board monitoring and the provision of resources (Hillman and Dalziel, 2003). Empirical support in favor of multiple directorships has been found in several studies (e.g. Boyd, 1990; Ferris et al., 2003; Coles and Hoi, 2003; Yermack, 2004; Harris and Shimizu, 2004 and Di Pietra et al., 2008). In conclusion, multiple directorships may increase the value of a director in performing different board roles such as the control and service role.

However, more recently, the positive impact of multiple directorships has been questioned, especially from an agency point of view. As individuals have limited cognitive abilities and time constraints, multiple board seats increase the likelihood that these directors fail to fulfill their responsibility in appropriately governing the firm. The director's time constraint may exacerbate agency conflicts due to poor managerial oversight inducing managers to take private benefits at the expense of shareholder value (Harris and Shimizu, 2004). This would destroy firm value and negatively impact firm performance (Core et al., 1999; Shivdasani and Yermack, 1999). Empirical results by Fich and Shivdasani (2006) and Jiraporn et al. (2008) support this argument and suggest that busy directors have a negative impact on firm performance and firm value. Jiraporn et al. (2007) also find that directors with multiple board seats are more inclined to be absent from board meetings.

These time constraints arguments may also be valid when discussing the service related subtasks of the board. For example, Huse (1998) concluded that the time availability of a director is often just as important as his knowledge and experience. However, we propose that these time constraints do not have the same detrimental effect on all board roles. Concerning the control role, the benefits of active monitoring boards are the avoidance of negative agency consequences of poor managerial oversight. When boards do not perform their monitoring duties adequately due to time constraints, their firms are expected to face negative performance effects. However, concerning the service role, the benefits of boards actively involved in advising management would lead to a competitive advantage and positive performance effects. When a board is too busy to provide management with the necessary advice, it is not expected to result directly in negative performance effects but rather in a status quo in performance. Moreover, the networking function of the board is even less affected by time constraints of board members. For example, bankers could decide to provide bank loans partly based on the positive signal of director reputation by well-known busy directors. Because of the pure reputation effect, time constraints of such a busy director do not have a negative effect on the decision to provide loans to the firm.

Recently, the increasing pressure for active boards and outside directors in SME's makes the debate about the value of busy directors in a SME environment more prominent. However, the roles and contributions of outside directors in unlisted SME's may differ significantly from those in listed companies (Long et al., 2005; Gabrielsson and Huse, 2005). Agency theory posits that a board with independent outside directors may reduce agency costs through their monitoring of managerial performance (Fama and Jensen, 1983). As there often exist a large overlap between ownership and management in SME's, this agency problem is less prevalent for these firms (Forbes and Milliken, 1999). Accordingly, the monitoring role is considered to be less important than other board roles such as the service

role (Long et al., 2005; Van den Heuvel et al., 2006). From a resource based and resource dependency point of view, the board of directors is then perceived as an intellectual, reputation and networking resource which facilitates access to financial and human capital resources, provides timely advice and counsel when needed and makes the decision process less intuitive (Grundei and Talaulicar, 2002; Gabrielsson and Huse, 2005; Huse, 2005; Van den Heuvel et al., 2006). Busy directors usually will have more valuable director capabilities (e.g. advice, networking) than directors with a single directorship, and hence have a higher potential for service effectiveness. Moreover, busy directors also enhance the job-related diversity of the board which is found to have a positive effect on group performance (Pelled et al., 1999; Pugliese and Zhang, 2007). This job-related diversity is especially important when the CEO has limited experience (Zahra and Filatotchev, 2004) which is more common in non listed SMEs than in publicly traded companies.

In conclusion, one of the main detriments of overboarded directors is usually the time constraint to effectively monitor management whereas the benefits have to be situated in the spheres of the service role of the board such as advising management, networking and providing legitimation. Because the service needs of boards in SME's are generally perceived to be more important than the monitoring needs (Grundei and Talaulicar, 2002; Long et al., 2005; Van den Heuvel et al., 2006), we propose that the benefits of busy directors will outweigh the detriments. Therefore, we postulate that:

H1: A busy board of directors is expected to be positively related to firm performance in SME's

CEOs and senior executives are usually valuable candidates for board membership since they have experience in decision management. Firms that allow their CEO to accept outside

directorships will experience both advantages and disadvantages from it (Conyon and Read, 2006). On the one hand, the CEOs' firm may benefit from the networking, broadened insights and exposure to innovation when serving on multiple boards (Perry and Peyer, 2005). On the other hand, when the CEO overinvests in this form of human capital, the available time at the executive's own firm diminishes and negative performance effects could be expected (Conyon and Read, 2006). Taking into account also the private costs and pecuniary as well as non pecuniary benefits for the CEO due to accepting outside directorships, Conyon and Read (2006) even predict in their theoretical model that CEOs will spend more time on multiple directorships than is value-maximizing for the own company.

In small and medium-sized firms, the management team is rather small and the CEO (entrepreneur) is often the dominant person (Feltham et al., 2005). These dominant CEOs are usually inspiring entrepreneurs with valuable technical knowledge but few general managerial abilities (Forbes and Milliken, 1999). Therefore, a highly committed and available CEO is crucial for the success of the venture. Furthermore, the input of the CEO in the strategy process of the SME is invaluable. Since CEO's play an important role in the decision management (initiating and executing strategy) part of the strategy process (Fama and Jensen, 1983), the quality of this decision management may decline if the CEO has multiple directorships in terms of putting less effort in initiating new strategic ideas and less time commitment for the execution of the chosen strategy. Therefore, the heavy reliance of SME's on one or a few key executives decreases the likelihood that the executives will have extra time available for outside directorships without causing negative efficiency effects for the own company.

Although a CEO with multiple directorships may also increase his decision management abilities in terms of the exploitation of valuable social networks and the exposure to different management styles (Conyon and Read, 2006), the net effect of busy CEO's on performance is

expected to be negative, especially when the SME has significant growth opportunities (Booth and Deli, 1996).

In conclusion, although additional directorships are expected to increase the CEOs' managerial abilities, we expect that the detriments (less time available, less commitment to the own company) will outweigh these benefits. If the firm's CEO is overboarded, this may negatively impact the performance of the firm that he leads. So, we hypothesize that:

H2: A busy CEO is expected to be negatively related to firm performance in SME's

In the previous section, we propose that busy boards are expected to have a positive effect on performance whereas busy CEO's have a negative effect on performance. Until now, we discussed these two effects separately. However, both effects can be expected to interact with each other. The negative performance effects of a busy CEO may be mitigated when the board has sufficient board capital available (Hillman and Dalziel, 2003). As argued before, CEOs with multiple directorships will experience (time) constraints in effectively performing decision management. However, a board with sufficient board capital may compensate for this negative effect. Directors with valuable experience and expertise may contribute to the initiation of the firm strategy whereas directors with valuable relational capital (e.g. networks ties with other firms) may provide valuable input for the execution stage of the strategy. Therefore we postulate:

H3: A busy board will mitigate the negative performance effect of a busy CEO.

Firm contingencies such as the life cycle of the firm are important in understanding boards of directors in SME's (Huse, 2000: Gabrielsson and Huse, 2005). In the past, several

scholars have made attempts to conceptualize the life-cycle of a firm through a series of stages (for an overview and discussion see Phelps et al., 2007). The basic idea behind these models is that interactions of internal factors and the external environment are the drivers for the transition to a further stage of maturation (Phelps et al., 2007) accompanied by a advancement towards more professional management (Fiegerer et al., 2000; Gedajlovic et al., 2004).

The challenges and opportunities for a firm differ across life cycle stages. As a consequence, boards are expected to fulfill different organizational needs when firms move through the life cycle (Lynall et al., 2003). These changing board needs are expected to be reflected in the composition of the board (Fiegener et al., 2000; Lynall et al., 2003), the roles that boards perform and board processes (Grundei and Talaulicar, 2002; Uhlaner et al., 2007). For example, the general lack of top management industry experience in growing entrepreneurial firms will be alleviated by the presence of outside directors with significant industry experience during the early years of firm development (Kor and Misangyi, 2008). As directors with multiple directorships usually have a broader industry experience, they are expected to enhance firm performance especially during the growth stages of the entrepreneurial firm when these specific board needs are highest.

However, following the argument that board composition is path dependent and relatively persistent, board composition will not always perfectly be adapted to these changing board needs of the firm through the life cycle (Lynall et al., 2003). Therefore, the hypothesized positive effect of a busy board on firm performance is expected to be highest when the firm is in the growth stage, i.e. when board composition and board role expectations find a good matching. Concerning the hypothesized negative effect of a busy CEO on firm performance, this effect is also expected to be highest in the growth stages of the firm when the (time)

commitment of the CEO is expected to be crucial for the realization of a successful growth trajectory for the firm. Therefore, we postulate:

H4: The effect of multiple directorships on firm performance is moderated by firm growth.

(a) The positive effect of a busy board on firm performance will be higher if the firm is characterized by a higher growth level.

(b) The negative effect of a busy CEO on firm performance will be higher if the firm is characterized by a higher growth level.

3. Methodology

3.1. Data set

Our analysis is based on the Belgian 'Belfirst' database of Bureau Van Dijk. Belfirst is a database containing detailed financial information on 320,000 Belgian companies and 4,000 companies in Luxembourg. The detailed information includes financial reports and ratios but also information on directors, ownership and subsidiaries. For this study, we construct a sample consisting of financial as well as corporate governance data on the larger SMEs or medium-sized[1] private Belgian firms being active in the manufacturing industry. We only focus on incorporated firms as they are required to establish a board of directors consisting of minimum three directors. Of the 858 medium-sized firms obtained, we were compelled to remove all firms having a foreign director from our sample as 'Belfirst' does not provide us with any information on the total number of directorships of foreign directors. In addition,

[1] For defining 'medium-sized firms', we use the definition adopted by the European Commission in 2005. The current definition categorizes companies with more than 50 but fewer than 250 employees as 'medium-sized'. In addition, medium-sized firms have a turnover between 10 million and 50 million euros or a balance sheet total varying between 10 million and 42 million euros.

we do not have data available about the number of directorships of CEO's who do not serve on their own board. Therefore, we have to eliminate those firms where the CEO is not a board member of the own firm's board of directors[2]. After removing the cases with missing values and outliers, we retain a final sample of 546 firms. For each of these 546 firms, we collected the necessary data in order to test our hypotheses. Data on the busyness of the board and busyness of the CEO (when he is a member of his own firm's board of directors) can only be accurately collected for the most recent year provided by Belfirst, being 2006. However, the exact date of adoption of each director could be any moment in the previous six year time span. This minimizes the existence of potential endogeneity problems. A more formal test on the existence of an endogeneity problem is performed in section 5.2.

3.2. Measures

This study intends to determine whether directors or CEO's serving on multiple boards have a negative impact on firm performance under the consideration of firm growth as moderator. In the following paragraphs, we provide the operationalisation of the key elements of the study: 'firm performance', 'busy board', 'busy CEO' and 'firm growth'. We also discuss the control variables included in the study.

Firm performance

The predominantly used accounting based performance measure 'net return on assets' is used as dependent variable. Net return on assets (ROA) is defined as net income of total assets before taxes and financial charges. Our year of analysis is 2006. In order to correct for

[2] If the CEO is not sitting on his own firm's board, the database did not allow us to to verify the CEO's number of board seats in other firms. So, the removal of the firms where the CEO is not sitting on his own firm's board is necessary to avoid any bias in defining the variable 'busy CEO'.

industry differences, we use the industry adjusted ROA. These ratios were calculated based on the industry medians of the return on assets of all firms active in the same industry i.e. two digit NACE-BEL code.

Busyness of the board

As indicated by Harris and Shimizu (2004), the 'busyness of the board' is concerned with directors that sit on too many boards. The concept of 'overboarded directors' has been loosely discussed in the business press and unstudied in the academic literature. There is no clear definition of when to consider a director or a board as being too busy. Based on empirical studies by Jiraporn et al. (2008), Fich and Shivdasani (2006), Harris and Shimizu (2004) and Ferris et al. (2003), we select several measures to capture the busyness of the board of directors. First, we calculate the average number of board seats held by the directors of the board which is the sum of all board seats of all directors divided by board size. A second measure has been inspired by the guidelines of the US National Association of Corporate Directors (NACD)[3], stating that having more than 3 directorships compromises the ability to govern (Harris and Shimizu, 2004). So, we calculate the proportion of busy directors i.e. summing the total number of directors with more than 3 directorships and dividing by the board size multiplied by 100. A third measure is a dummy variable with a value '1' if the board is busy i.e. if more than 50% of the board members have more than three board seats.

However, each of these three measures does not take into account that although some directors may be sitting on multiple boards, they are catering to the needs of one corporate group. Their presence on the board of several related entities will require less workload

[3] The NACD is a not-for-profit trade group that offers guidance to boards and directors.

compared to a director who sits on boards of distinct and unrelated entities (Kiel and Nicholson, 2006). By eliminating each of the board seats on related entities, we recalculate each of the three measures discussed above: the average number of board seats held by the directors, the proportion of busy directors and the busy directors dummy.

Busyness of the CEO

In line with the definition of 'the busyness of the board', we consider a CEO as busy if he serves on more than three boards. This 'busy CEO' dummy obtains a value '1' if the CEO is seated on more than three boards and 0 otherwise. A second measure for the busyness of the CEO is the natural logarithm of the CEO's number of board seats.

As argued above, these measures do not take into account that a CEO being active on the boards of related entities has a lower workload compared to CEO's serving on boards of non-related entities. In order to construct two alternative measures, we eliminate the CEO's board seats on related entities and recalculate the busy CEO dummy and the natural logarithm of the CEO's number of unrelated board seats. The busy CEO dummy obtains a value '1' if the CEO serves on more than three boards of non-related firms.

Firm growth

In the interaction models of our study, we will consider firm growth as a moderating variable. Firm growth will be estimated by asset growth over three years preceding the performance in 2006 (2004-2006). In the robustness section, we tested also alternative measures to capture firm growth.

Control variables

We added five control variables to our interaction models. Firm age is measured as the natural logarithm of the number of years that the firm exists. Firm size will be estimated by the natural logarithm of total assets. Leverage effects on performance are captured by 1 minus the equity ratio. Board size is measured by the natural logarithm of the number of board members. CEO duality is included as a dummy variable with a value '1' if the CEO is the chairman of the board; 0 otherwise.

3.3. Estimation method

Even though multiplicative interaction models are quite common in different disciplines of research, the interpretation of these models is often flawed and inferential errors are common as these models differ in an important way from linear-additive regression models (Brambor et al., 2006; Kam and Franzese, 2007). In an interactive model, the effect of any independent variable x on the dependent variable y is not any single constant. The effects depend on the *coefficients* of x and xz, the interaction term as well as on the *value* of z. In order to interpret the results, substantively meaningful marginal effects and standard errors have to be calculated. The calculation of these marginal effects is of great importance as it is perfectly possible that these effects are significant for relevant values of the moderating variable, even if the coefficient on the interaction term is insignificant (Brambor et al., 2006). All regression models are estimated with Ordinary Least Squares (OLS) and robust standard errors are calculated.

In this study, we estimate two interaction models. In the first model, 'busyness of the board of directors' is pair-wise interacted with two other variables of interest 'firm growth'

and 'busyness of the CEO' (model A). In the second model, 'busyness of the CEO' is pair-wise interacted with 'firm growth' and 'busyness of the board' (model B).

Interaction Model A:

$$\begin{aligned}\text{Firm performance} = {} & \beta_0 + \beta_1 \text{busyness of the board} + \beta_2 \text{Firm growth} + \beta_3 \text{ busyness of the CEO} \\ & + \beta_{12} (\text{busyness of the board x Firm growth}) + \beta_{13} (\text{busyness of the board x} \\ & \text{busyness of CEO}) + \beta_4 \text{LnFirmage} + \beta_5 \text{ LnAssets} + \beta_6 \text{leverage} + \beta_7 \text{CEO duality} \\ & + \beta_8 \text{LnBoardsize} + u\end{aligned}$$

Interaction Model B:

$$\begin{aligned}\text{Firm performance} = {} & \beta_0 + \beta_1 \text{busyness of the CEO} + \beta_2 \text{ Firm growth} + \beta_3 \text{ busyness of the board} \\ & + \beta_{12} (\text{busyness of the CEO x Firm growth}) + \beta_{13} (\text{busyness of the CEO x} \\ & \text{busyness of the board}) + \beta_4 \text{Lnfirmage} + \beta_5 \text{ LnAssets} + \beta_6 \text{leverage} + \beta_7 \text{CEO duality} \\ & + \beta_8 \text{LnBoardsize} + u\end{aligned}$$

4. Results

The descriptive statistics for the entire sample of medium-sized manufacturing firms are shown in table 1.

INSERT TABLE 1

The median firm has a board of directors consisting of four board members. Looking at the firm-level average number of directorships per director, table 1 shows that the median of this average is 3.33. When eliminating directorships in related entities, the median of this average decreases to 1.76. Looking at the number of independent directorships of the CEO,

the median amounts to 2. The median firm in our sample has total assets of 13,400,000 euro, is 26 years old, has a three year asset growth of 14% and finances the majority (67.4%) with debt. The median firm has an industry adjusted return on assets of 0.25%.

INSERT TABLE 2

INSERT TABLE 3

Table 2 and table 3 exhibit the regression results for the main effects of busy boards and busy CEO's. Looking at both tables makes us to conclude that busyness of the board or busyness of the CEO do not seem to have a strong significant impact on firm performance.[4] Only model 4 (table 2) reveals a significant positive impact of a busy board on firm performance (on a 10% significance level) which gives weak support to H1. Concerning the busyness of the CEO, all models in table 2 and 3 show a negative sign although only significant (on a 10% significance level) in model 4 of table 2 which gives weak support to H2.

However, we expect that the influence of busyness of the board on firm performance will be moderated by 'firm growth' and 'busyness of the CEO' while 'firm growth' and 'busyness of the board' would moderate the effect of busyness of the CEO on firm performance. This necessitates the estimation of an OLS regression model including interaction effects.

[4] Also using other performance variables such gross return on assets or net return on equity did not yield more significant results on the impact of the busyness of the board or CEO.

INSERT TABLE 4

Table 4 exhibits the regression results for the models that test for the moderating effects of firm growth and busyness of the CEO (interaction model A) and firm growth and busyness of the board (interaction model B). In order to estimate these interaction models, we choose the proportion of busy directors i.e. directors having more than three board seats in unrelated entities as a measure for the busyness of the board, as indicated by the NACD. Consistent with the measure for busyness of the board, the busyness of the CEO is measured by a dummy variable with a value '1' if the CEO has more than three board seats in unrelated entities.[5] Firm growth is measured by the asset growth over three years preceding the performance in 2006. Looking at the results in table 4, a busy CEO appears to have no significant effect on firm performance while a busy board has only a significant (on 10% significance level) positive impact on performance in interaction model A. However, these results do not allow us to draw conclusions on the effect of busyness of the board and busyness of the CEO on firm performance.

As discussed before, the interpretation of multiplicative interaction models differs in an important way from linear-additive regression models. Therefore, we calculated the marginal effects using derivatives to describe the effects of the variable of interest at various meaningful levels of the other variables (Kam and Franzese, 2007). Hence, the standard deviations are recalculated, based on the variance-covariance matrix of the coefficient estimates in order to verify whether the variables in our study, incorporating the interactions that might occur, show significant results. Results of these calculations are reported in table 5

[5] In order to verify the robustness of the results, we also used other measures for 'busyness of the board' and 'busyness of the CEO' discussed in section 3.2. The robustness checks performed on these variables confirm our findings presented in this section.

and table 6. Each of these tables report the results of interaction model A and interaction model B, using the industry adjusted return on assets as the dependent variable.

INSERT TABLE 5

INSERT TABLE 6

Table 5 reports the hypothesized moderating effect of a busy board on the busy CEO – firm performance relationship (H3). The results suggest that a busy board indeed moderates the relationship between a busy CEO and firm performance. The hypothesized negative effect is only weak statistical significant when our proxy for the busyness of the board (proportion of busy directors) is in the 40%-50% range. When the proportion of busy directors is higher (>50%), the busyness of the CEO does not seem to hamper the performance levels of the firm which gives some support to H3: a busy board is to a certain extent valuable in mitigating the negative performance consequences of a busy CEO.

Table 6 shows the moderating effect of firm growth on the busy board-firm performance relationship. The results suggest that contrary to our hypothesis 4a, a higher level of busyness of the board has only positive performance effects for the 50% lowest growing firms. Moreover, the effect is only statistical significant for the 25% of firms that show a very slow to even a negative growth (and only when the CEO is not busy). For extreme high growth firms (>85% growth), higher levels of busyness of the board will have a significant negative effect on firm performance. This is a surprising result and suggests that a

busy board especially appears to be valuable when the firm enters the maturity stage and not in the high growth stage such as proposed. One likely explanation may be that high growth ventures need high flexibility and fast decision making to take the growth opportunities in the market. The danger exists that a busy board will delay fast strategic decision making with likely negative performance implications.

The results in table 7 reveal that a busy CEO is detrimental to the performance of the firm when it concerns a high growth venture (growth >35%) which is in line with H4b. High growth ventures require a full time commitment of the CEO to turn their growth opportunities into profitable growth. This effect does not seem to be statistically significant different for the full range of busyness levels of the boards although the significant levels are highest when the values for the busyness of the board are around 50% and lowest when the board is very busy (which is in line with the results previously discussed in table 5).

5. Robustness checks

5.1 Alternative proxies.

In order to check the robustness of our results, several alternative models were tested. First, we experimented with alternative measures for the 'busyness of the board' and the 'busyness of the CEO'. We ran several models using different definitions of 'busyness'. In a first model, we decided not to eliminate any board seats in related firms: we did not make any distinction between board seats in related firms vs. board seats in unrelated firms. As put forward in section 3.2., we used the proportion of busy directors with more than 3 directorships in related as well as unrelated entities in order to measure the busyness of the board. For the busyness of the CEO, we used a dummy variable with a value '1' if the CEO serves on more than three boards of related or unrelated firms. In a second model, inspired

by Harris and Shimizu (2004), we used more strict criteria of when to consider a board or a CEO as 'busy'. We used the proportion of busy directors with more than 4 directorships to operationalize the 'busyness of the board'. Analogously, if the CEO has more than 4 board seats, the dummy variable to measure 'busyness of the CEO' obtains a value '1'. No one of these alternative models lead to a significant change in results[6].

Besides alternative measures for 'busyness', we also checked the robustness of the firm growth variable and performance variable. For firm growth, we performed the analyses using a five year growth measure for asset growth. Again, no significant change in results was found. For firm performance, we used the industry adjusted gross return on assets to check the robustness of our results. The robustness tests confirmed the results put forward in the previous section.

5.2 Endogeneity issues.

Busy directors are a measure of board composition. Prior studies on the relationship between board composition and firm performance found that using a single equation regression model may introduce an endogeneity problem in the regressions (Prevost et al., 2002; Jiraporn et al., 2007). We found in the previous section that multiple directorships would lead to certain performance effects. However, it is also plausible that for example bad performing firms seek busy directors. To test for this alternative causal direction, we used a similar approach as Jiraporn et al. (2008) and estimated lagged regression models in which we regressed proxies for a busy board or a busy CEO against lagged values of our performance measure (ROA_{t-1} and an average of ROA_{t-1} to ROA_{t-3}). The estimated coefficients on the performance proxies are statistically insignificant. From these results, we

[6] Results not reported.

infer that the causal relationship goes from busy boards or busy CEOs to performance and not the opposite direction.

6. Conclusion

During the last decade, the corporate governance debate has shown an exponential mounting trend in practice (e.g. governance codes) as well as in the academic community although the debate mainly concentrated on large publicly traded firms. However, corporate governance questions also exist in small and medium-sized firms. An active board of directors is about the most important governance mechanism in these firms and even more important in the value creating process than in large incorporated firms (Forbes and Milliken, 1999; Johannisson and Huse, 2000). For example, the added value of outside directors in SME's cannot be overestimated (Gabrielsson and Huse, 2005). Therefore, recent governance guidelines (e.g. Lane et al., 2006) strongly recommend the adoption of outside directors in SME's, thereby pushing the demand for outside directorship beyond the current supply of directors. The question where these SME's would find outside directors becomes a very relevant one. Main candidates for outside directorships are persons that already take up current outside director positions in SME's and CEO's. This trend would extend the phenomenon of "multiple directorships" or "busy directors" to the population of SME's. Empirical literature in the context of large publicly traded firms (e.g. Ferris et al., 2003; Harris and Shimizu, 2004; Kiel and Nicholson, 2006; Fich and Shivdasani, 2006; Jiraporn et al., 2008; Di Pietra et al., 2008) discussed and investigated several advantages (e.g. additional experience, reputational benefits, organizational legitimacy) and disadvantages of busy directors (e.g. lack of time and absence of board meetings, reduction in oversight of management) but provided inconclusive results so far. Also the question whether firms would

benefit from their CEO's taking up multiple directorships in other firms became more relevant (Perry and Peyer, 2005; Conyon and Read, 2006). Our study contributes to this debate by investigating simultaneously whether the advantages of a busy board and a busy CEO outweigh the detriments while taking into account moderating effects of the life cycle. To test our propositions, we used the unique Belgian setting. Since 2005, Belgium has a real governance code for private SME's and family firms (Code Buysse) which stimulated the installment of an active board with outside directors. Consequently, this magnified the phenomenon of multiple directorships in Belgian SMEs. As the current Belfirst database of bureau Van Dijk contains data of the annual statements of 2006 including information about the number of directorships per director, we are able to test among the first the performance consequences of multiple directorships in SMEs.

Our results suggest that a busy board generally has a (weak) positive effect on firm performance with the exception of the context of a high growth venture in which a busy board seems to have a detrimental effect on performance. This result is consistent with the thesis that busy directors contribute to the formation of additional board capital in SMEs. It is also in line with the findings of prior studies (e.g. Van den Heuvel et al., 2006; Voordeckers et al., 2007) that the service role of the board in SME's is extremely important in enhancing firm performance. This gives more support to resource dependency theory and resource based view explanations of boards demographics and board roles in SME's than recent agency explanations which point to the fact that outside directors are mainly appointed for their monitoring of management activities although time constraints of busy directors could hinder an adequate execution of the control role. This does not mean that the control role is not important. Outside directors in SME's are usually adopted for their possible contributions of their service role. But ones they are on board, they also take care of their legal monitoring duties (Bammens et al., 2008). Busy directors usually have more experience in monitoring

executives and as such, add also from this perspective to the board capital of the firm with a likely positive influence on performance.

As expected, our results also suggest that a busy CEO has a negative influence on firm performance. These results indicate that CEO's that spend a part of their valuable time on other boards may hamper the performance of their own firms. The detriment of the time constraint then outweighs the advantages such as an increase in management abilities. However, if the majority of the directors is busy, a busy CEO is no longer detrimental for firm performance. An increase in the busyness of the board seems to decrease the significance of the negative impact of busyness of the CEO on firm performance. The fact that the negative performance effect of a busy CEO gradually disappears when the board becomes more busy could be explained by the possible existence of director interlocks. Such interlocks point to the existence of social ties between outside directors and the CEO which seem to enhance the provision of advice and counsel from the outside directors (Westphal, 1999). Social ties between CEO and outside directors also stimulate the disclosure of more information from management to the board. Hence, the management team will receive better advice from the board (Adams and Ferreira, 2007) which may explain the better performance. Because we have no detailed director information in making the distinction between inside and outside directors, these possible explanations should be further scrutinized in future research.

One of the main arguments against multiple directorships is the limited time commitment of such a director to perform the several board roles adequately. This argument goes beyond the straight board demography – performance relationship. Although we do not have data on the effective time spend on the board, our results are consistent with recent papers that underscore the need to investigate behavioral perspectives and board processes when discussing the board demography – firm performance link (e.g. Forbes and Milliken, 1989;

Huse, 2005; Gabrielsson et al., 2007). For example, the high growth ventures in our sample do not seem to benefit from busy directors. The most likely explanation is that these firms need timely and ample advice in strategic decision making. Hence, boards of these firms face high board role expectations concerning the service role although their limited time commitment and insufficient board effectiveness would not lead to the expected level of board role performance on the service role with a consequential detrimental effect on firm performance. Future research should more directly investigate behavioral aspects and board effectiveness of busy boards to better understand the performance implications of multiple directorships.

Our study has also important practical implications. The debate in practice has already led to limitations on the number of directorships of publicly traded firms (e.g. the US National Association of Corporate Directors (1996) and the Council of Institutional Investors (2003)). The increasing awareness of the importance of good corporate governance for SMEs has also initiated corporate governance recommendations for these firms. Future recommendations are expected to discuss the issue of multiple directorships for this category of firms too. However, our results do not support the desirability of similar limitations on busy boards for SMEs. Furthermore, our results could also be helpful for entrepreneurs looking for valuable outside directors. Board diversity is found to be very important for board strategic performance in SMEs (Pugliese and Zhang, 2007) and from this perspective, busy directors could contribute more to board capital than other outside directors. In addition, our results also suggest that additional directorships of the CEO could harm the performance of the own firm, especially when the firm is fast growing. Hence, fast growing SMEs should try to restrict the number of directorships of their CEO's.

This study has some limitations that provide challenges for future research. The available data did not allow us to make a distinction between inside and outside directors. This

distinction may be important as inside directors seem to fulfill different board tasks than outside directors (Voordeckers et al., 2007). Moreover, we could not include all firms of our sample due to a lack of data on the total board seats of the foreign board members. Nevertheless, foreign busy outside directors (and especially those with directorships in many different countries) may be extremely valuable for SME's that want to internationalize their activities. Therefore, an interesting avenue for future research may be an examination of the value of foreign busy directors for SME's that internationalize. In addition, we also do not know if Belgian directors have directorships in foreign companies. Finally, our study is based on cross-sectional data as the database did not provide us with detailed information on board composition throughout time. A longitudinal database should reveal more information on the causal links between busy directors, busy CEOs and firm performance conditional on other firm contingencies such as the institutional context, industry or ownership structure (Uhlaner, et al., 2007).

References

Adams, R. and D. Ferreira. 2007. "A Theory of Friendly Boards", *Journal of Finance*, **62(1):** 217-250.

Bammens Y., W. Voordeckers and A. Van Gils. 2008. "A Generational Perspective on Governance in Family Firms", *Small Business Economics*, **31(2):** 163-180.

Booth, J.R. and D.N. Deli. 1996. "Factors affecting the number of outside directorships held by CEOs", *Journal of Financial Economics,* **40:** 81-104.

Boyd, B.K. 1990. "Corporate linkages and organisational environment: a test of the resource dependence model", *Strategic Management Journal,* **11:** 419-430.

Brambor, T., W.R., Clark, and M. Golder. 2006. "Understanding interaction models: improving empirical analyses", *Political Analysis*, **14(1):** 63-82.

Coles, J. and C.K. Hoi. 2003. "New evidence on the market for directors: board membership and Pennsylvania Senate Bill 1310", *Journal of Finance*, **58:** 197-230.

Conyon, M.J. and L.E. Read. 2006. "A model of the supply of executives for outside directorships", *Journal of Corporate Finance*, **12:** 645-659.

Core, J.E., R.W. Holthausen, and D.F. Larcker. 1999. "Corporate governance, chief executive officer compensation and firm performance", *Journal of Financial Economics*, **51:** 371-406.

DiMaggio, P. and W. Powell. 1983. "The Iron Cage revisited: Institutional Isomorphism and collective rationality in organizational fields", *American Sociological Review*, **48:** 147-160.

Di Pietra, R., C.A. Grambovas, I. Raonic and A. Riccaboni. 2008. "The effects of board size and 'busy' directors on the market value of Italian companies", *Journal of Management and Governance*, **12:** 73-91.

Fama, E. and M. Jensen. 1983. "Separation of ownership and control", *Journal of Law and Economics,* **26:** 301-325.

Feltham, T.S., Feltham, G. and J. Barnett. 2005. "The dependence of family business on a single-decision maker", *Journal of Small Business Management,* **43(1):** 1-15.

Ferris, S.P., M. Jagannathan and A.C. Pritchard. 2003. "Too busy to mind the business? Monitoring by directors with multiple board appointments", *Journal of Finance,* **58(3):** 1087-1111.

Fich, E.M. and A. Shivdasani. 2006. "Are busy boards effective monitors?", *Journal of Finance,* **61(2):** 689-724.

Fiegener, M., B. Brown, D. Dreux and W. Dennis. 2000. "The adoption of outside boards by small private US firms", *Entrepreneurship & Regional Development*, **12:** 291-309.

Forbes, D.P. and F.J. Milliken. 1999. "Cognition and corporate governance: understanding boards of directors as strategic decision-making groups", *Academy of Management Review,* **24(3):** 489-505.

Gabrielsson, J. and M. Huse. 2005. "Outside directors in SME boards: a call for theoretical reflections", *Corporate Board: Role, Duties & Composition*, **1(1):** 28-37.

Gabrielsson, J., M. Huse and A. Minichilli. 2007. "Understanding the leadership role of the board chairperson through a team production approach", *International Journal of Leadership Studies*, **3(1)**, 21-39.

Gedajlovic, E., M. Lubatkin and W. Schulze. 2004. "Crossing the threshold from founder management to professional management: a governance perspective". *Journal of Management Studies*, **41(5):** 899-912.

Grundei, J. and T. Talaulicar. 2002. "Company Law and Corporate Governance of Start-ups in Germany: Legal Stipulations, Managerial Requirements, and Modification Strategies", *Journal of Management and Governance*, **6:** 1-27.

Harris, I. and K. Shimizu. 2004. "Too busy to serve? An examination of the influence of overboarded directors", *Journal of Management Studies* **41:** 775-798.

Hillman, A. and T. Dalziel. 2003. "Boards of directors and firm performance: integrating agency and resource dependence perspectives", *Academy of Management Review*, **28(3):** 383-396.

Hung, H. 1998. "A typology of the theories of the roles of governing boards". *Corporate Governance: an International Review*, **6(2):** 101-111

Huse, M. 1998. "Researching the Dynamics of Board-Stakeholder Relations". *Long Range Planning*, **31(2):** 218-226.

Huse, M. 2000. "Boards of directors in SMES: a review and research agenda". *Entrepreneurship & Regional Development* **12:** 271-290.

Huse, M. 2005. "Accountability and Creating Accountability: A Framework for Exploring Behavioural Perspectives", *British Journal of Management*, **16:** 65-79.

Jiraporn, P., Y. Sang Kim and W.N. Davidson III. 2008. "Multiple directorships and corporate diversification", *Journal of Empirical Finance*, **15(3):** 418-435.

Jiraporn, P., P. Dadalt, P. Ning, and W.N. Davidson. 2007. "Too busy to show up? An analysis of directors' absences." Working paper, School of Graduate Professional Studies, Pennsylvania State University.

Johannisson, B. and M. Huse. 2000. "Recruiting outside board members in the small family business: an ideological challenge", *Entrepreneurship and Regional Development*, **12(4):** 353-378.

Kam, C. and R. Franzese. 2007. *Modelling and interpreting interactive hypotheses in regression analysis*. University of Michigan Press.

Kiel, G.C. and G.J. Nicholson. 2006. "Multiple directorships and corporate performance in Australian listed companies", *Corporate Governance,* **14(6):** 530-546.

Kor, Y. and V. Misangyi. 2008. "Outside Directors' industry-specific experience and firms' liability of newness", *Strategic Management Journal*, **29:** 1345-1355.

Kroll, M., B. Walters and P. Wright. 2008. "Board Vigilance, Director Experience, and Corporate Outcomes", *Strategic Management Journal,* **29:** 363-382.

Lane, S., J. Astrachan, A. Keyt and K. McMillan. 2006. "Guidelines for Family Business Boards of Directors", *Family Business Review,* **19(2):** 147-167.

Long, T., Dulewicz V. and K. Gay. 2005. "The Role of the Non-Executive Director: findings of an empirical investigation into the differences between listed and unlisted UK boards", *Corporate Governance: an International Review*, **13(5):** 667-679.

Lynall, M., B. Golden, A. Hillman. 2003. "Board Composition from Adolescence to Maturity: a Multitheoretic View", *Academy of Management Review*, **28:** 416-431.

Mace, M. 1986. Directors: myth and reality, Harvard University Press, Boston, MA.

National Association of Corporate Directors. 1996. NACD Blue Ribbon Commission Report on Director Professionalism.

Perry, T. and U. Peyer. 2005. "Board seat accumulation by executives: a shareholder's perspective", *Journal of Finance,* **60(4):** 2083-2123.

Pelled, L., K. Eisenhardt and K. Xin. 1999. "Exploring the black box: An analysis of work group diversity, conflict and performance", *Administrative Science Quarterly*, **44:** 1-28.

Pfeffer, J. and G. Salancik. 1978. *The External Control of Organizations: A Resource-Dependence Perspective*, New York: Harper & Row.

Phelps, R., R. Adams and J. Bessant. 2007. "Life cycles of growing organizations: a review with implications for knowledge and learning", *International Journal of Management Reviews*, **9(1):** 1-30.

Prevost, A., R. Rao and M. Hossain. 2002, "Determinants of board composition in New Zealand: a simultaneous equations approach", *Journal of Empirical Finance*, **9:** 373-397.

Pugliese, A. and P. Zhang Wenstop, 2007. "Board members' contribution to strategic decision-making in small firms", *Journal of Management and Governance*, **11:** 383-404.

Shivdasani, A. and D. Yermack. 1999. "CEO involvement in the selection of new board members: an empirical analysis", *Journal of Finance,* **54:** 1829-1853.

Uhlaner, L., M. Wright and M. Huse. 2007. "Private Firms and Corporate Governance: An Integrated Economic and Management Perspective", *Small Business Economics*, **29:** 225-241.

Van den Heuvel, J., A. Van Gils and W. Voordeckers. 2006. "Board Roles in Small and Medium-Sized Family Businesses: Performance and Importance", *Corporate Governance: an International Review* **14(5):** 467-485.

Voordeckers, W., A. Van Gils and J. Van den Heuvel. 2007. "Board composition in small and medium-sized family firms", *Journal of Small Business Management* **45(1):** 137-156.

Westphal, J. 1999. "Collaboration in the Boardroom: behavioral and performance consequences of CEO-board Social Ties", *Academy of Management Journal* **42(1):** 7-24.

Yermack, D. 2004. "Remuneration, retention and reputation incentives for outside directors", *Journal of Finance,* **59:** 2281-2308.

Zahra, S. and J. Pearce. 1989. "Boards of directors and corporate financial performance: a review and integrative model. *Journal of Management,* **15(2):** 291-334.

Zahra, S.A. and I. Filatotchev. 2004. "Governance of the entrepreneurial threshold firm: a knowledge-based perspective", *Journal of Management Studies,* **41(5):** 885-897.

Zajac, E. and J. Westphal. 1996. "Director Reputation, CEO-Board Power, and the Dynamics of Board Interlocks", *Administrative Science Quarterly*, **41:** 507-529.

Table 1 Descriptive statistics

Variables	*Mean*	*Median*	*Std.dev.*	*Min.*	*Max.*
Board size	3.88	4	1.51	1	14
Average number of directorships per director per firm[1]	4.32	3.33	3.71	1	30.33
Average number of independent directorships per director per firm [2]	2.54	1.76	2.52	1	20.20
Number of directorships of the CEO[1]	4.77	3.50	4.78	1	47
Number of independent directorships of the CEO[2]	2.59	2	2.89	1	23
Total assets in euro	16,900,000	13,400,000	12,700,000	2,790,000	118,000,000
Firm age in years	30.07	26	17.07	3	96
Leverage (%)	63.04	67.43	21.23	8.11	99.54
Industry adjusted return on assets (%)	2.14	0.25	9.56	-30.22	39.81
Non industry adjusted return on assets (%)	8.42	6.30	9.40	-23.92	45.41
Asset growth 2004-2006	0.22	0.14	0.39	-0.65	3.39

Notes: N=546

[1] This measure for busyness of the board/CEO includes the board seats in related entities.

[2] Board seats in related entities are eliminated in this measure.

Table 2 OLS estimation of the effects of 'busy boards' on firm performance (industry adjusted ROA) at unlisted medium-sized manufacturing firms

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Board characteristics						
Taking into account all board seats:						
Average number of directorships by board	0.1631 (0.1425)					
Busy directors (1,0)		-0.4436 (0.9148)				
Percentage of busy directors (defined as sitting on more than 3 boards)			0.0039 (0.0143)			
Taking into account only independent board seats:						
Average number of independent directorships by board				0.4163 (0.2136)*		
Busy directors (1,0)					-0.5153 (0.9418)	
Percentage of busy directors (defined as sitting on more than 3 independent boards)						0.0099 (0.0140)
Log of directorships held by the CEO	-0.9664 (0.6177)	-0.3286 (0.5785)	-0.6062 (0.6447)	-1.2888 (0.6549)*	-0.3329 (0.5830)	-0.6715 (0.6287)
Asset growth (2004-2006)	3.4819 (1.1855)***	3.5046 (1.1867)***	3.4982 (1.1842)***	3.3723 (1.1661)***	3.4336 (1.1794)***	3.4072 (1.1774)***
Control variables						
Ln (assets)	0.2173 (0.6252)	0.2598 (0.6241)	0.2399 (0.6230)	-0.0074 (0.6227)	0.0086 (0.6299)	-0.0615 (0.6266)
Ln (firmage)	-0.3151 (0.6275)	-0.3574 (0.6280)	-0.3501 (0.6277)	-0.0976 (0.6308)	-0.1448 (0.6308)	-0.1383 (0.6329)
Leverage	-0.1902 (0.0223)***	-0.1889 (0.0224)***	-0.1897 (0.0223)***	-0.1933 (0.0216)***	-0.1922 (0.0214)***	-0.1939 (0.0214)***
Log of board size	-0.1603 (1.0513)	-0.1915 (1.0488)	-0.1330 (1.0513)	-0.4756 (1.0389)	-0.4530 (1.0456)	-0.4299 (1.0485)
CEO duality	0.1896 (1.0990)	-0.0874 (1.0670)	-0.0019 (1.0709)	0.1764 (1.1162)	-0.1641 (1.0764)	-0.1476 (1.0714)
Constant	11.1410 (10.7334)	10.8867 (10.7514)	11.0729 (10.7362)	14.2369 (10.7719)	14.8554 (10.8349)	15.9190 (10.8104)
F value	10.20***	9.69***	9.59***	11.69***	10.92***	11.20***
R^2	0.1843	0.1823	0.1821	0.1896	0.1819	0.1822

Notes:
[a] Regression coefficients are reported as betas; robust asymptotic standard errors reported in parentheses.
N= 546, * p<0.1; ** p<0.05. *** p<0.01 (two-tailed test).

Table 3 OLS estimation of the effect of 'busy CEO's' on firm performance (industry adjusted ROA) at unlisted medium-sized manufacturing firms

Independent variables	Model 1	Model 2	Model 3	Model 4
Board characteristics				
Taking into account all board seats:				
Busy CEO (1,0) (defined as sitting on more than 3 boards)	-0.4608 (0.7672)			
Log of directorships held by the CEO		-0.4887 (0.4793)		
Taking into account only independent board seats:				
Busy CEO (1,0) (defined as sitting on more than 3 independent boards)			-1.1459 (0.9155)	
Log of directorships held by the CEO				-0.4600 (0.5723)
Asset growth 2004-2006	3.3600 (1.1815)***	3.4934 (1.1831)***	3.3967 (1.1642)***	3.4150 (1.1738)***
Control variables				
Ln (assets)	-0.0256 (0.6297)	0.2462 (0.6242)	0.0057 (0.6254)	-0.0195 (0.6284)
Ln (firmage)	-0.0699 (0.6171)	-0.3516 (0.6274)	-0.1122 (0.6186)	-0.1467 (0.6316)
Leverage	-0.1922 (0.0214)***	-0.1895 (0.0223)***	-0.1913 (0.0211)***	-0.1928 (0.021)***
Log of board size	-0.4700 (1.0556)	-0.1459 (1.0537)	-0.4009 (1.0465)	-0.4185 (1.0462)
CEO duality	-0.3069 (1.0279)	-0.0375 (1.0572)	-0.2649 (1.0338)	-0.1645 (1.0745)
Constant	15.2688 (10.8251)	11.0255 (10.7402)	14.6889 (10.7560)	15.2880 (10.8369)
F value	12.39***	10.97***	12.55***	12.37***
R^2	0.1806	0.1820	0.1824	0.1815

Notes:
[a] Regression coefficients are reported as betas; robust asymptotic standard errors reported in parentheses.
N= 624, *p<0.1; ** p<0.05. *** p<0.01 (two-tailed test).

Table 4 OLS estimation of the effect of 'busy CEO' and 'busy board' on firm performance (industry adjusted ROA) at unlisted medium-sized manufacturing firms taking into account moderating effects

Independent variables	Interaction model A[b]	Interaction model B[b]
Busyness of the board	0.0331 (0.0176)*	0.0146 (0.0160)
Busyness of CEO (1,0)	-1.1784 (1.7925)	0.1301 (1.6290)
Firm growth	5.9855 (1.8412)***	4.9577 (1.3293)***
Interaction effects:		
Busyness of the board x firm growth	-0.0912 (0.0380)**	
Busyness of the board x busyness of CEO	-0.0055 (0.0365)	-0.0020 (0.0363)
Firm growth x busyness of CEO		-7.0016 (2.1685)***
Control variables		
Ln (firmage)	-0.0884 (0.6130)	-0.0581 (0.6137)
Leverage	-0.1971 (0.0213)***	-0.1960 (0.0211)***
Ln (boardsize)	-0.4115 (1.0568)	-0.5682 (1.0630)
Ln (assets)	-0.0235 (0.6219)	0.0081 (0.6129)
CEO duality	-0.2261 (1.0258)	-0.3144 (1.0201)
Constant	14.6868 (10.6912)	14.4378 (10.4985)
F value	9.83***	10.36***
R^2	0.1946	0.1982

Notes:

[a] Regression coefficients are reported as betas; robust asymptotic standard errors reported in parentheses. N= 546, * p<0.1; ** p<0.05. *** p<0.01 (two-tailed test)

[b] In interaction model A, the busyness of the board is pair-wise interacted with busyness of the CEO and firm growth. In interaction model B, the busyness of the CEO is pair-wise interacted with the busyness of the board and firm growth.

Table 5 Interpretation of moderating effects: calculation of marginal effects using derivatives to estimate the effect of a busy CEO on firm performance

	∂y/∂ busyness of CEO[1]	Std. dev.	t-statistic
Moderating effect: *Busyness of the board=*			
10%	-1.2334	1.5033	-0.8204
40%	-1.3984	1.0002	**-1.3981***
50%	-1.4534	1.0554	**-1.3770***
60%	-1.5084	1.2223	-1.2340
75%	-1.5909	1.6014	-0.9934
100%	-1.7284	2.3837	-0.7251

[1] ∂y/∂Busyness of CEO=-1.1784-0.0055*busyness of board
N= 546, * p<0.1; ** p<0.05. *** p<0.01 (one tailed)

Table 6 Interpretation of moderating effects: calculation of marginal effects using derivatives to estimate the effect of a busy board on firm performance moderated by firm growth

		∂y/∂busyness of board[1]	Std. dev.	t-stat.
Moderating effects: *Busyness of CEO = 0 & Firm growth =*				
-0.14	10%[2]	0.0458	0.0205	**2.2302****
-0.01	25%	0.0340	0.0178	**1.9085****
0.14	50%	0.0203	0.0160	1.2690
0.35	75%	0.0011	0.0167	0.0690
0.65	90%	-0.0262	0.0231	-1.1339
0.85	95%	-0.0444	0.0291	**-1.5263***
Busyness of CEO = 1 & Firm growth =				
-0.14	10%[2]	0.0403	0.0374	1.0771
-0.01	25%	0.0285	0.0349	0.8149
0.14	50%	0.0148	0.0328	0.4519
0.35	75%	-0.0043	0.0312	-0.1389
0.65	90%	-0.0317	0.0325	-0.9753
0.85	95%	-0.0499	0.0354	**-1.4102**

[1] ∂y/∂Busyness of board = 0.0331-0.0912*Firm growth-0.0055*Busyness of the CEO
[2] percentiles of firm growth
N= 546, * p<0.1; ** p<0.05. *** p<0.01 (one tailed)

Table 7 Interpretation of moderating effects: calculation of marginal effects using derivatives to estimate the effect of a busy CEO on firm performance moderated by firm growth.

		∂y/∂busyness CEO[1]	Std. dev.	t-statistic
Moderating effect: *Busyness of board = 10% & Firm growth=*				
-0.01	25%[2]	0.1793	1.3695	0.1309
0.14	50%	-0.8708	1.3972	-0.6232
0.35	**75%**	-2.3412	1.5539	**-1.5065****
0.85	**95%**	-5.842	2.2772	**-2.5653*****
Moderating effect: *Busyness of board = 50% & Firm growth=*				
-0.01	25%[2]	0.0964	1.1939	0.0807
0.14	50%	-0.9538	1.0644	-0.8960
0.35	**75%**	-2.4241	1.0389	**-2.3333*****
0.85	**95%**	-5.9250	1.6189	**-3.6598*****
Moderating effect: *Busyness of board = 75% & Firm growth=*				
-0.01	25%[2]	0.0445	1.8143	0.0245
0.14	50%	-1.0057	1.6640	-0.6043
0.35	**75%**	-2.4760	1.5468	**-1.6007****
0.85	**95%**	-5.9769	1.7792	**-3.3592*****
Moderating effect: *Busyness of board = 100% & Firm growth=*				
-0.01	25%[2]	-0.0073	2.6097	-0.0028
0.14	50%	-1.0575	2.4612	-0.4296
0.35	75%	-2.5279	2.3148	-1.0920
0.85	**95%**	-6.028	2.3158	**-2.6033*****

[1] ∂y/∂Busyness of CEO=0.1301-7.0016 Firm growth-0.0020*busyness of board
[2] percentiles of firm growth
N= 546, *p<0.1; ** p<0.05. *** p<0.01 (one tailed)