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Strangers on the board: The impact of board internationalization on earnings management of Nordic firms

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ABSTRACT

The internationalization of firms has led to boards becoming more international as well. In this study, we investigate the consequences of board internationalization. In particular, by drawing on research on language and board dynamics, we identify theory-based reasons why board internationalization could increase, or decrease, earnings management practices. We use agency theory, stressing how board internationalization may positively or negatively affect monitoring quality of boards. Next to agency theory, we use theories explaining how language differences in the boardroom complicates communication and how differences in language structures (referred to as linguistic relativity in the literature) affect directors' perception and detection of earnings management practices. Using a sample of 3249 firm-year observations representing 586 non-financial listed Nordic firms during 2001–2008, we find that the presence of non-Nordic foreign directors on the board is associated with significantly higher levels of earnings management. Our analysis indicates that this effect is driven by language-related factors, as well as by the level of foreign board members' accounting knowledge.

1. Introduction

Both academics and practitioners agree that boards of directors have to ensure that management takes decisions that are in the interest of stakeholders. As such, boards are involved in the decision making process within organizations and can influence organizational actions. They therefore represent an important determinant of organization-level performance. Boards have three main roles. First, they monitor management by hiring, promoting, assessing and dismissing managers (Adams, Hermalin, & Weisbach, 2010). Second, they provide resources enabling organizational access to important resources and relevant information channels, as well as to resources that contribute to ensuring legitimacy (Pearce & Zahra, 1992; Pfeffer & Salancik, 1978). Finally, they provide advice to management in setting the strategy of the firm (Adams et al., 2010).

Over the last decades, firms have increasingly become internationalized, both in terms of their operations, as well as in terms of their financing (Oxelheim, Gregorič, Randøy, & Thomsen, 2013). This higher degree of internationalization of the firm not only increases the demand for information processing with respect to business operations and financial decision making, but also likely results in greater information asymmetry between managers and boards, which leads to higher monitoring costs (Sanders & Carpenter, 1998). One potential way of dealing with the increased demand for information processing and greater information asymmetry is to match the internationalization of the firm's activities with the internationalization of the board. Indeed, we have seen that the international nature of boards has become more prominent since the early 2000s (Estelyi & Nisar, 2016; Oxelheim et al., 2013; Miletkov, Poulsen, & Wintoki, 2017). At the same time, however, the few papers that have been published on the effects of the internationalization of boards show that increased internationalization of boards may have both positive and negative consequences (Masulis, Wang, & Xie, 2012; Miletkov et al., 2017; Oxelheim & Randøy, 2003). This triggers the question when these consequences may be positive or negative.

Our research aims at answering this question by zooming in on the monitoring role of boards.

We argue that the presence of foreign directors on a firm's board can be beneficial for, as well as detrimental to, boards' ability to effectively monitor management. On the one hand, it is possible that the presence

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of foreign directors benefits board monitoring, because these foreign directors are more independent from management and, hence, are more likely to critically scrutinize management. On the other hand, however, having foreign board members may potentially reduce the board's ability to monitor management. Specifically, we argue that foreign board members are more likely to suffer from a lack of knowledge of local rules and/or that their presence makes the board vulnerable to language issues, which hampers board effectiveness.

To test our ideas we focus on how international boards (that is, boards with at least one foreign member) influence earnings management at the firm level. Earnings management refers to choices made by corporate decision makers to use accounting methods offered by law and regulations to influence a firm's reported earnings (Chen, Luo, Tang, & Tong, 2015). As is clear from several renowned accounting fraud cases (e.g., Ahold, Enron, Tesco, and Toshiba), it is generally accepted that the quality of the firm's financial statements is compromised when corporate decision makers implement earnings management opportunistically. Accordingly, earnings management is frequently seen as an important manifestation of agency problems that should be obviated by effective monitoring of management by the board.

Our sample comprises 3249 firm-year observations representing 586 non-financial listed Nordic firms during 2001–2008. We suggest the Nordic region (i.e., Denmark, Finland, Norway, and Sweden) to be particularly useful as a context for our research, as the number of firms with an internationalized board is relatively high in Nordic firms, but with considerable variation across countries (Oxelheim et al., 2013). The Nordic firms are also well suited to the purpose of our study, as they have become much more international since the early 2000s as indicated by a range of measures including sales and production. At the same time, the Nordic countries comprise a relatively homogeneous region in terms of regulation (e.g., Caban-Garcia & He, 2013).

We find a significant positive relationship between the presence of at least one non-Nordic foreign director on the board and levels of earnings management (measured as discretionary accruals), as well as between the percentage of non-Nordic foreign directors on the board and the level of earnings management. Moreover, the presence of one or more foreign board members is found to be associated with income-*increasing*, but not associated with income-*decreasing* earnings management. These results support the argument that foreign directors are less effective monitors than home country recruited directors. We obtain qualitatively similar results when using alternative statistical techniques, such as OLS, an instrumental variables approach and propensity score matching.

Next, our findings support the hypothesis that foreign directors due to lack the specific knowledge of national accounting rules and laws are less able to curb earnings management. In addition, we find support for the notion that language-related factors may reduce the quality of communication in the boardroom, leading to less effective monitoring, thus facilitating higher levels of earnings management. Our results favor the interpretation that appointing a foreign director to the board of directors can reduce the board's ability to discipline managers as far as earnings management is concerned. We note, however, that our analysis of the contribution foreign board members can make to the firm's performance is partial. These board members may also be beneficial for the firm by, for example, their supply of advice and/or their experience in exploring new and foreign markets resulting in a net positive value from the internationalization of the board.[1]

Our study is part of an emerging field that focuses on the antecedents and consequences of the internationalization of the board of directors (Estelyi & Nisar, 2016; Masulis et al., 2012; Miletkov et al., 2017; Oxelheim & Randøy, 2005; Oxelheim et al., 2013; Piekkari, Oxelheim, & Randøy, 2015). It contributes to this literature in two ways. First, notwithstanding the increasing popularity of foreigners on firms' boards of directors, the academic research on the consequences of these directors on firm outcomes is still in its infancy. Prior studies looked at the effects on firm financial performance (Masulis et al., 2012; Miletkov et al., 2017; Oxelheim & Randøy, 2003), with mixed results. In this study, we focus on the effects of foreign board members on earnings management. The focus on earnings management is important not only because executive directors may resort to earnings management practices for self-serving reasons (e.g., Chen et al., 2015), but also because earnings management can be extremely value destroying (e.g., Dechow, Sloan, & Sweeney, 1996; Hennes, Leone, & Miller, 2008; Karpoff, Lee, & Martin, 2008; Palmrose, Richardson, & Scholz, 2004). In addition, the immediate effect of monitoring activities of boards on earnings management is likely to be greater than is their immediate impact on firm performance. While earnings management is more likely to reflect deliberate decision-makers' choices, firm performance is a more distant outcome measure in the sense that it is, at least partially, also the outcome of circumstances beyond decision-makers' control (e.g., general economic conditions, industry competition, and other external circumstances).

Second, our study allows us to provide a more nuanced view of how the presence of foreign directors affects firm outcomes. By considering the nationalities of foreign directors on boards of Scandinavian firms, we take apart the domestic-foreign dichotomy frequently used in prior research on boards. More specifically, we show how a lack of knowledge of local accounting rules may impair foreign directors' effectiveness on boards. In addition, we consider the role of language to show how language affects the internal workings of boards. We show that both language proficiency and differences in language structures may influence the quality of boards' monitoring. As such, our study may be an important extension of recent papers on the consequences of foreign directors on firm outcomes (Masulis et al., 2012; Miletkov et al., 2017; Oxelheim et al., 2013) by integrating international corporate governance research with literature about language issues (Tenzer, Terjesen, & Harzing, 2017) and research about board expertise (e.g., Dhaliwal, Naiker, & Navissi, 2010; Krishnan & Visvanathan, 2008).

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature and states the hypothesis. The third section presents the research design, and the fourth section provides the empirical analyses and results. The last section gives the concluding remarks.

2. Literature review and hypothesis development

One of the key roles of boards is monitoring management (Adams et al., 2010). Following agency theory, the board of directors is a crucial mechanism to constrain managers' opportunistic behavior. A key premise of agency theory is that firms characterized by a separation of ownership and control are fraught with agency problems between managers and shareholders (Fama & Jensen, 1983; Jensen & Meckling, 1976). Information asymmetry between managers and shareholders provides self-interested managers with the opportunity to behave opportunistically and to increase their personal wealth at the expense of shareholders. Efficient board monitoring should help reducing self-serving behavior of managers. Given the trend of increased operational complexity following the internationalization of firms on the one hand, and the internationalization of boards accompanying this trend on the other hand, the question is how effective board monitoring is influenced by bringing more foreigners to the board.

An interesting example to study this question is to focus on the occurrence of earnings management at the firm level. Earnings management may be seen as a manifestation of agency problems as it leads to lower earnings quality. In its most basic form, earnings management

[1] For papers taking a broader perspective on the potential costs and benefits of having foreign board members, see, among others, Oxelheim and Randøy (2003); Masulis et al. (2012); García-Meca, García-Sánchez, and Martínez-Ferrero, (2015); Estelyi and Nisar (2016) and Miletkov et al. (2017).

refers to decisions that influence financial reporting outcomes (Healy & Wahlen, 1999). Although, in theory, earnings management may enhance investor valuation of their firms (Graham, Harvey, & Rajgopal, 2005; Scott, 2015), this management practice is generally seen as a type of self-serving managerial activity that may go at the cost of the investors' interests (Chen et al., 2015; Leuz, Nanda, & Wysocki, 2003). Managers may have incentives to engage in earnings management to, for instance, increase their compensation, to gain from stock sales, and to increase their discretionary power (Hazarika, Karpoff, & Nahata, 2012). Research also has shown that earnings management may have serious adverse effects on firm value (e.g., Hennes et al., 2008; Palmrose et al., 2004).

There are two competing views that may explain the possible impact of foreign directors on earnings management. Both views are embedded in agency theory and focus on the ability of boards to monitor managers' opportunistic behavior. Essentially, these views suggest that having foreigners on the firm's board can be associated with both benefits and costs; they represent the two sides of the double-edged sword. One view, emphasizing the benefits, is that the presence of foreign directors increases the independence of the board of directors and, thus helps to curb earnings management. As foreign directors usually do not come from the same pool of local directors (Ruigrok, Peck, & Tacheva, 2007), i.e. they come from outside the "old boys network", it is likely that boards with at least one foreign director are associated with more openness and frankness in performing their monitoring tasks, rather than giving priority to politeness and courtesy among board members (Chiu, Oxelheim, Wihlborg, & Zhang, 2016; Oxelheim & Randøy, 2003). Relatedly, foreign directors are not members of the national elites, which makes them more independent and hence better monitors (Gregorič, Oxelheim, Randøy, & Thomsen, 2017; Oehmichen, Braun, Wolff, & Yoshikawa, 2017). Moreover, the presence of foreign directors may help prevent too high levels of cohesiveness[2] of the board (Forbes & Milliken, 1999). That is, as these directors come from outside the (local or national) inner circle of directors, they are more likely to exhibit independent thinking and feel less reluctant to raise controversial issues, i.e. they may help promoting cognitive conflict (Forbes & Milliken, 1999). This may benefit discussions within the boardroom and potentially contribute to increased monitoring effectiveness (Miletkov et al., 2017; Srinidhi, Gul, & Tsu, 2011). The combination of these effects is likely to foster an environment in which tougher questions are asked. This view, which emphasizes that the presence of a foreign director contributes to a board that is more likely to critically scrutinize management, suggests that the presence of a foreign director is associated with reduced levels of earnings management. Accordingly, this line of reasoning suggests the following hypothesis:

Hypothesis 1a. *There is a negative association between the presence of a foreign director on the board of directors and the level of earnings management.*

The second view emphasizes that foreign directors may be less equipped to perform their monitoring tasks, which suggests that appointing these directors also has costs. According to this view, appointing foreign directors may lead to less effective monitoring for reasons related to lack of knowledge of local accounting rules as well as due to language issues.

First, a foreign director may be less familiar with local laws, regulations and governance standards in general and local accounting rules in particular (Masulis et al., 2012). This (relative) unfamiliarity with local accounting rules may impair the foreign director's ability to evaluate the level of opportunism in the manager's judgment in financial accounting. Specifically, prior literature suggests that domain-specific knowledge of accounting is important for a director to monitor the manager's financial reporting practices and to mitigate the manager's tendencies to engage in earnings management. According to Dhaliwal et al. (2010, p. 792), financial reporting issues involve high levels of technical details and, hence, a high degree of knowledge of accounting rules is required to recognize earnings management issues. Indeed, in line with this conjecture, evidence demonstrates that boards including at least one individual with financial (accounting) expertise are associated with higher financial reporting quality (Dhaliwal et al., 2010; Krishnan & Visvanathan, 2008; Zhang, Zhou, & Zhou, 2007).

Even though since 2005 accounting standards have converged in Europe because of the requirement that publicly listed companies have to prepare financial statements in accordance with the International Financial Reporting Standards (IFRS),[3] this was not the case in the pre-IFRS period. Hence, at least in the pre-IFRS period, a high degree of local (i.e., national) accounting knowledge was required to effectively monitor the financial reporting process, knowledge that foreign directors are not likely to possess. Yet, even if firms adopted IFRS, there may still be differences in how these international accounting standards are interpreted locally. These differences may be related to differences in the institutional context determining the extent to which standards can be enforced in court and/or how these standards have been translated in the local language (Nobes, 2013). The differences in the local institutional context and interpretation of international standards may restrain foreign directors from effectively monitoring opportunistic behavior of managers also in the period after 2005.

A second potential obstacle for effective board monitoring, once a foreign director is appointed, is the role of language (2010, Kassis-Henderson, 2005; Piekkari et al., 2015; Tenzer, Pudelko, & Harzing, 2014). When a foreign board member is appointed, this may change the dynamics of discussions in the boardroom. In the presence of this foreign board member (whether he or she is American, British, German, or French) the language changes from the national language to English, because this language seems to be the *lingua franca* of boards that include a foreign director (Piekkari et al., 2015). Since English is not the mother tongue of the board members, discussions may become elementary and less nuanced.

The choice of language can potentially affect the effectiveness of the board in two ways. First, at the individual level language may impair the director's ability to effectively contribute to discussions in the boardroom (Miletkov et al., 2017; Piekkari et al., 2015). Specifically, a director's proficiency in English is likely to affect her cognitive processing and communication abilities (Kassis-Henderson, 2010). Not feeling comfortable in using English may for instance increase a director's insecurity and feelings of anxiety (Tenzer et al., 2014), which may negatively affect the extent to which an individual director contributes to discussions in the boardroom (Piekkari et al., 2015). Thus, one reason why the presence of foreign board members may deter the monitoring process is that it changes the dynamics and complicates discussions in the boardroom. These complications may be particularly important when board members have to discuss technically difficult and domain-specific accounting issues.

[2] Following Forbes and Milliken (1999) cohesiveness refers to "the degree to which board members are attracted to each other and are motivated to stay on the board. [...] Cohesiveness captures the affective dimension of members' inclusion on the board and reflects the ability of the board to continue working together".

[3] Indeed, Barth, Landsman, and Lang, (2008) show that firms adopting IFRS show an improvement in reporting quality in terms of earnings management, timely loss recognition, and value relevance. Moreover, Marra, Mazzola, and Prencipe, (2011) find that the (negative) association between board independence and audit committee presence, on the one hand, and earnings management, on the other, is stronger in the post-IFRS period than in the pre-IFRS period. They attribute this effect to the higher level of disclosure and transparency inherent in IFRS, which according to Marra et al. (2011) makes it easier for directors to identify and monitor the accounting policies applied by the firm.

Moreover, research suggests that at the board level language affects interpersonal trust relations and the working atmosphere in teams (Kassis-Henderson, 2005; Tenzer et al., 2014). These aspects are crucial for any group, but particularly for groups that meet sporadically (Forbes & Milliken, 1999), as these aspects contribute to an environment that stimulates discussion and collaboration. For instance, native and non-native speakers differ in terms of the ability to hear messages "between the lines" as well as in terms of the level of formality they consider appropriate when addressing each other (Kassis-Henderson, 2010). Indeed, Forbes and Milliken (1999, p. 499) note that as board members meet only episodically, "they are unlikely to have time to fully resolve the attitudinal and linguistic differences that divide them". Hence, as a consequence of linguistic differences in general and differences in proficiency in English in particular, boards are vulnerable to "interaction difficulties that prevent groups from achieving their full potential" (Forbes & Milliken, 1999, p. 492).

Second, differences in language structures may also affect directors' perception and detection of earnings management practices. Recent research has focused on how language structure shapes financial decisions. This research is based on the so-called principle of linguistic relativity, also referred to as the Sapir-Whorf hypothesis (Whorf, Carroll, & Chase, 1956). According to this hypothesis, "…the structure of a language systematically affects its speakers' cognitive representations of reality" (Fasan, Gotti, Kang, & Liu, 2016). Differences in language structure may, among other things, have consequences for how individuals deal with future-oriented actions, such as personal savings decisions (Chen, 2013), firm financial decisions and reporting (Chen, Cronqvist, Ni, & Zhang, 2017; Fasan et al., 2016; Kim, Kim, & Zhou, 2017), and corporate social responsibility (Liang, Marquis, Renneboog, & Sun, 2014). The relationship between language structure and these future financial decisions is based on the notion that different languages show different ways of grammatically encoding future events (Chen, 2013). In some languages, such as for example English, speakers are required to explicitly use the future tense to mark future events ("tomorrow it will rain"). These languages are regarded as having a strong future-time reference (FTR). In other languages, such as for example German, this requirement is absent ("morgen regnet es").[4] These languages are classified as having a weak FTR. If individuals have to use the future tense explicitly to refer to future events, these events feel more distant, making the current costs these events may incur also more burdensome. So, Chen (2013), for example, argues and finds that individuals using strong FTR languages tend to save less. Chen et al. (2017) show that managers in countries with a strong FTR language are more likely to engage in earnings management, because they feel less pressure from the future, leading them to be focused more on the short-term, rather than on the long-term. Relatedly, Kim et al. (2017) argue that managers from strong FTR countries would care less about (negative) future consequences of earnings management (e.g., litigations and/or dismissals of managers) because their languages sharply dissociate the future from the present.

Differences with respect to FTR of a language may also influence discussions about financial accounting and earnings management in the boardroom when multiple nationalities are present. More specifically, board members who are native speakers of a strong FTR language are expected to have a stronger focus on the short-term, whereas native speakers of a weak FTR language will be more focused on the long-term. This has two potential consequences for the monitoring of earnings management related behavior. First, the mere existence of different views with respect to the relevance of the short-term versus the long-term may complicate discussions about interpretations of financial reports. Second, board members coming from countries with a strong FTR language may not signal earnings management practices as being problematic given their preference for behavior that focuses on the short-term.

Based on the above discussion we argue that foreign directors are associated with a lower quality of monitoring of managers, due to their lack of knowledge and/or due to language issues. Accordingly, this line of reasoning suggests the following hypotheses:

Hypothesis 1b. *There is a positive association between the presence of a foreign director on the board of directors and the level of earnings management.*

Hypothesis 2. *The positive association between the presence of a foreign director on the board of directors and the level of earnings management results from the lack of knowledge of local accounting rules and practices.*

Hypothesis 3. *The positive association between the presence of a foreign director on the board of directors and the level of earnings management results from language differences in the boardroom.*

3. Research design

3.1. Data source and sample

Our sample is based on the population of all publicly traded non-financial firms headquartered in Denmark, Finland, Norway or Sweden. These four Nordic countries have a number of legal and linguistic aspects in common. The Nordic countries comprise a relatively homogeneous region in terms of financial reporting regulation and practices (2002, Aisbitt, 2001; Caban-Garcia & He, 2013). Regarding the linguistic aspects, Piekkari et al. (2015) note that the Nordic region represents a region with a high degree of proficiency in English, while at the same time three of the four languages (i.e., Danish, Norwegian and Swedish) resemble each other as they are Scandinavian languages and belong to the family of Germanic idioms.

Our initial sample includes all listed, non-financial firms headquartered in a Nordic country at the end of 2006. For these firms, we manually collect data for that year on relevant board variables, such as the identities of the CEO and directors, their nationality, gender, and date of first appointment of the chairperson to the board. Based on this first round, the data collection was then extended to include each of the years 2001–2008.[5] Next, for our empirical analysis, the hand-collected director data was merged with financial data from Compustat Global; the information on market capitalization comes from Datastream. This finally led to an unbalanced sample of 3249 firm-year observations (comprising 668 firm-year observations for Denmark, 685 for Finland, 480 for Norway and 1416 for Sweden) representing 586 unique firms (i.e. 107 firms for Denmark, 110 for Finland, 108 for Norway and 261 for Sweden), for which we have all necessary data.

3.2. Variables

3.2.1. Dependent variable

Consistent with numerous accounting, finance, and management studies, we employ the absolute value of the discretionary (or abnormal) accruals as a proxy for earnings management (Chen et al., 2015; Klein, 2002; Larcker, Richardson, & Tuna, 2007; Peek, Meuwissen, Moers, & Vanstraelen, 2013; Xie, Davidson, & DaDalt, 2003).[6] Specifically, and similar to recent studies, we focus on working

[4] The examples from the English and German language are from Chen (2013).

[5] To secure data validity, we verified the identification of foreigners using BoardEx (for the largest companies), Bloomberg's Executive Profile & Biography, Forbes, tax-related information (when publicly available) and other web-based sources such as Wikipedia.

[6] A firm's earnings consist of cash flows from operations and total accruals. Total accruals is the sum of discretionary accruals and non-discretionary accruals. Non-discretionary accruals are the accruals that need to be reported according to the accounting standards to adjust the firm's cash flows (e.g. accounts receivable, outstanding salary payments). Discretionary accruals are the

capital accruals, as they are relatively easy to manage, but are less easy to detect by investors (Peek et al., 2013; Xie et al., 2003). We identify the non-discretionary accruals using the Modified Jones model (Dechow, Sloan, & Sweeney, 1995), The discretionary accruals proxy is then the residual from a linear regression of working capital accruals on change in sales (after subtracting the change in accounts receivables) or:

$$\frac{WCA_{it}}{AT_{it-1}} = \beta_0 + \beta_1\left(\frac{\Delta REV_{it} - \Delta AR_{it}}{AT_{it-1}}\right) + \varepsilon_{it}\ , \quad (1)$$

where WCA_{it} denotes the working capital accruals of firm *i* in year *t*,[7] AT_{it-1} the total assets of firm *i* in year *t-1*, ΔREV_{it} the change in revenues of firm *i* in year *t*, and ΔAR_{it} the change in accounts receivable of firm *i* in year *t*. The absolute value of ε_{it} in equation (1) is our dependent variable (*MJ_ABSOLUTE*).

As Peek et al. (2013) observe, in most U.K. and U.S. based studies the models used to estimate discretionary accruals are estimated by industry and year. However, this approach, they remark, is not feasible in many cross-country studies given the small sample sizes per country. We therefore estimate the Modified Jones model by country, industry, and time period, where we distinguish two time periods: 2001–2004 and 2005–2008, with the last period coinciding with the first four years after the adoption of IFRS. The industry classification is based on one-digit SIC codes.

3.2.2. Explanatory variables

Our first explanatory variable intends to measure the impact of the presence of at least one foreign director (*D_FOREIGN*) on the level of earnings management. However, the four Nordic countries in our sample comprise a rather homogeneous region and there seems to be a Nordic labor market (rather than separate markets) for Danish, Finnish, Norwegian, and Swedish directors. Board interlocks are a well-known phenomenon in the Nordic countries where the pool of qualified candidates is limited (Oxelheim & Randøy, 2003; Piekkari et al., 2015). For instance, Piekkari et al. (2015, p. 28) indicate that the Nordic countries have "…a corporate environment that can be characterized as a "small world" in that trust, information and reputation of individual board members spread quickly and shape board behavior (Sinani, Stafsudd, Thomsen, Edling, & Randøy, 2008)." Therefore, next to focusing on foreign board members in general, we also construct a dummy variable (*D_NONNORDIC*), which assumes the value of one if at least one non-Nordic foreigner sits on the board of directors and zero otherwise. The focus of our empirical analysis regarding hypotheses 1a and 1b will be on the latter variable.

To test hypotheses 2 and 3, we create the following explanatory variables. First, to test whether the impact of the presence of non-Nordic directors on earnings management depends on whether the firm draws up its financial statements using either local GAAP or IFRS the role of foreign directors' ability to detect earnings management (hypothesis 2), we look at whether a firm in a specific year adopted local (i.e., Nordic) GAAP or IFRS. Specifically, using data from Datastream (with missing values collected from firms' annual reports), we construct a dummy variable, *LOCAL_GAAP*, that equals one if the firm, in a specific year, adopted local accounting rules, and zero if the firm adopted IFRS or US GAAP.

Second, to deal with possible language issues (hypothesis 3) we follow Brochet, Naranjo, and Yu, (2016) who construct a *LANGUAGE_DIST* variable. This variable uses the TOEFL scores (regarding average speaking proficiency in English in a country; a score ranging from 0 to 30, with higher scores indicating a higher level of proficiency in English) to measure the difficulty members from of a certain country experience when they have to speak in English.[8] For instance, the TOEFL-score for Japan is about 16, while the U.S. and the U.K. score 30. Using this information, we construct the maximum distance from 30 for each board in our sample. So if a Norwegian board contains a Japanese (TOEFL = 16), a Dutch (TOEFL = 25) and three Norwegian (TOEFL = 24.5) individuals, the maximum score of *LANGUAGE_DIST* for this board would be based on the Japanese individual (as this country scores lowest in terms of proficiency), which in this case would be 14. This is equal to the maximum TOEFL-score of 30 minus the lowest TOEFL-score of 14 for the Japanese director on this board. In a similar vein, if a board consisted of twelve members, ten Swedish (TOEFL = 24.15) and two Irish (TOEFL = 30) members, *LANGUAGE_DIST* would be 5.85 (equal to 30 – 24.15). Obviously, in a board without any foreigner the score on *LANGUAGE_DIST* would be zero, because there would be no language issues.

To test the role of differences in language structure, we use a variable indicating to whether the board includes at least one foreigner coming from a country with a strong FTR language. Specifically, *D_STRONG_FTR* is a dummy variable that assumes the value of one if the board has at least one board member from a country with a strong FTR language; and zero otherwise. The classification of strong FTR languages is taken from Chen (2013) and Liang et al. (2014).[9]

3.2.3. Control variables

Although the presence of foreign directors might affect board monitoring and decision-making, other variables also influence board oversight and, hence, the level of earnings management. Therefore, and consistent with prior research, we control for a number of governance- and firm-specific variables that affect the level of earnings management.

3.2.3.1. Governance-specific control variables

First, we include *BOARD_SIZE* measured as the logarithm of the number of directors and serves as a measure of board effectiveness (Chiu, Teoh, & Tian, 2013; Peasnell, Pope, & Young, 2005). Second, we include *AUDITCOM*, a dummy variable that assumes the value of one if the firm has an audit committee, and zero otherwise. Prior research demonstrates that the presence of a separate sub-committee within the board focusing on financial reporting issues is an important mechanism to curb earnings management (Dechow, Ge, & Schrand, 2010; Klein, 2002; Xie et al., 2003).[10] Third, we include *CEO_BOARD*, a dummy

(*footnote continued*)
accruals managers can choose within the flexibility of accounting regulations when adjusting a firm's cash flows (e.g. anticipated bonus payments to the management). Thus, whereas non-discretionary accruals reflect business conditions, such as growth and the length of the operating cycle, the discretionary component identifies management choices (http://www.investopedia.com/). Discretionary accruals provide managers the opportunity to manipulate earnings because of their flexibility with respect to the reporting requirements (Dechow, 1994). Therefore, previous studies have focused on the discretionary accruals to calculate earnings management.

[7] Working capital accruals are defined as: (ΔCurrent assets$_{it}$ - ΔCash$_{it}$) - (ΔCurrent liabilities$_{it}$ - ΔLong term debt in current liabilities$_{it}$ - ΔIncome taxes payable$_{it}$), where Δvariable$_{it}$ denotes the change in that variable from year *t-1* to *t* for firm *i*.

[8] Brochet et al. (2016) note that "[t]he TOEFL (Test of English as a Foreign Language) is extensively used as an admission requirement for non-native speakers at various (primarily academic) institutions around the world. The test is designed and administered by the Educational Testing Service (ETS), and has been taken by over 27 million individuals since its introduction in 1964."

[9] According to Chen (2013), among the list of strong FTR countries are: English (UK and US), French, Irish, Korean, Italian, Portuguese, Russian, Spanish and Turkish. Among the list of weak FTR countries are: Danish, Norwegian, Swedish, Finnish, Chinese, Dutch, German, and Japanese. For more details on the classification of countries into the group of strong versus weak FTR countries, see Chen (2013), Appendix B, pp.726-729 and Liang et al. (2014).

[10] While annual reports of Nordic firms frequently include information regarding the presence of an audit committee, they rarely disclose the identity of

variable that assumes the value of one if the CEO sits on the board, and zero otherwise. As indicated by Oxelheim et al. (2013) the Nordic countries have a so-called "semi-two-tier" system, which allows (but does not require) one executive (the CEO) to sit (or be present at all times in the case of Norway) on the board of directors. Arguably, and similar to CEO duality in the United Kingdom and United States (Dhaliwal et al., 2010; Peasnell et al., 2005; Srinidhi et al., 2011; Xie et al., 2003), allowing the CEO to be a board member or to be present during all board meetings could impair the ability of the board to exercise oversight (Adams et al., 2010). Fourth, we also include *TENURE_CHAIR*, measured as the logarithm of the number of years the incumbent chairperson served as chairperson. It can be expected that a more experienced chairperson is associated with more effective oversight (e.g., Dhaliwal et al., 2010). Lastly, as recent research shows that the presence of one or more female directors is associated with tougher monitoring in general and reduced levels of earnings management in particular (Adams & Ferreira, 2009; Srinidhi et al., 2011), we also control for female representation on the firm's board of directors. Specifically, we include *D_FEMALE*, a dummy variable that takes on the value of one if the board of directors includes at least one female, and zero otherwise.[11]

3.2.3.2. Firm-specific control variables

Next to the board characteristics, we include a number of firm characteristics, including *FIRM_SIZE* (measured by the logarithm of the firms' total assets in constant year-2000 prices in million euros), *D_LOSS* (a dummy variable that assumes the value of one if the firm experienced a loss in a certain year, and zero otherwise), *ROA* (return on assets, defined as EBIT divided by total assets), and Market-to-Book (*MTB*), defined as the ratio of the market value of the firm to the book value of total assets. Prior studies (Chen, 2013; Chiu et al., 2013; Dhaliwal et al., 2010; Larcker et al., 2007; Peasnell et al., 2005; Srinidhi et al., 2011; Xie et al., 2003) show that these firm characteristics are associated with earnings management. Research has also shown that financial analysts comprise an important external governance mechanism and that firms followed by more analysts have less discretion in managing their earnings (Chen et al., 2015). Therefore, we include a variable, *ANALYSTCOV,* which is measured as the logarithm of one plus the number of financial analysts following the firm (as reported in the I/B/E/S database), assuming that the marginal effect of coverage decreases as coverage increases (Degeorge, Ding, Jeanjeanc, & Stolowy, 2013). Finally, *D_ANGLOLIST* is a dummy variable that takes on the value of one if the firm's shares are cross-listed in the U.S., and zero otherwise. Research shows that the financial reporting quality is higher for firms whose shares are cross-listed in the U.S. (Shi, Magnan, & Kim, 2012), possibly due to a tougher corporate governance and financial reporting regime.[12]

Lastly, we include year, industry and country dummies.

4. Results

4.1. Descriptive statistics

Table 1, Panel A provides the summary statistics and Pearson correlations for the full sample. Regarding the test variable, we observe that 20 percent of the boards have at least one non-Nordic board member. Furthermore, we observe that in 44 percent of our firm-year observations, the firm reports earnings based on local GAAP. Table 1, Panel A, suggests that language distance is relatively small, with an average of 2.13 (please note that the maximum difference observed is 14.00) and that in 14 percent of the boards there is at least one director from a country with a strong FTR language.

Table 1, Panel A also shows that the average board of our sample firms has almost seven members, with values ranging from two to thirteen. In 28 percent of the firm-year observations, a separate audit committee is present. In our sample, the CEO sits on the board in about 42 percent of the firms. The average chairperson has been with the firm for 7.64 years, which suggests a considerable amount of experience. Fifty-nine percent of the sampled boards of directors have at least one female board member, a figure that is considerably higher than found in U.S.-based research (Adams & Ferreira, 2009). A firm is followed by on average seven financial analysts. Only 3 percent of the firms are cross-listed in the U.S.

Table 1, Panel A further shows that an average firm in our final sample has a return on assets (*ROA*) of 3 percent; in 28 percent of the firm-year observations, the firm experienced a loss. The average size (in terms of the book value of assets) of the firms in our sample is €1.15 billion (in constant year-2000 prices).

Finally, Table 1 provides the correlations for our main variables. The correlation patterns seen in Table 1, Panel A, indicate no severe multi-collinearity issues, except for a small number of cases. Specifically, we find high correlations among the test variables (which will be included separately in the regression analyses), as well as between *FIRM_SIZE* and *BOARD_SIZE* ($\rho = 0.59$), *FIRM_SIZE* and *ANALYSTCOV* ($\rho = 0.75$), and *ROA* and *D_LOSS* ($\rho = -0.55$).[13] The variance inflation factors (not reported) indicate no multi-collinearity problems.[14] To minimize the impact of extreme values, we winsorize each of the continuous variables used in the regressions at the top and bottom 1 percent.

Table 1, Panel B, provides information on the cross-country differences in terms of board internationalization. The differences appear to be rather substantial. Whereas 15 per cent of all Danish firms have boards with at least one non-Nordic board member, the equivalent 31.5 per cent for Norwegian firms. Table 1, Panel C shows that for the total sample the percentage of boards with at least one non-Nordic board member has increased from 17 percent in 2001 to 24 percent in 2008.

4.2. Testing hypotheses 1a and 1b

4.2.1. Main results

Table 2 presents the main results with absolute abnormal accruals based on Modified Jones as the dependent variable. To test our empirical predictions, we use OLS regression with standard errors clustered by firm. All regressions include year, industry, and country fixed

(*footnote continued*)
the directors that sit on the audit committee. Hence, data availability precluded us from testing the effects of the presence of foreign directors on the firm's audit committee on the level of earnings management.

[11] Lack of data precludes us from including information about the educational and/or functional background of directors. We are therefore not able to investigate whether board members with financial expertise reduce the extent of earnings management (a finding reported in previous studies; see, e.g., Dhaliwal et al., 2010; Krishnan & Visvanathan, 2008; Zhang et al., 2007).

[12] One of the reviewers suggested us to use the share of bonus payments in total executive compensation as an additional control variable, as it may be expected that this component of total compensation may be affected by short-term earnings, which may provide incentives to manage short-term earnings. Although this is a very interesting suggestion, data on executive compensation turns out to be far from complete, which means that we can only perform the analyses on a small (and potentially biased) sub-sample of firms. We therefore decided to refrain from adding this analysis to the paper. We do think, however, that this may be an important venue for future research.

[13] The high, but not perfect correlations between *D_NONNORDIC, LANGUAGE_DIST,* and *D_STRONG_FTR* are as expected as we basically re-categorize foreign directors according to nationality, English proficiency, and language structure, respectively. This also implies that we cannot include these explanatory variables into one regression analysis simultaneously.

[14] The maximum average VIF remains below a value of 10, which has been recommended as the maximum level of VIF (e.g., O'Brien, 2007).

Table 1
Descriptive statistics and correlations.

Panel A: Full sample

		Mean	Stdev	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	*MJ_ABSOLUTE*	0.09	0.13	1																		
2	*D_NONNORDIC*	0.20	0.40	0.057	1																	
3	*LOCAL_GAAP*	0.44	0.50	−0.079	−0.093	1																
4	*LANGUAGE_DIST*	2.13	3.16	0.005	0.714	−0.114	1															
5	*D_STONG_FTR*	0.14	0.35	0.043	0.824	−0.072	0.596	1														
6	*BOARD_SIZE*	6.92	2.09	−0.137	0.136	−0.048	0.205	0.136	1													
7	*AUDITCOM*	0.28	0.45	−0.042	0.234	−0.283	0.21	0.222	0.340	1												
8	*CEO_BOARD*	0.41	0.49	−0.010	0.018	0.130	−0.013	0.079	0.157	0.053	1											
9	*TENURE_CHAIR*	7.64	7.60	−0.085	−0.011	−0.074	−0.060	−0.019	0.013	−0.049	−0.025	1										
10	*D_FEMALE*	0.59	0.49	−0.046	0.093	−0.247	0.156	0.085	0.393	0.249	0.033	0.028	1									
11	*FIRM_SIZE*	1147.29	3727.47	−0.167	0.234	−0.137	0.316	0.215	0.574	0.423	0.017	0.105	0.286	1								
12	*D_LOSS*	0.28	0.45	0.149	0.067	0.074	0.007	0.093	−0.155	−0.043	−0.038	−0.215	−0.114	−0.318	1							
13	*ROA*	0.03	0.27	−0.091	−0.045	−0.092	−0.002	−0.058	0.153	0.077	−0.002	0.164	0.111	0.306	−0.552	1						
14	*MTB*	1.42	1.75	0.193	0.053	−0.080	0.025	0.045	−0.129	−0.062	−0.013	−0.019	0.024	−0.257	0.058	−0.062	1					
15	*ANALYSTCOV*	6.81	9.18	−0.088	0.246	−0.113	0.312	0.202	0.437	0.392	−0.042	0.017	0.241	0.753	−0.198	0.181	−0.009	1				
16	*D_ANGLOLIST*	0.03	0.16	−0.034	0.164	−0.025	0.158	0.19	0.114	0.168	−0.016	−0.051	0.039	0.251	−0.066	0.062	−0.005	0.217	1			
17	*D_DENMARK*	0.21	0.40	0.046	−0.061	0.055	−0.062	−0.081	−0.013	−0.183	−0.298	0.133	−0.150	−0.006	−0.054	0.006	−0.051	−0.129	0.028	1		
18	*D_FINLAND*	0.21	0.41	−0.080	0.011	−0.017	0.017	−0.026	−0.195	0.064	−0.108	0.082	−0.173	0.104	−0.077	0.087	−0.084	0.218	0.021	−0.263	1	
19	*D_NORWAY*	0.15	0.35	0.019	0.120	−0.106	0.107	0.11	−0.039	−0.022	−0.201	−0.061	0.185	0.063	0.049	0.000	0.014	0.113	0.011	−0.212	−0.215	1
20	*D_SWEDEN*	0.44	0.50	0.015	−0.045	0.045	−0.040	0.008	0.199	0.113	0.475	−0.132	0.132	−0.126	0.072	−0.076	0.100	−0.155	−0.047	−0.447	−0.454	−0.366

Panel B: Breakdown per country

	Denmark	Finland	Norway	Sweden	Total
Number of Obs.	668	685	480	1,416	3249
D_NONNORDIC	0.151	0.207	0.315	0.179	0.199
MJ_ABS	0.105	0.073	0.099	0.095	0.093

Panel C: Breakdown per year

	2001	2002	2003	2004	2005	2006	2007	2008	Total
Number of Obs.	295	340	365	396	418	485	494	456	3249
D_NONNORDIC	0.169	0.144	0.167	0.194	0.201	0.208	0.235	0.239	0.199
MJ_ABS	0.085	0.080	0.077	0.082	0.112	0.107	0.105	0.086	0.093

Note: N = 3249. The correlation matrix is generated using the log transformed measures of variables. The mean and standard deviation are based on the untransformed measures of variables. All (Pearson) correlations higher than (the absolute value of) 0.035 are statistically significant at the 5%-level. FIRM_SIZE is in €m.
Note: Panels B and C provide a breakdown of the main variables per country and per year. The numbers represent mean values.

Table 2
Regression analysis of impact of foreign directors on earnings management.

	(1)	(2)
D_FOREIGN	0.010	
	[0.007]	
D_NONNORDIC		0.022
		[0.009]**
BOARD_SIZE	−0.044	−0.044
	[0.014]***	[0.014]***
AUDITCOM	0.003	−0.001
	[0.008]	[0.008]
CEO_BOARD	0.012	0.011
	[0.008]	[0.008]
TENURE_CHAIR	−0.009	−0.009
	[0.003]***	[0.003]***
D_FEMALE	−0.004	−0.003
	[0.007]	[0.007]
FIRM_SIZE	−0.006	−0.006
	[0.008]	[0.008]
D_LOSS	0.033	0.032
	[0.008]***	[0.008]***
ROA	0.006	0.007
	[0.010]	[0.010]
MTB	0.011	0.010
	[0.002]***	[0.002]***
ANALYSTCOV	0.007	0.006
	[0.010]	[0.010]
D_ANGLOLIST	−0.012	−0.015
	[0.013]	[0.013]
INTERCEPT	0.181	0.183
	[0.065]***	[0.064]***
YEAR	YES	YES
COUNTRY	YES	YES
INDUSTRY	YES	YES
Adjusted R^2	0.083	0.086
N	3249	3249

Notes: Dependent variable is the absolute value of the discretionary accruals based on the Modified Jones model. See Appendix A for variable definitions. In brackets are the standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering (Petersen, 2009). Year, country and industry fixed effects are suppressed for brevity.
***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels (two-tailed), respectively.

effects.

We start our empirical analysis showing that the presence of foreign directors *per se*—i.e. also including, for instance, cases where a Swedish individual is the only foreign director on the board of a firm headquartered in Norway—is not statistically significantly associated with earnings management. Specifically, column (1) of Table 2 shows that the effects of *D_FOREIGN* on absolute abnormal accruals are statistically insignificant (β = 0.01; *not significant*). As discussed in the previous section, a plausible explanation for this insignificant effect may be that the four countries comprise a relatively homogeneous region in terms of financial reporting regulations and practices (2002, Aisbitt, 2001; Caban-Garcia & He, 2013). Moreover, three languages (Danish, Norwegian and Swedish) resemble each other (Piekkari et al., 2015). Hence, the mere presence of a foreign director in boards of Nordic firms does not necessarily result in changes in dynamics since non-domestic Nordic directors resemble "local" directors. Because of this, differences in familiarity with local accounting rules and/or difficulties in communication due to language may not pose a major barrier to those Nordic boards where the only foreigner(s) is (are) from another Nordic country.

However, we expect a different impact from a foreign director who comes from outside the Nordic region. As Table 2, column (2) shows, the association between *D_ NONNORDIC* and absolute abnormal accruals is statistically significant and positive (β = 0.02; *p*-value < 0.05).[15] This result is also economically significant. Specifically, we observe an increase in the absolute value of discretionary accruals (*MJ_ABSOLUTE*) by almost 25 percentage points when we move from a situation in which a board has no non-Nordic director on the board (i.e., *D_ NONNORDIC* = 0, *MJ_ABSOLUTE* = 0.0887) to a situation in which a board has at least one non-Nordic board member (i.e., *D_ NONNORDIC* = 1, *MJ_ABSOLUTE* = 0. 1108), while holding other variables constant at their sample means. The results indicate that boards of directors that include at least one non-Nordic foreigner are associated with higher levels of earnings management. This is in line with our hypothesis 1b, i.e. there is a positive association between the presence of a foreign director on the board of directors and the level of earnings management.[16] The coefficients regarding the control variables are generally in line with prior research, even though some variables (e.g., *FIRM_SIZE, ANALYSTCOV* and *D_ANGLOLIST*) are not statistically significant.[17],[18]

4.2.2. Alternative measures for board internationalization and discretionary accruals

To check the robustness of the previous findings, we first construct a dummy variable for the presence of at least two non-Nordic directors on the board (i.e., if *D_NONNORDIC2* is one, the board has two or more non-Nordic foreigners on the board of directors, and zero otherwise); i.e., a possible nonlinear relationship between foreign directors and earnings management may be present (Srinidhi et al., 2011). The results in Table 3, column (1) indicate that boards having at least two non-Nordic board members are associated with higher levels of earnings management (β = 0.02; *p*-value < 0.05).[19],[20]

To further verify the robustness of our results, we construct a second variable, *PERC_NONNORDIC*, representing the percentage of non-Nordic directors on the board. The positive association between the presence of a foreign director and the level of earnings management due to a lack of knowledge and/or due to language issues may depend on the *proportion* of foreign board members. The results in column (2) of Table 3 confirm the idea that a higher percentage of non-Nordic directors on the board is associated with more earnings management (β = 0.07; *p*-value < 0.05). This result is also economically significant

[15] As our data covers multiple years and, hence, there is a possibility of first-order serially correlated residuals, we ran a Durbin-Watson test. The outcomes of this test show that we cannot reject the null hypothesis that the residuals are not serially correlated (p < 0.01). Therefore, we also ran a regression with Newey–West standard errors which takes into account that the error structure is heteroskedastic and auto-correlated. The results from the regression with Newey–West standard errors remain qualitatively similar (coefficient of *D_NONNORDIC* = 0.022; p < 0.01).

[16] We also estimated the results based on a cross-sectional annual (rather than periodic) estimation of the Modified Jones model. Although this, as expected, reduces our sample sizes, the results (not tabulated, but available on request) remain qualitatively similar to those reported in the paper.

[17] As a further robustness test we redo the analysis presented in Table 2, but leave out the year 2005, as in this year IFRS was adopted in Europe. The change from local to international accounting standards may be of influence on the calculation of our earnings management measure for the year 2005. The results (not tabulated) of this robustness test are very similar to the ones presented in Table 2.

[18] We also ran a regression in which we included the absolute number of financial analysts following the firm (as reported in the I/B/E/S database), instead of using the logarithm of one plus the number of financial analysts. The results of this analysis (not tabulated) are qualitatively similar to the ones reported in Table 2. The results of this robustness check are available on request from the authors.

[19] A Wald χ2-test of difference between the two coefficients does not reveal any statistically significant difference in coefficients (χ2 = 0.05; *n.s.*).

[20] We also ran a regression in which we included the dummy variable *D_NONNORDIC* as a separate variable, allowing us to compare firms having two or more non-Nordic foreign directors with those having no non-Nordic foreign directors. The results (not tabulated) are qualitatively similar, i.e. the variable *D_NONNORDIC2* remains statistically significant, whereas the variable *D_NONNORDIC* is not.

Table 3
Robustness checks using alternative proxies for board internationalization.

	(1)	(2)
D_NONNORDIC2	0.024	
	[0.011]**	
PERC_NONNORDIC		0.068
		[0.030]**
BOARD_SIZE	−0.046	−0.043
	[0.014]***	[0.014]***
AUDITCOM	−0.001	−0.000
	[0.009]	[0.008]
CEO_BOARD	0.011	0.011
	[0.008]	[0.008]
TENURE_CHAIR	−0.009	−0.009
	[0.003]***	[0.003]***
D_FEMALE	−0.003	−0.003
	[0.007]	[0.007]
FIRM_SIZE	−0.006	−0.006
	[0.008]	[0.008]
D_LOSS	0.033	0.032
	[0.008]***	[0.008]***
ROA	0.006	0.006
	[0.010]	[0.010]
MTB	0.011	0.010
	[0.002]***	[0.002]***
ANALYSTCOV	0.007	0.006
	[0.010]	[0.010]
D_ANGLOLIST	−0.017	−0.016
	[0.013]	[0.013]
INTERCEPT	0.181	0.174
	[0.063]***	[0.063]***
YEAR	YES	YES
COUNTRY	YES	YES
INDUSTRY	YES	YES
Adjusted R^2	0.085	0.085
N	3249	3249

Notes: Dependent variable is the absolute value of the discretionary accruals based on the Modified Jones model. *D_NONNORDIC2* is a dummy variable equal to 1 if the board has two or more non-Nordic foreigners on the board of directors; and zero otherwise. *PERC_NONNORDIC* equals the percentage of non-Nordic directors on the board. See Appendix A for all other variable definitions. In brackets are the standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering (Petersen, 2009). Year, country and industry fixed effects are suppressed for brevity.
***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels (two-tailed), respectively.

as an increase of one standard deviation in the proportion of non-Nordic individuals on the firm's board, increases the absolute value of discretionary accruals by about 9 percentage points, holding other variables constant at their sample means.

Taken together these robustness checks using alternative proxies for board internationalization confirm that the presence of non-Nordic foreigners on the firm's board is associated with higher levels of earnings management.[21]

Finally, to check the robustness of the previous findings, we use an alternative measure for discretionary accruals. Though widely used in the earnings management literature, the modified Jones model is far from perfect in detecting earnings management (Dechow et al., 2010). Therefore, and as recommended by Peek et al. (2013), we also use the Dechow and Dichev (2002) cash flow model which regresses working capital accruals on current cash flow, previous year's cash flow, and next year's cash flow. Hence, abnormal accruals are set equal to the residuals of the following regression equation:

$$\frac{WCA_{it}}{AT_{it-1}} = \beta_0 + \beta_1\left(\frac{CF_{it-1}}{AT_{it-2}}\right) + \beta_1\left(\frac{CF_{it}}{AT_{it-1}}\right) + \beta_1\left(\frac{CF_{it+1}}{AT_{it}}\right) + \varepsilon_{it}\,, \quad (2)$$

where $CF_{it+\tau}$ is the cash flow from operations (i.e., current operating income minus accruals) of firm i in year $t + \tau$ ($\tau = -1, 0, 1$), and the other variables are as defined previously. Similar to our main analyses, we estimate the models by country, industry, and time period, where we distinguish two time periods: 2001–2004 and 2005–2008. The results (not tabulated but available on request) support our findings based on the analyses using the Modified Jones model. To conclude, these results provide support for hypothesis 1b.

4.2.3. Signed accruals

So far, we have looked at the absolute value of discretionary accruals and, hence, treated income-increasing (i.e., upward) and income-decreasing (i.e., downward) earnings management as if they are similar. However, to create a positive impression on the firm's stakeholders (e.g., by showing improved financial performance), corporate decision-makers may be likely to resort, in particular, to income-increasing earnings management (Chen et al., 2015). At the same time, income-increasing earnings management may not be in the best interests of (future) investors (Graham et al., 2005) when they base their investment decisions on reported results that are substantially higher than the firm's underlying fundamentals (Davidson, Jiraporn, Kim, & Nemec, 2004). Therefore, we conduct an analysis focusing on the signed accruals. The results are reported in Table 4.

Table 4 contains three columns. Column (1) shows the results based on the full sample. They indicate that the presence of a non-Nordic, foreign director is positively associated with the level of discretionary accruals ($\beta = 0.018$; p-value < 0.01). Columns (2) and (3) provide subsample results for income-increasing and income-decreasing earnings management, respectively. The results in columns (2) and (3) indicate that the presence of a non-Nordic foreign director is positively associated with the level of income-increasing earnings management ($\beta = 0.037$; p-value < 0.05), but not with income-decreasing earnings management ($\beta = 0.009$; *not significant*). These results suggest that the presence of foreign board member(s) reduces the boards' ability to detect or mitigate earnings management, allowing management specifically to be engaged in income-*increasing* but not income-*decreasing* earnings management decisions. Again, these results provide support for hypothesis 1b. The fact that increased board internationalization is positively associated with income-increasing earnings management and not associated with income-decreasing earnings management supports the notion that executives have a stronger interest in managing earnings upward instead of downward, for example for reasons related to incentive-based remuneration (Chiu et al., 2016).

4.2.4. Endogeneity of foreign directors on Nordic boards

A common challenge to corporate governance research is endogeneity (e.g., Hermalin & Weisbach, 2003; Adams et al., 2010). In our study, it is possible that foreign directors do not randomly join Nordic firms but, rather, self-select into more internationally oriented firms. To overcome this possible endogeneity bias, we follow prior research and use an instrumental variable (IV) approach (see, e.g. Bascle, 2008). In particular, we estimate earnings management regressions in a two-stage least square (2SLS) framework (Larcker & Rusticus, 2010; Lennox, Francis, & Wang, 2012). Consistent with Masulis et al. (2012) we use the distance of the headquarters of a firm to the nearest international airport (*DISTANCE_TO_AIRPORT*) as our first instrument. *DISTANCE_TO_AIRPORT* captures "the intuition that foreign directors may prefer to sit on boards of firms whose headquarters they can more easily reach" (Masulis et al., 2012, p. 546). *DISTANCE_TO_AIRPORT* is a dummy variable that equals one if a firm's headquarter is located within

[21] We also performed a change specification analysis in which we tried to tease out the effects of a change in the presence or percentage of non-Nordic foreign directors on the change in earnings management. This, however, did not result in significant results (not tabulated), which is probably due to the low number of observations involving a change in our test variable. Out of a total of 2,663 firm-year observations, 73 (325) involving a change in *D_NONNORDIC (PERC_NONNORDIC)*.

Table 4
Regression analysis based on signed accruals.

	(1) Full sample	(2) Income- increasing	(3) Income- decreasing
D_NONNORDIC	0.018	0.037	0.009
	[0.008]**	[0.014]***	[0.008]
BOARD_SIZE	0.013	−0.025	−0.065
	[0.012]	[0.014]*	[0.020]***
AUDITCOM	0.001	−0.002	0.003
	[0.007]	[0.012]	[0.008]
CEO_BOARD	0.007	0.021	0.002
	[0.007]	[0.012]*	[0.007]
TENURE_CHAIR	0.003	−0.011	−0.009
	[0.003]	[0.004]***	[0.004]**
D_FEMALE	0.004	−0.006	−0.001
	[0.007]	[0.009]	[0.008]
FIRM_SIZE	−0.013	−0.010	0.000
	[0.008]	[0.011]	[0.010]
D_LOSS	−0.030	0.033	0.033
	[0.008]***	[0.014]**	[0.008]***
ROA	0.039	0.026	−0.009
	[0.015]**	[0.016]*	[0.015]
MTB	−0.001	0.018	0.006
	[0.003]	[0.003]***	[0.003]***
ANALYSTCOV	−0.001	−0.001	0.008
	[0.009]	[0.012]	[0.012]
D_ANGLOLIST	−0.024	−0.033	0.005
	[0.015]	[0.012]***	[0.020]
INTERCEPT	0.070	0.189	0.162
	[0.053]	[0.082]**	[0.070]**
YEAR	YES	YES	YES
COUNTRY	YES	YES	YES
INDUSTRY	YES	YES	YES
Adjusted R^2	0.017	0.096	0.097
N	3249	1,640	1,609

Notes: In columns (1) and (2) the dependent variable is the value of the discretionary accruals based on the Modified Jones model. In column (3) the dependent variable is the value of the discretionary accruals based on the Modified Jones model multiplied by -1. See Appendix A for all other variable definitions. In brackets are the standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering (Petersen, 2009). Year, country and industry fixed effects are suppressed for brevity.
***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels (two-tailed), respectively.

50 km of the country's international airport, and zero otherwise. Consistent with Larcker and Rusticus (2010) recommendations for finding sound IVs, our second instrument is the proportion of other firms in any given industry-year pair that have at least one non-Nordic board member (*INDUSTRY_AVERAGE_PROPORTION*). Arguably, the proportion of other firms in the same industry that have at least one non-Nordic board member is unlikely to affect the firm's degree of earnings management directly, but it may significantly influence earnings management indirectly via the pressure a firm feels to appoint non-Nordic directors.

In the first stage, we estimate a probit regression model in which the dependent variable relates to the presence of a non-Nordic director on a firm's board; in an alternative specification we do a 2SLS (based on OLS) where the instrumented variable is the percentage of non-Nordic directors on a firm's board. In line with the standard IV approach (Bascle, 2008; Larcker & Rusticus, 2010), we include the two IVs as well as all other controls as explanatory variables in the first stage. Panel A of Table 5 reports the results of the first stage, column (1) is based on the dummy variable measuring the presence of a non-Nordic director, column (2) reports the results based on the percentage of non-Nordic directors. For brevity, we omit the controls and the year, industry and country fixed effects from the table. In our discussion of the results, we focus on the results based on the presence of a non-Nordic director (i.e., column (1)); the results based on the percentage (i.e., column (2)) are qualitatively similar.

Table 5
Two-stage least squares regressions.

First stage:
$PRED\_NONNORDIC = \beta_0 + \beta_1 \cdot DISTANCE\_TO\_AIRPORT + \beta_2 \cdot INDUSTRY\_AVERAGE\_PROPORTION +$ Controls + Year FE + Industry FE + Country FE + ε
Second stage:
$MJ\_ABSOLUTE = \beta_0 + \beta_1 \cdot PRED\_NONNORDIC$ + Controls + Year FE + Industry FE + Country FE + ε

Panel A: First stage regressions

Dependent variable	(1) Predicted Dummy Non-Nordic (Probit)	(2) Predicted percentage Non-Nordic (OLS)
Instrumental variables		
DISTANCE_TO_AIRPORT	0.247	0.013
	[0.128]*	[0.008]*
INDUSTRY_AVERAGE_PROPORTION	−12.29	−0.704
	[1.066]***	[0.093]***
CONTROLS	YES	YES
YEAR	YES	YES
INDUSTRY	YES	YES
COUNTRY	YES	YES
Pseudo/Adjusted R^2	0.187	0.178
Cragg-Donald F-Statistic	76.95	65.80
Kleibergen-Paap Wald statistic	73.72	57.75
Observations	3,232	3,240

Panel B: Second stage regressions

Dependent variable	*MJ_ABSOLUTE*	*MJ_ABSOLUTE*
Instrumented variable: Predicted dummy	0.010	0.176
(percentage) Non-Nordic	[0.006]*	[0.099]*
CONTROLS	YES	YES
YEAR	YES	YES
INDUSTRY	YES	YES
COUNTRY	YES	YES
Adjusted R^2	0.093	0.085
Sargan-Hansen J-test	1.524	1.595

Notes: This table presents the estimated coefficients and standard errors for our instrumental variables analysis. Dependent variable in Panel A (first stage) is *D_NONNORDIC* (Column 1) and *PERC_NONNORDIC* (Column 2), respectively. Dependent variable in Panel B (second stage) is the absolute value of the discretionary accruals based on the Modified Jones model. *DISTANCE_TO_AIRPORT* is a dummy variable assuming the value of 1 if the firm's headquarter is located within 50 km from an airport, and 0 otherwise. *INDUSTRY_AVERAGE_PROPORTION* is the proportion of other firms, in any given industry-year pair, that have at least one non-Nordic board member. For sake of brevity, we do not tabulate the estimated coefficients and standard errors of the control variables, year, country and industry fixed effects. In brackets are the standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering (Petersen, 2009).
***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels (two-tailed), respectively.

We find that our IVs (*DISTANCE_TO_AIRPORT* and *INDUSTRY_AVERAGE_PROPORTION*) satisfy the validity requirement since they are significantly related to our test variable. First, both variables are significantly correlated with the endogenous variable (*D_NONNORDIC*). Second, untabulated correlations indicate that neither instrument is significantly correlated with the error term of the second stage. The exogeneity of both IVs is also confirmed by the non-significant Sargan statistic (p-value = 0.277). Furthermore, we observe that the overall first stage model has a reasonable pseudo r-squared of 0.187.

An advantage of having two IVs and only one endogenous regressor (*D_NONNORDIC*) is that we can conduct an over-identification test of whether the IVs satisfy the exclusion restriction. We find that they do. The Hansen-Sargan J statistic for the over-identification test has a p-

Table 6
Comparison between firms with non-Nordic board member and firms without non-Nordic board member, using propensity score matching (PSM).

Panel A: Pre-PSM, differences in earnings management and covariates across two groups based on *D_NONNORDIC*

Variable	*D_NONNORDIC* = 1 (n = 647)			*D_NONNORDIC* = 0 (n = 2602)			Difference	
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median
MJ_ABSOLUTE	0.108	0.061	0.188	0.089	0.055	0.112	0.019***	0.006*
BOARD_SIZE	7.535	7.000	2.313	6.772	7.000	2.005	0.763***	0.000***
AUDITCOM	0.496	0.000	0.500	0.232	0.000	0.422	0.264***	0.000***
CEO_BOARD	0.428	0.000	0.495	0.406	0.000	0.491	0.022	0.000
TENURE_CHAIR	7.699	5.000	9.173	7.626	5.000	7.154	0.073	0.000
D_FEMALE	0.682	1.000	0.466	0.566	1.000	0.496	0.115***	0.000***
FIRM_SIZE (in €m)	2718.033	395.048	5,894.770	756.717	88.174	2,820.199	1,961.317***	306.873***
D_LOSS	0.338	0.000	0.474	0.263	0.000	0.440	0.075***	0.000***
ROA	0.002	0.065	0.282	0.032	0.074	0.266	−0.030***	−0.009***
MTB	1.605	0.934	2.143	1.374	0.904	1.629	0.231***	0.030*
ANALYSTCOV	11.895	8.000	12.840	5.546	3.000	7.499	6.349***	5.000***
D_ANGLOLIST	0.080	0.000	0.272	0.014	0.000	0.117	0.067***	0.000***
D_PERIOD	0.634	1.000	0.482	0.555	1.000	0.497	0.079***	0.000***

Panel B: Post-PSM, differences in earnings management and covariates across two groups based on *D_NONNORDIC*

Variable	*D_NONNORDIC* = 1 (n = 348)			*D_NONNORDIC* = 0 (n = 348)			Difference	
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median
MJ_ABSOLUTE	0.107	0.060	0.163	0.077	0.046	0.115	0.029***	0.014***
BOARD_SIZE	7.161	7.000	2.214	7.207	7.000	2.096	−0.046	0.000
AUDITCOM	0.348	0.000	0.477	0.391	0.000	0.489	−0.043	0.000
CEO_BOARD	0.371	0.000	0.484	0.422	0.000	0.495	−0.052	0.000
TENURE_CHAIR	7.655	5.000	8.803	7.601	5.000	6.670	0.055	0.000
D_FEMALE	0.612	1.000	0.488	0.618	1.000	0.487	−0.006	0.000
FIRM_SIZE (in €m)	1482.073	182.771	3,690.652	1,342.642	200.698	4,056.292	139.431	−17.927
D_LOSS	0.307	0.000	0.462	0.279	0.000	0.449	0.029	0.000
ROA	−0.004	0.066	0.302	0.031	0.081	0.387	−0.036	−0.015**
MTB	1.534	0.907	1.815	1.446	0.994	1.648	0.088	−0.088
ANALYSTCOV	8.526	5.000	10.063	7.879	5.000	8.763	0.647	0.000
D_ANGLOLIST	0.037	0.000	0.190	0.026	0.000	0.159	0.011	0.000
D_PERIOD	0.612	1.000	0.488	0.647	1.000	0.479	−0.034	0.000

Two-sample t-tests are used to test the differences in means, and Wilcoxon two-sample rank-sum tests are used to test differences in medians.
Paired t-tests are used to test the differences in means and Wilcoxon matched pairs signed-rank tests are used to test differences in medians.

value of 0.217. Based on this outcome, we conclude that the two IVs are empirically valid. The Kleibergen-Paap test rejects the null hypothesis of under-identification with a p-value of 0.000. We also conduct a weak instrument test. The Cragg-Donald Wald *F*-statistic for weak instruments is 76.95. This F-statistic suggests that our instruments are very strong, because they pass the 19.93 critical value for a 2SLS estimation with two instruments and one endogenous regressor (Bascle, 2008; Stock & Yogo, 2005) and allows us to conclude that our IVs pass the weak instruments test.

In Panel B of Table 5, we estimate the second-stage regression equation. In this estimation the dependent variable is the absolute discretionary accruals; our dependent variable (i.e., *D_NONNORDIC*) is replaced by its instrumented value from the first stage. For the rest, the model specifications are identical to those reported in our previous analyses. Results presented in Panel B of Table 5 show that the presence of non-Nordic foreign directors still has a positive significant effect on the absolute value of discretionary accruals ($\beta = 0.010$; p-value < 0.10). The results confirm the evidence from the OLS regressions in previous analyses.

Next to the IV approach, we use propensity score matching (PSM) in a further attempt to alleviate endogeneity concerns. The purpose of PSM is to find a set of firms having at least one non-Nordic director that is as statistically similar as possible to a set of firms that do not have such a director. After matching, differences in degree of earnings management can be attributed to whether or not the firm has at least one non-Nordic director, rather than to differences in other observable characteristics. The main advantage of PSM is that it creates treatment and control groups that are similar across observable characteristics, relaxing functional form assumptions in OLS regression estimations and is therefore more robust (Armstrong, Jagolinzer, & Larcker, 2010; Shipman, Swanquist, & Whited, 2017).

To implement this approach we first compile a sub-sample comprising all firms with at least one non-Nordic board member (i.e., "treatment firms"). We then derive propensity scores based on all explanatory variables that were also used in the regression of *MJ_ABSOLUTE*, except for *D_NONNORDIC*, using a nearest-neighbor matching approach with a caliper constraint (≤ .01) to construct matched pairs (Erkens & Bonner, 2012). These propensity scores can be seen as the probability that a board has a non-Nordic director conditional on the observed covariates. The propensity scores form the basis to match firms that had a non-Nordic director with firms that had the closest propensity as treatment firm, but chose not to include such a director on the board. In other words, we use a matched-pair research design that matches a treatment firm (i.e., a firm that has a non-Nordic board member) with a control firm (i.e., a firm that does not have a non-Nordic board member) that is similar across all other observed covariates.[22] The final sample includes 348 matched pairs.

Panels A and B of Table 6 report the comparison results pre- and post-PSM, respectively. The results show that, after the PSM procedure, the differences in mean and median values of the covariates for the treatment and control firms are small and insignificant, suggesting our matching procedure was successful.

[22] Note that rather than matching by year, we matched observations based on two periods: i.e., pre-IFRS (2001–2004) and post-IFRS (2005–2008).

More importantly, the results show that in both pre- and post-PSM comparisons firms with a non-Nordic director have significantly higher levels of earnings management than firms without a non-Nordic director, whereas (almost) all significant differences in other covariates between the two groups pre-PSM disappear with the propensity score matched pairs post-PSM. To summarize, our findings of the PSM-approach support the idea that, all other things being equal, the presence of a non-Nordic board member is associated with higher levels of earnings management, that is, they support hypothesis 1b.[23]

4.3. The role of accounting knowledge and/or language (hypotheses 2 and 3)

Now that we have established that the presence of non-Nordic directors is associated with higher levels of earnings management, we explore possible explanations for this effect and test hypotheses 2 and 3.

First, we explore the role of accounting knowledge. As indicated in our literature review, recognizing opportunistic accounting choices aimed at managing earnings require a high degree of knowledge of accounting rules (Dhaliwal et al., 2010). We expect that while non-Nordic directors may be less familiar with local accounting rules (Masulis et al., 2012) they are likely to possess more knowledge of International Financial Reporting Standards (IFRS) and/or US GAAP. Hence, the impact of the presence of non-Nordic directors on earnings management may depend on whether the firm draws up its financial statements using either local GAAP or IFRS. To test for this possibility, we create an interaction variable between *D_NONNORDIC* and *LOCAL_GAAP*.[24]

The results in Table 7 indicate that the use of local GAAP is negatively associated with the level of earnings management (β = -0.027; p-value < 0.01). This is in line with the general notion that using IFRS offers more discretion to apply earnings management as compared to using local GAAP. Second, we show that the presence of a non-Nordic foreign board member is positively associated with earnings management (β = 0.031; p-value < 0.05), which corroborates our previous findings with respect to this relationship. The interaction between local GAAP and the presence of a non-Nordic board member is also significant and negative (β = -0.024, p-value < 0.10), indicating that the effect of non-Nordic board members on earnings management depends on the use of local GAAP or IFRS.[25] In particular, it suggests that the negative association between using local GAAP and earnings management becomes weaker when non-Nordic foreigners are on the board. This suggests that foreign board members have less knowledge of local rules and regulations, and thus are less able to limit earnings management behavior. This result provides indicative evidence supporting hypothesis 2.

Next, we examine the role of language. As was argued in Section 2, one reason why the presence of foreign members of the board may deter the monitoring process is that it changes board dynamics and impedes discussions in the boardroom. We test this hypothesis by including our measure of language distance *LANGUAGE_DISTANCE*, i.e. the difficulty members from of a certain country experience when they have to speak in English, in our regression models. The results in Table 7 reveal no statistically significant associations between *LANGUAGE_DISTANCE* and our proxy for earnings management.[26,27]

We continue by investigating whether having board members from different countries with different language structures affects earnings management practices. As explained in Section 2, these different language structures may lead to different views among board members with respect to the relevance in the short-term versus the long-term, which may complicate discussions about interpretations of financial reports presented by the management of the firm. Moreover, board members coming from countries with a strong FTR language may not signal earnings management practices as being problematic given their preference for behavior that focuses on the short-term.

The results in Table 8 indicate that the presence of a board member from a country with strong FTR language (*D_STRONG_FTR*) is positively associated with earnings management (β = 0.009; p-value < 0.01). We also find that *STRONG_FTR* (β = 0.071; p-value < 0.10) is positively associated with the level of earnings management. Both results provide supporting evidence for the hypothesis that when board members come from different countries with different language structures and/or when at least one board member is present coming from a country with strong FTR language, this complicates discussions with respect to financial matters and/or may lead to being more lenient to earnings management behavior due to the stronger focus on the short-term in strong FTR languages. This result provides indicative evidence supporting hypothesis 3.

The results presented in Tables 7 and 8 should be interpreted with caution as better measures of accounting knowledge and language problems may need to be further developed. With this caveat in mind, we nevertheless conclude that our study indicates that differences in both accounting knowledge (hypothesis 2) and language-related factors (hypothesis 3) drive the positive association between board internationalization and earnings management. We note that the language-related reason is to be seen as weaker and dependent on the type of measure we use to proxy for language barriers in the boardroom.

5. Conclusion and limitations

This study has investigated the association between foreign directors on corporate boards and earnings management. Recent large accounting fraud cases and scandals have added to the general belief that there may be serious concerns regarding the financial management practices of firms. Therefore, we consider studying the antecedents of earnings management important. Past research has shown that corporate governance may be an important determinant of earnings management practices. In particular, board characteristics have been associated with earnings management. However, the potential role of having foreign board members has been unexplored until now. This is where we add to the literature.

Using a sample of 3249 firm-year observations representing 586

[23] Despite its popularity and widespread use to improve causal inferences in observational data, PSM might not be rigorous. According to King and Nielsen (2016) a potential drawback of PSM is that the ad random deletion of observations from a dataset, which is necessary to construct the matching pairs, not only reduces the information in the data, but also may increase imbalance (i.e., deviations from exact matching).

[24] Following the recommendations of Aiken and West (1991), we standardized all continues variables before entering them into the regression analysis.

[25] We also performed a sub-samples analysis in which we compare the 2,602 firms where *D_NONNORDIC* = 0 with the 647 firms where *D_NONNORDIC* = 1.The results (not tabulated) regarding the effects of *LOCAL_GAAP* are in line with the results from the analysis based on the inclusion of an interaction variable.

[26] We also used the average language distance based per board (using TOEFL scores) and did not obtain significant results either (not tabulated).

[27] We also constructed a measure based on the classification by Lewis (2009), a system that groups languages by families (e.g., Sino-Tibetan, Altaic, Indo-European). Following this classification system, each country is given a score based on the distance between its dominant language and English, with a score of 5 indicating that the language is from a different family and 1 indicating that it is the same language. Brochet et al. (2016) indicate that an advantage of this variable is that "it accounts for differences between languages as a categorical variable, recognizing that it is likely easier for a non-native English speaker to learn English if his or her native language is in the same branch (e.g., German or Dutch) than if it is in a different family (e.g., Turkish or Mandarin)." The use of this alternative measure (again using either the maximum distance based one individual board member or an average distance based on all board members), did not yield significant results either (results not tabulated).

Table 7
Regression analysis focusing on the role of knowledge and language.

	(1) Knowledge	(2) Language
LOCAL_GAAP	−0.027	
	[0.010]***	
D_NONNORDIC	0.030	
	[0.012]**	
*D_NONNORDIC*LOCAL_GAAP*	−0.024	
	[0.014]*	
LANGUAGE_DISTANCE		0.001
		[0.001]
BOARD_SIZE	−0.014	−0.045
	[0.004]***	[0.014]***
AUDITCOM	−0.003	0.003
	[0.008]	[0.008]
CEO_BOARD	0.010	0.012
	[0.008]	[0.008]
TENURE_CHAIR	−0.007	−0.009
	[0.003]***	[0.003]***
D_FEMALE	−0.004	−0.004
	[0.007]	[0.007]
FIRM_SIZE	−0.007	−0.006
	[0.007]	[0.008]
D_LOSS	0.031	0.033
	[0.007]***	[0.008]***
ROA	0.002	0.006
	[0.003]	[0.010]
MTB	0.018	0.011
	[0.004]***	[0.002]***
ANALYSTCOV	0.003	0.007
	[0.005]	[0.010]
D_ANGLOLIST	−0.017	−0.011
	[0.012]	[0.013]
INTERCEPT	0.032	0.178
	[0.027]	[0.065]***
YEAR	YES	YES
INDUSTRY	YES	YES
COUNTRY	YES	YES
Adjusted R^2	0.089	0.083
N	3249	3249

Notes: In columns (1) and (2) the dependent variable is the absolute value of the discretionary accruals based on the Modified Jones model. *LOCAL_GAAP* is a dummy variable, that equals 1 if the firm, in a specific year, adopted local accounting rules, and 0 if the firm adopted IFRS or US GAAP. *LANGUAGE_DISTANCE* is a measure to indicate the highest deviation from 30 (the maximum TOEFL score for English) at the board level. Note that a board without any foreigners would have a *LANGUAGE_DISTANCE* of 0. See Appendix A for all other variable definitions. In brackets are the standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering (Petersen, 2009). Year, country and industry fixed effects are suppressed for brevity.
***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels (two-tailed), respectively.

Table 8
Regression analysis focusing on the role of language: The Sapir-Whorf hypothesis.

D_STRONG_FTR	0.018	
	[0.009]**	
STRONG_FTR		0.071
		[0.037]*
BOARD_SIZE	−0.044	−0.043
	[0.014]***	[0.014]***
AUDITCOM	0.002	−0.001
	[0.008]	[0.009]
CEO_BOARD	0.011	0.011
	[0.008]	[0.008]
TENURE_CHAIR	−0.009	−0.009
	[0.003]***	[0.003]***
D-FEMALE	−0.003	−0.003
	[0.007]	[0.007]
FIRM_SIZE	−0.006	−0.006
	[0.008]	[0.008]
D_LOSS	0.032	0.032
	[0.008]***	[0.008]***
ROA	0.006	0.006
	[0.010]	[0.010]
MTB	0.011	0.011
	[0.002]***	[0.002]***
ANALYSTCOV	0.006	0.007
	[0.010]	[0.010]
D_ANGLOLIST	−0.015	−0.016
	[0.012]	[0.013]
INTERCEPT	0.180	0.173
	[0.064]***	[0.063]***
YEAR	YES	YES
INDUSTRY	YES	YES
COUNTRY	YES	YES
Adjusted R^2	0.084	0.085
N	3249	3249

Notes: In columns (1) and (2) the dependent variable is the absolute value of the discretionary accruals based on the Modified Jones model. *D-STRONG_FTR* is a dummy variable that assumes the value of 1 if the board has at least one board member from a country with a strong FTR language; and zero otherwise. *STRONG_FTR* is a measure that indicates the number of members in a board from strong FTR language countries divided by the total number of board members. Classification of strong FTR languages is taken from Chen (2013). See Appendix A for all other variable definitions. In brackets are the standard errors adjusted for heteroskedasticity (White, 1980) and firm clustering (Petersen, 2009). Year, country and industry fixed effects are suppressed for brevity.
***, **, and * denote significance at the 0.01, 0.05, and 0.10 levels (two-tailed), respectively.

non-financial listed Nordic firms during 2001–2008, we find that the presence of a non-Nordic foreign director (i.e., a director that does not have a Nordic background) rather than foreign *per se*, is associated with significantly higher levels of earnings management. The analysis also reveals a positive association between the percentage of non-Nordic foreign directors on the board and the levels of earnings management. We find the same result if we use alternative measures for both the presence of a non-Nordic foreign director and for earnings management. Moreover, we find evidence that supports the argument that the presence of a non-Nordic foreign director is specifically associated with income-increasing earnings management.

To deal with potential endogeneity problems we use an instrumental variables approach, as well as applied propensity score matching. Both confirm our main finding of a positive association between the presence of a non-Nordic foreign director and the levels of earnings management. Additional analyses of endogeneity challenges with respect to our data further supports the existence of a positive association between the presence of non-Nordic foreign board members and level of earnings management.

Finally, we find indications that differences in accounting knowledge drive the impact of foreign directors. We also find indications that language-related factors may play a role. However, this result is found to be dependent on the type of measure we use to proxy for language barriers in the boardroom.

A managerial implication of our study is that our results suggest that foreign directors are less effective monitors of accounting reporting and thus earnings management behavior. This suggests that appointing a foreign director to the board of directors may expose the firm to monitoring deficiencies and, hence, reduce the board's ability to discipline managers as far as earnings management is concerned. However, foreign board members may be beneficial in another respect. They may, for instance, supply advice on and/or experience in exploring new and foreign markets. An analysis of the net contribution of board internationalization on firm performance should therefore take into account both positive consequences as well as those negative ones documented in this paper.

While agency theory forms the starting point of our theory development, the results of this study may also have some implications for ideas about board capital. The main premise of the board capital perspective is that directors bring valuable resources to the firm (Hillman

& Dalziel, 2003; Takacs Haynes & Hillman, 2010). More specifically, this literature suggests that board capital comprises human capital (e.g., director's experience, expertise, knowledge, and skills) as well as relational capital (e.g., a director's personal network). A key assumption in this literature is that board capital is a crucial driver of board effectiveness (Hillman & Dalziel, 2003; Hillman, Nicholson, & Shropshire, 2008). To a certain extent, the same message has been echoed in the literature focusing on the benefits of appointing foreigners to a board of directors (Masulis et al., 2012; Miletkov et al., 2017; Oxelheim & Randøy, 2003). However, the results of our study indicate that this relationship may not be straightforward (see also Hillman et al., 2008). Specifically, although boards may benefit from appointing foreign directors to their boards, our results demonstrate that having a foreigner on the board does not necessarily imply that the human and/or social capital they bring to the board actually increases board effectiveness. As director capital within boards, "is intended to capture the ability […] to provide resources to the firm (Hillman & Dalziel, 2003)" (Takacs Haynes & Hillman, 2010, p. 1145) and as our results suggest that foreign directors, due to lack of knowledge of local rules and language issues, may *not* be able to use their capital to benefit the firm, it seems imperative that future research on the internationalization of boards making use of ideas regarding board capital should try to incorporate differences in language proficiency and knowledge of local practices.

As any study, ours is also subject to some limitations. First, we focus only on the firms headquartered in the Nordic countries. Hence, a generalization of our findings to countries with different regulatory institutions and different linguistic features should be undertaken with caution. Second, although we mitigate a possible endogeneity problem by using a 2SLS-approach and by using PSM, as in many other studies on boards (Adams et al., 2010) we cannot completely rule out endogeneity. Therefore, we interpret the results in terms of associations rather than causal relationships. Third, any proxy of earnings management is subject to potential measurement errors (Dechow et al., 2010). We have tried to mitigate this concern by showing the robustness of the results to the use of an alternative proxy for earnings management.

Future research could consider new and more direct ways to measure board members' accounting knowledge and linguistic challenges. This could furthermore open up the "black box" of boards' decision-making. We suggest that studies using vignettes or experiments, combined with questionnaires, to measure how understanding of accounting affects earnings quality in general and earnings management in particular. Another valuable way to open up the "black box" involves board room observations, i.e. video analyses of board meetings and/or board meeting participation studies.

Conflict of interest

Reggy Hooghiemstra declares that he has no conflict of interest. Niels Hermes declares that he/she has no conflict of interest. Lars Oxelheim declares that he/she has no conflict of interest. Trond Randøy declares that he/she has no conflict of interest.

Appendix A. Variable definitions

Variable name	Definition
In main tests	
MJ_ABSOLUTE	Absolute value of firms *i*'s residuals in *t* from a periodical cross-sectional estimations of the Dechow et al. (1995) model.
D_FOREIGN	Dummy variable that assumes the value of one if at least one foreigner is present on the board of directors; and zero otherwise.
D_NONNORDIC	Dummy variable that assumes the value of one if at least one non-Nordic foreigner is present on the board of directors; and zero otherwise.
BOARD_SIZE	The logarithm of the number of directors.
AUDITCOM	Dummy variable that assumes the value of one if there is a separate audit committee; and zero otherwise.
CEO_BOARD	Dummy variable that assumes the value of one if the CEO sits on the board of directors; and zero otherwise.
TENURE_CHAIR	The logarithm of the number of years the incumbent chairperson served as chairperson.
D_FEMALE	Dummy variable that assumes the value of one if the board of directors includes at least one female, and zero otherwise.
FIRM_SIZE	The logarithm of the firm's total assets in constant year-2000 prices (in million euros).
D_LOSS	Dummy variable that assumes the value of one if the firm reported a loss, and zero otherwise.
ROA	Return on assets, defined as EBIT divided by total assets.
MTB	The ratio of the market value of the firm to the book value of total assets.
ANALYSTCOV	The logarithm of one plus the number of financial analysts following the firm (as reported in the I/B/E/S database).
D_ANGLOLIST	Dummy variable that assumes the value of one if the firm's shares are cross-listed in the U.S., and zero otherwise.
D_PERIOD	Dummy variable that assumes the value of one for post-IFRS-years (i.e., 2005 to 2008), and zero otherwise.
In robustness checks	
DISTANCE_TO_AIRPORT	Dummy variable assuming the value of 1 if the firm's headquarter is located within 50 kilometers from an airport, and 0 otherwise.
INDUSTRY_AVERAGE_PROPORTION	The proportion of other firms, in any given industry-year pair that have at least one non-Nordic board member.
CHAIR_NONNORDIC	Dummy variable that assumes the value of one if the chairperson is a Non-Nordic foreigner; and zero otherwise.
CHAIR_ANGLO	Dummy variable that assumes the value of one if the chairperson is an Anglo-American individual; and zero otherwise.
D_NONNORDIC2	Dummy variable that assumes the value of one if at least two non-Nordic foreigners are present on the board of directors; and zero otherwise.

PERC_NONNORDIC	Percentage of non-Nordic foreign directors on the board of directors.
STRONG_FTR	The number of members in a board from strong FTR language countries divided by the total number of board members. Classification of strong FTR languages is taken from Chen (2013).
D_STRONG_FTR	Dummy variable that assumes the value of 1 if the board has at least one board member from a country with a strong FTR language; and zero otherwise. Classification of strong FTR languages is taken from Chen (2013).

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