

Earnings Timeliness, Earnings Conservatism and Board Independence: Study based on Finnish listed Firms.

Draft

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Abstract

The objective of this study is to examine the link between the board independence and earnings quality, proxied by earnings timeliness and earnings conservatism in Finnish listed companies. Earnings conservatism (conditional conservatism) provides significant benefits for the users of financial information. However, a firm's governance structures may be important in determining earnings quality. Boards with more independent directors have a propensity for greater monitoring and are therefore expected to insist on greater earnings quality, as reflected in more timely recognition of bad news in earnings. In accordance with the Finnish Governance Code the concept of board members independence is carried out. With hand collected, high quality Finnish data during the period 2003-2005, research questions could be stated and analyzed.

Keywords: Corporate Governance, Board of Directors, Earnings Quality, Earnings Timeliness, Conservatism.

1. The aim of the study

1.1. Research Questions, Objective and Motivation

The objective of this study is to examine the link between the board independence and earnings quality, proxied by earnings timeliness and earnings conservatism based on Finnish (in Finland headquartered) listed firms during the period 2003 – 2005. The timeliness of earnings recognition refers to the extent that current earnings reflect value relevant information (Basu 1997). Earnings conservatism (conditional conservatism) is defined as the asymmetric timeliness of good and bad news in earnings and measured following Basu (1997) and Ball & Shivakumar (2005).

Earnings conservatism provides significant benefits for the users of financial information. The use of conservative accounting numbers in contracts among the different parties to the firm reduces information asymmetry and moral hazard problems derived from agency conflicts (Watts 2003). However a firm's governance structures may be important in determining earnings quality (e.g. Beekes-Pope & Young 2004; Ahmed & Duellman 2007; Garcia Lara, Garcia Osma & Penalva 2007). Boards with more independent directors have a propensity for greater monitoring and are therefore expected to insist on greater earnings quality, as reflected in more timely recognition of bad news in earnings (i.e. greater earnings conservatism).

Based on the Finnish Corporate Governance (CG) Recommendation for listed Companies¹ the concept of board members independence is carried out. The quality of the Finnish corporate governance regulation and shareholder protection is by international standards a very high (Commission of the European Communities, 13.7.2007). For example, the determinants to evaluate directors independence are a very strictly ruled and listed in CG-recommendation. Hence, with hand collected, high quality Finnish data during the period 2003-2005, research questions could be stated and analyzed.

¹ Launched in December 2003 by HEX Plc, the Central Chamber of Commerce of Finland and the Confederation of Finnish Industry and Employers

1.2. Previous Studies

A number of prior studies have examined the relation between board monitoring and accounting quality. Beasley (1996) find, by using sample of 150 US companies 1980-1991, that firms with higher proportion of outside directors on the boards are less likely to commit financial statement frauds of SEC². Dechow - Sloan & Sweeney (1996) report similar findings for firms subject to SEC accounting enforcement actions between 1982-1992. Farber (2005) confirming with data of 87 US firms during the period of 1982–2000, that the percentage of outside directors is negatively related to the likelihood of fraud.

Peasnell- Pope & Young (2000) use sample of 1271 UK listed companies between 1993-1996 and find, that outside directors will prevent income increasing earnings management but will not constrain income decreasing manipulations. Klein (2002) use sample of 692 US listed companies from S&P 500, during the period of 1992-1993 and report, that independent board of directors are negatively related to discretionary accruals. Xie et al. (2003) conclude by the sample of 290 listed companies from S&P 500 index from years of 1992, 1994 and 1996, that the higher proportions of outside directors on the board are associated with lower level of earnings management. Park et al. (2004) confirming by data consists of 539 Canadian listed companies between 1991-1997, that the proportion of outside directors on the board reduces the level of earnings management.

The financial statements frauds and extend of earnings management represent important dimensions of earnings quality, but other equally important dimensions of earnings quality also exist (Beekes et al. 2004). Two such dimensions are earnings timeliness and earnings conservatism (also labelled conditional conservatism) (Basu 1997). Beekes et al. (2004) find the link between conditional conservatism and board composition using the Basu measure of conservatism. Basu (1997) model were extended by incorporating the dummy into the model that takes the value one if the fraction of outside board (non-executive) members for firm is above the sample median and zero otherwise. By estimating sample of 501 UK firm-year observations between 1993 – 1995, Beekes et al. (2004) find, that the firms with a higher proportion of outside board members to be more likely to recognise bad news in earnings on a timely basis.

Ahmed & Duellman (2007) defined inside board members as directors, who are currently employed or have been employed by the firm for the past 3 years or are related to current management, and/or

². United States Securities and Exchange Commission

are related to the firm-founder. Ahmed et al. (2007) estimated three conservatism measures: an accrual-based measure (Givoly and Hayn 2007), a market-based measure (Beaver and Ryan 2000), and a measure of asymmetric timeliness of earnings (Roychowdhury and Watts 2006). The sample of Ahmed et al. (2007) consists of 306 firms out of S&P 500 over the fiscal years 1999-2001. Ahmed et al. (2007) find a negative relation between the percentage of inside directors on the board and conservatism, and a positive relation between outside director ownership and conservatism.

Garcia Lara, Garcia Osma & Penalva (2007) examines board of director characteristics and conditional conservatism by using sample of 193 Spanish firm-year observations for the period of 1997-2002. Garcia Lara et al. (2007) report, that in accordance with the Spanish governance code (Olivencia Report) there are three types of directors in Spanish boards: (i) inside directors that hold managerial positions; (ii) institutional directors that represent the interests of large shareholders and institutional investors; and (iii) outside directors, who are experts that hold no stock in the company. The Report considers both outside and institutional directors as independent, and assigns them the role of monitoring and evaluating management, with the ultimate goal of improving the quality of financial statements. Garcia Lara et al. (2007) developing an aggregate index³, which is incorporated a strong board of directors. By estimating the Basu (1997) and Ball and Shivakumar (2005) measure of conservatism, Garcia Lara et al. (2007) find, that the incorporation of bad news into earnings is significantly timelier in firms with stronger boards.

1.3. Contribution

This study is the first piece of evidence that investigates the role of earnings conservatism as a governance mechanism in Scandinavia, such as in Finland. Prior findings suggest that earnings conservative is higher in countries with shareholder oriented corporate governance systems (e.g. Ball et al 2000; Raonic et al 2004; Bushman & Piotroski 2006). In that framework, the results from the Finnish markets are interesting and important because together with bank-centered financial system shifting towards increasing dominance of the stock markets, a significant foreign ownership have been contributed to fast adopting of Anglo-Saxon corporate governance practices in Finnish listed companies (Hyytinen, Kuosa & Takalo 2003; Liljeblom & Löfflund 2006).

³ The index combines eight different proxies of strong board: board size, proportion of non-executive directors, proportion of independent directors, whether the chairman of the board is an executive director, the number of board meetings, CEO/chairman duality, the number of board meetings, the existence of an audit committee and the existence a nomination/remuneration committee.

Moreover, it is notable, that a number of major corporate and accounting scandals (e.g. Enron, Parmalat, Tyco International, and WorldCom) have been taken place after time periods used by previous studies. Corporate and accounting scandals have contributed to more strictly regulation of corporate governance both in laws such as SOX in United States as well as on voluntary corporate governance codes in Europe. These developments have in many cases quite radically reshaped elements of corporate governance, such as board work in world wide and in Finland.

2. Theoretical Background and Hypothesis Development

2.1. The Finnish Corporate Governance in Agency Theoretical Framework

2.1.1 Corporate Governance and Agency Theory

According to the agency theory based finance model of corporate governance the fundamental question of corporate governance is how to assure financiers that they get a return on their financial investments (Berle & Means 1932; Coache 1937; Jensen & Meckling 1976; Fama & Jensen 1983; Shleifer & Vishny 1997). Agency theory deals with agency problems resulting from conflicts of interest in contractual relationship between differently informed parties. Interest conflicts between managers and financiers arise because managers effectively control firms' assets but generally do not have a significant equity stake in their firms. These conflicts cannot be resolved completely through contracts because it is costly, if not impossible, to write and enforce complete contracts (Fama and Jensen 1983; Hart 1995). Hence, in a world with incomplete contracts, corporate governance mechanisms (capital market pressures, firm ownership structure or leverage, institutional mechanisms, auditors, boards of directors and monitoring committees) arise to mitigate these conflicts (Garcia Lara et al. 2007).

The financial model of corporate governance is traditional Anglo-Saxon system of corporate governance, in contrast to the pluralist system of governance in much Europe and Asia (Letza 2004; Leo-Hogget-Sweeting-Radford 2007). Pluralist system of governance tends to be based a more stakeholder orientated relationship between shareholders, banks and the community, and a more public benefit or communal philosophy or culture. On the contrary, financial model of corporate governance is based on the philosophy of protection not only shareholder (particularly minority)

rights but also debt holders rights in public held company (Shleifer Vishny 1997; Letza 2004; Leo et al. 2007).

Despite of the international differences in corporate governance, the world wide accounting scandals in US and Europe have contributed to more strictly regulation of corporate governance both in laws such as SOX in United States as well as on voluntary corporate governance codes in Europe (Leo et al. 2007). Moreover, the globalisation of business means that nearly all governance regimes share similar pressures for increased transparency and accountability. Although some differences will remain, there is an increased emphasis on timely and accurate disclosure on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company (OECD 2004).

2.1.2 Corporate Governance Regulation in Finland

Until 1990s the typical features of the Finnish stock market was the high ownership concentration with significant state and bank ownership (Liljeblom & Löfflund 2006). However, many changes in ownership structures took place in the 1990s. A banking crisis in the early 1990s led to a rapid reduction in banks' holdings of corporate equity to almost zero levels. Furthermore, the Finnish government reduced its equity holdings, only maintaining larger stakes in a handful of listed firms. The full opening of the stock market for foreign investors in 1993 quickly led to a rapid increase in foreign holdings from a level less than 10 per cent, to today's level of 50.8 per cent (1st June, 2006).

A significant foreign ownership have had probably a lasting impact on adopting Anglo-Saxon corporate governance practices in Finnish companies (Liljeblom et al. 2006). First of all, the largest Finnish company, Nokia Corporation, is also listed on the NYSE and serves therefore as a de facto leading governance quality benchmark for other large Finnish corporations. In addition, typical foreign investors on the Finnish market follow Anglo-Saxon investment practices, so pressures exist on the quality of corporate governance in Finnish companies, for example, through board independence (Liljeblom et al. 2006).

The quality of shareholder protection in the Finnish corporate governance regulation is by international standards a very high (Commission of the European Communities, 13.7.2007). The legal framework of Finnish corporate governance is primarily given by the companies act, which is

closely related to the corresponding laws in the other Nordic countries (Sweden, Denmark and Norway). With respect to corporate governance, the role of annual shareholders' meeting (the Annual General Meeting, i.e. the AGM) is essential. For example, the AGM typically nominates the board who in turn hires and fires the CEO. Moreover, the regulatory body in Finland also includes e.g. the Securities market act, the rules of the Helsinki Stock Exchange and Finnish Financial Supervision Authority governed by the Bank of Finland (Liljeblom et al. 2006).

The Finnish 'Corporate Governance Recommendation for Listed Companies' was produced by the joint work of the Helsinki Stock of Exchange (i.e. HEX Plc), the Central Chamber of Commerce of Finland, and the Confederation of Finnish Industry and Employers and launched on 19 December 2003. Firms listed at the OMX are bound to follow this recommendation in its full extent; but since the recommendation in itself is in the form of 'comply or explain', firms can deviate from the given recommendation by announcing the deviation with required explanations (Liljeblom et al. 2006).

Central features in the Finnish CG- recommendation are following: requirements for independent (single) boards, support for the establishing of board committees such as audit, nomination and compensation committees, requirements to report on the organisation of internal control, internal audit, and risk management functions of the firm, and finally, various disclosure requirements. Moreover, firm management can neither act as members of the nomination or compensation committees. The recommendation does not approve the same person to hold both the board chairman and the CEO positions. In addition, the recommendation takes a negative view on a dual board structure (supervisory boards on top of regular boards) and recommends that, if such a board structure is in place, the role of the supervisory board should be restricted to be as narrow as possible. Finally, the recommendation states, that a majority of the board members should be independent of the company, and in addition, at least two board members should be independent of significant owners (owners of more than 10 per cent of the equity or votes of the firm) (Liljeblom et al. 2006).

2.1.3. Concept of Independent Directors

Four particular classifications of directors are executive directors, non executive directors, grey directors and independent directors (Leo et al. 2007). Executive directors are full-time employees of the corporation they govern and most often carry a title that signifies this, such as managing director (the CEO who is also a director). In contrast, non-executive directors (outside directors) do not

work full time in the company. However, they may hold positions as executives of other organisations. Typically several executive directors hold several non-executive directorships (Leo et al. 2007).

Within the non-executive director classification, there is a sub classification of grey directors and independent directors (Leo et al. 2007). Grey directors are those who may, at times, experience a conflict of interest because of their positions with other organisations (e.g. as the manager of a supplier to the company or a partner in a professional services firm that works for the company). Instead, independent directors have no relationship with the company that would, or could be perceived to, materially affect their decision making (Leo et al. 2007).

The Finnish CG- recommendation 18 gives very specific criteria to evaluate director's independence (OMX et al. 2003). Subsections from (a) to (g) are giving the criteria to evaluate board members independence with relation to the company⁴. In addition, sub-sections (h) to (i) presents the criteria on the basis of which board members are determined not to be independent of significant shareholders of the company. Significant shareholder means a share- holding at least 10 % of all the shares or of the aggregate votes in the company⁵. Finally recommendation 18 states, that in all situations, when evaluating independence, also the circumstances of private individuals or legal entities closely affiliated to the member, such as referred to in the Finnish Companies Act⁶, shall be taken into consideration.

⁴ According to the subsections (a), a director is not independent of the company if a director has an employment relationship with company, or director holds a position in the company. Moreover, (b) the director is not independent of the company if he/she has had an employment relationship or position in the company during the last three years prior to the inception of the board membership. In addition, (c) the director is not independent of the company, if he/she receives from the company - or from a member of its operative management - not insignificant compensation for services or other advice not connected with the duties of the board, (e.g. the director works on consulting assignments for the company). Furthermore, director is not independent of the company if (d) he/she belongs to the operative management of another company, and the two companies have a customer, supplier or cooperation relationship significant to the other company or (e) the director belongs to the operative management of another company whose director is a member of the operative management in the first company (interlocking control relationship). Finally, the board can on the basis of its overall evaluation determine that a director is not independent of the company if (f) the director participates in a performance-based or share-related compensation system of the company. However, the financial significance of the compensation system shall be taken into account; or (g) the company is aware of other factors that may compromise the independence of the director and he/she ability to impartially represent all shareholders.

⁵ According to recommendation, a director is not independent of a significant shareholder of the company if (h) the director exercises dominant influence in the company such as referred to in the Finnish Companies Act, or has a relationship such as earlier referred to in sub-sections (a) and (b) to a party who exercises dominant influence in the company. Moreover, the director is not independent of significant shareholders if (i) the director is a significant shareholder itself, or he/she has a relationship to a significant shareholder of the company such as referred to in sub-sections (a) and (b).

⁶ Chapter 1, Section 4 of the Companies Act: The related entities of a company shall consist of: 1. anyone who exercises the dominant influence referred to in section 3, paragraphs 2-4 in the company or who is under the control of anyone exercising dominant influence over the company or who belongs to the same group as company; 2. anyone who, on the bases of owner-

2.2. Earnings Quality

According to Dechow & Schrand (2004), a high-quality earnings number will do three things: It will reflect current operating performance, it will be a good indicator of future operating performance, and it will accurately annuitize the intrinsic value of the firm. Another way of assessing the quality of reported earnings is examining to what extent earnings are managed, with the intention to either 'mislead some stakeholders about the underlying performance of the company or to influence contractual outcomes' (Healy and Wahlen 1999). Healy et al. (1999) notes, that earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (see also Dechow et al. 2004).

Based on the definitions of earnings quality and earnings management above, presumable earnings management decreases earnings quality (Dechow et al. 2004). While the extend of earnings management represent one possible dimension of earnings quality, other equal important dimensions also exist (Beekes et al. 2004). Two such dimensions are the related issues of earnings conservatism and timeliness.

2.2.1 Earning Timeliness

The rationale behind the finance model of corporate governance is a theorem which assumes, that the share price today fully reflects the market value of all future profits and growth that will accrue to the company (Letza 2004). The share price is an indicator of corporate performance and the capital market is the objective evaluation of management performance. In that framework a recent focus

ship, an option right or a convertible loan, holds or may hold at least one percent of the shares of the company or of the voting rights attached to shares of the company or a corresponding holding or corresponding voting rights in an organisation belonging to the group of the company or in an organisation or foundation exercising dominant influence over the company; 3. the Managing Director, member of the Board of Directors or Supervisory Board of the company and the auditor of the company as well as a person in a corresponding position in an organisation or foundation referred to in paragraph 1; 4. the spouse of a person referred to in subparagraphs 1-3 or a person having a common-law marital relationship with him, his sibling, half-sister or half-brother, a direct ascendant or descendant of a person referred to in paragraphs 1-3 and of his spouse or a person with a common-law marital relationship with him as well as the spouses or common-law spouses of the persons referred to ; as well as 5. an organisation or foundation over which a person referred to in subparagraphs 2-4 either alone or together with another person exercises the dominant influence referred to in section 3, paragraphs 2-4. When calculating the holding or voting rights referred to in paragraph 1, subparagraph 2, the provisions of section 3, paragraph 3 shall be applied, and holdings and voting rights of a shareholder or member of the company shall include the holdings and voting rights of a person having him a relationship referred to in paragraph 1, subparagraph 4 as well as those of an organisation and foundation having with him a relationship referred to in subparagraph 5.

in capital market research investigate earnings quality: How well accounting information, such as annual earnings, capture information that is relevant to investors (Deegan 2006).

This field of studies views market prices (and hence returns) as leading accounting earnings. The timeliness of income recognition refers to the extent that current earnings reflect value relevant information. Timeliness has also been shown to differ across legal, institutional and financial reporting regimes (Ball et al., 2000; Pope and Walker, 1999).

2.2.2 Earnings Conservatism

Conservatism (biased recognition) is an essential phenomenon of financial reporting (Beaver 1998; Gassen et al. 2006). Accounting conservatism is traditionally defined as anticipate no profit, but anticipate all losses (Feltham & Ohlson 1995; Watts 2003). As Gassen et al. (2006) notes, the general concept of 'biased recognition' has been divided down sub-concepts: earnings or income statement conservatism vs. balance sheet conservatism (Basu 1997; Ball et al. 2000), conditional vs. unconditional conservatism (Ball and Shivakumar 2005; Beaver and Ryan 2005), news dependent vs. news independent conservatism (Chandra et al. 2004), and ex-post vs. ex-ante conservatism (Pope and Walker 2003; Richardson and Tinaikar 2004).

The balance sheet conservatism is a general, pervasive bias, unrelated to current news toward reporting low book values of stockholders equity (Pope and Walker 2003; see also Gassen et al. 2006). On the other hand, the core issue of earnings conservatism is that earnings reflect bad news more quickly than good news (Basu 1997). Earnings conservatism is the asymmetric timeliness of earnings reflecting good news (positive returns) and bad news (negative returns). Accordingly, earnings conservatism stems from accountants' tendency to require a higher degree of verification for recognizing good - than bad news in financial statements (Basu 1997; Ball et al. 2005).

Earnings conservatism has important economic functions (Gassen et al.2006). For example, earnings conservatism appears to be component of efficient contracting that restricts management's opportunistic reporting behaviour in contracting purposes (Watts 2003). That reduces managers' ability to withhold information on expected losses. Thus, it will reduce the opportunities for managerial opportunistic behaviour, facilitating managerial monitoring, as well as the monitoring of firm contracts, such as debt contracts. Due to these beneficial effects, earnings conservatism is commonly

considered as an indicator of earnings quality or a desirable property of accounting earnings (Watts 2003b; Francis et al., 2004; Ball and Shivakumar, 2005).

2.2.3. Earnings Timeliness and Earnings Conservatism in Finland

International differences in earnings conservatism have been linked to differences in countries corporate governance regimes (e.g. Ball et al 2000; Raonic, McLeay and Asimakopoulos 2004; Bushman & Piotroski 2006). Prior findings suggest that earnings conservative is higher in countries with shareholder oriented corporate governance systems (e.g. Ball et al 2000; Raonic et al 2004; Bushman & Piotroski 2006). However, shareholder value oriented Anglo-Saxon corporate governance practices are also typical for Finnish listed companies (Hyytinen et al. 2003; Liljeblom et al. 2006).

Raonic et al. (2004) have examined conservatism in cross-listed firms in Europe. Their sample consist of 146 Finnish interlisted firm-years from period 1987-1999. Raonic et al. (2004) find, that the Finnish interlisted firms report earnings timely manner. Results are significant at 5 % level. On the contrary, conservatism seems not (necessary)⁷ to be an important accounting feature in Finland. On the contrary, Bushman and Piotroski (2006) examined earnings conservatism in 38 countries, including the 428 Finnish firm-years observations from 1992-2001. In their individual country estimations Bushman et al. (2006) report, that in Finnish listed firms bad news are reported more timely than good news. Results are significant at the 5 % level.

Moreover, Bushman et al. (2006) report, that in countries with high quality judicial systems e.g. in Finland, contracting is an important channel through which the level of conservatism is influenced. In addition, the Finnish high quality judicial regime together with diffuse ownership structure, contribute to slower good news recognition and faster incremental bad news recognition. Finally, in terms of political institutions, the Finnish low risk of expropriation of assets by the state and low state ownership of enterprises both contribute to low recognition of good news and fast recognition of bad news in earnings (Bushman et al. 2006).

⁷ Results were significant only at the 10% level of significance.

2.3. Complementary relation between board monitoring and earnings quality

Corporate Governance mechanism general and especially board of directors are created to monitor managers (Garcia Lara et al. 2007). However, since executive and grey directors' careers are tied to the CEO, the task of monitoring management is predicted to fall mainly on the independent board members. Then, the role of independent directors is essential for the resolution of agency problems between managers and financiers (Beekes et al. 2004).

The timely incorporation of both favourable and especially unfavourable information in earnings facilitates effective monitoring of managers by the board of directors and external investors (Beekes et al. 2004). The acceleration in the recognition of bad news provides the board of directors with early warning signals to investigate the origin of bad news (Garcia Lara 2007). Stronger corporate governance, i.e. more independent directors in board, is expected to result in a higher demand for timely information and to prevent managers from hiding less favourable information.

Based on the arguments above, earnings conservatism is a potentially useful tool for independent directors fulfilling their role of ratifying and monitoring key decisions in company board (Beekes et al. 2004). Thus, the boards with more independent directors have a propensity for greater monitoring and are therefore expected to insist on greater earnings quality, as reflected in more timely recognition of bad news in earnings (i.e. greater earnings conservatism). In contrast, firms with poor governance structures (i.e. fewer independent directors) may be less inclined to monitor accounting quality, resulting in a greater propensity to delay the recognition of bad news (Beekes et al. 2004). Based upon this, the following hypothesis is tested:

***Hypothesis 1:** Ceteris paribus, the timeliness of bad news reflected in earnings is positively related to the proportion of independent board of directors*

On the other hand, inside directors may have incentives to accelerate good news in earnings for opportunistic reasons, for example to enhance the value of their compensation (Healy 1985; see also Beekes et al. 2004). Executive directors have a primary allegiance to the CEO. Moreover, executive and also grey directors are depending on the CEO for continued employment within the organisation. Therefore their incentives to monitor accounting quality closely and prevent earnings management by senior managers are considerably weaker than for independent directors. Moreover, independent directors do not typically share in the benefits of such activities. On the contrary, they

risk reputation losses in the labour market in the event that earnings are subsequently shown to be overstated (Fama, 1980; see also: Beekes et al. 2004). Hence there are strong incentives for independent directors to monitor earnings timeliness.

Given that inside directors may be more inclined to use aggressive income-recognition techniques to accelerate the effect of good news, the following prediction is also tested:

***Hypothesis 2:** Ceteris paribus, the timeliness of good news reflected in earnings is negatively related to the proportion of independent board of directors.*

3. Research Design

3.1. Asymmetric Timeliness and Board Composition

3.1.1 Timeliness Model

Following previous work in this area, Basu (1997) reverse-regression model between earnings and contemporaneous returns are employed. Basu use market returns (RET) as his proxy for the existence of good and bad news during the period. Earnings (E/P, earnings yield), is measured per share and return (RET) is 12- month buy and hold return including dividends. Both earnings (E/P) and returns (RET) are scaled by prior year-end share price to control for heteroscedasticity. The timeliness model has the following specification:

$$E_{i,t} / P_{i,t-1} = \beta_0 + \beta_1 RET_{i,t} + \mu_{i,t} \quad (1)$$

β_0 is the intercept and β_1 is the return response coefficient measuring timeliness. μ is the regression residual assumed to be normally distributed with zero mean and constant variance. Terms i and t are firm and time subscripts, respectively.

Earnings are less timely if value changes that are recognised by the market return in the present period are not incorporated in the accounting computations until some time in the future. If $\beta_1=1$, for example, and assuming that $\beta_0=0$, the firm would be expected to report an earnings per share figure that is equivalent to the change in share price (Basu 1997; Raonic et. al 2004). On the contrary, when $\beta_1<1$, the lack of timeliness can be interpreted as market returns leading earnings, whereupon the flow of market information from prior periods into current earnings would be reflected in $\beta_0>0$.

3.1.2 Conservative Model

Earnings conservatism anticipated losses more quickly than gains, so that share prices reflect bad news in the form of contemporaneous market losses earlier than good news in the form of market gains (Basu 1997). The Basu (1997) model incorporates a dummy variable for negative returns

NEG, which is interacted with the returns variable (RET) to proxy for bad news (NEG·RET). Good news is then proxied by the main effect on (RET). The conservative model is specified as follows:

$$E_{i,t} / P_{i,t-1} = \beta_0 + \beta_1 RET_{i,t} + \beta_2 NEG_{i,t} + \beta_3 RET_{i,t} \cdot NEG_{i,t} + \mu_{i,t} \quad (2)$$

The estimated coefficients on (RET) β_1 and (NEG·RET) β_3 are predicted to be positive. β_1 (RET) is the return response coefficient measuring timeliness of good news earnings and β_2 (NET) is the marginal change in the intercept of negative return cases. β_3 (NEG·RET) is the marginal change of bad news earnings timeliness measuring conservatism. The estimated coefficients on (RET) β_1 and (NEG·RET) β_3 are predicted to be positive. Under earnings conservatism, earnings will have a higher sensitivity to bad news as compared to good news Accordingly, the coefficient on β_3 (NEG·RET) is assumed to be greater than zero (Basu 1997; Beekes et al. 2004; Garcia Lara et al. 2007).

3.1.3. Earnings Conservatism and Board Composition

According to Beekes et al. (2004) and Garcia Lara et al. (2007), the Basu (1997) model is extend to examine the link between earnings quality and board composition. With higher degree of independent directors will be able to better monitor company activities and adopt a conservative reporting tendency due to a greater presence of independent directors (Beekes et al. 2004; Ahmed et al. 2007; Garcia Lara et al. 2007). Thus, firms with higher independent directors representation on the board are anticipated to incorporate bad news into earnings on a timely basis. On the contrary, firms with fewer independent directors are anticipated to be less inclined towards earnings conservatism. This link is test by incorporating a continuous variable for the proportion of independent directors (PROP_N) to the model. This variable is then interacted with variables in the standard conservative model by Basu (1997) as shown in equation (3):

$$\begin{aligned} E / P_{i,t-1} = & \beta_0 + \beta_1 RET_{i,t} + \beta_2 NEG_{i,t} + \beta_3 NEG_{i,t} \cdot RET_{i,t} \\ & + \beta_4 PROP_N_{i,t} + \beta_5 NEG_{i,t} \cdot PROP_N_{i,t} + \beta_6 PROP_N_{i,t} \cdot RET_{i,t} \\ & + \beta_7 NEG_{i,t} \cdot PROP_N_{i,t} \cdot RET_{i,t} + \mu_{i,t} \end{aligned} \quad (3)$$

In the model (3), (NEG·RET) captures the sensitivity to bad news (exclusive of the effect of good news) without effect of independent directors, while (NEG· PROP_N ·RET) captures the marginal

effect of proportion of independent directors. (PRONP) captures the pure marginal effect of independent directors. Hypothesis 1 predicts that firms with more proportion of independent directors will be report earnings more conservatively than firms with lower level of independent directors. This is expected to be represented in a significant positive coefficient on the β_7 (NEG·PROP·RET) interaction term. (NEG·RET) β_3 is predicted to be positive but lower than β_7 .

As Beekes et al. (2004) notes, the difference in reporting timeliness is not expected to be limited to bad news. Thus, under conservative earnings reporting, good news will be reflected in earnings over a number of periods and accounting is less timely than for bad news. In equation (3), the intercept coefficient (β_0) will reflect the impact of prior periods' good news in current period earnings and is anticipated to be positive in sign. There is a natural tendency for managers to emphasise available good news for their own bonus and promotional prospects. However, as Beekes et al. (2004) point out, firms with more independent directors will adopt a conservative approach to recording good news in earnings because of the greater constraint placed on managers' opportunism (Beekes et al. 2004).

Relative to firms with high independent directors, firms with a lower proportion of independent directors are expected to recognise current period good news more aggressively in current period earnings (Beekes et al. 2004). Hypothesis 2 therefore predicts a more conservative approach to the recognition of good news in earnings by boards with higher degree of independent directors. In equation (3), the timeliness of good news is captured by the coefficient on β_1 (RET) without effect of independent directors. On the contrary, the coefficient on the interaction term β_6 (PROP·RET) captures the marginal timeliness effect of proportion of independent directors. Hence, if firms with a lower fraction of independent are aggressive reporters, the coefficient β_1 will be significantly larger than β_6 and statistically significant (Beekes et al. 2004).

3.2 Controlling Variables

3.2.1. The role of other Governance Dimensions

In accordance with previous studies in this area, links between board independence and earnings timeliness & conservatism are tested after controlling other governance variables (Beekes et al. 2004; Ahmed et al. 2007; Garcia Lara et al. 2007). Based on previous literature and correlation ma-

trix (table 4), the sample is divided based on high and low values of other governance factors. Then conducting extended tests the impact of other factors on earnings quality is examined by re-estimating model (3) for both parties.

Votes of Institutional Owners are used as a controlling variable because institutional investors are viewed as an alternative governance mechanism (Shleifer et Vishny 1986; Dechow et al. 2004; Ahmed et al. 2007). The large stockholdings of institutional investors induce them to perform monitoring activities as their voting power allows them to significantly influence management. On the other hand, high institutional ownership allows institutions to influence managers and secure private benefits at the expense of other shareholders (Ahmed et al. 2007). The percentage of votes of shares outstanding owned by institutional investors are used as an explanatory variable but because of the competing effects, a priori prediction on the coefficient of this variable is unknown.

3.2.2. Other Controlling variables

The asymmetric timeliness of earnings will vary as a result of firm's available growth opportunities. Especially Roychowdhury and Watts (2007) show the importance of controlling for differences in growth opportunities when measuring conservatism. It is assumed, that firms with more growth opportunities need flexible governance structures, and more room for individual decisions by entrepreneur. Then, a negative relation between governance and growth is predicted (Garcia Lara et al. 2007).

Following previous studies, market to book ratio (MB) is used as a proxy of growth opportunities (Beekes et al. 2004; Garcia Lara et al. 2007). Moreover, the market-to-book ratio also acts as a proxy of unconditional or balance-sheet conservatism. Pope and Walker (2003) and Beaver and Ryan (2005) notes, that firms understating their net assets are likely to be less earnings conservative, as bad news has been anticipated. Because unconditional conservatism pre-empts conditional conservatism, it is important to control for the potential understatement of net assets, to ensure that comparisons across weak and strong governance structures are not driven by differences in the use of unconditional conservatism.

3.3. Accruals- Based measure of Earnings Conservatism

For sensitively checking an alternative measure to the Basu conservatism model, the Ball & Shivakumar (2005), are employed. The reason for using alternatively measure is that the literature has raised concerns about the use of the Basu method to measure asymmetric timeliness of earnings (e.g. Ball & Shivakumar 2005; Gassen 2006; Dietrich 2007). In particular Dietric et al. (2007) show that portioning a regression sample with one of the regressors may produce biased inferences. Moreover, Dietric et al. (2007) argue that inference from the Basu`s regression might be biased due to earnings driving returns (Garcia Lara et al. 2007). On the other hand, Ryan (2006) argues that the biases introduced by the Basu approach are likely to be small. Ryan notes also, that ameliorating returns over the fiscal year, (like it has done in this paper), partially removes the impact of the annual earnings announcement over stock prices, which occurs several months after closing (see also Garcia Lara et al. 2007).

The Ball et al. (2005) model of conservatism is entirely accounting based. The intuition behind the model of Ball et al. (2005) is the same as in the Basu model: Accounting earnings tend to anticipate the recognition of bad news and to delay the recognition of good news (Garcia Lara et al. 2007). Total accruals and cash flows are negatively associated, which has been documented by previous research (e.g., Dechow, 1994); but this negative association, because of the asymmetric recognition of news in earnings, tends to be lower in periods with economic losses. Total accruals recognize the impact of negative economic events in the period they take place; these adverse effects tend to affect cash flows as well, lowering the negative correlation between cash flows and accruals (Garcia Lara et al. 2007).

Ball et al. (2005) using the following regression to measure this association between cash flows and accruals:

$$ACC_{i,t} = \beta_0 + \beta_1 CFO_{i,t} + \beta_2 DCFO_{i,t} + \beta_3 DCFO_{i,t} \cdot CFO_{i,t} + \mu_{i,t} \quad (4)$$

(ACC) are total accruals scaled by beginning-of-period total assets, (CFO) is operating cash flows scaled by beginning-of-period total assets, (DCFO) is a dummy variable that takes the value of 1 if cash flow is negative and 0 otherwise (Ball et al. 2005). The dummy variable (DCFO) captures the occasions when economic losses has occurred during the period i.e. in the situations when cash flows are negative. In equation (4), β_1 is expected to be significantly negative, reflecting the nega-

tive association between cash flows and accruals. β_3 is expected to be positive, indicating that economic losses are reflected both in cash flows and accruals at the same time.

To analyse the differences in conservatism across board structures, continuous variable PROPEN are incorporated in the model as a proxy for the proportion of the independent directors. Then, the Ball et al. (2005) model is as follows:

$$\begin{aligned}
 ACC_{i,t} = & \beta_0 + \beta_1 CFO_{i,t} + \beta_2 DCFO_{i,t} + \beta_3 DCFO_{i,t} \cdot CFO_{i,t} \\
 & + \beta_4 PROPEN_{i,t} + \beta_5 DCFO_{i,t} \cdot PROPEN_{i,t} + \beta_6 PROPEN_{i,t} \cdot CFO_{i,t} \\
 & + \beta_7 DCFO_{i,t} \cdot PROPEN_{i,t} \cdot CFO_{i,t} + \sum \alpha_t + \mu_{i,t}
 \end{aligned} \tag{5}$$

where $\sum \alpha_t$ represent year indicator variables.

In the model (5), interaction β_3 (DCFO·CFO) captures the sensitivity of negative cash flows exclusive of the effect of independent directors and the coefficient β_3 is predicted to be positive. On the other hand, the coefficient on interaction variable β_7 (DCFO· PROPEN ·CFO), captures the marginal effect of proportion of independent directors. (PROPEN), for one, captures the pure marginal effect of independent directors. This is expected to be represented in a significant positive coefficient on the β_7 (DCFO· PROPEN ·CFO). Moreover, the coefficient β_7 will be significantly larger than β_3 and statistically significant.

In accordance with asymmetric timeliness model (3), the positive cash flow is captured by the coefficient on β_1 (CFO) without effect of independent directors. On the contrary, the coefficient on the interaction term β_6 (PROPEN· CFO) captures the marginal effect of proportion of independent directors. Then, if firms with a lower fraction of independent directors report positive cash flows more timely, the coefficient β_1 will be significantly lower than (β_6) and statistically significant.

4. Sample and Data

The sample consists of all December fiscal year-end non-financial Finnish OMX- listed firms from 2003 to 2005. December year-ends are used to ensure that all companies are subject to similar market conditions. Financial firms are excluded because of the different accounting practices. The data was hand collected from various resources, but primarily from firm's annual reports and firm's web- pages. Supplemented resources were web-pages of OMX-group and yearbook Pörssitieto, which relies on data from the Finnish Central Depository or the firm's depository register.

To control for heteroscedasticity, earnings are measured per share. Further control for heteroscedasticity, both EPS and returns are deflated by the prior year-end stock price. Moreover, a heteroscedastic-consistent t- statistics are reported in tables 5 and 6 (White 1980).

The initial sample with all necessary accounting, market and ownership data consist of 313 firm-year observations. After exclusion of the firm-years without independence evaluation of the directors in accordance with CG- recommendation, the final sample consists of 225 firm-year observation. The distribution of sample firms across years is as follows: 21 firms are included in only one year, 48 firms are included in two years and 36 firms have data for each of the sample years.

Table 1 present the industry breakdown of the sample firms in accordance with the Global Industry Classification Standard (GICS). The largest industry is information technology 64 firm-year observations, representing 28,44 per cent of the sample. Moreover, the industrial firms, with 63 firms years observations representing a 28,00 percent of the sample.

Table 1: Sample firm breakdown by industries

| Industry | Firm years | Percentage of Sample |
|----------------------------|------------|----------------------|
| Materials | 27 | 12,00 % |
| Industrial | 63 | 28,00 % |
| Consumer Discretionary | 38 | 16,89 % |
| Consumer Staples | 17 | 7,56 % |
| Health care | 8 | 3,56 % |
| Information technology | 64 | 28,44 % |
| Telecommunication services | 3 | 1,33 % |
| Utilities | 5 | 2,22 % |

Based on 225 firm years

Table 2 shows the variable definitions used in this study.

Table 2: Variables definitions

| Variable | Definition |
|----------|--|
| E/P | Earnings per share after extraordinary items divided by beginning-of-period share price |
| RET | Annual buy and hold- share return |
| NEG | Dummy variable coded 1 if RET is less than 0, 0 otherwise |
| ACC | Total accruals scaled by total asset at the beginning-of-period |
| CF | Cash flows from operations scaled by beginning of period total assets |
| D-CF | Dummy variable coded 1 if CF0 is less than 0, 0 otherwise |
| PROPN | Proportion of the board members independent of the company |
| PROPNC | Proportion of the board members independent of the company and significant owners |
| BGOOD | Dummy variable coded 1 if PROPNC is above sample median, 0 otherwise |
| PROPPROF | Proportion of professional board members, which are also independent of the company |
| AUDCOM | Dummy variable coded 1 if the company has an auditing committee , 0 otherwise |
| BRDSIZE | Number of directors on the board at the year end |
| DUAL | Dummy variable coded 1 if there is CEO duality, 0 otherwise |
| CEOBRD | Dummy variable coded 1 if the CEO is board member, 0 otherwise |
| BIGA | Dummy variable coded 1 if the auditor of the company is big auditor, 0 otherwise |
| INSTS | Institutional share owners as a % of the total number of outstanding shares at the year end |
| INSTV | Institutional share owners as a % of the total votes of outstanding shares at the year end |
| HOUSS | Households share ownership as a % of the total number of outstanding shares at the year end |
| HOUSV | Households share ownership as a % of the total votes of outstanding shares at the year end |
| FORS | Foreign share owners as a % of the total number of outstanding at the year end |
| FORV | Foreign share owners as a % of the total votes of outstanding shares at the year end |
| NOMS | Nominee registered share owners as a % of the total number of outstanding shares at the year end |
| NOMV | Nominee registered share owners as a % of the total votes of outstanding shares at the year end |
| FORNOMS | Foreign and nominee registered share owners as a % of the total number of outstanding shares at the year end |
| FORNOMV | Foreign and nominee registered share owners as a % of the total votes of outstanding shares at the year end |
| OWNS | Shares held by CEO and board of directors as a % of the total number of outstanding shares at the year end |
| OWNV | Shares held by CEO and board of directors as a % of the total votes of outstanding shares at the year end |
| BLOCK | Dummy variable coded 1 if at least one external shareholder holds 10 % or more of outstanding shares or votes, 0 otherwise |
| NBR | Natural log of the number of shareholders at the year end |
| MB | The market-to book ratio value at the end of the year |
| D/A | Liabilities scaled by total assets at the end of the year |
| SIZE | Log of market value of equity at the beginning of the year |
| ROE | Return on equity (%), Profit before taxes scaled by shareholders equity at the year end |

Table 3 reports descriptive statistics for the sample. In years 2003 and 2004 financial ratios and other financial statement information are calculated and reported in accordance with FAS, excluding 3 firms in 2003 and 9 firms in 2004 which report only IFRS numbers. In 2005 all the firms in this sample have reported in accordance with IFRS.

Table 3: Descriptive Statistics on conservatism proxies, board characteristics, and control variables for the sample of 225 firm-years over the period 2003-2005

| | Mean | Std.dev. | Min | 25 % | Median | 75 % | Max |
|---------------------------------------|---|----------|---------|---------|---------|---------|--------|
| (A) Continuous variables | | | | | | | |
| E/P | 0,0508 | 0,1456 | -0,6556 | 0,0380 | 0,0671 | 0,1007 | 0,9564 |
| RET | 0,2843 | 0,5216 | -4,6164 | 0,0556 | 0,2381 | 0,5049 | 2,5546 |
| ACC | -0,0555 | 0,2102 | -0,8932 | -0,1131 | -0,0562 | -0,0036 | 2,3986 |
| CF | 0,1320 | 0,2583 | -3,0681 | 0,0734 | 0,1260 | 0,2273 | 0,8549 |
| PROPN | 0,7043 | 0,2549 | 0,0000 | 0,5000 | 0,7500 | 0,9000 | 1,0000 |
| PROPNC | 0,6287 | 0,2389 | 0,0000 | 0,4286 | 0,6667 | 0,8136 | 1,0000 |
| PROPNC | 0,1171 | 0,1469 | 0,0000 | 0,0000 | 0,0000 | 0,2000 | 0,7500 |
| Board size | 6,10 | 1,69 | 3,00 | 5,00 | 6,00 | 7,00 | 11,00 |
| INST (shares) | 0,4219 | 0,2179 | 0,0050 | 0,2468 | 0,3907 | 0,6203 | 0,8582 |
| INST (votes) | 0,4496 | 0,2471 | 0,0002 | 0,2534 | 0,4300 | 0,6513 | 0,9858 |
| Households (shares) | 0,3774 | 0,2746 | 0,0013 | 0,1471 | 0,2933 | 0,6010 | 0,9640 |
| Households (votes) | 0,3701 | 0,2907 | 0,0013 | 0,1145 | 0,2590 | 0,5810 | 0,9992 |
| Foreign (shares) | 0,0569 | 0,1273 | 0,0003 | 0,0026 | 0,0080 | 0,0321 | 0,7566 |
| Foreign (votes) | 0,0556 | 0,1307 | 0,0000 | 0,0019 | 0,0072 | 0,0256 | 0,8101 |
| Nominee registered (shares) | 0,1564 | 0,2027 | 0,0000 | 0,0112 | 0,0664 | 0,2228 | 0,8857 |
| Nominee registered (votes) | 0,1326 | 0,1960 | 0,0000 | 0,0070 | 0,0370 | 0,1753 | 0,8857 |
| Foreign and nominee reg. (shares) | 0,2133 | 0,2309 | 0,0003 | 0,0329 | 0,1208 | 0,3157 | 0,9903 |
| Foreign and nominee reg. (votes) | 0,1874 | 0,2326 | 0,0000 | 0,0237 | 0,0685 | 0,2850 | 0,9903 |
| OWN (shares) | 0,1532 | 0,1997 | 0,0000 | 0,0018 | 0,0473 | 0,3050 | 0,7967 |
| OWN (votes) | 0,1899 | 0,2430 | 0,0000 | 0,0022 | 0,0543 | 0,3468 | 0,9210 |
| NBR | 8,55 | 1,47 | 5,11 | 7,61 | 8,47 | 9,59 | 12,53 |
| Growth opportunities (M/B) | 2,483 | 2,411 | -14,077 | 1,374 | 2,012 | 3,307 | 25,096 |
| Firm size (ln size) | 18,93 | 1,90 | 15,14 | 17,44 | 18,77 | 20,16 | 25,01 |
| Leverage (D/A- ratio) | 0,5194 | 0,2787 | 0,0523 | 0,3900 | 0,5100 | 0,6160 | 3,1930 |
| Profitability (ROE) | 0,1108 | 0,1991 | -0,8600 | 0,0535 | 0,1315 | 0,2010 | 0,6480 |
| (B) Dicotomy variables | | | | | | | |
| | Proportion of all firm-years observations | | | | | | |
| Negative returns (NEG): | 21,33 % | | | | | | |
| Number of negative cash flows (DCFO): | 8,97 % | | | | | | |
| Board dummy (BGOOD): | 52,44 % | | | | | | |
| Existence of Auditing Committee: | 40,39 % | | | | | | |
| CEO and Chairman duality: | 96,68 % | | | | | | |
| CEO in board: | 65,78 % | | | | | | |
| Existence of Big auditor: | 88,00 % | | | | | | |
| Existence of Blocholder: | 43,75 % | | | | | | |

Table 3 shows, that 21,33 per cent of sample has negative returns and 9 % has a negative cash flow. The average board in sample comprises 6 directors, while the proportion of directors independent of the company averages 70 %. 40 per cent of sample firms have an auditing committee and approximately 65 percent of the firms CEO is also board member.

5. Preliminary Results

5.1. Asymmetric Timeliness Model

The results of estimating model 2 (standard Basu 1997) are reported in Table 5A. Estimation 1 examines the timeliness of good versus bad news for all sample firms. The main parameters of interest in this model β_1 and β_3 are statistically significant. The coefficient for good news term β_1 (RET) is positive and statistically significant at the 1 per cent confidence level. In addition, the coefficient has positive sign as predicted. On the contrary, the coefficient for the bad news term β_3 (NEG·RET) is negative. This is inconsistent of prediction of earnings conservatism i.e. that bad news is reflected in earnings on a timelier basis. The intercept term (β_0) which reflects the incorporation of prior periods' news into current period earnings and the cost of capital (Pope and Walker, 1999; Beekes et al. 2004), is positive and significant. Moreover, the marginal change in the intercept of negative return (bad news) cases (β_2) is negative and statistically significant at the 1 per cent level.

Estimations 2 and 3 focus on the model 3 and interaction between proportion of the independent directors in board and negative returns (bad news). Both estimations 2 and 3 shows, that the coefficient on β_7 (NEG·RET·PROPN) is positive as predicted and significant at 1 percent (estimation 3) and at the 5 per cent confidence level (estimation 2). This indicates a greater timeliness in earnings to bad news in firms with higher level of independent directors in board. However, both models show a negative sensitivity (β_3) to bad news in earnings without the effect of independent directors. The results are significant at the 1 percent level. In addition, The coefficient on RET which measures the sensitivity to good news is positive and significant at the 1 per cent level. In estimation 2, inclusion of the continuous variable PROPN results in a greater timeliness in earnings in firms with higher level of independent director in board.

Estimations 4 and 5 are focus on the model 3 and interaction between proportion of the independent directors in board and positive returns (good news). The coefficients β_1 (RET) and β_6 (PROPN·RET) reflecting the sensitivity to good news are statistically insignificant. These results suggests, that there is no incremental improvement in the speed of incorporating good news into earnings for firms whose boards comprise a higher proportion of independent directors.

Moreover, the coefficient on NEG·RET, which reflects the timeliness of bad news for without the effect of independent directors, is statistically insignificant. However, in estimation 5, the coeffi-

cient on β_7 (NEG·RET·PROP) is statistically significant, as in estimations 2 and 3, supporting hypothesis 1. Moreover, inclusion of the interaction between the dummy variable NEG and the continuous variable PROP in estimation 5, results in a significant coefficient for bad news, in the firms with higher level of independent directors in board. These results are confirming that independent directors in boards influence financial reporting, if only in terms of the speed of recognition of bad news.

The result from the fixed effect estimation (estimation 6) including controls for financial year and field of industry are comparatively similar to estimation 5. This suggests that the results are not sensitive to year or industry. In order to further investigate the results, the dummy variable BGOOD is incorporated into the both models in place of continuous variable PROP. The variable BGOOD takes the value 1, if the fraction of independent directors is above the sample median and zero otherwise.

The results shown in table 5 panel B (estimations 7-11) are generally consistent with results in panel A (estimations 1-6). For example, boards with fewer independent directors are less conservative in their incorporation of bad news into earnings as compared with boards with high independent representation. However, it is notable, that estimation 10 shows more timeliness in reporting of good news in earnings by boards with higher degree of independent directors. This result is inconsistent the initial prediction of earnings conservatism and corresponding results with continuous variable PROP in estimation 5.

5.2. Accrual Based Measure of Earning Conservatism

Table 6 shows the results from estimations of accrual based measure of earnings conservatism. Estimation 12 (model 4) examines the association between the total accruals and positive and negative cash flows. The main parameters of interest in this model, β_1 (CFO) and β_3 , (DCFO) are statistically significant at the 1 per cent confidence level and the parameters have the predicted signs. The coefficient with cash flow (CFO) is negative reflecting negative association between cash flows and accruals. Similarly, the coefficient with negative cash flows are (β_3) are positive, indicating that economic losses are reflected both in cash flows and accruals at the same time.

Estimations 13 and 14 (model 5) focus on the interaction between proportion of the independent directors in board and negative cash flows. Both estimation 13 and 14 shows, that the coefficient on β_7 (DCFO·CFO·PROPN) is positive as predicted and significant at 1 percent level. This indicate, that economic losses are reflected both in cash flows and accruals at the same time in firms with higher level of independent director in board. However, both models show negative association between negative cash flows and accruals (β_3) without the effect of independent directors. The results are significant at the 1 percent level and are in consistent with the estimations 2 and 3 with asymmetric timeliness model.

Estimations 15 and 16 (model 5) are focus on the interaction between proportion of the independent directors and positive cash flows. However, only β_1 (CFO) which represents the sensitivity to positive cash flow for firms with lower outsider representation is statistically significant. This result suggests there is no incremental improvement in the speed of incorporating positive cash flows into earnings for firms whose boards comprise a higher proportion of independent directors. On the contrary, β_7 is statistically significant at 1 per cent level, confirming that economic losses are reflected both in cash flows and accruals at the same time in firms with higher level of independent directors in board.

In accordance with the asymmetric timeliness model, , the dummy variable BGOOD is incorporated into the both models in place of continuous variable PROPN. The results of estimations 18 -21 show positive sensitivity of negative cash flows (i.e. β_3 is positive) exclusive of the effect of independent directors. This result is in line with initial prediction. Moreover, the marginal effect on proportion of independent directors is β_7 positive and significantly larger than β_3 .

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Table 4: Correlations with conservatism proxies, board characteristics and control variables for the sample firms over 2003-2005

| | E/P | RET | ACC | CF | PROPNC | PROPNCs | PROPnPR | BRDSIZE | INSTS | INSTV | HOUShS | HOUsv | FORS | FORV | NOMS | NOMV |
|---------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|
| E/P | 1 | ,401(**) | ,175(**) | ,160(*) | 0,098 | 0,13 | -0,058 | 0,12 | 0,029 | -0,056 | -0,092 | -0,056 | -0,06 | -0,067 | 0,069 | 0,061 |
| RET | ,401(**) | 1 | -,414(**) | ,587(**) | 0,098 | 0,007 | -0,001 | 0,051 | 0,019 | 0,01 | 0,001 | 0,004 | 0,024 | 0,014 | 0,057 | 0,091 |
| ACC | ,175(**) | -,414(**) | 1 | -,831(**) | -0,087 | -0,02 | -0,035 | -0,041 | -0,044 | -0,089 | -0,036 | -0,008 | 0,013 | 0,011 | 0,013 | 0,007 |
| CF | ,160(*) | ,587(**) | -,831(**) | 1 | ,139(*) | 0,115 | 0,019 | 0,123 | -0,008 | 0,013 | 0,063 | 0,04 | -0,019 | -0,02 | 0,066 | 0,082 |
| PROPNC | 0,098 | 0,098 | -0,087 | ,139(*) | 1 | ,791(**) | -0,057 | ,233(**) | 0,04 | 0,042 | -0,094 | -0,102 | ,150(*) | ,161(*) | -0,018 | -0,016 |
| PROPNCs | 0,13 | 0,007 | -0,02 | 0,115 | ,791(**) | 1 | -0,002 | ,146(*) | -0,076 | -0,061 | -0,087 | -0,107 | 0,117 | 0,124 | -0,041 | -0,022 |
| PROPnPR | -0,058 | -0,001 | -0,035 | 0,019 | -0,057 | -0,002 | 1 | -0,042 | 0,104 | ,158(*) | 0,017 | 0,004 | -0,036 | -0,027 | 0,076 | 0,075 |
| BRDSIZE | 0,12 | 0,051 | -0,041 | 0,123 | ,233(**) | ,146(*) | -0,042 | 1 | -,143(*) | -0,079 | -,246(**) | -,273(**) | -,169(*) | -,161(*) | ,202(**) | ,202(**) |
| INSTS | 0,029 | 0,019 | -0,044 | -0,008 | 0,04 | -0,076 | 0,104 | -,143(*) | 1 | ,942(**) | -,585(**) | -,603(**) | ,148(*) | ,149(*) | 0,042 | 0,024 |
| INSTV | -0,056 | 0,01 | -0,089 | 0,013 | 0,042 | -0,061 | ,158(*) | -0,079 | ,942(**) | 1 | -,573(**) | -,648(**) | 0,122 | 0,123 | 0,047 | 0,029 |
| HOUShS | -0,092 | 0,001 | -0,036 | 0,063 | -0,094 | -0,087 | 0,017 | -,246(**) | -,585(**) | -,573(**) | 1 | ,970(**) | -0,073 | -0,066 | -0,111 | -0,074 |
| HOUsv | -0,056 | 0,004 | -0,008 | 0,04 | -0,102 | -0,107 | 0,004 | -,273(**) | -,603(**) | -,648(**) | ,970(**) | 1 | -0,047 | -0,04 | -0,093 | -0,055 |
| FORS | -0,06 | 0,024 | 0,013 | -0,019 | ,150(*) | 0,117 | -0,036 | -,169(*) | ,148(*) | 0,122 | -0,073 | -0,047 | 1 | ,995(**) | -0,077 | -0,034 |
| FORV | -0,067 | 0,014 | 0,011 | -0,02 | ,161(*) | 0,124 | -0,027 | -,161(*) | ,149(*) | 0,123 | -0,066 | -0,04 | ,995(**) | 1 | -0,061 | -0,025 |
| NOMS | 0,069 | 0,057 | 0,013 | 0,066 | -0,018 | -0,041 | 0,076 | ,202(**) | 0,042 | 0,047 | -0,111 | -0,093 | -0,077 | -0,061 | 1 | ,950(**) |
| NOMV | 0,061 | 0,091 | 0,007 | 0,082 | -0,016 | -0,022 | 0,075 | ,202(**) | 0,024 | 0,029 | -0,074 | -0,055 | -0,034 | -0,025 | ,950(**) | 1 |
| FORNOMS | 0,062 | -0,009 | 0,086 | -0,08 | 0,074 | ,168(*) | -0,094 | ,404(**) | -,229(**) | -,198(**) | -,635(**) | -,576(**) | -0,067 | -0,075 | 0,126 | 0,101 |
| FORNOMV | 0,054 | -0,002 | 0,096 | -0,078 | 0,064 | 0,14 | -0,09 | ,278(**) | -,206(**) | -,232(**) | -,594(**) | -,550(**) | -0,037 | -0,047 | 0,101 | 0,071 |
| OWNS | 0,01 | -0,021 | 0,091 | -0,071 | -,269(**) | -,296(**) | 0,11 | -,357(**) | -,281(**) | -,377(**) | ,554(**) | ,622(**) | 0,031 | 0,023 | -0,083 | -0,088 |
| OWNV | 0,006 | -0,018 | 0,045 | -0,033 | -,267(**) | -,319(**) | 0,056 | -,308(**) | -,347(**) | -,454(**) | ,614(**) | ,699(**) | -0,011 | -0,015 | -,148(*) | -,144(*) |
| NBR | 0,039 | -0,019 | 0,079 | -0,042 | ,337(**) | ,442(**) | 0,03 | ,377(**) | 0,018 | 0,092 | -,239(**) | -,239(**) | -0,028 | -0,023 | 0,041 | 0,043 |
| MB | 0,099 | -,294(**) | ,679(**) | -,399(**) | -0,041 | 0,041 | 0,021 | -0,051 | -0,126 | -,136(*) | 0,073 | 0,052 | -0,031 | -0,034 | 0,09 | 0,103 |
| DA | -,229(**) | -,162(*) | -0,012 | -,327(**) | -0,041 | -0,104 | 0,006 | -0,005 | ,142(*) | ,138(*) | -,224(**) | -,219(**) | 0,016 | 0,015 | -0,032 | -0,071 |
| SIZE | ,183(**) | 0,042 | 0,003 | 0,111 | ,348(**) | ,401(**) | 0,001 | ,636(**) | 0,024 | 0,061 | -,483(**) | -,439(**) | -0,033 | -0,035 | ,144(*) | ,136(*) |
| ROE | ,797(**) | ,449(**) | ,294(**) | ,341(**) | 0,117 | ,163(*) | -0,069 | 0,13 | -0,039 | -0,116 | -0,048 | -0,019 | -0,127 | -,135(*) | ,173(**) | ,148(*) |
| NEG | -,433(**) | -,537(**) | 0 | -,180(**) | -0,068 | -0,072 | 0,003 | -,172(**) | 0,01 | 0,008 | 0,103 | 0,071 | 0,028 | 0,04 | -0,103 | -,165(*) |
| DCF | -,327(**) | -,255(**) | ,265(**) | -,462(**) | -0,12 | -,151(*) | 0,013 | -,202(**) | -0,028 | -0,025 | 0,118 | 0,058 | -0,037 | -0,038 | -0,04 | -0,032 |
| BGOOD | 0,118 | 0,085 | -0,052 | 0,09 | ,837(**) | ,665(**) | -0,075 | ,209(**) | 0,093 | 0,11 | -,146(*) | -,165(*) | ,188(**) | ,198(**) | -0,11 | -0,122 |
| AUDCOM | 0,001 | 0,044 | 0,057 | -0,133 | ,254(**) | ,387(**) | ,191(**) | ,414(**) | 0,014 | 0,006 | -,261(**) | -,209(**) | -0,126 | -0,124 | 0,019 | 0,037 |
| CEOINB | -0,047 | -0,052 | -0,026 | 0,009 | ,257(**) | ,190(**) | 0,079 | -0,019 | 0,128 | 0,115 | -0,013 | 0,006 | 0,003 | 0,015 | 0,017 | 0,038 |
| BIGAUD | -0,13 | -0,015 | 0,027 | -0,029 | 0,047 | 0,037 | -0,026 | ,200(**) | -0,04 | -0,117 | -0,11 | -0,041 | -0,024 | -0,025 | 0,101 | 0,092 |
| BLOCK | -,144(*) | 0,009 | -0,115 | 0,025 | ,180(**) | -0,022 | -0,052 | 0,019 | ,226(**) | ,243(**) | -,240(**) | -,256(**) | 0,035 | 0,042 | 0,109 | 0,094 |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 4 (continued)

| | FORNOMS | FORNOMV | OWNS | OWNV | NBR | MB | DA | SIZE | ROE | NEG | DCF | BGOOD | AUDCOM | CEOINB | BIGAUD | BLOCK |
|---------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|------------------|
| E/P | 0,062 | 0,054 | 0,01 | 0,006 | 0,039 | 0,099 | -,229(**) | ,183(**) | ,797(**) | -,433(**) | -,327(**) | 0,118 | 0,001 | -0,047 | -0,13 | -,144(*) |
| RET | -0,009 | -0,002 | -0,021 | -0,018 | -0,019 | -,294(**) | -,162(*) | 0,042 | ,449(**) | -,537(**) | -,255(**) | 0,085 | 0,044 | -0,052 | -0,015 | 0,009 |
| ACC | 0,086 | 0,096 | 0,091 | 0,045 | 0,079 | ,679(**) | -0,012 | 0,003 | ,294(**) | 0 | ,265(**) | -0,052 | 0,057 | -0,026 | 0,027 | -0,115 |
| CF | -0,08 | -0,078 | -0,071 | -0,033 | -0,042 | -,399(**) | -,327(**) | 0,111 | ,341(**) | -,180(**) | -,462(**) | 0,09 | -0,133 | 0,009 | -0,029 | 0,025 |
| PROPNC | 0,074 | 0,064 | -,269(**) | -,267(**) | ,337(**) | -0,041 | -0,041 | ,348(**) | 0,117 | -0,068 | -0,12 | ,837(**) | ,254(**) | ,257(**) | 0,047 | ,180(**) |
| PROPNCs | ,168(*) | 0,14 | -,296(**) | -,319(**) | ,442(**) | 0,041 | -0,104 | ,401(**) | ,163(*) | -0,072 | -,151(*) | ,665(**) | ,387(**) | ,190(**) | 0,037 | -0,022 |
| PROPnPR | -0,094 | -0,09 | 0,11 | 0,056 | 0,03 | 0,021 | 0,006 | 0,001 | -0,069 | 0,003 | 0,013 | -0,075 | ,191(**) | 0,079 | -0,026 | -0,052 |
| BRDSIZE | ,404(**) | ,278(**) | -,357(**) | -,308(**) | ,377(**) | -0,051 | -0,005 | ,636(**) | 0,13 | -,172(**) | -,202(**) | ,209(**) | ,414(**) | -0,019 | ,200(**) | 0,019 |
| INSTS | -,229(**) | -,206(**) | -,281(**) | -,347(**) | 0,018 | -0,126 | ,142(*) | 0,024 | -0,039 | 0,01 | -0,028 | 0,093 | 0,014 | 0,128 | -0,04 | ,226(**) |
| INSTV | -,198(**) | -,232(**) | -,377(**) | -,454(**) | 0,092 | -,136(*) | ,138(*) | 0,061 | -0,116 | 0,008 | -0,025 | 0,11 | 0,006 | 0,115 | -0,117 | ,243(**) |
| HOUSHS | -,635(**) | -,594(**) | ,554(**) | ,614(**) | -,239(**) | 0,073 | -,224(**) | -,483(**) | -0,048 | 0,103 | 0,118 | -,146(*) | -,261(**) | -0,013 | -0,11 | -,240(**) |
| HOUSV | -,576(**) | -,550(**) | ,622(**) | ,699(**) | -,239(**) | 0,052 | -,219(**) | -,439(**) | -0,019 | 0,071 | 0,058 | -,165(*) | -,209(**) | 0,006 | -0,041 | -,256(**) |
| FORS | -0,067 | -0,037 | 0,031 | -0,011 | -0,028 | -0,031 | 0,016 | -0,033 | -0,127 | 0,028 | -0,037 | ,188(**) | -0,126 | 0,003 | -0,024 | 0,035 |
| FORV | -0,075 | -0,047 | 0,023 | -0,015 | -0,023 | -0,034 | 0,015 | -0,035 | -,135(*) | 0,04 | -0,038 | ,198(**) | -0,124 | 0,015 | -0,025 | 0,042 |
| NOMS | 0,126 | 0,101 | -0,083 | -,148(*) | 0,041 | 0,09 | -0,032 | ,144(*) | ,173(**) | -0,103 | -0,04 | -0,11 | 0,019 | 0,017 | 0,101 | 0,109 |
| NOMV | 0,101 | 0,071 | -0,088 | -,144(*) | 0,043 | 0,103 | -0,071 | ,136(*) | ,148(*) | -,165(*) | -0,032 | -0,122 | 0,037 | 0,038 | 0,092 | 0,094 |
| FORNOMS | 1 | ,942(**) | -,396(**) | -,411(**) | ,250(**) | 0,038 | 0,116 | ,530(**) | 0,058 | -0,116 | -0,073 | 0,066 | ,265(**) | -0,128 | ,173(**) | 0,106 |
| FORNOMV | ,942(**) | 1 | -,348(**) | -,390(**) | ,133(*) | 0,078 | 0,109 | ,420(**) | 0,074 | -0,083 | -0,042 | 0,047 | ,192(**) | -0,088 | ,187(**) | 0,098 |
| OWNS | -,396(**) | -,348(**) | 1 | ,917(**) | -,297(**) | 0,098 | -0,111 | -,448(**) | 0,033 | 0,035 | 0,081 | -,249(**) | -,255(**) | -,181(**) | -0,118 | -,319(**) |
| OWNV | -,411(**) | -,390(**) | ,917(**) | 1 | -,329(**) | 0,05 | -0,11 | -,462(**) | 0,009 | 0,038 | 0,025 | -,249(**) | -,259(**) | -,174(**) | -0,109 | -,343(**) |
| NBR | ,250(**) | ,133(*) | -,297(**) | -,329(**) | 1 | 0,027 | -0,085 | ,723(**) | 0,038 | -0,039 | -0,035 | ,291(**) | ,465(**) | 0,051 | 0,11 | -0,02 |
| MB | 0,038 | 0,078 | 0,098 | 0,05 | 0,027 | 1 | -,201(**) | -0,019 | ,351(**) | -0,022 | 0,069 | -0,013 | -0,073 | -0,004 | 0,07 | -0,078 |
| DA | 0,116 | 0,109 | -0,111 | -0,11 | -0,085 | -,201(**) | 1 | -0,039 | -,189(**) | 0,082 | ,302(**) | -0,076 | 0,05 | 0,041 | 0,037 | ,134(*) |
| SIZE | ,530(**) | ,420(**) | -,448(**) | -,462(**) | ,723(**) | -0,019 | -0,039 | 1 | ,204(**) | -,153(*) | -,238(**) | ,292(**) | ,493(**) | 0,029 | ,173(**) | -0,026 |
| ROE | 0,058 | 0,074 | 0,033 | 0,009 | 0,038 | ,351(**) | -,189(**) | ,204(**) | 1 | -,479(**) | -,362(**) | 0,1 | -0,001 | 0,029 | -0,005 | -,177(**) |
| NEG | -0,116 | -0,083 | 0,035 | 0,038 | -0,039 | -0,022 | 0,082 | -,153(*) | -,479(**) | 1 | ,256(**) | -0,047 | -0,093 | -0,036 | 0,025 | 0,072 |
| DCF | -0,073 | -0,042 | 0,081 | 0,025 | -0,035 | 0,069 | ,302(**) | -,238(**) | -,362(**) | ,256(**) | 1 | -0,11 | -0,064 | -0,069 | -0,028 | ,139(*) |
| BGOOD | 0,066 | 0,047 | -,249(**) | -,249(**) | ,291(**) | -0,013 | -0,076 | ,292(**) | 0,1 | -0,047 | -0,11 | 1 | ,197(**) | ,157(*) | 0,087 | 0,128 |
| AUDCOM | ,265(**) | ,192(**) | -,255(**) | -,259(**) | ,465(**) | -0,073 | 0,05 | ,493(**) | -0,001 | -0,093 | -0,064 | ,197(**) | 1 | 0,137 | ,240(**) | -0,01 |
| CEOINB | -0,128 | -0,088 | -,181(**) | -,174(**) | 0,051 | -0,004 | 0,041 | 0,029 | 0,029 | -0,036 | -0,069 | ,157(*) | 0,137 | 1 | ,195(**) | 0,06 |
| BIGAUD | ,173(**) | ,187(**) | -0,118 | -0,109 | 0,11 | 0,07 | 0,037 | ,173(**) | -0,005 | 0,025 | -0,028 | 0,087 | ,240(**) | ,195(**) | 1 | 0,045 |
| BLOCK | 0,106 | 0,098 | -,319(**) | -,343(**) | -0,02 | -0,078 | ,134(*) | -0,026 | -,177(**) | 0,072 | ,139(*) | 0,128 | -0,01 | 0,06 | 0,045 | 1 |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 5

Panel A: Returns and earnings regressions and board composition link using a dummy variable BGOOD if number of independent directors is above the sample median

| | INTERCEPT | RET | NEG | NEG-RET | PROP | NEG-PROP | RET-PROP | NEG-RET-PROP | Adj. R2 | F | N |
|--------------|---------------------------|---------------------------|-----------------------------|-----------------------------|---------------------------|--------------------------|------------------|---------------------------|---------|---------|-----|
| Estimation 1 | 0,0417 (4,22)** | 0,0971 (3,59)** | -0,1039 (-3,85)** | -0,0663 (-2,29)* | | | | | 0,2267 | 22,88** | 225 |
| Estimation 2 | -0,002 (-0,96) | 0,0964 (3,55)** | -0,0554 (-1,92) | -0,2366 (-3,34)** | 0,0621 (2,31)** | | | 0,6543 (2,47)** | 0,2502 | 15,95** | 225 |
| Estimation 3 | 0,0148 (0,71) | 0,0967 (3,56)** | -0,1411 (-2,13)* | -0,3061 (-3,38)** | 0,0380 (1,52) | 0,1481 (1,57) | | 0,8889 (2,68)** | 0,2553 | 13,80** | 225 |
| Estimation 4 | 0,0168 (0,49) | 0,0429 (0,51) | -0,0606 (-2,08)* | -0,1692 (-1,54) | 0,0371 (0,92) | | 0,0707 (0,69) | 0,5363 (1,80) | 0,2482 | 13,33** | 225 |
| Estimation 5 | 0,0795 (2,73)** | -0,0570 (-0,66) | -0,2058 (-2,93)** | -0,1524 (-1,38) | -0,0478 (-1,33) | 0,2339 (2,31)* | 0,2033 (1,89) | 0,6856 (2,05)* | 0,2611 | 12,31** | 225 |
| Estimation 6 | 0,0283 0,73 | -0,0046 -0,05 | -0,1946 (-2,51)** | -0,2563 (-2,22)** | -0,0056 (0,126) | 0,2447 (2,22)* | 0,1554 1,35 | 0,9297 (2,56)** | 0,3635 | | 225 |

Panel B: Returns and earnings regressions and board composition link using a continuous variable for the proportion of independent directors

| | INTERCEPT | RET | NEG | NEG-RET | BGOOD | NEG-BGOOD | RET-BGOOD | NEG-RET-BGOOD | Adj. R2 | F | N |
|---------------|---------------------------|---------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|--------------------------|---------------------------|---------|---------|-----|
| Estimation 1 | 0,0417 (4,22)** | 0,0971 (3,59)** | -0,1039 (-3,85)** | -0,0663 (-2,29)* | | | | | 0,2267 | 22,88** | 225 |
| Estimation 7 | -0,0241 -1,81 | 0,0946 (3,46)** | -0,0814 (-2,61)** | -0,0676 (-2,40)* | 0,0348 (2,36)* | | | 0,2726 1,57 | 0,2372 | 14,93** | 225 |
| Estimation 8 | 0,031 (2,55)* | 0,0956 (3,51)** | -0,1152 (-2,96)** | -0,0784 (-2,81)** | 0,0214 (1,4) | 0,1143 (1,92) | | 0,5627 (2,63)** | 0,2484 | 13,34** | 225 |
| Estimation 9 | 0,0379 (2,23)* | 0,0575 (1,43) | -0,0900 (-2,85)** | -0,0285 (-0,87) | 0,0153 (0,73) | | 0,0527 (1,09) | 0,1636 (0,90) | 0,2372 | 12,61** | 225 |
| Estimation 10 | 0,0639 (4,81)** | 0,0152 (-0,41) | -0,1481 (-3,73)** | 0,0019 (0,06) | -0,0268 (-1,33) | 0,1625 (2,66)** | 0,1145 (2,34)* | 0,4482 (2,07)* | 0,2586 | 12,16** | 225 |
| Estimation 11 | -0,0132 -0,328 | 0,0471 1,24 | -0,1330 (-3,15)** | -0,0312 -1,03 | -0,0085 -0,408 | 0,1623 (2,44)* | 0,0877 1,77 | 0,5272 (2,19)* | 0,3194 | | 225 |

**(*) Significant at the 1 % (5 %) confidence level

Table 6

Panel A: Total accruals and cash flow and board composition link using dummy variable BGOOD if number of independent directors is above the sample median

| | INTERCEPT | CF | D | D-CF | PROP | D-PROP | CF-PROP | D-CF-PROP | Adj. R2 | F | N |
|---------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------|------------------|---------------------|---------------------------|---------|---------|-----|
| Estimation 12 | 0,0594 (5,09)** | -0,7809 (-11,6)** | -0,0965 (-3,08)** | 0,0662 (5,17)** | | | | | 0,7179 | 188,4** | 222 |
| Estimation 13 | 0,0099 (-0,328) | -0,6285 (-11,6)** | -0,0346 (-1,11) | -0,4064 (-4,91)** | 0,0330 (1,04) | | | 0,9769 (6,23)** | 0,7539 | 136,4** | 222 |
| Estimation 14 | 0,0130 (0,428) | -0,6203 (-11,0)** | -0,0980 (-1,61) | -0,4486 (-4,77)** | 0,0267 (0,822) | 0,1053 (1,08) | | 1,0584 (5,95)** | 0,7536 | 113,6** | 222 |
| Estimation 15 | 0,0049 (0,174) | -0,6000 (-31,8)** | -0,0335 (-1,11) | -0,4482 (-12,8)** | 0,0464 (1,27) | | -0,0769 (-0,598) | 1,1312 (7,04)** | 0,7533 | 113,5** | 222 |
| Estimation 16 | 0,0080 (0,277) | -0,5902 (-28,2)** | -0,0989 (-1,62) | -0,4938 (10,1)** | 0,0405 (1,08) | 0,1088 (1,11) | -0,0805 (-0,620) | 1,2225 (7,23)** | 0,7531 | 97,29** | 222 |

Panel B: Total accruals and cash flow regressions and board composition link using a continuous variable for the proportion of independent directors

| | INTERCEPT | CF | D | D-CF | BGOOD | D-BGOOD | CF-BGOOD | D-CF-BGOOD | Adj. R2 | F | N |
|---------------|---------------------------|-----------------------------|-----------------------------|---------------------------|---------------------|------------------|-------------------|---------------------------|---------|---------|-----|
| Estimation 12 | 0,0594 (5,09)** | -0,7809 (-11,6)** | -0,0965 (-3,08)** | 0,0662 (5,17)** | | | | | 0,7179 | 188,4** | 222 |
| Estimation 18 | 0,0564 (4,08)** | -0,8041 (-16,2)** | -0,0632 (-2,12)* | 0,0705 (4,33)** | 0,0127 (0,773) | | | 0,6493 (4,79)** | 0,7390 | 126,2** | 222 |
| Estimation 19 | 0,0607 (4,35)** | -0,8083 (-16,3)** | -0,0987 (-3,34)** | 0,0644 (3,94)** | 0,0061 (0,361) | 0,1076 (1,55) | | 0,7904 (6,68)** | 0,7416 | 106,7** | 222 |
| Estimation 20 | 0,0590 (4,35)** | -0,8243 (-19,8)** | -0,0628 (-2,05)* | 0,0764 (6,13)** | -0,0033 (-0,143) | | 0,0998 (0,777) | 0,5396 (2,99)** | 0,7396 | 105,6** | 222 |
| Estimation 21 | 0,0659 (4,85)** | -0,8400 (-24,8)** | -0,1079 (-3,85)** | 0,0717 (6,84)** | -0,0199 (-0,84) | 0,1376 (1,95) | 0,1506 (1,13) | 0,6642 (4,02)** | 0,7441 | 92,81** | 222 |

**(*) Significant at the 1 % (5 %) confidence level

