Goodwill Impairment Losses, Economic Impairment, Earnings Management and Corporate Governance

Tonny Stenheim
BI Norwegian Business School

Dag Øivind Madsen
University College of Southeast Norway

This paper investigates the association between goodwill impairment losses and proxies of economic impairment, earnings management incentives and corporate governance mechanisms. The results demonstrate significant associations between proxies of economic impairment and goodwill impairment losses, suggesting that impairment losses in goodwill to some extent reflect economic impairment. Some evidence, however, suggests that impairment losses are associated with earnings management incentives. Corporate governance mechanisms are not found to play a significant role in accounting for impairment losses in goodwill. The empirical results are based on observations from the 288 largest firms listed at the London Stock Exchange over the fiscal years 2005 to 2009.

INTRODUCTION

Accounting for Goodwill

Accounting for goodwill is one of the most controversial topics in financial accounting. Generations of accounting academics and standard setters have struggled with the challenge of developing a theoretically consistent accounting method for goodwill (Hudges 1982). In the quest to develop high-quality accounting standards that provide relevant and faithful information for decision making, the US standard setter, FASB (Financial Accounting Standards Board), and the international standard setter, IASB (International Accounting Standards Board), implemented a substantial change in the reporting policy of goodwill some years ago. Amortization of goodwill is no longer permitted. Instead, goodwill shall be tested annually for impairment losses (FASB: ASC 350, IASB: IAS 36).

Impairment losses in goodwill are believed to suffer from significant measurement uncertainty, lack of verifiability and the risk of being opportunistically reported (Elliot and Shaw 1988, Francis, Hanna and Vincent 1996, Alcatore, Dee, Easton and Spear 1998, Riedl 2004, Kvaal 2005, Beatty and Weber 2006, Lapointe-Antunes, Cormier and Magnan 2008, Ramanna 2008, Zang 2008, Ramanna and Watts 2009, Kothari, Ramanna and Skinner 2010). Although significant effort is made to tighten the test procedure for goodwill, the discretionary freedom is still significant. Francis et al. (1996) demonstrate evidence, using pre-SFAS 121 data (Statement of Financial Accounting Standards 121), which supports the notion that impairment losses are associated with proxies of earnings management incentives. They report evidence suggesting that such incentives play a minor role when reporting impairment losses in inventory and property, plant and equipment, but play an important role when reporting other, more discretionary

impairment losses, such as impairment losses in goodwill. More recent evidence reported by Beatty and Weber (2006), Zang (2008) and Ramanna and Watts (2009) suggests that even SFAS 142-impairment losses in goodwill are associated with earnings management. These results question the statement made by the standard setters that the impairment-only method improves the decision usefulness of goodwill compared to the previous amortization method. Rather, these results are in line with arguments made by several commentators that the impairment testing requires significant discretion (Lewis, Lippitt and Mastracchio 2001, Massoud and Raiborn 2003, Watts 2003, Ramanna 2008, Ramanna and Watts 2009).

Purpose and Contribution

The purpose of this study is to investigate the determinants of goodwill impairment losses. The study investigates the associations between impairment losses and proxies of economic impairment, earnings management incentives and corporate governance mechanisms. These impairment losses are faithfully reported if they reflect economic impairment (Francis et al. 1996, Riedl 2004, Ramanna and Watts 2009). The true economic impairment in goodwill is, however, unobservable which makes it necessary to use proxies to investigate whether or not goodwill impairment losses reflect economic impairment. However, as demonstrated in prior studies, these losses are not always faithfully reported (e.g. Francis et al. 1996, Riedl 2004, Ramanna 2008, Zang 2008, Ramanna and Watts 2009). They are found to be associated with proxies of earnings management incentives, which suggest that they are reflecting earnings management rather than economic impairment. Corporate governance mechanisms are believed to be constraining factors of earnings management. These are found to reduce the risk of earnings management even in the presence of earnings management incentives (e.g. Warfield, Wild and Wild 1995, Dechow, Sloan and Sweeney 1996, Xie, Davidson and DaDalt 2003, Ebrahim 2007).

The paper adds to the existing literature in several ways. First, prior studies have to a limited extent investigated the role of corporate governance in accounting for impairment losses. This paper, however, investigates the associations between a broad set of corporate governance proxies, among these board and audit committee characteristics, and goodwill impairment losses. Second, prior studies have generally limited the investigation of remuneration and management change variables to CEO cash-bonus payments and CEO changes. The power to make accounting decisions and the interests in making such decisions may vary among the top management positions. This paper investigates the extent to which COB, CEO and CFO changes and COB, CEO and CFO cash-bonus payments are associated with goodwill impairment losses.

The empirical results of this paper are based on observations from 288 firms listed at the London Stock Exchange. The data are collected over the fiscal years 2005 to 2009. The empirical results suggest that goodwill impairment losses under current IFRS to a large extent are associated with proxies of economic impairment. Firms within industries with negative changes in average return on assets (ROA), firms with lower stock returns and with higher pre-impairment book to market ratios report more and larger impairment losses. Some evidence, however, is found that these losses are associated with proxies of earnings management incentives. Firms with CFOs receiving cash-bonus payments report less and smaller impairment losses in goodwill. This is the case even after controlling for proxies of economic impairment. Firms supposed to have strong smoothing or bathing incentives report more and larger impairment losses. Inconsistent with predictions, however, COB changes are found to be associated with less and smaller impairment losses, not more and larger impairment losses.

Proxies of corporate governance mechanisms are generally insignificantly associated with reported impairment losses. There are some exceptions. Firms with stronger concentration of top management power (COB-CEO duality) report less and smaller impairment losses. There are also indications that firms with more audit committee meetings report more and larger impairment losses, and firms being cross-listed at the New York Stock Exchange or the Nasdaq Stock Exchange report larger impairment losses.

Structure

The paper is structured as follows: The following two sections present prior literature, outlines the hypotheses and present methodological choices. The last two sections discuss empirical results and provide concluding comments.

LITERATURE REVIEW AND HYPOTHESES

Goodwill impairment losses are reported faithfully if they reflect economic impairment. If the reporting of these losses is influenced by earnings management incentives, however, they will be unfaithfully reported. This is the case as long as there are no efficient corporate governance mechanisms that reduce the risk of earnings management. Thus, the degree of faithfulness in reported impairment losses is influenced by (1) the presence of earnings management incentives and (2) the presence of corporate governance mechanisms constraining the earnings management.

Economic Impairment

Goodwill has no separate market value. It is also impossible to separately estimate the current value of goodwill. The true economic impairment in goodwill is, therefore, unobservable. One possible way to uncover economic impairment in goodwill is to employ a set of proxies that are highly positively associated with the true, but unobservable economic impairment. If these economic proxies hold high validity, they will be useful to discriminate faithfully reported impairment losses from unfaithfully reported impairment losses.

The paper makes use of economic proxies at three aggregation levels: the macroeconomic level, the industry level and the firm level. Impairment losses are predicted to be associated with variables of macroeconomic recession, industry performance, firm performance and firm-asset values. A major increase in the unemployment rates is indicative of economic recession. A recession will have a negative impact on the economic performance of most firms within the economy and will probably trigger the reporting of impairment losses in goodwill. Impaired industry performance will affect the economic performance of firms within that particular industry, which increases the probability of impairment losses (Francis et al. 1996, Segal 2003, Riedl 2004). Industry return on assets is employed as measure of industry performance, and measures such as stock returns, changes in total sales, changes in pre-impairment return on assets, changes in operating cash flows and pre-impairment book to market ratios are employed to reflect firm performance and firm asset values (e.g. Francis et al. 1996, Segal 2003, Sellhorn 2004, Riedl 2004, Kvaal 2005).

The probability of more and relatively larger impairment losses is found to increase in the series of previous years' impairment losses (Francis et al. 1996, Riedl 2004). There are at least two explanations of a positive serial correlation between successive impairment losses. If firms experience financial distress for several years, it is likely that they will report successive impairment losses. As new information arrives, prior beliefs and assumptions need to be adjusted which may lead to the recognition of additional impairment losses. An alternative explanation is that impairment losses are systematically understated. It is, therefore, reasonable to expect a positive association between last year's impairment losses and current year's impairment losses. In contrast to the economic proxies discussed above, this proxy may reflect economic fundamentals or earnings management incentives.

Based on the above discussion, the following hypotheses are suggested on associations between proxies of economic impairment and impairment decisions and impairment loss amounts:

TABLE 1
HYPOTHESES – PROXIES OF ECONOMIC IMPAIRMENT

Impairment decision	*Impairment loss amount*
H1a: Changes in unemployment rates are positively associated with impairment decisions (reported impairment amounts).	H1b: Changes in unemployment rates are positively associated with size of impairment losses.
H1c: Changes in industry return on assets are negatively associated with impairment decision.	H1d: Changes in industry return on assets are negatively associated with size of impairment losses.
H1e: Stock returns are negatively associated with impairment decisions.	H1f: Stock returns are negatively associated with size of impairment losses.
H1g: Changes in total sales are negatively associated with impairment decisions.	H1h: Changes in total sales are negatively associated with size of impairment losses.
H1i: Changes in pre-impairment return on assets are negatively associated with impairment decisions.	H1j: Changes in pre-impairment return on assets are negatively associated with size of impairment losses.
H1k: Changes in operating cash flows are negatively associated with impairment decisions.	H1l: Changes in operating cash flows are negatively associated with size of impairment losses.
H1m: Pre-impairment book to market ratios are positively associated with impairment decisions.	H1n: Pre-impairment book to market ratios are positively associated with size of impairment losses.
H1o: Last year's impairment losses in goodwill are positively associated with current year's impairment decisions.	H1p: Last year's impairment losses in goodwill are positively associated with current year's size of impairment losses.

Earnings Management Incentives

Earnings management might become a rational reporting strategy under some specific conditions: (1) the managers have some information advantage compared to the stakeholders, (2) the interests of the managers are not fully in line with the interests of the stakeholders and (3) the managers have some freedom to make accounting choices (Field, Lys and Vincent 2001). Given these conditions, the managers may receive some net benefits from engaging in earnings management.

Contracting is supposed to align the interests of the managers with those of the stakeholders. If the contracts are inefficient due to high information and contracting costs, a paradoxical result may occur. The contracts may not reduce opportunism and agency costs as intended. Rather, they provide incentives to act opportunistically (e.g. Watts and Zimmerman 1978, 1986, 1990, Healy and Wahlen 1999, Dechow and Skinner 2000, Field et al. 2001). If these inefficient contracts are written in terms of accounting numbers, for instance net earnings, there is a risk that these numbers will be manipulated to affect the outcomes of these contracts. Conventional examples are earnings-based compensation contracts and debt covenant contracts where managers engage in earnings management in order to affect the outcomes of these contracts (e.g. Watts and Zimmerman 1978, 1986, 1990).

Managers' Compensation Contracts

Healy (1985), Gaver et al. (1995) and Holthausen et al. (1995) find evidence consistent with managers manipulating earnings towards upper and lower thresholds of cash-bonus payments. Most research on bonus plans is based on a simplified assumption that there exists a linear relationship between earnings and cash-bonus payments. Beatty and Weber (2006), Lapointe-Antunes et al. (2008) and Ramanna and Watts (2009) make use of this assumption when investigating the association between cash-bonus payments and reported impairment losses in goodwill. The results, however, are mixed. Lapointe-Antunes et al. (2008) and Ramanna and Watts (2009) document an insignificant association, while Beatty and Weber (2006) find a significantly negative association.

Previous studies have generally limited the investigation to CEO cash-bonus payments. This paper investigates COB, CEO and CFO cash-bonus payments as explanatory variables of reported goodwill impairment losses. It is reasonable to expect that earnings-based compensation plans provide managers

with incentives to understate impairment losses, which suggests a negative association between cash-bonus payments and reported impairment losses in goodwill.

Income Smoothing and Big Bath Accounting

There are at least two reporting strategies that are associated with accounting for impairment losses: income smoothing and big bath accounting. If pre-impairment earnings are unexpectedly high or low, this may lead to income smoothing or big bath accounting (Zucca and Campbell 1992, Francis et al. 1996, Rees et al. 1996, Massoud and Raiborn 2003, Riedl 2004, Van de Poel, Maijoor and Vanstrealen 2009). Zucca and Campbell (1992) argue that big bath impairment losses are reported in periods in which pre-impairment earnings are already below expected earnings. Managers may undertake a big bath in such periods to improve future earnings and signal that bad times are behind them and better times will follow (Zucca and Campbell 1992, Alciatore et al. 1998).

Income smoothing, however, may occur in periods where pre-impairment earnings are higher than expected. By reporting impairment losses, earnings will be closer to the expected level. Kirshenheiter and Melumad (2002) present a model in which big bath and income smoothing can be seen as part of an equilibrium reporting strategy. A larger earnings surprise reduces the inferred precision of the earnings number and thereby reduces the effect on firm value. This creates a natural incentive for managers to take a bath as a greater negative surprise has a reduced overall effect on the firm value. Moreover, it also provides a rationale for managers to smooth earnings as the reduction in positive earnings surprises leads to greater inferred precision of the reported earnings. In both cases, the reporting behavior maximizes the value of the firm.

Management Changes

The literature has demonstrated that changes in top management are positively associated with impairment losses (Strong and Meyer 1987, Francis et al. 1996, Riedl 2004, Kvaal 2005, Zang 2008). The evidence suggests that the incoming manager has an incentive to take a bath in the year of the change as low earnings may be blamed on the preceding manager. Moreover, the big bath will reduce net earnings and net asset values, which in turn will increase the probability of reporting higher net earnings and improved firm performance in the following years. An alternative argument suggests that the positive association between impairment losses and changes in management reflects economic fundamentals rather than managerial opportunism. The new management may exercise greater scrutiny over existing assets or change the firm's strategic position, triggering the recognition of impairment losses (Wilson 1996, Francis et al. 1996, Riedl 2004).

A final argument suggests that the preceding manager is removed due to poor firm performance. Given the control for proxies of economic impairment, a significant association between management changes and impairment losses may capture the new manager's incentives to take potential charges and attribute them to the preceding manager. Prior research generally investigates the change of CEO only (e.g. Strong and Meyer 1987, Elliot and Shaw 1988, Francis et al. 1996, Cotter et al. 1998, Riedl 2004, Beatty and Weber 1996, Lapointe-Antunes et al. 2008, Zang 2008). This paper, however, investigates changes in the three top management positions: COB, CEO and CFO. For all three positions, there are predicted positive associations between management changes and reported goodwill impairment losses.

Debt Covenant Incentives

The contracting literature considers debt contracts as a potential source of earnings management incentives. As for earnings-based and equity-based compensation contracts, debt contracts will only trigger earnings management if they are inefficient in aligning the interests of managers and shareholders with those of the debt holders. Debt covenant considerations are believed to represent incentives leading to a reporting strategy that seeks to increase earnings and net asset values (Watts and Zimmerman 1978, 1986, 1990, Beneish and Press 1993, Sweeney 1994, DeFond and Jiambalvo 1994, Dichev and Skinner 2002). This suggests that firms that are close to violating debt covenants will have incentives to avoid impairment losses (Kvaal 2005, Zang 2008). In particular, firms with high debt to asset ratios are believed

to be close to violating debt covenants. These firms are predicted to avoid accounting decisions that increase debt to asset ratios, which suggests a negative association between these ratios and reported goodwill impairment losses (Beneish and Press 1993, Sweeney 1994, DeFond and Jimbalvo 1994, Dichev and Skinner 2002, Riedl 2004).

Political Costs and Firm Size

Political cost considerations are another potential candidate triggering earnings management. These incentives stem from the fact that accounting numbers may influence the degree to which firms are subject to regulations that impose political costs on them. This is particularly prominent if the firm is large, has significantly high net earnings, large fluctuations in net earnings or a significant market share, which suggests more political visibility (Watts and Zimmerman 1978, 1986, 1990, Moses 1987, Gupta 1995). These firms are, therefore, predicted to report impairment losses to depress net earnings or reduce large positive changes in net earnings. Proxies based on high levels of net earnings or high fluctuations in net earnings will probably be associated with income smoothing incentives as much as political cost considerations. Moreover, the firm's market share is not readily observable. In this study, firm size is employed as a proxy for political cost considerations. Still, firm size is a crude measure which may proxy for other variables. Any association between firm size and impairment losses must, therefore, be interpreted with caution.

Based on the above discussion, the following hypotheses are suggested on associations between proxies of earnings management incentives and impairment decisions and impairment loss amounts:

TABLE 2
HYPOTHESES – PROXIES OF EARNINGS MANAGEMENT INCENTIVES

Impairment decision	*Impairment loss amount*
H1q: Cash-bonus payments to COB, CEO and CFO are negatively associated with impairment decisions.	H1r: Cash-bonus payments to COB, CEO and CFO are negatively associated with size of impairment losses.
H1s: Big bath accounting incentives (large negative changes in pre-impairment earnings) are negatively associated with impairment decisions.	H1t: Big bath accounting incentives (large negative changes in pre-impairment earnings) are negatively associated with size of impairment losses.
H1u: Income-smoothing incentives (large positive changes in pre-impairment earnings) are positively associated with impairment decisions.	H1v: Income-smoothing incentives (large positive changes in pre-impairment earnings) are positively associated with size of impairment losses.
H1x: Changes in COB, CEO and CFO are positively associated with impairment decisions.	H1y: Changes in COB, CEO and CFO are positively associated with size of impairment losses.
H1z: Debt covenant incentives (debt to asset ratio) are negatively associated with impairment decisions.	H1aa: Debt covenant incentives (debt to asset ratio) are negatively associated with size of impairment losses.
H1ab: Firm size is positively associated with impairment decisions.	H1ac: Firm size is positively associated with size of impairment losses.

Corporate Governance Mechanisms

Impairment accounting choices will probably be affected by corporate governance mechanisms. These mechanisms are instruments that are supposed to reduce the risk of opportunism in principal-agent relationships (Shleifer and Visney 1997). Prior evidence has demonstrated that firms with more efficient corporate governance have higher firm value, higher firm performance and suffer from lower agency costs (Weisbach 1988, Huson, Parrino and Starks 2001, Perry and Shivdasani 2005). A complementary line of literature has demonstrated a negative association between corporate governance mechanisms and earnings management (Warfield et al. 1995, Dechow et al. 1996, Beasley 1996, Chtourou et al. 2001, Klein 2002, Koh 2003, Xie et al. 2003, Peasnell, Pope and Young 2005, Davidson, Goodwin-Stewart and Kent 2005, Mulgrew and Forker 2006, Ebrahim 2007, Koh, LaPlante and Tong 2007). Given efficient corporate governance mechanisms, managers will be more inclined to report accounting numbers

consistent with the firm's economic fundamentals. On the other hand, given incentives to manipulate and inefficient corporate governance mechanisms, managers are more inclined to exploit the reporting discretion and report accounting numbers that misrepresent economic fundamentals.

The literature provides lots of evidence that more and stronger corporate governance mechanisms are associated with less earnings management, less financial fraud and higher earnings and accrual quality (Warfield et al. 1995, Dechow et al. 1996, Beasley 1996, Chtourou et al. 2001, Klein 2002, Koh 2003, Xie et al. 2003, Peasnell et al. 2005, Davidson et al. 2005, Mulgrew and Forker 2006, Ebrahim 2007, Koh et al. 2007). The literature has demonstrated that a number of board characteristics and audit committee characteristics are associated with earnings management. For instance, more board activity and more board independence are found to be associated with less earnings management and higher accrual quality (Lipton and Lorsch 1992, Yermack 1996, Jensen 2000, Chtourou et al. 2001, Xie et al. 2003, Farber 2005, Vafeas 2005, Peasnell et al. 2005, Davidson et al. 2005, Ebrahim 2007, Koh et al. 2007).

In the same vein as for the full board, audit committee activity, independence and expertise are found to be associated with less earnings management and higher accrual quality (e.g. McMullan and Raghunandan 1996, Abbott et al. 2000, Xie et al. 2003, Bedard et al. 2004). Moreover, the size and number of outside blockholders as well as cross-listing on a US stock market are found to affect the risk of earnings management (Dechow et al. 1996, Xie et al. 2003, Lang et al. 2003, Bailey et al. 2006). This suggests that corporate governance mechanisms as reflected by board and audit committee characteristics as well as outside blockholders and cross-listing will play a role when managers make impairment accounting choices. As no estimate of misrepresentation of goodwill impairment losses is employed, there is not stated any formal hypotheses on the associations between corporate governance mechanisms and goodwill impairment losses. Still, investigating the associations between corporate governance proxies and reported impairment losses may indicate whether or not these corporate governance mechanisms play a role in accounting for impairment losses.

RESEARCH DESIGN

Regression Models

There are stated two sets of hypotheses. The first set concerns the decision to report impairment losses, and the second set concerns the size of reported impairment losses. The first set of hypotheses is tested by a logit regression since the dependent variable, the choice to report an impairment loss, is binary. The second set of hypotheses is tested by a tobit regression. This regression is preferable since the dependent variable, the reported impairment loss, is censored at zero while the explanatory variables are unlimited (Maddala 1991).

There might be problems of self-selection. Self-selection bias occurs when observations self-select into discrete groups, for instance a group of impairers and non-impairers. A control for self-selection bias might be performed by employing a two-step Heckman-selection model (Heckman 1979). The first step runs the selection regression with impairment decision as the dependent variable. This regression includes those variables which are predicted to explain the impairment decision. The next step runs a regression with reported impairment losses as dependent variable. This regression includes those variables that are predicted to explain the size of impairment losses.

Recent studies have employed this approach when investigating explanatory variables of impairment losses (e.g. Beatty and Weber 2006, Lys, Vincent and Yehuda 2011). Francis, Lennox and Wang (2010) examined the implementation of the selection models in 58 articles in financial accounting. They found that the selection models were implemented in a rather mechanic way with limited arguments for the choice of variables explaining the selection process. The selection-regression model needs at least one unique variable to explain the selection, that is, the impairment decision.

Strong arguments must be given for why the chosen variables are important determinants of the selection process. When it comes to the impairment decision, no such strong arguments can be found. Rather, it is likely that most, if not all, of the proxies of economic impairment, earnings management incentives and corporate governance are potential candidates explaining the impairment decision and the

size of reported impairment losses. Besides, the choice of which proxies to include and exclude from either of these two regressions, will strongly affect the results (Francis et al. 2010). Based on these arguments, the regressions are run separately. To test the stated hypotheses, the following logit and the tobit regressions are run:

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TABLE 3
REGRESSION MODELS

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$$IMP\_DECISION_{i,t} = \alpha_0 + \alpha_1 \Delta UNEMPLOY_{t,t-1} + \alpha_2 \Delta INDROA_{i,t,t-1} + \alpha_3 RET_{i,t} + \alpha_4 \Delta SALES_{i,t,t-1} +$$
$$\alpha_5 \Delta ROA_{i,t,t-1} + \alpha_6 \Delta OCF_{i,t,t-1} + \alpha_7 BM_{i,t} + \alpha_8 HIST_{i,t} + \alpha_9 COB\_BON_{i,t} + \alpha_{10} CEO\_BON_{i,t} +$$
$$\alpha_{11} CFO\_BON_{i,t} + \alpha_{12} BATH_{i,t} + \alpha_{13} SMOOTH_{i,t} + \alpha_{14} \Delta COB_{i,t} + \alpha_{15} \Delta CEO_{i,t} + \alpha_{16} \Delta CFO_{i,t} + \alpha_{17} DEBT_{i,t} +$$
$$\alpha_{18} lnSIZE\_MV_{i,t} + \alpha_{19} ln BOARD\_SIZE_{i,t} + \alpha_{20} ln BOARD\_MEET_{i,t} + \alpha_{21} NONEXE_{i,t} + \alpha_{22} COB\_CEO_{i,t} +$$
$$\alpha_{23} ln AUDIT\_SIZE_{i,t} + \alpha_{24} ln AUDIT\_MEET_{i,t} + \alpha_{25} ln BLOCK\_NUM_{i,t} + \alpha_{26} CROSS_{i,t} + \varepsilon_{1i,t}$$

$$IMP\_AMOUNT_{i,t} = \beta_0 + \beta_1 \Delta UNEMPLOY_{t,t-1} + \beta_2 \Delta INDROA_{i,t,t-1} + \beta_3 RET_{i,t} + \beta_4 \Delta SALES_{i,t,t-1} +$$
$$\beta_5 \Delta ROA_{i,t,t-1} + \beta_6 \Delta OCF_{i,t,t-1} + \beta_7 BM_{i,t} + \beta_8 HIST_{i,t} + \beta_9 COB\_BON_{i,t} + \beta_{10} CEO\_BON_{i,t} +$$
$$\beta_{11} CFO\_BON_{i,t} + \beta_{12} BATH_{i,t} + \beta_{13} SMOOTH_{i,t} + \beta_{14} \Delta COB_{i,t} + \beta_{15} \Delta CEO_{i,t} + \beta_{16} \Delta CFO_{i,t} + \beta_{17} DEBT_{i,t} +$$
$$\beta_{18} lnSIZE\_MV_{i,t} + \beta_{19} ln BOARD\_SIZE_{i,t} + \beta_{20} ln BOARD\_MEET_{i,t} + \alpha_{21} NONEXE_{i,t} + \beta_{22} COB\_CEO_{i,t} +$$
$$\beta_{23} ln AUDIT\_SIZE_{i,t} + \beta_{24} ln AUDIT\_MEET_{i,t} + \beta_{25} ln BLOCK\_NUM_{i,t} + \beta_{26} CROSS_{i,t} + \varepsilon_{2i,t}$$

$IMP\_DECISION_{i,t}$	=	Variable equals 1 if firm i reports goodwill impairment losses for period t; otherwise 0.
$IMP\_AMOUNT_{i,t}$	=	Reported goodwill impairment losses (positive amounts) of firm i, period t, scaled by total assets at time $t-1$.
$\Delta UNEMPLOY_{t,t-1}$	=	Percentage average-monthly changes in unemployment rates of UK, from period $t-1$ to t.
$\Delta INDROA_{i,t,t-1}$	=	Median changes in industry-sector pre-impairment return on assets from period $t-1$ to t where industry sector is defined according to FTSE codes to which firm i belongs.
$RET_{i,t}$	=	Stock returns of firm i, period t.
$\Delta SALES_{i,t,t-1}$	=	Percentage changes in total sales of firm i, from period $t-1$ to t.
$\Delta ROA_{i,t,t-1}$	=	Changes in pre-impairment return on assets of firm i, from period $t-1$ to t.
$\Delta OCF_{i,t,t-1}$	=	Percentage changes in operating cash flows of firm i, from period $t-1$ to t.
$BM_{i,t}$	=	Pre-impairment book-to-market ratio of firm i, time t.
$HIST_{i,t}$	=	Variable equals 1 if goodwill impairment losses are reported for firm i, period $t-1$; otherwise 0.
$COB\_BON_{i,t}$	=	Cash-bonus payment to COB of firm i period t, scaled by total cash compensation to COB period t.
$CEO\_BON_{i,t}$	=	Cash-bonus payment to CEO of firm i period t, scaled by total cash compensation to CEO period t.
$CFO\_BON_{i,t}$	=	Cash-bonus payment to CFO of firm i period t, scaled by total cash compensation to CFO period t.

$BATH_{i,t}$	=	Changes in pre-impairment earnings of firm i from period t-1 to t, scaled by total assets at time t-1, when below the median of nonzero negative values of this variable; otherwise 0.
$SMOOTH_{i,t}$	=	Changes in pre-impairment earnings of firm i from period t-1 to t, scaled by total assets at time t-1, when above the median of nonzero positive values of this variable; otherwise 0.
$\Delta COB_{i,t}$	=	Variable equals 1 if firm i changes COB in period t; otherwise 0.
$\Delta CEO_{i,t}$	=	Variable equals 1 if firm i changes CEO in period t; otherwise 0.
$\Delta CFO_{i,t}$	=	Variable equals 1 if firm i changes CFO in period t; otherwise 0.
$DEBT_{i,t}$	=	Pre-impairment debt to asset ratio of firm i, time t.
$lnSIZE\_MV_{i,t}$	=	Natural logarithm of the equity-market value of firm i, time t.
$lnBOARD\_SIZE_{i,t}$	=	Natural logarithm of number of board members of firm i time t.
$lnBOARD\_MEET_{i,t}$	=	Natural logarithm of number of board meetings of firm i time t.
$NONEXE_{i,t}$	=	Number of independent non-executive directors, scaled by total number of board members of firm i time t.
$COB\_CEO_{i,t}$	=	Variable equals 1 if the positions as COB and CEO are hold by the same individual; otherwise 0.
$lnAUDIT\_SIZE_{i,t}$	=	Natural logarithm of number of audit-committee members of firm i time t.
$lnAUDIT\_MEET_{i,t}$	=	Natural logarithm of number of audit-committee meetings of firm i time t.
$lnBLOCK\_NUM_{i,t}$	=	Natural logarithm of number of blockholders owning at least 5% of outstanding common stocks of firm i time t.
$CROSS_{i,t}$	=	Variable equals to 1 if firm i is cross-listed on the New York Stock Exchange or the NASDAQ Stock Exchange time t; otherwise 0.
$\varepsilon_{m,i,t}$	=	Residual of firm i, time t in regression m where $m \in [1,2]$.

A positive (negative) coefficient from the logit regression suggests that higher values of the explanatory variable will increase (decrease) the probability of goodwill impairment losses. The size of the coefficients is more complicated to interpret as the effect one explanatory variable has on the binary dependent variable is conditional on the values at which the other explanatory variables are held constant. To investigate the impact one explanatory variable has on the binary dependent variable, marginal effects must be calculated, holding the other explanatory variables at fixed, relevant values (Wooldridge 2009). The regression coefficients from the tobit regression, however, can to a large extent be interpreted as ordinary least-square coefficients (Gujarati 2003).

Sample Selection
The sample frame of this study is listed firms on the FTSE-350 index on the London Stock Exchange. Firm-year observations are collected over the fiscal years 2004 to 2009. The chosen time period includes one year of non-IFRS observations (2004) and five years of IFRS observations (2005-2009). The latter period represents the core investigation period.

Three data sources are employed to collect firm-year observations. The basic data source is Thomson Datastream. This database provides data necessary for the sample selection such as data on firm name, calendar year, industry classification, applied accounting principles and whether or not the firm has book goodwill on the balance sheet. The database also provides stock-market data. The second data source is annual reports. All accounting data, remuneration data and data on management changes are hand-

collected from the firms' annual reports. The reports are either downloaded from Northcote annual report service (http://www.northcote.co.uk/) or from the firms' investor information websites. Missing annual reports are requested via e-mail. Accounting data are hand-collected from financial statements, and remuneration data are hand-collected from two distinctive supplementary reports: the director's report and the remuneration report. The third and last data source is the UK National Statistics (http://www.statistics.gov.uk/hub/economy/index.html), which provides data on the macroeconomic variable: changes in unemployment rates.

In order to reach to the final sample of firm-year observations, some additional selection criteria are employed. The first selection criterion concerns book goodwill. Firm-year observations with no book goodwill in any of the years 2004 to 2009 are excluded from the final sample. The second criterion concerns firms classified as banks or insurance companies. These firms have operations that differ substantially from most other firms. Their peculiar nature combined with industry-specific regulations make annual reports of these firms less comparable to annual reports of other firms. This justifies their exclusion from the final sample.

The third criterion concerns the choice of accounting principles. Firms preparing annual reports under different GAAP than IFRS for years other than 2004 are excluded. The fourth criterion concerns firms adopting IFRS prior to the fiscal year 2005. These are classified as early IFRS adopters and will probably have stronger motivation for IFRS implementation than firms forced to adopt IFRS, which suggests that they should be excluded. The fifth criterion concerns access to annual reports. Firms included in the final sample must have available annual reports or at least available financial statements for one of the years 2004 to 2009.

Firms reporting in foreign currency (currency other than British Pounds) are included in the sample. 158 out of a total of 1293 firm years have accounting numbers in different currencies than British Pounds. These numbers are converted to British Pounds at the end of the fiscal years (http://www.oanda.com/currency/converter/). Firms with fiscal years other than calendar years are quite common. Close to half of the sample firms prepare financial statements over periods which differ from the calendar year (49.65%).

The results of the sample-selection process are given in table 4. Panel A reports the effect of the sample-selection process on firm-year observations, whereas panel B reports the effect of this process on the number of unique sample firms. A firm-year observation is excluded if the observation fails to meet one of the above criteria. If the firm-year observation fails to meet several criteria, the excluded firm-year is only counted once. Not meeting several criteria, however, is quite common. 233 firm-year observations (26.91%) failed on one criterion, 482 firm-years (55.66%) on two criteria, 124 firm-years (14.32%) on three criteria, and finally, 27 firm-years (3.12%) failed on four criteria.

A total of 2159 FTSE-350 firm-year observations are available on Thomson Datastream for the period 2004 to 2009. 463 firm-year observations have no book goodwill on the balance sheet and for additional 76 firm-year observations no information is available on book goodwill. These firm-year observations are all excluded. Firms are also excluded if they are classified as banks or insurance companies. This criterion reduces the sample with additional 81 firm-years. The next two criteria concerns firms reporting under different GAAP than IFRS in the years 2005 to 2009 and early voluntary-IFRS adopters. 13 firm-year observations are excluded due to these two additional criteria.

And finally, firms that do not have available annual reports or financial statements reduce the sample with additional 233 firm-year observations. This leaves the final sample at 1293 firm-year observations. The IFRS-period, 2005 to 2009, has 1122 firm-year observations. The number of unique firms has fallen from an initial sample frame of 522 firms for the period 2004 to 2009 to 288 firms in the final sample.

TABLE 4
SAMPLE SELECTION

Panel A – Firm-year observations								
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2004-2009**	
	N	**N**	**N**	**N**	**N**	**N**	**N**	**%**
Firm-years for FTSE-350 firms available on Thomson Datastream	359	356	357	361	369	357	2159	100.00
Book goodwill								
Firm years with no book goodwill	86	81	74	67	76	79	463	21.45
Firm years with no available information on book goodwill	10	9	7	11	20	19	76	3.53
Excluded firm-years with no goodwill or no available information	96	90	81	78	96	98	539	24.97
Banks and insurance companies								
Firm years for banks	8	8	8	0	0	0	24	1.11
Firm years for insurance companies	12	13	13	8	6	5	57	2.64
Excluded firm years for firms classified as banks and insurance companies	20	21	21	8	6	5	81	3.75
Different accounting regimes than IFRS								
Firm years with different accounting regimes than IFRS (2005 – 2009)	0	0	1	3	4	3	11	0.51
Excluded firm years for firms following different accounting regimes	0	0	1	3	4	3	11	0.51
Early voluntary-IFRS adopters								
Excluded firm years for firms that have voluntarily adopted IFRS early	2	0	0	0	0	0	2	0.09
Annual reports missing								
Excluded firm years due to missing annual reports or financial statements	70	47	32	33	21	30	233	10.79
Total firm years excluded							866	40.11
Sample of firm year observations	171	198	222	239	242	221	1293	59.89
Panel B – Unique firms								
Firms on FTSE-350 firms available on Thomson Datastream							522	100
Excluded firms							234	4483
Total sample of firms							288	55.17

EMPIRICAL ANALYSIS

Determinants of Goodwill Impairment Losses

    Table 5 below presents the results from the logit and tobit regressions run on observations for the fiscal years 2005 to 2009.

		Impairment decision			Impairment loss amount	
Test variables		EM	Economic and EM	Economic, EM and CG	EM	Economic and EM	Economic, EM and CG
Intercept		-6.402*** (-4.88)	-6.902*** (-4.22)	-5.0905** (-2.14)	-0.098*** (-3.74)	-0.1036*** (-3.68)	0.535 (0.95)
$\Delta UNEMPLOY_{i,t,t-1}$	+		6.811 (0.20)	6.437 (0.19)		0.427 (0.79)	-0.107 (-1.08)
$\Delta INDROA_{i,t,t-1}$	-		-15.83** (-2.54)	-16.45*** (-2.63)		-0.114 (-1.17)	-0.0031 (-0.32)
$RET_{i,t}$	-		-1.108*** (-4.04)	-1.055*** (-3.61)		-0.0217*** (-3.86)	-0.0206*** (-3.57)
$\Delta SALES_{i,t,t-1}$			-0.211 (-0.50)	-0.211 (-0.49)		-0.0032 (-0.34)	0.0685 (1.24)
$\Delta ROA_{i,t,t-1}$	-		2.813 (1.00)	4.738* (1.66)		0.0525 (1.01)	0.0685 (1.24)
$\Delta OCF_{i,t,t-1}$	-		-0.0300 (-0.38)	0.0027 (0.03)		-0.0005 (- 0.33)	1.9910^{-4} (0.13)
$BM_{i,t}$	+		0.526*** (2.77)	0.432** (2.17)		0.0103*** (2.79)	0.0082** (2.22)
$HIST_{i,t}$	+		2.077*** (10.08)	2.033*** (9.15)		0.0303*** (8.37)	0.0295*** (7.99)
$COB\_BON_{i,t}$	-	1.926** (1.98)	2.483 (1.38)	3.852*** (2.94)	0.0314* (1.71)	0.0352* (1.89)	0.0634*** (3.03)
$CEO\_BON_{i,t}$	-	1.136 (0.87)	1.574 (1.02)	1.188 (0.75)	0.0273 (0.99)	0.0346 (1.24)	0.0372 (1.29)
$CFO\_BON_{i,t}$	-	-3.464** (-2.56)	-2.714* (-1.66)	-3.460** (-2.02)	-0.0900*** (-3.04)	-0.0703** (-2.36)	-0.0826*** (-2.67)
$BATH_{i,t}$	-	-3.263** (-2.27)	-5.350 (-1.62)	-6.434* (-1.93)	-0.0601* (-1.94)	-0.1000* (-1.69)	-0.111* (-1.79)
$SMOOTH_{i,t}$	+	0.243 (0.14)	-0.115 (-0.04)	-3.139 (-0.97)	0.0263 (0.69)	0.0199 (0.42)	-0.0117 (-0.22)
$\Delta COB_{i,t}$	+	-0.375 (-1.49)	-0.653** (-2.22)	-0.788*** (-2.58)	-0.0074 (-1.55)	-0.0103** (-2.26)	-0.0153*** (-3.20)
$\Delta CEO_{i,t}$	+	0.220 (0.97)	0.140 (0.51)	0.169 (0.56)	0.0056 (1.25)	0.0060 (1.43)	0.0064 (1.42)
$\Delta CFO_{i,t}$	+	0.181 (0.80)	0.197 (0.77)	0.307 (1.11)	0.0028 (0.66)	0.0020 (0.51)	0.0028 (0.70)
$DEBT_{i,t}$	-	0.460 (1.25)	0.466 (1.06)	0.422 (0.94)	-0.0001 (-0.02)	0.0006 (0.08)	-0.0018 (-0.22)
$lnSIZE\_MV_{i,t}$	+	0.250*** (4.04)	0.230*** (3.26)	0.125 (1.09)	0.0038*** (3.08)	0.0032*** (2.83)	0.0010 (0.53)
$lnBOARD\_SIZE_{i,t}$				0.445 (0.87)			0.0012 (0.15)
$lnBOARD\_MEET_{i,ti,t}$				-0.280 (-0.88)			0.0021 (0.38)
$NONEXE_{ti,t}$				0.0920 (0.10)			0.0106 (0.63)
$COB\_CEO_{ti,t}$				-2.192* (-1.67)			-0.0315* (-1.83)
$lnAUDIT\_SIZE_{i,t}$				-0.549 (-1.17)			-0.0045 (-0.65)
$lnAUDIT\_MEET_{i,t}$				0.844** (2.21)			0.0154** (2.50)
$lnBLOCK\_NUM_{t}$				-0.133 (-0.68)			0.0007 (0.20)
$CROSS_{t}$				0.145 (0.40)			0.0103 (1.60)
N		1038	1019	924	1038	1019	924
Log-likelihood		-516.3	-431.2	-380.2	156.9	226.4	210.3
Wald Chi2-test		52.19***	175.7***	167.0			
F-value					3.275***	5.075***	4.10***
Pseudo R^2		0.0530	0.195	0.223	-0.306	-0.847	

IMP_DECISION$_{i,t}$ equals 1 if firm i reports goodwill impairment losses for period t; otherwise 0; IMP_AMOUNT$_{i,t}$ is reported goodwill impairment losses (a positive amount) of firm i, period t, scaled by total assets at time t-1; COB_BONi,t is cash-bonus payment to COB of firm i period t, scaled by total cash compensation to COB period t; CEO_BONi,t is cash-bonus payment to CEO of firm i period t, scaled by total cash compensation to CEO period t; CFO_BONi,t is cash-bonus payment to CFO of firm i period t, scaled by total cash compensation to CFO period t; BATHi,t is changes in pre-impairment earnings of firm i from period t-1 to t, scaled by total assets at time t-1, when below the median of nonzero negative values of this variable; otherwise 0; SMOOTHi,t is changes in pre-impairment earnings of firm i from period t-1 to t, scaled by total assets at time t-1, when above the median of nonzero positive values of this variable; otherwise 0; ΔCOBi,t equals 1 if firm i changes COB in period t; otherwise 0; ΔCEOi,t equals 1 if firm i changes CEO in period t; otherwise 0; ΔCFOi,t equals 1 if firm i changes CFO in period t; otherwise 0; DEBTi,t is pre-impairment debt to asset ratio of firm i, period t; lnSIZE_MVi,t is natural logarithm of equity-market value of firm i time t; lnBOARD_SIZE$_{i,t}$ is natural logarithm of number of board members of firm i time t; lnBOARD_MEET$_{i,t}$ is natural logarithm of number of board meetings of firm i time t; NONEXE$_{i,t}$ is number of independent non-executive directors in firm i time t, scaled by total number of board members of firm i time t; COB_CEO equals 1 if the COB and CEO positions are hold by the same person in firm i, period t; otherwise 0; lnAUDIT_SIZE$_{i,t}$ is natural logarithm of number of audit-committee members of firm i time t; lnAUDIT_MEET$_{i,t}$ is natural logarithm of number of audit-committee meetings of firm i time t; lnBLOCK_NUM$_{i,t}$ is natural logarithm of number of blockholders owning at least 5% of outstanding stocks of firm i time t; CROSS$_{i,t}$ equals 1 if firm i is cross-listed on the New York Stock Exchange or the NASDAQ Stock Exchange time t; otherwise 0. ***, **, * denotes significance at $< .01$, $< .05$, and $< .10$ levels, respectively, for two-tailed tests of regression coefficients. The above regressions are run with continuous variables winsorized at 1th and/or 99th percentile. All standard errors are clustered at firm-year to reduce the impact of heteroscedasticity and time-dependency. The regressions are also run with year-dummies in order to control for systematic differences between years. The coefficients and t-statistics of these year-dummies are not reported.

The above regressions test associations between impairment decisions or impairment amounts and proxies of economic impairment, earnings management incentives and corporate governance mechanisms. Hypotheses are stated for associations between impairment losses (impairment decisions or impairment amounts) and proxies of economic impairment and proxies of earnings management incentives. No explicit hypotheses, however, are stated for associations between impairment losses and proxies of corporate governance mechanisms.

Proxies of Economic Impairment

Economic proxies are included at three aggregation levels: the macroeconomic level, the industry level and the firm level. Only one proxy is included at the macroeconomic level: relative changes in unemployment rates *(ΔUNEMPLOY)*. The associations between changes in unemployment rates and impairment losses are insignificant. These results reject hypotheses 1a and 1b that changes in unemployment rates are positively associated with impairment decisions and size of reported impairment losses.

One proxy is also included at the industry level: changes in industry return on assets *(ΔINDROA)*. A significantly negative association is found between this proxy and impairment decisions *(IMP_DECISION)*. The associations between this variable and the size of reported impairment losses are, however, insignificant. These results suggest that changes in industry return on assets are negatively associated with impairment decisions, which is consistent with hypothesis 1c, but insignificantly associated with the size of reported impairment losses, which is inconsistent with hypothesis 1d.

Some firm-level proxies are found to be associated with impairment decisions *(IMP_DECISION)* and size of impairment losses *(IMP_AMOUNT)*, others are not. Impairment losses are more likely and generally larger in firms with impaired stock returns *(RET)*. The associations are significantly negative in all regressions. Hypotheses 1e and 1f are, therefore, supported. This suggests that firms with lower stock returns report more and larger impairment losses. Changes in total sales *(ΔSALES)* and changes in return

on assets *(ΔROA)* are not found to be significantly associated with impairment losses as predicted in the hypotheses. Hypotheses 1g to 1j should, therefore, be rejected.

Pre-impairment book to market ratios *(BM)* are found to be significantly positively associated with impairment decisions *(IMP_DECISION)* and size of impairment losses *(IMP_AMOUNT)*. This suggests that firms with higher pre-impairment book to market ratios report more and larger impairment losses. Hypotheses 1m and 1n are, therefore, supported. Strong evidence is also found for a positive association between previous year's impairment losses *(HIST)* and the decision to report impairment losses *(IMP_DECISION)* and the size of these impairment losses *(IMP_AMOUNT)*. This suggests that not only the probability of reporting an impairment loss increases when impairment losses are reported the previous year, but also the probability of reporting relatively larger impairment losses. These findings support hypotheses 1o and 1p. All in all, the results in table 5 suggest that reported goodwill impairment losses, at least to some extent, are associated with proxies of economic impairment. These impairment losses are, therefore, not void of information about economic impairment.

Proxies of Earnings Management Incentives

The associations between proxies of earnings management incentives and impairment losses are in some cases insignificant, in others not. The tested incentive proxies can be categorized as remuneration proxies (cash-bonus payments), reporting-strategy proxies (big bath accounting and income smoothing), management change proxies and proxies reflecting debt covenant incentives and political cost considerations.

Proxies for Managers' Compensation Contracts

Table 5 demonstrates some predicted and some unpredicted associations between remuneration proxies and impairment losses. Cash-bonus payments to COB, CEO and CFO *(BON_COB, BON_CEO, BON_CFO)* are predicted to be negatively associated with impairment decisions and size of impairment losses. Consistent with these predictions, CFO cash-bonus payments *(CFO_BON)* are negatively associated with impairment decisions *(IMP_DECISION)* and size of impairment losses *(IMP_AMOUNT)*. The results for COB cash-bonus payments *(COB_BON)*, however, are surprising. These cash-bonus payments are positively associated with impairment decisions and size of impairment losses. The higher the COB cash-bonus payments, the more likely are impairment losses and relatively larger impairment losses. These unpredicted results need more careful examination. COB cash-bonus payments are rather rare. These payments are only found in 105 of 1117 firm-years (9.40%) with available cash-bonus data. In general COBs receive board fees and benefits rather than bonus payments.

This makes it interesting to investigate if there is something peculiar about these cash-bonus payments. A regression is run with COB cash-bonus payments *(COB_BON)* as dependent variable on two explanatory variables on COB characteristics. Since the dependent variable, COB cash-bonus payments *(COB_BON)*, is continuous and censored at zero, a tobit regression is run. COB characteristics are measured by an indicator variable for COB-CEO duality and a variable for COB tenure, which equals the natural logarithm of the number of years the COB has held his current position. Both COB-CEO duality (t-value: 4.27) and COB tenure (t-value: 4.91) are positively associated with COB cash-bonus payments (Not tabulated). This suggests that cash-bonus payments are generally given to COBs that simultaneously hold the position as CEO and to COBs that have held their position as COB for a long period of time.

Cash-bonus payments are expected to be positively associated with conventional performance measures. Stock returns and earnings per share are included as additional variables in the above tobit regression to investigate whether COB cash-bonus payments are explained by these performance measures. The inclusion of these variables have no substantial effect on the positive association between COB cash-bonus payments *(COB_BON)*, COB-CEO duality (t-value: 2.22) and COB tenure (t-value: 2.58) (Not tabulated). Even more striking, these performance measures have no significant positive association with COB cash-bonus payments. The coefficients on stock returns (t-value: 1.21) and pre-impairment earnings per share (t-value: 1.53) are insignificant (Not tabulated). Thus, COB cash-bonus payments cannot be explained by conventional performance measures. Rather, the above results suggest

that these bonus payments are explained by the significant concentration of power on the hands of some COBs. Taken together, hypotheses 1q and 1r are, therefore, supported for CFO cash-bonus payments, but not COB and CEO-cash bonus payments.

Proxies of Income Smoothing and Big Bath Accounting

The associations between reporting-strategy variables *(BATH, SMOOTH)* and impairment losses in goodwill are to a large extent consistent with the predicted associations. Big bath incentives for reporting impairment losses are supposed to be associated with large negative changes in pre-impairment earnings. Consistent with this notion, the big bath proxy is measured as changes in pre-impairment earnings when these changes are below the median of nonzero negative values of that variable and otherwise zero.

Significant negative associations are found between the big bath proxy, impairment decisions and size of reported impairment losses, which is consistent with hypotheses 1s and 1t. This suggests that impairment losses are more likely and generally larger if there are large negative changes in pre-impairment earnings. The associations for the smoothing proxy are, however, insignificant. These last results reject hypotheses 1u and 1v.

Management Changes

Management changes are predicted to be associated with more and larger impairment losses. The results in table 5, however, mainly show evidence inconsistent with these predictions. Prior literature has generally investigated CEO changes rather than changes in other top management positions. CEO changes are predicted to be associated with more and larger impairment losses. No significant results consistent with this prediction are found here. Still, there are some weak indications that CEO changes are associated with larger impairment losses, but the association is not significant at conventional levels. CFO changes are not found to have any association with the reporting of impairment losses. Some surprising evidence, however, is found for COB changes. These changes are found to be associated with less and smaller impairment losses signified by a significant negative association between COB changes and impairment decisions and size of reported impairment losses. Taken together, this suggests that COB, CEO and CFO changes are not positively associated with impairment decisions and size of reported impairment losses which is inconsistent with hypotheses 1x and 1y. Rather, COB changes seem to occur in years with relatively less and smaller impairment losses.

Proxies of Debt Covenants and Political Cost Incentives

Debt covenant incentives measured by pre-impairment debt to asset ratios *(DEBT)* are not found to have any significant association with impairment decisions and size of reported impairment losses. Hypotheses 1z and 1aa are, therefore, rejected. Firm size *(lnSIZE_MV)* has a significantly positive association with impairment decisions and size of reported impairment losses in regressions with proxies of economic impairment and in regressions with proxies of economic impairment along with earnings management incentives. The associations turn insignificant, however, if proxies of corporate governance mechanisms are included. This suggests some weak support that firm size is positively associated with impairment losses which is consistent with hypotheses 1ab and 1ac.

Proxies of Corporate Governance Mechanisms

Corporate governance mechanism are supposed to constrain opportunism (e.g. Warfield et al. 1995, Dechow et al. 1996, Beasley 1996, Chtourou et al. 2001, Klein 2002, Koh 2003, Xie et al. 2003, Peasnell et al. 2005, Mulgrew and Forker 2006, Ebrahim 2007). Efficient corporate governance mechanisms are, therefore, supposed to be associated with less misrepresentation of impairment losses. Most of the proxies of corporate governance have no significant association with impairment decisions and size of impairment losses. This is the case for most of the board characteristics *(lnBOARD_SIZE, lnBOARD_MEET, NONEXE)* and for the blockholder *(lnBLOCK_NUM)* and the cross-listing variables *(CROSS)*. There are, however, some significant associations suggesting that corporate governance may play a role in accounting for goodwill impairment losses.

Significant negative associations are found between COB-CEO duality *(COB_CEO)* and goodwill impairment losses. COB-CEO duality represents a considerable concentration of power in the hands of the CEO which may hinder corporate governance mechanisms from constraining opportunism and earnings management. A negative association suggests that firms with COB-CEO duality report less and smaller impairment losses. Significant positive associations are found between audit committee meetings *(lnAUDIT_MEET)* and impairment decisions and size of reported impairment losses. A positive association suggests that firms with more audit committee meetings report more and larger impairment losses.

Limitations and Extensions

A common problem in studies investigating earnings management and corporate governance is endogeneity (e.g. Field et al. 2001, Armstrong et al. 2010). A classic example is whether variables such as management changes reflect earnings management incentives or economic fundamentals. The association between management changes and impairment losses might be driven by the fact that firms that suffer from financial distress make changes in the top management team and report impairment losses. Thus, the positive association between management changes and impairment losses could possibly be explained by economic fundamentals rather than earnings management incentives (Murphy and Zimmerman 1993, Fields et al. 2001). Still, the inclusion of proxies of economic impairment is supposed to provide some control for such endogeneity (Francis et al. 1996, Riedl 2004).

Similar examples of endogeneity problems can be found for corporate governance mechanisms. Firms with strong corporate governance are found to have less earnings management (e.g. Warfield et al. 1995, Dechow et al. 1996, Beasley 1996, Chtourou et al. 2001, Klein 2002, Koh 2003, Xie et al. 2003, Peasnell, et al. 2005, Davidson, Goodwin-Stewart and Kent 2005, Mulgrew and Forker 2006, Ebrahim 2007, Koh, LaPlante and Tong 2007). This might be the result of endogeneity. Firms engaging in less earnings management might choose stronger corporate governance because they have less to conceal (Brickley and Zimmerman 2010). If this is the case, corporate governance structures are not the reason why these firms have less earnings management. One way to mitigate endogeneity problems is to investigate earnings management and corporate governance in more controlled settings, where for instance, incentives for earnings management are supposed to be particularly strong. A related problem is measurement errors in proxies of economic impairment, earnings management incentives and corporate governance mechanisms. Most of the employed proxies are rather crude, which suggests that they may suffer from significant measurement errors (Field et al. 2001).

This paper does not employ any estimates of understated or overstated impairment losses (degree of misrepresentation). A possible extension of this study would be to employ such estimates to investigate the extent to which understated and overstated impairment losses are associated with proxies of earnings management incentives and corporate governance mechanisms.

SUMMARY AND CONCLUSION

This paper investigates the extent to which goodwill impairment losses reported under IFRS are associated with proxies of economic impairment, earnings management incentives and corporate governance. Impairment losses are found to be associated with economic proxies at the industry level and the firm level. Impairment losses are more likely and generally larger in firms operating in industries with negative changes in industry return on assets, in firms with lower stock returns and in firms with higher pre-impairment book to market ratios. There is also a significantly positive association between previous year's impairment losses and current year's impairment losses. Taken together, these findings suggest that goodwill impairment losses, at least to some extent, reflect economic impairment.

The evidence of associations between proxies for earnings management incentives and impairment losses are somewhat weaker. Still, there are associations consistent with predictions between CFO cash-bonus payments and big bath proxies and impairment losses. Firms paying CFO cash-bonus payments are more likely to report less and smaller impairment losses. Firms with large negative changes in pre-

impairment earnings are generally reporting more and larger impairment losses, which is consistent with big bath accounting.

Corporate governance mechanisms are not found to play a significant role in the accounting for impairment losses in goodwill. Still, there are some significant associations between some proxies of corporate governance and reported impairment losses. In firms where the COB and CEO positions are held by the same individual there are generally fewer and smaller impairment losses. There are also some indications that firms with more audit committee meetings report more and larger impairment losses.

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