An Analysis of the Determinants of Voluntary Impairment Disclosure Post the 2008 Credit Crisis

ABSTRACT

The global economic recession has presented Irish and UK companies with considerable business challenges, thereby increasing the likelihood that these firms face reduced cash-flow forecasts and impaired asset values. Voluntary impairment disclosures are therefore expected to be of particular interest to the users of the 2009 financial statements.

This cross-sectional study investigates the relationship between twelve hypothesised factors and the level of voluntary impairment disclosures made by UK and Irish companies. In order to conduct this research, content analysis and statistical regression techniques are applied in line with established practices in the empirical disclosure literature.

The mean voluntary disclosure score of 26% observed in this study suggests that UK and Irish firms are providing additional information to shareholders beyond the requirements of IAS 36 Impairment of Assets.

The results of the statistical analysis provide substantial evidence for the agency and signalling theories of disclosure. Firms with increased impairments, leverage and profits are found to have a significantly positive relationship with voluntary impairment disclosures. This suggests that voluntary impairment disclosure acts as an important control mechanism to mitigate the risk of agency problems. In addition, no significant differences were found between UK and Irish listed firms.

1.0: Introduction

This paper considers the determinants of voluntary disclosure practices in the accounting for impairments under IAS 36 by UK and Irish listed companies.

Throughout the sample period for this study (companies with year ends in the calendar year 2009), the global economic recession presented Irish and UK companies with considerable business challenges (ISE, 2010, p.33). This background of weak economic activity and market uncertainty increases the likelihood that companies face reduced cash-flow forecasts and impaired asset values (PwC, 2008). Echoing this conclusion, IAASA considers asset impairment to be a key issue in the 2009 financial statements of Irish companies (Curtis, 2010). This period of economic uncertainty in the UK and Ireland provides the first opportunity to explore the reasons behind the extent of voluntary impairment disclosure, in an international context, since the introduction of IFRS in 2005.

There is a significant body of research on corporate disclosures. Beattie (2005) noted that 23% of the output of UK financial accounting research published between 1998 and 2002 could be categorised under the broad heading of 'corporate disclosure studies'. However, according to Hodgson et al (2009), disclosures relating to IAS 36 Impairment of Assets have not been previously examined in the literature.

The current study employs a content analysis approach. Following the approach of Lopes and Rodrigues (2007) an un-weighted, dichotomous disclosure index is developed. The disclosure index provides the dependent variable. Prior research and theoretical constructs assist in the identification of independent variables. Ordinary least square (OLS) regression is the primary statistical technique used to test for the existence of any relationship between the dependent variable and the hypothesised independent variables.

Our main research questions are:

- What is the extent of voluntary impairment disclosures in the annual reports of UK and Irish companies?
- What are the factors that influence the level of voluntary impairment disclosures made by UK and Irish companies?

This study contributes to the substantial body of research on corporate disclosures, showing that UK and Irish firms do provide additional impairment information to stakeholders and by investigating the factors that contribute to this behaviour.

We found that while the average impairment size was unexpectedly small (median amount of £6.0m, n = 100), a mean voluntary disclosure score of 26% was observed. This voluntary disclosure score is based on a researcher-constructed disclosure index which is recognised as inherently subjective. However, to ensure rigour, previous empirical studies informed its development (Owusu-Ansah (1997), Cooke (1993) and Krippendorff (2003), for example).

We hypothesize that twelve factors could influence the level of voluntary disclosure. Our research shows that the impairment amount, the level of profits, leverage, US dual listing and the impairment type (goodwill or other) were all significant factors in determining the level of voluntary disclosure. As hypothesized, there was no significant difference between the Irish listed and UK listed companies. Finally, no significance was found for the variables representing the level of export sales, size, corporate code compliance, sector, independent non executive directors and independent audit committee. In all cases, for the significant factors, the direction of the relationship was positive, as originally hypothesized.

The remainder of this paper is organised as follows. Section two considers the previous literature and theoretical basis of the paper, this leads to the development of the proposed hypotheses. In section three, the research methodology is detailed and the key methodological decisions are explained. The results of the empirical research are set out in section four, while, section five is the discussion and conclusion.

2.0: Previous Literature

This section will briefly consider IAS 36 Impairment of Assets (IASB, 2009). It will provide the reader with sufficient detail to appreciate the context of the study but will not be an in-depth analysis of its provisions. Then the theoretical background to the motivations behind voluntary disclosures will be discussed. This will form the basis for developing hypotheses that will be tested in later sections.

2.1: IAS 36: Impairment of Assets

The motivation for this paper is IAS 36 Impairment of Assets (IASB, 2009). UK and Irish companies had significant discretion determining the amount and timing of impairments until the introduction of FRS 11 *Impairment of Fixed Assets and Goodwill* in 1998 (Lin and Peasnell, 2000). IAS 36 Impairment of Assets was developed concurrently, with both standards sharing broadly similar requirements and disclosures (Curtis, 2010 and McDonnell, 2005). IAS 36 became a mandatory standard for listed UK and Irish firms upon conversion to IFRS in 2005. The standard underwent some minor amendments in 2008 and 2009 as part of the IASB annual 'Improvements to IFRS's' project (Deloitte, 2010).

IAS 36 Impairment of Assets (IASB, 2009) applies to all assets but there are a number of notable exceptions. Financial assets are not subject to IAS 36 Impairment of Assets, instead the provisions of IAS 39 Financial Instruments: Recognition and Measurement apply (IAS 36.2e). In the context of the current study this is an important exception. The sample period of the study (the annual reports of companies with a year end in the calendar year 2009) was a difficult time for many companies, in particular, those in the banking sector. However, the disclosures that companies made in relation to their write downs on financial assets (impaired loans in the banking sector, for example) do not form part of this study. Other assets that are excluded from IAS 36 are inventories (IAS 36.2a), assets arising from construction contracts (IAS 36.2b), deferred tax assets (IAS 36.2c) among others.

Impairment losses are determined by estimating the amount by which an asset's balance sheet value exceeds its recoverable amount (IAS 36.6). The recoverable amount is calculated as the higher of asset's value in use and fair value less costs to sell. Impairment testing must be conducted when there is an indication that impairment may have occurred (IAS 36.9) and annually in the case of goodwill (IAS 36.10).

Recognition of an impairment loss on the face of the income statement depends on whether assets are measured under the cost or revaluation model (IAS 16.30:31). Under the cost model, impairment is the difference between the carrying value and recoverable amount and is charged to the income statement. Impairment losses on re-valued assets are allocated between the Income Statement and Other Comprehensive Income (IAS 36.60). Impairment of prior revaluation gains is treated first as a revaluation decrease with the remainder recorded in the Income Statement.

The minimum disclosures are set out in paragraphs 126 to 137 of IAS 36 Impairment of Assets (IASB, 2009). The motivation behind these extensive disclosures was to help users in assessing the reliability of the amounts included in the financial statements (IAS 36, BC200). As a consequence, entities are expected to provide information on the methodology used and the estimates employed to arrive at the impairment amount for its cash generating units (IAS 36, 126:137).

2.2: Previous Empirical Impairment Research

Previous impairment research has focused chiefly on earnings management and value relevance studies. This research has found that impairments have increased in magnitude and frequency over the past twenty years (Reidl, 2004). The associated write-downs have the potential to substantially impact the financial statements, providing incentives for opportunistic reporting (Alciatore *et al.,* 1998). These incentives are particularly evident for goodwill impairment and restructuring charges (Francis *et al,* 1996; Schilit, 2002).

Several studies have found evidence of once-off 'big bath' impairments, adding to already poor earnings in order to reduce future reported costs (Zucca and Campbell, 1992; Reidl, 2004) or postponing impairments in order to smooth earnings (Hilton and O'Brien, 2009). However, most studies indicate that managers are appropriately responding to declining asset values (Alciatore *et al.,* 1998).

Impairment value relevance studies form part of the vast capital markets accounting research initiated by Ball and Brown (1968). Impairments have consistently shown a negative relationship to share prices (Alciatore *et al.,* 1998; Barth and Clinch, 1998). In a recent study of goodwill impairment, Lapointe-Antunes *et al.,* (2009) find a similar relationship despite evidence of significant managerial bias. In light of such discretion, it is not surprising that voluntary disclosures are considered to provide new and relevant information to shareholders (Healy and Palepu, 2001) with explanatory narrative disclosures growing in importance (Beattie *et al.,* 2004). Echoing the conclusions of Gray and Skogsvik (2004), these studies highlight that shareholder uncertainty arising from opportunistic reporting and varied valuation practice can potentially be mitigated through the use of voluntary disclosures.

2.3: Influences on Disclosure Practices

Jensen and Meckling (1976) proposed a theory of the ownership structure of the firm. Their theory had implications for the voluntary disclosure of information by management to creditors and shareholders. They highlighted the extent of agency costs and the incentives for contracting parties to minimize those costs. The problem of agency and the related issue of information asymmetry have been extensively studied in the literature (Arrow 1963, Arrow 1985, Healy and Palepu 2001). These problems are exacerbated by the degree of ownership dispersion (Barako *et al.*, 2006) and complexity of the firm's transactions and operations (Cerbioni and Parbonetti, 2007). In the context of the current study, in order to reduce the asymmetry, investors require reliable performance information to be disclosed at regular intervals, often taking the form of financial reporting statements (Marshall and Weetman, 2002).

A free-market perspective on accounting disclosures assumes that demand and supply forces will determine the optimal disclosure quantity without the need for regulation (Watts, 1977). However, unlike most goods which are considered 'rivalrous' or exclusive to the purchaser (Eaton *et al.*, 2005, p.617), accounting disclosures can be viewed as public goods since potential investors, as 'free-riders', can avail of disclosures paid for by current shareholders (Bromwich, 1992, p.245). This 'free-rider' externality problem results in the underproduction of disclosures (Pindyck and Rubinfield, 2001, p.623) requiring the introduction of mandatory disclosures to correct the market failure (Merkl-Davies and Brennan, 2007).

Mandatory disclosure rules prescribe the minimum information requirements ensuring equal access to all users (Bujaki and McConomy, 2002). However, firms still provide additional voluntary disclosures despite the rising level of mandatory requirements (Healy and Palepu, 1995; Watson *et al.*, 2002), highlighting the continued existence of information asymmetries in a regulated disclosure market. Demand for voluntary disclosure depends upon mandatory disclosure requirements (Einhorn, 2005), with both considered necessary for the smooth functioning of capital markets (Rogers, 2008).

According to Healy and Palepu (1995), the manager's voluntary disclosure decision consists of weighing the potential benefits and costs of disclosure and determining the optimal outcome depending on the specific characteristics of the firm and its environment. However, other factors may determine the level of voluntary disclosure, which are not captured through the cost-benefit analysis approach (Arcay and Vazquez, 2005).

Healy and Palepu (2001) also note that even in an efficient capital market, managers have superior information. In a world of imperfect accounting regulation, managers are faced with a disclosure decision:

- provide additional information
    - to reduce the cost of external finance (Myers and Majluf, 1984)
    - to prevent undervaluation of the firm & to explain poor performance (DeAngelo 1988) or to prevent undervaluation of stock compensation plans (Aboody and Kasznik, 2000)

- to manage investor perceptions of management, according to Trueman (1986) managers provide additional information (via earnings forecasts) to permit a more favourable assessment by investors of management's ability. This theory is unproven (Healy and Palepu, 2001).

– provide less information
  - to minimise litigation costs (should the additional information provided prove to be misleading) as proposed by Frankel et al (1995).
  - to protect competitive position in product markets, however, according to Healy and Palepu (2001) there is little direct evidence on this phenomenon.

Much of the research in this field is quantitative, however, the results of a small number of qualitative studies have been reported. In their interviews of corporate executives, Armitage and Marston (2008) find that managers provide voluntary disclosures in order to obtain the financial benefits associated with a reduction in information asymmetries. However, managers also recognise that a reputation for transparency and openness is not without cost (ibid). In a more wide ranging report on corporate financial communications, Holland (2006) deduced that entities with high disclosure quality reputations along with good track records and high quality management were 'likely' to have a cumulative effect in reducing the equity cost of capital. The Holland (2006) study was based largely on 25 interviews of finance directors of companies within the FTSE 350 (22 of whom were in the FTSE 100). These findings do highlight a degree of consistency with numerous studies using different research paradigms; for example, Myers and Majluf (1984), Lambert et al (2007) and Diamond and Verrecchia (1991).

2.4: Hypothesis Development

There have been numerous empirical studies that have considered the determinants of voluntary disclosure. These studies will inform our study and permit us to develop a number of hypotheses that will be subsequently tested in the context of IAS 36.

2.4.1 Firm Size

Multiple theories link firm size and voluntary disclosure. Agency theory proposes that agency costs arise on separation of ownership and management and these costs are likely to be higher in larger companies due to wider dispersion of ownership (Hossain and Hammami, 2009). Similarly, larger firms are likely to have more complex operations and in order to reduce information asymmetries and related agency costs such firms will increase impairment disclosure. Larger firms are also more likely to attract media and government attention and may volunteer information to avoid political costs and legitimise their dominance (Leventis and Weetman, 2004).

Proprietary costs are expected to be smaller for large firms, since they are less likely to face competitive disadvantages from increased disclosure and they also benefit from superior information systems thereby reducing the dissemination costs of

disclosure (Ali *et al.*, 2004). In addition, larger firms need proportionately more funds from capital markets and may volunteer impairment disclosures in order to reduce their cost of capital (Donnelly and Mulcahy, 2008).

Table 1: Past Studies: Voluntary Disclosure and Size Variable

Study	Subject	Location	Relationship
Donnelly and Mulcahy (2008)	General	Ireland	Positive
Wang *et al.,* (2008)	General	China	Positive
Lopes and Rodrigues (2007)	Fin. Instruments	Portugal	Positive
Bassett *et al.,* (2007)	Share Options	Australia	Positive
Watson *et al.,* (2002)	Ratios	UK	Positive
Depoers (2000)	General	France	Positive

Although numerous prior studies find a positive relationship between size and voluntary disclosure (Table 1), its theoretical significance is questionable since it reflects a variety of influences (Ball and Foster, 1982). Nevertheless, size is viewed as a valuable proxy for omitted variables and should be included (Watson *et al.,* 2002).

Hypothesis 1: *Ceteris paribus*, there is a positive association between firm size and the extent of voluntary impairment disclosure.

2.4.2 Leverage

Agency theory proposes that firms with higher debt face higher agency costs since creditors attempt to restrict management actions through the use of covenants and increased monitoring activities (Watson *et al.,* 2002). This suggests that management have an incentive to reduce the level of scrutiny by producing information voluntarily.

Signalling theory provides competing explanations for voluntary disclosure. A highly-leveraged firm may be less willing to volunteer impairment information for fear of signalling increased risk of default. However, given the extent of mandatory disclosures in place, managers may alternatively disclose voluntarily to signal their competence or provide predictions for future impairments.

Table 2: Past Studies: Voluntary Disclosure and Leverage Variable

Study	Subject	Location	Relationship
Linsley and Shrives (2006)	Risk	UK	None
Eng and Mak (2003)	General	Singapore	Negative
Bujaki and McConomy (2002)	Governance	Canada	Positive
Ferguson *et al.,* (2002)	General	Hong Kong	Positive
Hossain *et al.,*(1995)	General	New Zealand	Positive
Meek *et al.,* (1995)	General	Multinational	Negative

Prior studies produce conflicting results (Table 2) although a majority find that firms with higher debt volunteer more to meet the information demands of creditors.

Hypothesis 2: *Ceteris paribus,* there is a positive association between leverage and the extent of voluntary impairment disclosure.

2.4.3 Sector

Industries have different risks and characteristics which may result in varying levels of disclosure. The proprietary costs of disclosure are likely to be linked to competition intensity within the industry and institutional theory suggests that voluntary disclosure is associated with industry bandwagon effects. Companies operating in highly regulated sectors may face larger agency costs and increase disclosure to reduce these (Arcay and Vázquez, 2005). Additionally, firms in high-profile industries (e.g. financial) may volunteer information in order to legitimise their societal status and signal openness to gain public confidence.

Table 3: Past Studies: Voluntary Disclosure and Sector Variable

Study	Subject	Location	Relationship
Lopes and Rodrigues (2007)	Fin. Instruments	Portugal	financial sector; positive
Leventis and Weetman (2004)	General	Greece	consumer sector; positive
Eng and Mak (2003)	General	Singapore	None
Watson *et al.,* (2002)	Ratios	UK	Utilities; negative
Ferguson *et al.,* (2002)	General	Hong Kong	None
Meek *et al.,* (1995)	General	Multinational	Oil/mining; positive

Although prior results are mixed (Table 3), it is hypothesised that financial firms volunteer more impairment disclosure due to the increased public scrutiny these firms face in the UK and Ireland in the wake of the 2008 international credit crisis and global recession.

Hypothesis 3: *Ceteris paribus,* there is a positive association between financial firms and the extent of voluntary impairment disclosure.

2.4.4 Profitability

In prior studies (Table 4), managers of more profitable firms are predicted to provide additional disclosures in an attempt to ensure shares are not undervalued (signalling theory), to justify company profit levels (legitimacy theory) or to improve their compensation packages (agency theory) (Garcia-Meca *et al.,* 2005). Alternatively, poorer performing firms may disclose more in order to signal management's ability to provide improved future results (Inchausti, 1997).

Table 4: Past Studies: Voluntary Disclosure and Profitability Variable

Study	Subject	Location	Relationship
Wang *et al.,* (2008)	General	China	Positive
Cerbioni and Parbonetti (2007)	General	Italy	Positive
Gul and Leung (2004)	General	Hong Kong	Positive
Walker and Louvari (2003)	EPS ratio	UK	Positive
Inchausti (1997)	General	Spain	Negative

In the case of impairment disclosures, more profitable (or smaller loss-making) companies may disclose more in order to explain environmental contributors to the impairment and signal management's ability to maximise firm performance despite expectations of lower future cash flows.

Hypothesis 4: *Ceteris paribus,* there is a positive association between profitability and the extent of voluntary impairment disclosure.

2.4.5 Impairment Size

The extent of the asset impairment is predicted to be an important explanatory factor in determining the extent of voluntary disclosure. If impairment amounts are insignificant then there may not be an impetus for management to provide additional information. However, as the amount of the impairment charge increases, firms may face additional monitoring and agency costs, questions concerning management competence and increased risk of litigation.

Managers may thereby decide to provide disclosures to signal their stewardship abilities, to justify their performance or even their positions. Unscrupulous managers may use voluntary disclosures to engage in impression management and attempt to attribute the impairments to environmental factors when managerial mismanagement is responsible.

Hypothesis 5: *Ceteris paribus,* there is a positive association between impairment size and the extent of voluntary impairment disclosure.

2.4.6 Type of Impairment

IAS 36 covers impairments relating to goodwill, intangible assets and PPE. These assets have varying characteristics and market liquidity. Goodwill, for example, is a unique asset to each firm since it cannot be traded on active markets. Therefore, goodwill impairments are considered to be more subjective and prone to management discretion than other impairments (Francis *et al.,* 1996). IAS 36:66 requires that goodwill is allocated to the smallest group of assets that independently generates cash flows (known as a cash generating unit) for the purpose of impairment testing. The complexity involved in this process is likely to result in information asymmetries between management and stakeholders and increased agency costs (Cerbioni and

Parbonetti, 2007). In order to reduce these costs, managers are therefore incentivised to provide voluntary impairment disclosures compared with impairments relating to other assets.

Hypothesis 6: *Ceteris paribus,* there is a positive association between goodwill impairment and the extent of voluntary impairment disclosure.

2.4.7 Independent NED's

The role of the board of directors is to monitor management decisions in order to limit opportunism and reduce agency risks. Since executive directors are involved in the daily operations of the firm, the Combined Code on Corporate Governance (FRC, 2008, s.A.3.2) recommends that the board of directors contains a majority of independent NED's in order to improve the board's effectiveness.

Since the firm's annual report is prepared by the board, it is anticipated that its composition affects the extent of voluntary disclosure with a higher proportion of independent NED's likely to exert greater influence on board disclosure decisions (Abraham and Cox, 2007).

Table 5: Past Studies: Voluntary Disclosure and Independent NED's

Study	Subject	Location	Relationship
Donnolly and Mulcahy (2008)	General	Ireland	Positive
Abraham and Cox (2007)	Risk	UK	Positive
Cerbioni and Parbonetti (2007)	General	Italy	Positive
Cheng and Courtenay (2006)	General	Singapore	Positive
Gul and Leung (2004)	General	Hong Kong	Negative
Eng and Mak (2003)	General	Singapore	Negative

Prior studies (Table 5) yield mixed results with some Asian research suggesting a substitution effect between the proportion of Independent NED's and voluntary disclosure. However, since recent European research posits a positive correlation between both control mechanisms, this study also hypothesises a complementary relationship.

Hypothesis 7: *Ceteris paribus,* there is a positive association between the proportion of independent non-executive directors on corporate boards and the extent of voluntary impairment disclosure.

2.4.8 Fully-Independent Audit Committee

The audit committee is recognized as a key monitoring mechanism to reduce agency costs and oversee the financial reporting process. In addition, empirical evidence suggests that audit committees increase the extent of voluntary disclosure (Arcay and Vázquez, 2005). The independence of the committee is considered crucial to its

effectiveness, with the 2008 Combined Code on Corporate Governance recommending that it consists of at least three independent NEDs with one having relevant and recent financial experience (FRC, 2008, s.C.3.1).

Although Bassett *et al.,* (2007) find no relationship between audit committee independence and voluntary disclosure for share-options, agency theory suggests that a fully independent board volunteers more disclosures than a part-independent one.

Hypothesis 8: *Ceteris paribus,* there is a positive association between the existence of a fully-independent audit committee and the extent of voluntary impairment disclosure.

2.4.9 Combined Code Compliance

Firms listed on the ISEQ and FTSE350 indices must report on the extent to which they have complied with the provisions of the Combined Code on Corporate Governance (Donnelly and Mulcahy, 2008). Firms may comply fully with the code in order to signal increased accountability to shareholders and thereby reduce agency costs. Such firms are hypothesised to also volunteer impairment disclosures reflecting a policy of transparency.

Hypothesis 9: *Ceteris paribus,* there is a positive association between full compliance with the combined code and the extent of voluntary impairment disclosure.

2.4.10 ISEQ/FTSE Listing

Haniffa and Cooke (2002) note that firms' disclosure practices are considerably influenced by the underlying cultural environment of the countries in which they operate. Several international studies find that different economic, legal and political systems impact managements' disclosure decisions (Ding, 2002; Jaggi and Low, 2000). However, in the case of Ireland and the UK, both countries are recognised as sharing similar cultural attributes (Donnelly and Mulcahy, 2008).

Ireland and the UK share the same language, common-law tradition and institutional environment. In addition, both countries have similarly small levels of family and state owned enterprises (c.25%) (Faccio and Lang, 2002) and shared the same accounting standards prior to conversion to IFRS in 2005. Although the Irish Stock Exchange is considerably smaller than the London market and some cultural differences exist, these factors are not considered likely to outweigh the similarities between both nations.

Hypothesis 10: *Ceteris paribus,* there is no difference between ISEQ and FTSE listed firms and the extent of voluntary impairment disclosure.

2.4.11 US Dual-Listing

The relationship between voluntary impairment disclosure and a listing on a US listing is grounded on several theories. US based shareholders may have higher information requirements for foreign companies which results in increased monitoring and agency costs, thereby incentivising managers to provide additional disclosures (Cuijpers and Buijink, 2005). Prior studies have found that US dual-listed firms perceive higher litigation risks (Core, 1997) which may further encourage managers to disclose. Capital need theory also suggests that dual-listing firms require additional financing and are willing to disclose voluntarily to reduce the cost of capital.

Table 6: Past Studies: Voluntary Disclosure and US Listing Variable

Study	**Subject**	**Location**	**Relationship**
Bassett *et al.,* (2007)	Share Options	Australia	Positive
Abraham and Cox (2007)	Risk	UK	Positive
Inchausti (1997)	General	Spain	Positive
Hossain *et al.*,(1995)	General	New Zealand	Positive

Although, in November 2007, the US based SEC decided to remove the requirement for foreign US-listed companies using IFRS to reconcile their accounts to US accounting standards, it is anticipated that these firms volunteer information consistent with the consistent positive relationship found in previous studies (Table 6).

Hypothesis 11: *Ceteris paribus*, there is a positive association between US dual-listing and the extent of voluntary impairment disclosure.

2.4.12 Export Sales

Firms with substantial international interests may provide additional disclosures even if they are not internationally listed (Lopes and Rodrigues, 2007). Exports are likely to require the use of foreign resources in order to support their operations and firms may increase disclosure in order to signal their commitment to sustainable partnerships (El-Gazzar *et al.,* 1999).

Exporting firms engage new stakeholders such as foreign customers and governments suggesting that such firms volunteer information in order to build confidence (Dumontier and Raffournier, 1998). Also, firms with higher exports are more visible globally and likely to be monitored by international organisations meaning firms may respond with increased disclosures to legitimise their global presence (Owusu-Ansah, 1998).

Table 7: Past Studies: Voluntary Disclosure and Exports Variable

Study	Subject	Location	Relationship
Wang *et al.,* (2008)	General	China	Positive
Cerbioni and Parbonetti (2007)	General	Italy	Positive
Gul and Leung (2004)	General	Hong Kong	Positive
Walker and Louvari (2003)	EPS ratio	UK	Positive

Prior studies report a positive association between voluntary disclosure and international sales (Table 7) and it is anticipated that voluntary impairment disclosures are similarly correlated.

Hypothesis 12: *Ceteris paribus*, there is a positive association between international sales and the extent of voluntary impairment disclosure.

3: Research Design

This study has two main research questions:

- What is the extent of voluntary impairment disclosures in the annual reports of UK and Irish companies?
- What are the factors that influence the level of voluntary impairment disclosures made by UK and Irish companies? This question has been distilled to the twelve hypotheses outlined in section 2.4.

3.1: Research Approach

The research approach adopted in this study is broadly in line with the established practice in the disclosure literature. Such research is empirical in nature availing of quantitative techniques, primarily the content analysis of secondary data (Beattie and Thomson, 2007). For disclosure studies, this involves the construction of a disclosure scoring sheet and index which capture the amount and level of detail of voluntary disclosure (Donnelly and Mulcahy, 2008). The firm based disclosure score is regarded as the dependent variable in univariate and multivariate statistical analyses and is compared against a variety of financial characteristics as explanatory variables (Chavent, *et al.,* 2006).

3.2: Data Selection and Sources

3.2.1 Sample Selection

This is a multinational study investigating the disclosures of publically listed companies in the United Kingdom and the Republic of Ireland. Given the relatively small size and thin trading volume of the Irish Stock Exchange (Mc Cluskey *et al.*, 2006) in comparison to the London Stock Exchange, it was considered appropriate to match the respective national indices by market capitalisation range in order to ensure relative comparability in scale. Hence, the initial population consisted of firms listed

on the FTSE 250 index[1] and the thirty largest firms by market capitalisation on the Irish Stock Exchange, including six firms trading on the IEX. Similar sample stratification procedures are common in multinational studies (Ding, 2002).

Two firms were excluded from the study due to data unavailability. EnQuest Plc demerged from Petrofac Plc on 5 April 2010 (EnQuest Plc, 2010) and has yet to issue its first annual report. In addition, comparative performance and market data for Dimension Plc was not available from the Thomson OneBanker database, thus it was also excluded.

The annual reports for the remaining 278 firms are examined to determine whether any applicable asset impairment has been recorded during the financial year ended 2009. The combined sum of UK and Irish listed firms with impairments totalled 101 firms which became the final sample size. This sample size is larger than the average of 85 firms calculated by Ahmed and Courtis (1999) in their meta-analysis of 29 previous disclosure studies. Table 8 provides a summary of sample selection.

Finally, when the primary data was collected one company, Heritage Oil, was excluded due to outlier effects. For example, its net margin, one of the explanatory variables in the model, was -1455%.

Table 8: Sample Selection

	UK	Ireland	Total
Initial Population	250	30	280
Annual Report Unavailable	-1	0	-1
Comparative Data Unavailable	-1	0	-1
No Impairment	-167	-10	-177
Final Initial Sample	81	20	101
Outlier	1	0	1
Final Sample	80	20	100

The industry composition of the sample, following the FTSE General Industry Classification System (GICS), is outlined in Table 9.

[1] The FTSE 250 index comprises of firms ranked from position 101 to 350 by market capitalisation on the London Stock Exchange.

Table 9: Industry Classification of Sample Firms

Industry GICS Class	UK	Ireland	TOTAL
Energy	5	0	5
Materials	5	2	7
Industrials	18	4	22
Consumer Discretion	29	3	32
Consumer Staple	5	5	10
Health	1	1	2
Financials	11	4	15
IT	5	1	6
Utilities	1	0	1
Total	80	20	100

3.2.2: Choice of Disclosure Medium

Managers can disclose information through a variety of means beyond the annual report including press releases, analyst meetings and website announcements (Patelli and Prencipe, 2007). The use and respective importance of such media depends on the corporate environment in which these companies operate. In the United States, for example, press releases and analyst meetings are considered to be the most important means of communication (Eccles and Mavrinac, 1995).

Healy and Palepu (2001) highlight that the predominant use of annual reports in these studies may mean that disclosures made through these alternative means are ignored. However, prior studies note that disclosures made in the annual report are positively correlated with other media, suggesting a coordinated approach to corporate disclosure (Lang and Lundholm, 1993; Botosan, 1997). Consequently, the annual report is used as a proxy for general corporate disclosure (Lapointe-Antunes *et al.*, 2006; Petersen and Plenborg, 2006). Given the complex nature and comprehensive disclosures associated with impairment accounting, the annual report is viewed as particularly appropriate medium of analysis for the present study.

3.2.3: Data Sources

All available annual reports are published in English and selected for the 12 months financial year ended 3rd January 2009 to 1st January 2010. One firm, Bank of Ireland Plc, produced two annual reports during 2009, a 12 month report to 31st March 2009 and a 9 month report to 31st December 2009. The 12 month report is analysed in order to ensure equal length of reporting periods across the sample.

The calendar year 2009 is chosen for analysis since reports for this period were the latest available which are likely to have undergone impairment testing during the period (PwC, 2008). In addition IAASA considers asset impairment to be a key issue in the 2009 financial statements given the depth and duration of the recession which has become apparent since 2008 (Curtis, 2010).

Annual reports for one financial year are under consideration for two reasons. Asset impairment tends not to be an annual event for a company; hence consideration of more than one year's report could raise comparability issues. Secondly, Botosan (1997) hypothesises that firms' disclosure policies tend to remain constant over time which suggests that a cross-sectional study could be sufficient to extrapolate disclosure levels beyond one period.

Data for corporate governance, exports and impairment variables are obtained directly from the reports. All other explanatory data was obtained from the Thomson One-Banker database. All monetary amounts are translated into Pound Sterling at the exchange rate applicable at each firm's financial year end date.

3.3 Research Method - Content Analysis

Content analysis is a long-established method used in the social sciences (Beattie *et al.*, 2004). The principles of content analysis provide the basis for the first disclosure index study by Cooke (1989) whose methodology has proven popular in subsequent studies. Summarised by Curuk (2009), this procedure involves (a) the construction of a disclosure-scoring sheet, (b) scoring the disclosure items and (c) the creation of a disclosure index.

Considerable debate has arisen as to the characteristics of disclosure which are investigated by the disclosure index. Cooke and Wallace (1990) consider disclosure to be an abstract concept lacking the specifications to be measured directly. Consequently, empirical studies have not made a clear distinction whether the quantity or quality of disclosure is under analysis (Beretta and Bozzolan, 2008). This is not surprising since attempts to define disclosure quality have proven nebulous (ibid). Several studies use the quantity of disclosure as a proxy for quality on the basis that disclosure quantity and quality are positively correlated (Beattie *et al.*, 2004) and the absence of disclosure is the most important aspect of stakeholder information asymmetry (Marshall and Weetman, 2002). Such an approach is rejected by Marston and Shrives (1991) and Beretta and Bozzolan (2008) who favour the use of multidimensional frameworks incorporating the views of stakeholders. Given these criticisms and the need to devise improved measures of quality (Core, 2001); it is prudent to conclude that the present study investigates the quantity and level of disclosure following Donnelly and Mulcahy (2008).

3.3.1 Construction of the Disclosure-Scoring Sheet

The selection of voluntary disclosure items to be included in the scoring sheet is a challenging and potentially subjective process (Raffournier, 1997). In order to ensure a rigorous approach, the construction method proposed by Owusu-Ansah (1997) is adopted for this study. First, a list of mandatory impairment disclosures under IAS 36 is prepared followed by a listing of all potential disclosures uncovered through a survey of alternative annual reports, in this case, for firms listed on FTSE 100 index. A comparison between both lists is made in order to ensure that only voluntary disclosures are included on the scoring-sheet. There is no recommended number of disclosure items with previous studies showing substantial variability (Curuk, 2009).

The disclosure-scoring sheet is comprised of 72 disclosure items split into four equal sections as follows:

A) Management Discussion Disclosure: including disclosures relating to impairment description, amount and prior year comparison in the report highlights, chairman's report and operating and financial review.

B) Actual Impairment Disclosure: detailed reasons for impairment, recognition on the face of the financial statements and management responses are amongst the disclosures recorded.

C) Impairment Policy Disclosure: Under this heading, disclosures feature decisions relating to impairment reviews, allocation of cash generating units and sensitivity analyses amongst others.

D) Impairment Assumptions Disclosure: Finally, the detail of assumptions relating to value in use estimates including reasons and comparative figures are recorded here.

An additional section includes five optional disclosures which may be applicable depending on the impairment policies of each firm. Thus, the potential maximum number of voluntary disclosures is 77. A template of the disclosure scoring sheet is attached in appendix A.

Following Cooke (1993), disclosures may be made throughout the entire contents of the annual report unless required to appear in a particular section. Express provision is made for repeated or similar disclosures for three specific disclosure areas in order to adequately reflect the importance attached by the company to impairment disclosure. This decision is guided by Krippendorff's (2003) assertion that the extent of information disclosed is assumed to reflect the relative importance attached to the subject.

Points are awarded to firms which discuss impairment across the different sections of management discussion in Section A and to firms which provide more than one estimate of recoverable amount headroom (Section B) and impairment sensitivities (Section C). In other cases of multiple disclosures, the most informative disclosure is considered.

For the purposes of this study, a narrow or 'boiler-plate' disclosure is considered adequate for the purposes of mandatory reporting. Following Bartlett and Jones (1997), 'boiler-plate' and less expansive disclosures are treated as mandatory with more voluminous disclosures considered to be voluntary where appropriate. Examples of narrow and broad disclosures are included in appendix B.

3.3.2 Coding and Units of Measurement

Units of measurement and analysis are important considerations in disclosure studies since the volume of disclosure is assumed to signify a firm's disclosure performance (Unerman, 2000). According to Milne and Adler (1999), sentences are most reliable

unit of analysis since they provide the required context to investigate disclosures unlike coding based on individual words. However, Beattie and Thomson (2007) note that this approach ignores variations in sentence length and disclosure content within each sentence. Alternatively, Beattie *et al.*, (2004) advocate the use of 'text units' which involves splitting sentences into words or phrases containing a single piece of information meaningful in its own right. In addition, studies which analyse a combination of quantitative and qualitative disclosures suggest that the use of text units is the more suitable approach (Botosan, 1997; Lopes and Rodrigues, 2007).

Disclosures can also be made through the use of graphics and word emphasis such as font size, colour and italicisation (Unerman, 2000). However, following Li *et al.*, (2008) and numerous other studies, pictorial disclosures and word emphasises are not separately recorded. The coding approach adopted in this study is adapted from the three stage process used by Li *et al.*, (2008). First, sentences and tables containing relevant disclosures are identified by references to impairment or synonyms such as 'write-down' or 'revalue'. Next, sentences are broken down into component text units, disregarding mandatory disclosures or those relating to impairments outside the scope of the study. Finally, text units are evaluated and marked on the disclosure score-sheet.

3.3.3 Scoring the Disclosure Items

The most common approach to scoring disclosure items is to apply an unweighted, dichotomous technique, adjusted for non-applicable items (Street and Bryant, 2000; Chavent *et al.*, 2006; Lopes and Rodrigues, 2007; Curuk, 2009). Thus, a score of '1' is allocated to each item that is disclosed, a score '0' if not disclosed or NA if not applicable (Gul and Leung, 2004). This additive approach to disclosure score emphasises consideration of the existence of the disclosure (Ali *et al.*, 2004) and is computed as follows;

$$TD = \sum_{i=1}^{n} di$$

where TD is the total sum of the disclosure scores allocated to each firm
d_i is 1 if item i is disclosed, or 0 otherwise, and,
n is the total number of possible disclosure items (n=77)

This approach has been criticised on the basis that each disclosure item is regarded as equally important regardless of form or content (Li *et al.*, 2008). Some studies have adopted a weighted approach in an attempt to reflect the relative importance attributed to disclosures by the users (Hooks *et al.*, 2002; Ho and Wong, 2001). However, unweighted scores techniques are favoured by the vast majority of studies (Ahmed and Courtis, 1999; Core, 2001). This is because weighted scores require a subjective assessment of weights (Gray *et al.*, 1995; Abd-Elsalam and Weetman, 2003), which may not reflect the relative importance of disclosures across varying countries, industries, user-groups or time-frames (Elsayed and Hoque, 2010).

Although it is likely that stakeholders rank the importance of disclosures differently (Raffournier, 1995), the annual report is produced for a general audience (Chau and Gray, 2002) and thus following Cooke (1989), it is assumed that users' preferences level out on average. In addition, prior studies find no substantive differences between the use of weighted and unweighted scores (Chow & Wong-Boren, 1987; Adhikari and Tondkar, 1992).

3.3.4 Construction of the Disclosure Index

The disclosure index is a ratio of the total disclosure score allocated to a company with respect to the maximum disclosure score obtainable (Curuk, 2009). It is usually expressed as a percentage (Ali *et al.*, 2004) and adjusted to reflect the difference between non-disclosure and non-applicability (Inchausti, 1997). This is to ensure that a company is not penalised if a disclosure item is irrelevant to its operations or accounting policies (Abraham and Cox, 2007; Holder-Webb and Cohen, 2007).

Although determination of non-applicability is a subjective assessment (Akhtaruddin, 2005), it is commonplace in disclosure studies (Lopes and Rodrigues, 2007) and assessed with reference to the annual report as a whole (Cooke, 1989). Accordingly, the maximum possible disclosure is computed as follows;

$$MD = \sum_{i=1}^{m} di$$

where MD is the maximum disclosure score applicable to the company
d_i is the disclosure item, and,
m is the maximum number of items applicable to that company ($m \leq 77$)

The disclosure index is then calculated by dividing TD by MD;

$$SCORE = \frac{TD}{MD}\% = \frac{\Sigma_{i=1}^{n} di}{\Sigma_{i=1}^{m} di} x\ 10_0$$

where *SCORE* is the ratio of total disclosures made to maximum score applicable expressed as a percentage ($0 \leq SCORE \leq 100$).

The components and calculation of the disclosure score allocated to each firm is listed in appendix C.

3.4: The Independent Variables

According to our hypotheses voluntary disclosure is related to a number of variables. From prior research it is possible to arrive at proxies for these independent variables. Table 10 identifies the various hypotheses along with the proxy used and the previous studies that have used similar proxies. It should be noted that in the interests of

brevity and readability, the number of supporting studies has been limited to two per proxy.

Table 10: Hypotheses, Variables' Proxies and Expected Relationship

Hypothesis	**Variable Proxy**			**Expected Relationship**
Size	Log of Total Assets	SIZE	Lopes & Rodrigues (2007), Bassett et al. (2007)	Positive
Leverage	% Debt/Total Balance Sheet Capital	LEV	Conyon et al (2002),, Abraham and Cox (2007)	Positive
Sector	1 = Financial, 0 = Other	SECTOR	Lopes & Rodrigues (2007), Elsayed and Hoque (2010)	Positive
Profitability	Net Margin	PROFIT	Camfferman and Cooke (2002), Owusu-Ansah (1998)	Positive
Impairment Size	% Impairment/Total Assets	IMPAIR	Unique in context of current study but consistent with other proxies used	Positive
Type of Impairment	1 = Goodwill Impairment, 0 = All Other Impairments.	GWILL	Unique in context of current study but consistent with other proxies used	Positive
Independent NED's	% Independent NED's/Total Board Members	INEDS	Lopes & Rodrigues (2007), Bassett et al. (2007)	Positive
Independent Audit Committee	1 = audit committee made up of all independent NED's, 0 = otherwise	IAUDIT	Bassett et al (2007)	Positive
Corporate Code Compliant	1 = fully compliant, 0 = not fully compliant	CCODE	Goncharov et al (2006)	Positive
Location of main listing	1 = UK, 0 = Ireland	UK	Standard dummy/indicator variable	None
US Dual Listing	1= dual listing, 0 = no dual listing	USLIST	Lopes & Rodrigues (2007), Abraham and Cox (2007)	Positive
International Interests	% Exports/Sales	EXPO	Lopes & Rodrigues (2007)	Positive

3.5 Validity and Reliability

Researcher-constructed indices of disclosure involve subjective judgment (Botosan, 1997) and may result in findings which are difficult to replicate (Healy and Palepu, 2001). Hence, for accurate conclusions to be drawn, an assessment of measurement validity (i.e. internal consistency of the instrument as a proxy for the intended

concept) and reliability (i.e. robustness of the instrument in repeated trials) is required (Weber, 1985).

Cronbach's Alpha assesses validity by measuring the degree of inter-correlation between the four sections of the disclosure scoring-sheet to determine how well the underlying construct is captured (Abraham and Cox, 2007). The alpha coefficient ranges from zero to one, with an alpha of above 0.7 indicating an acceptably small amount of random measurement error (Gul and Leung, 2004). Cronbach's Alpha is estimated to be 0.71 in the present study which suggests that the disclosure scoring-sheet has sufficient validity.

As recommended by Bryman and Bell (2004, p.206), a pilot test of the disclosure score-sheet is undertaken in order to assess the reliability of the scoring process. As a result of a pilot-test on a random sample of twelve companies, small refinements were made to the structure of the score-sheet which improved scoring efficiency and presentation. After the scoring process is completed, the companies in the pilot-test are reassessed to ensure acceptable intra-coder reliability (ibid).

3.6: Limitations

Measurement complexity is recognised as the major drawback in disclosure research (Healy and Palepu, 2001). Content analysis is considered to be inherently subjective which raises concerns about comparability between studies (Linsey and Shrives, 2006). However, researchers recognise that few alternatives to self-constructed disclosure indices exist (Elsayed and Hoque, 2010).

This study is restricted to the analysis of voluntary disclosures relating to the impairment of long-lived, non-financial assets. Accordingly, mandatory disclosures and impairments relating to financial instruments, investment properties, inventories and other items not subject to IAS 36 Impairment of Assets are excluded from consideration. This study is restricted to the annual reports of one financial period, thus neither longitudinal trends nor alternative disclosure media are investigated. Future research could consider these alternatives.

4: Results

4.1: Descriptive Statistics: Impairment

IAS 36 covers impairments relating to goodwill, intangibles and PPE. Table 11 shows the instance of firms in the sample with impairments for each asset type.

Table11: Instances of Impairment by Asset Type

Asset Type	Goodwill	Intangibles	PPE
Full Sample (100)	41	33	72

PPE is the most common write-down with the frequency of goodwill and intangible impairments considerably lower. Table 12 shows large variations in the amount of impairment, ranging from £227,000 to over £1.27b. The median impairment of £6m, however, is relatively small considering the median total asset valuation stands at over £1.3b for the sample.

Table 12: Descriptive Statistics for Impairment Amount

Impairment	Mean	SD	Min	Max	Median
Full Sample (100)	47.15	151.2	0.227	1272.00	6.00

SD = Standard Deviation
All monetary amounts in GBP £ millions

The UK and Irish firms had mean impairments of £50m and £34m respectively, however, independent sample t-testing shows that this difference is not statistically significant (p-value 0.676). The vast majority of firms report impairments solely within the Income Statement, with six firms (Bank of Ireland, Irish Life and Permanent, FBD Holdings, Marston's, Stobart and Savills) also recognising impairments in the Statement of Other Comprehensive Income.

4.2 Descriptive Statistics: Voluntary Impairment Disclosure

The mean voluntary impairment score using the disclosure index is 26% for the full disclosure index (Table 13).

Table 13: Descriptive Statistics for Voluntary Disclosure Score (n=101)

Disclosure Score	Mean	SD	Min	Max
Full Disclosure Index	25.90%	11.4%	3%	52.%
Mgmt Discussion	21.96%	15.1%	0%	83%
Impairment Disclosure	24.64%	16.8%	0%	72%
Impairment Policy Disclosure	26.81%	13.5%	0%	61%
Impairment Assumption Disclosure	28.80%	17.0%	0%	67%

*

The voluntary disclosure scores range from 2.74% to 52.05% for the full disclosure index. The disclosure score variable was tested for normality with both the skewness and the Shapiro-Wilk tests indicating that the variable is indeed normal (or in the case of Shapiro-Wilk test, the null hypothesis that the data is drawn from a normally distributed population cannot be rejected).

4.3 Descriptive Statistics: Explanatory Variables

The twelve hypotheses for regression analysis are evenly split between categorical and continuous variables. Table 14 displays the frequencies for each categorical variable, showing that a majority of firms have US dual-listings and fully independent audit committees. Half of the sample also claims to be fully compliant with the Combined Code on Corporate Governance.

Table 14: Descriptive Statistics for Categorical Explanatory Variables

Variable	Dummy Measure	Freq. 1	Freq. 0
β3: SECTOR	1 = Firm in Financial Sector	**15**	**85**
β6: GWILL	1 = Goodwill Impairment	**41**	**59**
β8: IAUDIT	1 = Audit committee fully independent	**87**	**13**
β9: CCODE	1 = Fully combined code compliant	**50**	**50**
β10: UK	1 = Main listing on FTSE index	**80**	**20**
β11: USLIST	1 = Dual-listing on US stock exchange	**56**	**44**

Table 15 reports the descriptive statistics for the continuous explanatory variables. Interestingly, the mean net margin is negative, indicating that the companies selected are finding trading over the period challenging. Firms in the sample also have a moderate mean level of leverage, but in some cases the leverage percentage exceeds 100% due to the use of a balance-sheet rather than market-based measure of equity. It is also worth noting that the mean impairment as a percentage of total assets is just 1.94% which confirms the relatively small impairment charges already reported.

Table 15: Descriptive Statistics for Continuous Explanatory Variables

Variable	Measure	Mean	SD	Min	Max
β1: SIZE	Log TA	3.12	0.57	1.85	5.26
β2: LEV	% Debt / TBSC	40.57	30.20	0	115.47
β4: PROFIT	Net Margin	-2.66	21.05	-100	43.42
β5: IMPAIR	% Impair / TA	1.94	3.68	0.01	19.53
β7: INEDS	% INEDS to Board	52.05	12.14	10.53	83.33
β12: EXPO	% Exports to Sales	48.17	36.39	0	99.9

TA = Total Assets SD = Standard Deviation **All percentages converted to percentage points (x100)**
TBSC = Total Balance Sheet Capital *** P-values for Shapiro-Wilk Test of Normality**

4.4 Univariate Analysis

OLS simple regressions were estimated to check for univariate relationships between the disclosure index and each of the variables indentified, see figure 1. The results are shown in table 16.

Figure 1: Simple Regression Equation

$$SCORE = \beta_0 + \beta X_i + \varepsilon$$

Where
SCORE is the ratio of total voluntary disclosures made to maximum score applicable, expressed as a percentage.
βX_i, where $1 \leq i \leq 12$, (for each hypothesis, see Table 16).
β_0 is the intercept, ε is the regression error term.

Table 16: Simple Regressions

Hypothesis	**Variable**	**Coefficient**	**Total** *P-Value*
1	β1: SIZE	3.182	0.113
2	β2: LEVERAGE	0.086	**0.022***
3	β3: SECTOR	-3.457	0.279
4	β4: PROFIT	0.056	0.302
5	β5: IMPAIR	1.42	**0.000***
6	β6: GWILL	6.210	**0.007***
7	β7: INEDS	0.046	0.627
8	β8: IAUDIT	-4.191	0.218
9	β9: CCODE	0.438	0.849
10	β10: UK	-2.169	0.450
11	β11: USLIST	4.451	**0.052****
12	β12: EXPO	0.024	0.441

* = significant at 5% level. ** = significant at 10% level

These results indicate that there is no difference in voluntary impairment disclosure based on size, sector (as defined), profitability, whether the audit committee is fully independent, if the firm claims to be fully combined code compliant or if the firm is primarily listed in the London or Irish Stock Exchanges. However, the bolded p-values indicate that leverage, the size of the impairment, goodwill impairment and US dual-listing individually have a significant influence on the mean level of disclosure. Although, in respect of US Dual Listing the influence is only significant at the 10% level.

4.5 Univariate Analysis: One-Way ANOVA

One-way ANOVA tests for a difference in the mean level of disclosure across more than two groups of categorical variables. ANOVA is used in this study to detect whether mean voluntary impairment disclosure differs across nine GICS industry classifications, from table 9. The ANOVA test p-value for the samples was 0.394.

However, since this p-value is below 0.05, the null hypothesis of no difference in disclosure across sectors cannot be rejected.

4.6 Multiple Regressions

Regression one consists of the full sample of 100 companies and tests all twelve hypotheses as shown by the equation (Figure 2):

Figure 2: Multiple Regression One Equation

$$SCORE = \beta 0 + \beta 1\ SIZE + \beta 2\ LEV + \beta 3\ SECTOR + \beta 4\ PROFIT + \beta 5\ IMPAIR +$$

ε = **Regression Error Term**

The F-stat and associated p-value show that the model has explanatory power. The adjusted R-square indicates that 23.8 per cent of the variation in voluntary impairment disclosure is explained by the model.

Table 17 shows that all the variables, except corporate code compliance variable, display the predicted signs. However, only one variable, the impairment amount, is statistically significant at the 5% level. Indeed, the impairment amount was significant at the 1% level. This is not an unexpected result; those companies with the larger impairments provided the more voluntary information. In addition, profitability and the type of impairment (i.e. goodwill) were also significant variables, albeit at the 10% level of significance. Although leverage and US listing were significantly correlated with voluntary impairment disclosure in the univariate analysis, this result does not hold for the multiple regression. No significant difference in disclosure is found between UK and Irish listed companies, as anticipated.

Regression two considers the six variables from regression one with the largest standard coefficients and t-stats. These are firm size, leverage, profitability, impairment amount, goodwill and exports, as shown in the equation (Figure 3):

Figure 3: Multiple Regression Two Equation

$$SCORE = \beta 0 + \beta 1\ SIZE + \beta 2\ LEV + \beta 4\ PROFIT + \beta 5\ IMPAIR + \beta 6\ GWIL$$

ε = **Regression Error Term**

Both the F-stat and the adjusted R-square figures are higher in regression two, increasing from 3.575 to 7.374 and 0.238 to 0.279 respectively (Table 17). This is to be expected given the confounding effect of the redundant variables in regression one. All variables have a positive relationship with voluntary impairment disclosure and there is a reduction in p-values across all six variables in comparison to regression one (Table 17). There are two significant variables – profitability and the amount of impairment at the 5% level, in addition to goodwill, which is significant at the 10% level. As in regression one, the amount of the impairment is significant at the 1% level.

The third regression considers the impact of removing the size variable from the regression. Since size acts as a proxy for omitted variables its inclusion may be of limited theoretical significance. Figure 4 shows the equation for the regression.

Figure 4: Regression Three Equation

$$SCORE = \beta 0 + \beta 2\ LEV + \beta 4\ PROFIT + \beta 5\ IMPAIR + \beta 6\ GWILL + \beta 12\ E$$

ε = Regression Error Term

The removal of the size variable results in a small decrease in the adjusted R-square to 27.5% (Table 17) however, this figure is still higher than the 23.8% equivalent obtained in regression one. As seen in Table 17, all explanatory variable coefficients match their expected signs and four are significant at the 10% level, with leverage and profitability significant at the 5% level and impairment significant at the 1% level. The substantial reduction in the leverage variable p-value suggests that a confounding effect is linked with the inclusion of the size variable.

Table 17: Multiple Regression Results

Coefficient (predicted sign +/-)	Regression 1	Regression 2	Regression 3
β1: SIZE (+)	+1.722 (0.473)	+2.264 (0.236)	
β2: LEV (+)	+0.055 (0.156)	+0.056 (0.130)	+0.074 (0.030)*
β3: SECTOR (+)	+0.162 (0.964)		
β4: PROFIT (+)	+0.108 (0.053)**	+0.106 (0.030)*	+.100 (0.039)*
β5: IMPAIR (+)	+1.365 (0.000)*	+1.340 (0.000)*	+1.301 (0.000)*
β6: GWILL (+)	+3.662 (0.100)**	+3.618 (0.086)**	+3.882 (0.065)**
β7: INEDS (+)	+ 0.055 (0.626)		
β8: IAUDIT (+)	-0.491 (0.898)		
β9: CCODE (+)	-0.218 (0.922)		
β10: UK (none)	-2.210 (0.452)		
β11: USLIST (+)	+0.221 (0.930)		
β12: EXPORT (+)	+0.026 (0.418)	+0.039 (0.171)	+0.041 (0.142)
R Square	0.33	0.322	0.312
Adj R Square	0.238	0.279	0.275
F Stat	3.575 (0.000)	7.374 (0.000)	8.526 (0.000)

P-Values in parentheses
*** = significant at the 5% level**
**** = significant at the 10% level**

The results of regression three suggest that leverage, profitability, and impairment amount are positively related to the degree of voluntary impairment disclosure.

4.7: OLS Assumptions

In order to ensure that Ordinary Least Squares (OLS) regression is the best, linear, unbiased estimator of the determinants of voluntary impairment disclosure, the model must comply with several assumptions (Field, 2009). The dependent variables were tested for the existence of multicollinearity. This was initially suspected as the corporate governance variables (compliance with the corporate code, % of non executive directors and a fully independent audit committee) may be measuring the same phenomenon. The accepted cut off point where multicollinearity becomes a serious problem is a pair-wise correlation of 0.80 (Gujarati and Porter, 2008). In only one case was the correlation between two of the dependent variables over 0.5; the fully independent audit committee variable and the percentage of non-executives on the board (correlation coefficient of 0.515).

Although it was below the accepted threshold, regression one was re-run twice each time excluding one of the partially correlated variables. In both cases, there was only a small change to the overall adjusted R^2 and no change to the significance of the variables. Consequently, it can be concluded that the assumption of no multicollinearity among the explanatory variables has not been violated.

5.0 Discussion and Conclusion

The challenging economic environment has impacted the valuations placed on corporate assets, with one-third of FTSE 250 firms and two-thirds of the top thirty ISEQ companies recording impairments for the financial year ended 2009. The current downward trend in asset valuation and the complex nature of impairment determination is likely to increase the information asymmetries which exist between management and shareholders (Reidl, 2004). With write-downs as large as £1.27 billion observed in this study, shareholders are likely to require significant disclosure of the reasons and assumptions behind valuations. While some large write downs were noted the median amount was just £6.0m.

The mean voluntary disclosure score of 26% observed in this study suggests that UK and Irish firms are providing additional impairment information to stakeholders. However, there is considerable variability in this practice with some firms scoring over 50% while others provide little above the mandatory requirements. Other disclosure studies have reported similar trends, with Abraham and Cox (2007) finding a mean score of 19.5% for voluntary share-option disclosure and Eng and Mak (2003) reporting 33% as their mean disclosure score. These results follow the conclusion of Meek *et al.,* (1995) that voluntary disclosure levels are moderately low albeit with considerable variability.

5.1 Determinants of Disclosure

This study examines twelve hypothesised influences on the level of voluntary impairment disclosure grouped into structural, performance, governance and multinational factors. These factors are analysed in turn in as well as potential determinants not explained by the model.

5.1.1 Structural Variables (Size, Leverage and Sector)

Factors such as firm size, leverage and market sector are classified as structural variables since these characteristics are likely to remain steady over long periods. The findings provide some evidence that these hypotheses contribute to the firm's voluntary impairment disclosure decision. Leverage was found to be positively correlated to disclosure at the 5% level in the univariate and multivariate analysis (regression three). The positive leverage relationship follows the findings of Bujaki and McConomy (2002) in contrast to the UK-based study of Linsley and Shrives (2006).

These results support the agency cost and signalling theories of disclosure. As firm leverage increases, monitoring costs similarly rise due to strict loan covenants. Management are then incentivised to volunteer more disclosures to signal reliability and reduce the level of risk-bearer scrutiny. The positive relationship suggests that voluntary impairment disclosure acts as an important control mechanism to mitigate the risk of agency problems.

Market sector (financial versus non-financial) and firm size provide mixed results. Although the direction of the relationship was as hypothesised, there was no evidence of the significance of the relationship. As a consequence, the related hypotheses are not confirmed (hypothesis one and hypothesis three).

These results are surprising since it is hypothesised that relatively more highly regulated financial firms are likely to provide additional disclosure in order to reduce monitoring costs. Similarly, the results of the size variable run contrary to many empirical studies that found significant positive effects between firm size and voluntary disclosure (Lopes and Rodrigues (2007) and Donnelly and Mulcahy (2008), for example). The existence of increased litigation costs may explain this absence of a significant relationship between market sector (financial firms), firm size and the level of voluntary disclosure but no direct evidence of this is presented in the current study.

5.1.2 Performance Variables (profitability, impairment amount, goodwill impairment)

The three performance variables – profitability, impairment amount and goodwill impairment – are found to have a positive relationship with the level of voluntary impairment disclosures. The impairment amount is significant at the 1% level (all regressions), while profitability is significant at the 5% level (all multivariate regressions). The results in relation to goodwill impairment are less convincing, significant at the 10% level in the multivariate regressions. The profitability result is in agreement with the findings of the UK-based study of Walker and Louvari (2003).

These results provide significant evidence in support of the conclusions of the agency costs and signalling theories. Firms with increased impairment amounts are seen as disclosing more in order to signal stewardship abilities and reduce monitoring costs. Similarly, given the complexity and subjectivity of goodwill impairment (Lapointe-Antunes *et al.,* 2009), managers are viewed as volunteering disclosure in order to reduce the consequences of information asymmetries.

Alternatively, increased disclosure may be provided for the purposes of impression management or legitimising managerial decisions. However, the positive relationship observed between profitability and voluntary impairment disclosure does not support this explanation since less profitable firms with impairment would be expected to disclose more to justify their position. Overall, it appears that voluntary disclosures are linked to performance for stewardship and agency reasons.

5.1.3 Governance Variables (audit committee, independent NED's, corporate code compliance)

The connection between corporate governance and voluntary disclosure is a popular strand of disclosure research (Donnelly and Mulcahy, 2008). Accordingly, several dimensions of corporate governance are examined, including those directly related (e.g. audit committee) and indirectly related (e.g. independent NED's) to the financial reporting process, following Koh *et al.,* (2007).

As hypothesised, a positive relationship is observed between the corporate code compliance variable and the fully independent audit committee variable with the extent of voluntary impairment disclosure. However, neither of these relationships is statistically significant, consistent with the results of Lopes and Rodrigues (2007) and Bassett *et al.,* (2007).

The statistical insignificance of all three governance variables is unexpected given the involvement of the board of directors in determining the extent of voluntary disclosures (Abraham and Cox, 2007). This may be due to the level of complexity involved in the presentation of impairment information compared to general disclosures. In addition, tests for multicollinearity between the governance variables did not have an impact on the results as reported.

5.1.4 Multinational Variables (UK/Ireland, US Dual Listing, Export Sales)

Management's decision to provide voluntary disclosures is viewed as being influenced by the underlying business and cultural environment in which companies operate (Haniffa and Cooke, 2002). Firms with a larger multinational presence either through foreign listings or international sales are hypothesised to volunteer additional impairment disclosures. The research findings provide some support for this viewpoint. Univariate analysis finds the presence of a US dual-listing positively associated with voluntary disclosure at the 10% level of significance, however, no significant relationship was found in the multivariate regressions. These results are partially consistent with the findings of prior research, including the UK-based studies of Abraham and Cox (2007) and Walker and Louvari (2003).

Firms with US-listings are likely to engage new stakeholders such as foreign shareholders, regulators and governments and also be exposed to new financial reporting environments and demands for disclosure (Ding, 2002). The findings suggest that firms react by increasing voluntary impairment disclosure as a means of signalling transparency in order to build trust in their foreign dealings and reduce the monitoring costs imposed on the firm by foreign shareholders. International firms' requirement for increased capital and the potential litigation risks perceived to be associated with the US market (Core, 1997) are also potential reasons for the association between multinational variables and increased impairment disclosure.

5.2 Non-Hypothesised Factors

The three regression analyses provide adjusted R-square figures ranging between 24%-28%, which suggests that over two-thirds of the determinants of voluntary impairment disclosure are not explained by the models. Low R-square figures occur frequently in disclosure studies with Abraham and Cox (2007), Eng and Mak (2003) and Lopes and Rodrigues (2007) obtaining 0.42, 0.21, and 0.13 adjusted R-squares respectively. This suggests that non-hypothesised factors play a substantial role in management's voluntary disclosure decisions.

Contingency and institutional theories offer explanations for voluntary disclosure which are frequently outside the scope of quantitative analysis. Contingency theory proposes that the disclosure decision is determined by the specific combination of a firm's history, culture and managerial preferences (Gibbons *et al.*, 1990).

Verrecchia (2001) notes that there is no one integrated theory that explains the extent of voluntary disclosure. Instead, the disclosure decision is likely to consist of a combination of related or even competing explanations. For some firms, voluntary disclosure may begin with a standardised template which is adapted to signal specific agency issues, while being influenced by the disclosure culture unique to the firm. Management's decision to voluntarily disclose impairment information is a complex process, combining agency, financial and strategic factors, while also considering behavioural and structural perspectives.

5.3: The Broader Debate

Although outside the original scope of this study, our results can add to the ongoing wider debate on the reliability of financial statements.

While some large write downs were noted the median amount was just £6.0m. This is consistent with similar low levels of write downs noted in another study carried out by investment bank Houlihan Lokey (2010). These impairments have already attracted some attention in the popular media (Financial Times, 27 September 2010) with the influential Lex column being extremely sceptical of the low level of write downs given the poor underlying economic conditions. Commentary such as this highlights the inherent difficulty in reporting financial information that can be relied upon by users under conditions of information asymmetry.

A possible conclusion that could be arrived at is that companies are providing additional voluntary information (as evidenced by the mean voluntary disclosure score of 26%) but this is not resulting larger asset write downs (as evidenced by the median impairment amount of £6.0 million). This type of behaviour could be explained through a legitimacy lens; through voluntary disclosures, firms attempt to diffuse societal pressure and establish a legitimate social standing (Deegan and Gordan, 1996). Legitimacy theory is more often applied in corporate responsibility reporting, however, firms may volunteer impairment information to indicate accountability in light of public pressure produced by turbulent economic conditions.

However, the current study does show that the size of the impairment is a significant factor in explaining the extent of voluntary disclosures. In all of the tests conducted the impairment amount was significant (all at 1% significance). Thus, while impairment amounts could be considered to be low, those firms with larger impairments disclosed more information. This could be an attempt by these companies to reduce agency costs and the effects of information asymmetry. Perhaps the criticism of the profession by Lex (Financial Times, 27 September 2010) should be reconsidered given our results.

5.4 Research Limitations

It should be noted that the findings and conclusions of this analysis are subject to a number of limitations. First, this study shares the general limitations associated with disclosure studies such as the use of a researcher-constructed disclosure index which is recognised as inherently subjective (Linsey and Shrives, 2006)..

This study is restricted to the annual reports of one financial period, thus neither longitudinal trends nor alternative disclosure media are investigated. In addition, only impairments relating to assets subject to IAS 36 Impairment of Assets (i.e. goodwill, intangible assets and PPE) are considered.

5.5 Recommendations for Future Research

The work undertaken in this study can be extended in several directions. First, firms' voluntary impairment disclosure scores could be analysed in a value-relevance study, to investigate whether the extent of voluntary impairment explains movements in share prices and returns. Also, the disclosure index constructed for the purposes of this dissertation could be used in longitudinal analysis and other international studies.

Future research could consider whether a relationship exists between impairment disclosures for goodwill, intangibles and PPE and other impairments not considered by IAS 36, such as financial instruments. Additionally, impairment reversals are likely to become more prevalent once economic conditions improve and research into the extent of voluntary impairment reversal disclosures may make for an interesting comparison to this study.

Palmer (2008) notes the frequent use of auditor-prepared templates for technical accounting disclosures. A content analysis of templates produced by the Big-Four audit firms for impairment disclosures may also provide insights into the extent of voluntary impairment disclosure from an institutional viewpoint. Finally, interviews with the financial directors and reporting accountants involved in producing impairment disclosures may provide further insights to the conclusions of this study.

5.6 Conclusion

This study had two research questions:

- What is the extent of voluntary impairment disclosures in the annual reports of UK and Irish companies?
- What are the factors that influence the level of voluntary impairment disclosures made by UK and Irish companies?

We found that while the average impairment size was unexpectedly small (median amount of £6.0m, n = 100), a mean voluntary disclosure score of 26% was observed. This suggests that UK and Irish firms are providing additional impairment information to stakeholders.

We hypothesized that twelve factors could influence the level of voluntary disclosure. Our research has shown that the impairment amount, the level of profits, leverage, US dual listing and the impairment type were all significant factors in determining the level of voluntary disclosure (Table 18). As hypothesized, there was no significant difference between the Irish listed and UK listed companies. Finally, no significance was found for the variables representing the level of export sales, size, corporate code compliance, sector, independent non executive directors and independent audit committee. In all cases, for the significant factors, the direction of the relationship was positive, as originally hypothesized.

Table 18: Significant Determining Factors - Summary

Hypothesis	Variable	Analysis	Sign	Significance Level
5	Impairment Amount	Univariate and Multiple (regressions 1,2,3)	Positive	1% Level
4	Profits	Multiple (regressions 1,2,3)	Positive	10% Level (Reg. 1) 5% Level (Reg. 2,3)
2	Leverage	Univariate and Multiple (regression 3)	Positive	5% Level
6	Impairment Type (Goodwill)	Univariate and Multiple (regression 1,2,3)	Positive	1% Level (Univariate) 10% Level (Reg .1,2,3)
11	US Dual Listing	Univariate	Positive	10% Level
10	UK/Irish			Not Significant
1	Size			Not Significant
12	Export Sales			Not Significant
3	Sector			Not Significant
9	Corporate Code Compliance			Not Significant
7	Independent NED's			Not Significant
8	Independent Audit Committee			Not Significant

In the recessionary environment of this study, risk bearers face considerable uncertainties, especially concerning asset valuations (Curtis, 2010). Although accounting standards require considerable disclosures, voluntary information gives managers the opportunity to disclosure more meaningful asset specific information, which could successfully bridge the information asymmetries of the users of financial statements. This study contributes to the substantial body of research on corporate disclosures, showing that UK and Irish firms do provide additional impairment information to stakeholders and by investigating the factors that contribute to this behaviour.

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Appendix A: Disclosure Index

Voluntary Impairment Disclosure Index

A. Management Discussion Disclosure (18 Marks)

1. Introductory Pages	**Score**
Term 'Impairment' mentioned	1
Impairment Amount mentioned	1
Description of Impaired Asset	1
Reason for Impairment	1
Comparison to prior year impairment (if any)	1
	5

2. Chairman/CEO Statement	
Term 'Impairment' mentioned	1
Impairment Amount mentioned	1
Description of Impaired Asset	1
Reason for impairment	1
Comparison to prior year impairment (if any)	1
	5

3. Director's Report/OF Review	
Term 'Impairment' mentioned	1
Impairment Amount mentioned	1
Reason for Impairment	1
Description of Impaired Asset	1
Comparison to prior year impairment (if any)	1
	5

4. Statements on Corporate Governance	
Impairment mentioned	1
Impairment reviewed/approved by Board/Committee	1
Dates of meetings when impairment reviewed/approved	1
	3
Subtotal	**18**

B. Actual Impairment Disclosure (18 marks)

5. Financial Statements	
Term 'Impairment' mentioned (jointly) as line-item on I/S	1
Term 'Impairment' mentioned singly as line-item on I/S	1
Term 'Impairment' mentioned (jointly) as line-item on Cash Flow	1
Term 'Impairment' mentioned singly as line-item on Cash Flow	1
	4

6. Impairment Description		
Location of Impaired Asset		1
Breakdown of Reason - not just "economic conditions"		
Industry Perspective?	e.g. sector downturn	1
Firm Perspective?	e.g. restructuring	1
Disclosure on any tax/depreciation implications of impairment		1

		4
7. Headroom		
Discussion of Headroom		1
Example 1:	Exact Amount/% of headroom	1
Example 2	Exact Amount/% of headroom	1
% Headroom of alternative valuation method (ViU/FV) provided		1
Prior Year Headroom		1
		5
8. Other Disclosures		
Disclosure of comparative information for years prior to 2008		1
Management Response to Impairment		1
Management statement regarding future impairments		1
Firm Specific Information		1
Length of Impairment Note - greater than 1 page?		1
		5
	Subtotal	**18**
C. Impairment Policy Disclosure (18 marks)		
9. Policy Disclosures		
Impairment Policy Note - distinct from asset policy note		1
Factors considered for an impairment review		1
Impairment in Significant Judgements & Assumptions		1
Discuss how difficult economic environment affects estimation		1
Source of valuation approved by Board/Audit Com		1
Source of valuation externally verified/valued		1
Total Number of CGUs		1
Description of CGUs disclosed- Location/Sector		1
Compliance demonstrated with particular IAS 36 paragraph stated		1
		9
10. Sensitivity Analysis		
Assumption which is most sensitive to change		1
For first assumption sensitivity		
Example of Exact Amount/% change in assumption		1
Exact amount of resulting impairment		1
Assessment of Risk of Change		1
Prior Year Comparison		1
For second assumption sensitivity		
Example of Exact Amount/% change in assumption		1
Exact amount of resulting impairment		1
Assessment of Risk of Change		1
Prior Year Comparison		1
		9
	Subtotal	**18**

D. Impairment Assumptions Disclosure (18 marks)

11. Assumptions

Number of Assumptions - all listed	1
Description on each assumption (provided)	1
Indicator of Reliability/Accuracy of assumptions	1
Impairment determination requires significant judgment (within note)	1
	4

12. Discount Rate

Exact Figure - not range	1
Comparative Prior Exact Figure	1
Description: Reason and Source	1
	3

13. Growth/Perpetuity rate or terminal value estimation

Exact Figure - not range	1
Comparative Prior Exact Figure	1
Description: Reason and Source	1
	3

14. Firm Specific Assumption

Exact Measure - not range	1
Comparative Prior Exact Figure	1
Description: Reason and Source	1
	3

15. Inflation Rate

Mentions 'inflation influence'	1
Exact Figure - not range	1
Comparative Prior Exact Figure	1
	3

16. WACC

Exact Figure - not range	1
Comparative Prior Exact Figure	1
	2

Subtotal	**18**

E. Optional (5 marks)

Reason for not allocating asset to CGUs	1
Explanation if allocation of assets between CGUs has changed	1
Justification of projection period greater than 5 years	1
If Externally Valued: Name of Valuer	1
Valuer's Qualifications	1
Optional	**5**
TOTAL SCORE	**77**

Appendix B: Disclosure Examples

This appendix provides examples of how the researcher scored the voluntary impairment disclosures for each of the four sections of the disclosure checklist.

Section A: Management Discussion Disclosure
Disclosure scores in the management discussion section of the annual report are allocated across five points as follows:

1. Term 'Impairment' mentioned
2. Impairment Amount mentioned
3. Description of Impaired Asset
4. Reason for impairment
5. Comparison to prior year impairment (If any)

The following extract from DSG International Plc's Annual Report (p.24) is an example of a disclosure which scores full marks across all five points:

	2009	2008
Business Impairment	**£126.1m**	**£22.9m**

> Other business impairments comprise the closure costs of the PC City Sweden and Markantalo stores; the closure costs of 11 stores and **impairment charges in PC City Spain** in connection with the restructuring of this business; the impairment of Polish stores following a **disappointing performance in this market**; and the impairment of Currys digital and certain Currys High Street stores as the **closure programme of those non-core stores**, identified last financial year, is implemented.

In contrast, the disclosure from Rentokil Plc.'s Annual Report (p.16) does not distinguish impairment amounts from once-off costs and doesn't specify which assets are being impaired. Two marks are awarded for mentioning 'impairment' and providing a reason for the impairment:

> This year these [once-off costs] have amounted to £37.1 million (2008: £19.6 million) and represent costs associated with the reorganisation of the Textiles and Washrooms division (primarily the closure of processing plants in Belgium and France), the costs associated with the closure and relocation of the London corporate office and redundancy costs and **impairment** of assets relating to the **continued integration of the City Link and Target Express businesses.**

Section B: Actual Impairment Disclosure

Whether impairment is listed on the face of the financial statements or relegated to the notes is an important indicator of voluntary impairment disclosure. Four disclosure marks are allocated as follows:

1. Impairment mentioned (jointly) as line-item on Income Statement
2. Impairment mentioned singly as line-item on Income Statement
3. Impairment mentioned (jointly) as line-item on Cash Flow Statement
4. Impairment mentioned singly as line-item on Cash Flow Statement

Full marks are allocated to Persimmon Plc. for disclosing 'impairment of intangible assets £4m' on the face of the Income and Cash Flow statements. This compares with two marks awarded to BTG Plc. for disclosing 'Amortisation and impairment of intangible assets £6.2m' and not distinguishing between asset amortisation and impairment.

In contrast, WH Smith Plc. relegates impairment to the notes and therefore receives no marks. Its annual report (p.46) states:

> During the period there was a £3m impairment charge for property, plant and equipment and other intangible assets included in distribution costs.

Section C: Impairment Policy Disclosures

Taking the example of sensitivity analysis disclosures, eight marks are assigned across two assumptions, as follows:

1. Stating Exact Amount(%) change in assumption
2. Stating Exact Amount of resulting impairment
3. Assessment of Risk of Change
4. Prior Year Comparison

The following disclosure from Norkom Plc obtains one disclosure mark since an exact percentage change in the discount rate is presented, however, no estimate of the resultant change in headroom is provided.

> **Sensitivity analysis**
> If the estimated pre-tax discount rate applied to the discounted cash flows had been 10% higher than management's estimates, there would have been no requirement on the Group to recognise an impairment against goodwill. (Annual Report, p.54)

In contrast, CPL plc. obtains two marks times two assumptions for disclosing both an exact change in rates and the resultant increase or decrease in impairment, as seen in the following annual report extract (p.45):

Sensitivity to changes in assumptions

The changes set out below to assumptions used in the impairment review would, in isolation, lead to an increase/ (decrease) to the aggregate impairment loss recognised in the year ended 30 June 2009:

	Pre tax discount rate		Growth rate		Cashflows	
	Increase 2%	(decrease) 2%	Increase 2%	(decrease) 2%	Increase 2%	(decrease) 2%
	€'000	€'000	€'000	€'000	€'000	€'000
Permanent placements	206	(503)	(474)	82	(130)	29
Temporary staff	379	(630)	(589)	125	(98)	24
Total	**585**	**(1,133)**	**(1,063)**	**207**	**(228)**	**53**

An additional disclosure mark is obtained for assessing the likelihood of any particular change in assumptions occurring, such as discussed in Euromoney Institutional Investor Plc.'s Annual Report (p.72):

> Management believes the general market conditions seem to have stabilised and therefore a decrease in growth rates to 2% or a WACC of 11.5% would be severe. Management will continue to conduct regular reviews to monitor this matter.

Section D: Impairment Assumptions Disclosure

Disclosures relating to the assumptions behind value in use calculations are considered in this section and marks are awarded depending on the detail of the assumptions provided. The following disclosure by Fenner Plc. is an example of a 'boiler-plate' statement and yields no marks:

> The key assumptions used to determine the value in use relate to profits derived from sales volumes, selling prices and costs, growth rates and discount rates (Annual Report, p.56).

In comparison, marks are awarded to Britvic Plc. for the detail relating to each assumption provided in their Annual Report (p.70):

Key assumptions used in value in use calculation

The following describes each key assumption on which management has based its cash flow projections to undertake impairment testing of goodwill.

Growth rates – reflect senior management expectations of volume growth based on historical growth, current strategy and expected market trends.

Discount rates – reflect senior management's estimate of the pre-tax cost of capital. The estimated pre-tax cost of capital is the benchmark used by management to assess operating performance and to evaluate future capital investment proposals.

Marginal contribution – being revenue less material costs and all other marginal costs that management considers to be directly attributable to the sale of a given product. Marginal contribution is based on financial budgets approved by senior management. Key assumptions are made within these budgets about pricing, discounts and costs based on historical data, current strategy and expected market trends.

Advertising and promotional spend – financial budgets approved by senior management are used to determine the value assigned to advertising and promotional spend. This is based on the planned spend for year one and strategic intent thereafter.

Raw materials price, production and distribution costs, selling costs and other overhead inflation – the basis used to determine the value assigned to inflation is forecast consumer price indices of 3.0% (2008: 2.5%).

Six marks are allocated to disclosures relating to discount rate and growth rate as follows:

Discount Rate
1. Exact Figure - not range
2. Comparative Prior Year Exact Figure
3. Description: Reason and Source

Growth/Perpetuity Rate
4. Exact Figure - not range
5. Comparative Prior Year Exact Figure
6. Description: Reason and Source

Yell Group Plc. achieves full marks as it describes the rationale behind the rates chosen and provides exact rates for each of their CGUs, as follows (p.62):

	Chile	Peru	Argentina	Spain	US	UK
2009						
Detail by CGU						
Carrying value of goodwill (£ millions)	73.0	42.9	43.2	284.6	1,873.7	1,011.8
Terminal growth rate	3.0%	2.2%	6.6%	2.5%	2.0%	1.8%
Discount rate	13.7%	15.9%	25.7%	11.6%	11.6%	11.9%
2008						
Terminal growth rate	6.9%	6.7%	9.5%	2.8%	3.2%	3.2%
Discount rate	11.6%	14.2%	16.4%	10.1%	9.3%	9.8%

Alternatively, Kerry Group Plc, as shown below, provides wide ranges for their rates which are not as informative to account users. However, since descriptions explaining the rates chosen are disclosed, Kerry Group Plc scores two marks.

> The discount rate used is between 5% and 10% (2008: 6% and 10%). A higher discount rate is applied to higher risk markets such as South America, while a lower rate is applied to more stable markets such as the USA. Growth rates are based on forecasts in line with assumed long-term industry growth rates ranging from 2% to 7% (2008: 2% to 10%). Generally, lower growth rates are used in mature markets such as Ireland while higher growth rates are used in emerging markets such as Asian Countries (Annual Report, p.68)

Appendix C: Disclosure Scores Allocated to Each Firm

	A Management Discussion Disclosure	B Actual Impairment Disclosure	C Impairment Policy Disclosure	D Impairment Assumption Disclosure	**Total Disclosure Score**
ISEQ Listed Firms	%	%	%	%	**%**
1. CRH	39	22	33	22	**30**
3. Kerry	0	11	33	28	**18**
4. Elan	44	44	39	22	**38**
5. Bank of Ireland	33	56	22	39	**37**
7. DCC	28	17	17	50	**27**
8. Smurfit Kappa	28	44	39	33	**37**
10. Kingspan	11	6	50	28	**24**
11. Paddy Power	0	33	22	67	**30**
12. AIB	11	33	28	33	**26**
15. Grafton	22	17	28	33	**25**
17. IL&P	33	28	28	28	**29**
18. INM	22	22	39	61	**36**
21. Origin	0	6	28	11	**12**
22. Greencore	0	0	28	39	**16**
23. FBD	17	44	28	22	**43**
25. Norkom	0	22	44	22	**22**
27. Total Produce	28	17	56	39	**34**
28. Fyffes	22	11	11	17	**15**
29. Abbey	17	28	11	0	**22**
30. CPL Resources	17	50	44	6	**31**
FTSE Listed Firms	%	%	%	%	**%**
2. Aberdeen Asset Mgt	28	33	61	44	**42**
4. Aegis Group	28	11	17	17	**18**
8. Arriva	39	33	17	28	**29**
13. BBA Aviation	28	39	28	39	**34**
17. BTG	6	22	28	17	**19**
20. A.G. Barr	22	33	39	22	**29**
21. Balfour Beatty	6	22	17	50	**24**
26. Big Yellow Group	22	6	11	0	**10**
30. Bodycote International	83	28	28	39	**44**
33. Brewin Dolphin	6	17	17	0	**10**
37. Britvic	17	44	61	61	**47**
41. Caledonia Investments	0	0	11	0	**3**
44. Carpetright	22	11	33	33	**25**
46. Charter International	28	11	22	39	**25**
47. Chemring Group	11	17	28	28	**21**
50. Close Brothers Group	50	22	22	17	**27**
55. Cranswick	17	11	11	39	**19**
58. Daily Mail and General	33	56	50	39	**44**
59. Dairy Crest Group	22	39	44	56	**40**
60. Dana Petroleum	22	33	39	28	**31**
61. Davis Service Group	44	39	17	22	**32**
68. Domino Printing	17	22	28	17	**21**
69. Domino's Pizza	22	33	11	0	**24**
70. Drax Group	17	6	11	0	**12**

	A Management Discussion Disclosure	B Actual Impairment Disclosure	C Impairment Policy Disclosure	D Impairment Assumption Disclosure	**Total Disclosure Score**
FTSE Listed Firms	%	%	%	%	**%**
71. DSG International	33	50	33	44	**40**
83. Euromoney Institutional	33	44	44	28	**37**
86. Fenner	0	11	22	22	**14**
87. Ferrexpo	6	17	22	39	**22**
91. Filtrona	11	11	22	28	**18**
94. Forth Ports	39	11	28	33	**27**
95. GKN	28	44	28	39	**36**
102. Go-Ahead Group	33	6	17	33	**22**
103. Grainger	11	39	33	22	**27**
105. Greene King	17	33	39	33	**30**
107. HMV Group	17	22	33	28	**25**
109. Halfords Group	6	0	11	22	**10**
112. Hansteen Holdings	0	11	22	17	**15**
117. Heritage Oil	28	22	11	0	**22**
120. Hochschild Mining	22	39	44	56	**40**
121. Homeserve	67	50	28	50	**49**
129. Inchcape	17	28	33	28	**26**
134. JKX Oil & Gas	28	50	17	44	**36**
142. Jardine Lloyd	11	6	22	28	**16**
144. Kesa Electricals	44	22	17	28	**27**
146. Ladbrokes	17	17	22	28	**21**
151. Logica	11	17	44	61	**34**
153. Marston's	22	17	28	33	**25**
156. Melrose	6	0	6	0	**3**
157. Melrose Resources	22	44	50	39	**40**
161. Millennium Hotels	33	33	22	11	**25**
162. Misys	6	6	11	11	**8**
163. Mitchells & Butlers	22	6	22	11	**18**
164. Mondi	33	28	22	39	**30**
174. Pace	0	6	17	44	**16**
175. Paragon Group	22	17	17	28	**21**
176. PartyGaming	22	44	44	56	**42**
179. Persimmon	28	39	11	11	**21**
184. Premier Oil	22	17	0	17	**14**
186. Punch Taverns	44	33	39	39	**38**
190. Rank Group	17	50	44	61	**42**
192. Redrow	17	6	0	0	**8**
195. Rentokil Initial	11	22	28	22	**21**
202. SIG plc	39	28	11	0	**19**
206. Savills	39	39	22	28	**32**
212. Smith (DS)	22	44	39	50	**39**
220. Stagecoach Group	39	22	33	61	**38**
217. Sports Direct	28	22	39	44	**33**
222. Stobart Group	17	6	22	17	**15**
226. Tate & Lyle	28	17	17	17	**19**
227. Taylor Wimpey	22	6	22	0	**12**

FTSE Listed Firms	A Management Discussion Disclosure %	B Actual Impairment Disclosure %	C Impairment Policy Disclosure %	D Impairment Assumption Disclosure %	**Total Disclosure Score** **%**
231. Tomkins	67	72	44	28	**52**
238. Unite Group	17	6	0	0	**5**
239. United Business Media	22	44	50	44	**40**
242. W H Smith	0	0	17	22	**10**
243. Weir Group	11	11	17	56	**23**
245. Wetherspoon (J D)	22	0	11	22	**14**
246. William Hill	22	44	39	33	**34**
248. Wood Group	11	11	11	22	**15**
249. Xchanging	0	0	17	22	**10**
250. Yell Group	39	72	44	39	**49**