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Accounting quality of UK firms under IFRS

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ABSTRACT

The aims of this study are to examine whether the adoption of International Financial Reporting Standards (IFRS) in the United Kingdom (UK) has resulted in better accounting quality for UK firms and the specific mechanisms which may have contributed to improvements in accounting quality post IFRS. The specific mechanisms I investigate are: (a) the greater use of fair value measurement and associated more extensive disclosure requirements imposed by IFRS compared to UK GAAP (measurement and disclosure), (b) more extensive disclosure requirements alone imposed by IFRS compared to UK Generally Accepted Accounting Principles (UK GAAP) (disclosure only) and, (c) improvements in the regulatory activities and institutional oversight systems in foreign countries that impact on cross listed firms (enforcement).

Prior to the adoption of IFRS for financial years beginning 1 January 2005, UK firms reported under UK GAAP. My sample consists of 495 firms listed on the London Stock Exchange and I collect data from calendar years 2000 to mid 2009. I use eight individual measures of accounting quality in the categories of earnings smoothing, managing towards earnings targets, timely loss recognition and value relevance. Firms are said to have improved their accounting quality if they display lower levels of earnings smoothing, less management towards earnings targets, timelier loss recognition and higher levels of value relevance.

My results indicate that in general, accounting quality in UK firms improved post IFRS adoption in terms of displaying less management towards earnings targets and improved value relevance. However, there is no evidence that accounting quality improved with regards to reducing earnings smoothing and improving timeliness of loss recognition.

Next I investigate the specific mechanisms by which IFRS may have caused accounting quality to improve. The proxies I use to investigate the first mechanism, namely the greater use of fair value measurement and associated disclosure requirements imposed by IFRS, are financial assets, financial liabilities and intangible assets. The results show that the greater use of fair value measurement and more disclosure requirements imposed by IFRS for these three proxies led to improvements in accounting quality by

reducing managing towards earnings targets. For the financial assets proxy, there was evidence that the value relevance of accounting numbers improved in terms of the relationship between returns and earnings. However, the other measures of accounting quality did not show improvements. Therefore, the overall result is mixed for this mechanism.

Next I investigate the second mechanism whereby I examine whether the greater disclosure requirements alone imposed by IFRS (compared to UK GAAP) for segment reporting led to improvements in accounting quality. As these changes only increased disclosure and are not intended to change earnings measurement practices, this mechanism was tested using only the value relevance measures of accounting quality. There was no evidence that the greater disclosure requirements for segment reporting contributed to improvements in value relevance, thereby accounting quality in UK firms.

The third mechanism I consider is contemporaneous improvements in the regulatory activities and institutional oversight systems in foreign countries by comparing changes in accounting quality of UK firms that have cross listings to non-cross listed firms. The results of two out of three earnings smoothing measures, managing towards earnings targets and timeliness of loss recognition measures provided evidence that cross listed firms showed greater improvements in accounting quality compared to the non-cross listed firms. This suggests that the additional regulations and enhanced scrutiny, via changes in the regulatory regimes in foreign countries, played a part in improving the accounting quality of cross listed UK firms.

Overall my results suggest that despite the UK being perceived as having a high level accounting quality prior to IFRS adoption, UK firms benefited by its adoption through improvements in certain aspects of accounting quality (such as reductions in management towards earnings targets and improvements in value relevance). My investigation into specific mechanisms that may have caused accounting quality to improve revealed that the three mechanisms under analysis effected improvement in different aspects of accounting quality in UK firms. These findings have policy implications and suggest that there is room for further improvement in order to ensure that firms consistently apply the requirement of IFRS and make improvements in all aspects of accounting quality.

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CHAPTER 1: INTRODUCTION

1.1 THE FOCUS AND IMPORTANCE OF THE RESEARCH

The accounting quality of financial reporting based on International Financial Reporting Standards (IFRS) in the United Kingdom (UK) is the subject of this thesis. Specifically, this thesis addresses two research questions. First, has the adoption of IFRS in the UK resulted in better accounting quality for UK listed firms? Second, if accounting quality is better, what are the specific mechanisms by which accounting quality may have improved post IFRS adoption in the UK? To address the first research question, I investigate whether UK firms show better accounting quality post IFRS adoption. Accounting quality is measured in terms of earnings smoothing, management towards earnings targets, timeliness of loss recognition and value relevance as established in prior studies literature. To address the second research question, I examine the following three mechanisms to determine whether they contributed towards improvements in accounting quality post IFRS adoption: (a) the greater use of fair value measurement and associated more extensive disclosure requirements imposed by IFRS compared to UK GAAP (measurement and disclosure), (b) more extensive disclosure requirements imposed by IFRS compared to UK GAAP (disclosure only) and, (c) improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms (enforcement).

Prior to 2005, UK firms reported under UK Generally Accepted Accounting Principles (UK GAAP). In March 2002, the European Parliament passed a resolution (Regulation (EC) No 1606/2002) requiring all firms listed on stock exchanges of European member states (including the UK) to apply IFRS when preparing their consolidated financial statements for financial years beginning on or after 1 January 2005. The objective of the adoption of IFRS in the EU was to harmonise the financial information presented by firms in order to ensure a high degree of transparency and comparability of financial statements, and promote the efficient functioning of capital markets (Regulation (EC) No 1606/2002, Article 1). It is intended that the application of IFRS will result in a true and fair view of the financial position and performance of an enterprise and ensure a high degree of transparency and comparability for financial reporting (Regulation (EC) No 1606/2002, paragraphs 7-9).

IFRS are issued by the International Accounting Standards Board (IASB) with the primary objective being to develop “in the public interest, a single set of high-quality, global accounting standards that require transparent and comparable information in general purpose financial statements” (IASCF, 2003, p.2).¹ According to the former IASB chairman Sir David Tweedie, the number of countries that require or permit the use of IFRS will increase significantly within a relatively short time frame (Tweedie, 2007).

At the time of this thesis, more than 120 countries throughout the world, including the 27 EU member states, require or sanction the use of IFRS (IAS Plus, 2012). The convergence of accounting standards may offer significant benefits to firms such as eliminating the costs involved in compiling reports under multiples standards or carrying out reconciliations (Kim, Li and Li, 2012). In addition, it may save time and costs to users who previously had to understand multiple accounting standards. It may improve the transparency and comparability of financial statements, thus enabling more efficient trading and improving access to foreign investment opportunities (Nicolaisen, 2005; SEC, 2007b; SEC, 2009). Therefore, it is expected that allowing firms to report according to IFRS would make it easier to compare the financial performance of firms across different countries, increase transparency and improve the quality of financial reporting. This in turn may reduce the risks to investors associated with low quality disclosures and decrease the cost of capital for firms (Regulation (EC) No 1606/2002).

Accounting quality is an elusive concept and although there are established mechanisms for measuring accounting quality, it has no clear definition. Following Ball and Shivakumar (2005, p. 84) and Soderstrom and Sun (2007, p. 686) I conceptualise accounting quality as the usefulness of accounting to all relevant parties in the economy to facilitate investment and credit decisions. This is consistent with the IASB’s Conceptual Framework for Financial Reporting (2010, paragraph OB2) which states that the objective of general purpose financial reporting is to provide financial

¹ Prior to 2001, international standards were issued by the IASB’s predecessor, the International Accounting Standards Committee (IASC). The accounting standards issued by the IASC are called International Accounting Standards (IAS). The IASB accepted the IAS already issued by the IASC. This thesis refers to IFRS and IAS interchangeably.

information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. I developed the first research question of this study to investigate whether the IASB's objective of high quality financial reporting has been achieved. Therefore, I compare the accounting quality of UK firms listed on the London Stock Exchange (LSE) pre and post IFRS adoption to examine whether firms display higher accounting quality under IFRS, compared to UK GAAP.

Even if high quality accounting standards are introduced, there is still a risk that no improvements in accounting quality may occur when firms have incentives and opportunities to manipulate their financial statements (Leuz 2003; Ball, Robin and Wu, 2003; Kim, Li and Li, 2012). For example, if a country does not have a strong system of enforcement, then the incentives of firm insiders to engage in earnings management and produce low quality reports may not be constrained (Ball, 2001; Ball, 2006; Brown, 2011). Enforcement mechanisms include corporate governance structures such as audit committees as well as statutory audits by external auditors, courts, institutional oversight system such as independent regulators, and public and press monitoring (FEE, 2001).

Even prior to the adoption of IFRS, the UK was perceived to have high quality accounting standards and strong enforcement (UK GAAP) (Horton and Serafeim, 2009; Kaufmann, Kraay, Mastruzzi, 2012). The United States (US) is also considered to be a country with high quality accounting standards and enforcement. The Securities and Exchange Commission (SEC), the US market regulator, is considering allowing US firms to prepare their financial statements using IFRS, as published by the IASB (SEC, 2007a).² To date, a major reason that has prevented the SEC from accepting IFRS as equivalent to US GAAP has been concerns about the quality of IFRS in different jurisdictions. Pownall and Schipper (1999) suggest that studies assessing the quality of IFRS would be most relevant to the SEC's deliberations with regards to IFRS. Therefore, the results of my study will be relevant to discussions being made by

² On 25 July 2007, the SEC published a Concept Release for public comment on whether to allow US domestic issuers, including investment firms, to prepare their financial statements using IFRS as published by the IASB. Under the SEC's current rules, US issuers are required to follow US GAAP. The purpose of this Concept Release was to solicit views from a broad range of investors, issuers and other market participants on the benefits and costs of allowing US listed firms to report using IFRS.

regulators in countries such as the US, with high quality accounting standards and enforcement, on the adoption of IFRS.

Prior studies investigating the effects of mandatory IFRS adoption on the quality of financial reporting have generally reported mixed results and have not specifically investigated the mechanisms through which IFRS may have increased accounting quality. My thesis extends the existing literature by investigating three specific mechanisms by which accounting quality may have improved post mandatory IFRS adoption. The first mechanism is the greater use of fair value measurement and associated more extensive disclosure requirements imposed by IFRS compared to UK GAAP (measurement and disclosure). By undertaking an extensive analysis of the existing literature on UK GAAP and IFRS, I identified the accounting for financial instruments and intangible assets as major areas where IFRS requires UK firms to use more fair value measurement and to provide greater disclosures.³ Therefore, I examine whether firms that have more financial assets, financial liabilities and intangible assets show greater improvements in accounting quality compared to firms that have less. The second mechanism I investigate is the more extensive disclosure requirements imposed by IFRS compared to UK GAAP (disclosure only). Segment reporting is an area where IFRS imposes greater disclosure requirements on firms compared to UK GAAP.⁴ Therefore, I investigate whether firms that have a higher number of geographic and business segments show greater improvements in accounting quality compared to firms that have a lower number of segments. The third mechanism I investigate is improvements in the regulatory activities and institutional oversight systems in foreign countries (enforcement). Around the time of IFRS adoption, changes had been implemented in countries such as the US and Germany, with the intent of increasing the strength of their regulations and robustness of their institutional oversight systems, and in turn improving the incentives of insiders to provide more useful information to the users of financial statements (Zingales, 2009; Hitz, Ernstberger and Stich, 2012; Ernstberger, Stich and Vogler, 2012). UK firms cross

³ The specific standards relevant to reporting of financial instruments under IFRS are IAS 39 *Financial Instruments: Recognition and Measurement* and IAS 32 *Financial Instruments: Presentation*. Relevant international standards for the reporting of intangibles include IAS 38 *Intangible Assets*, IFRS 3 *Business Combinations* and IAS 36 *Impairment of Assets*.

⁴ IAS 14 *Segment Reporting* is the main standard under IFRS that relates to segmental reporting.

listed in these foreign countries come under their regulatory regimes. This in turn may have an effect, over and above the effect of any implemented in the UK, on the incentives of UK firms having a cross listing, to improve their accounting quality compared to firms that are not cross listed. Therefore, I examine whether UK firms that are cross listed overseas show greater improvements in accounting quality compared to UK firms that are not cross listed.

The recent financial crisis has drawn attention to fair value measurement and at the time of this thesis there is a major policy debate taking place involving representatives from the US Congress and the European Commission as well as banking and accounting regulators around the world including the IASB (Tweedie, 2008; Laux and Leuz, 2009; Mala and Chand, 2011). Proponents of the use of fair value measurement highlight that it provides figures that are more value relevant than historical cost figures as they represent the current market value of the underlying asset or liability (Whittington, 2005, p.139). However, critics such as the American Bankers Association argue that fair value measurement has significantly contributed to the financial crisis and exacerbated its severity for financial institutions in the US and around the world by recognising assets at values which are much lower than their real values, making it more difficult for investors to predict future cash flows (ABA, 2008; Mala and Chand, 2011). IFRS has introduced greater fair value measurement in certain areas such as financial instruments and intangible assets compared to UK GAAP (Nobes, 2001; Cairns, Massoudi, Taplin and Tarca, 2011). Therefore, my thesis contributes to this ongoing debate by investigating whether the greater use of fair value measurement under IFRS has contributed to improvements in accounting quality.

1.2 METHOD OF THE THESIS

My sample consists of 495 firms listed on the LSE. My final sample of 495 firms is larger than that of previous studies which focused on IFRS adoption in the UK such as Horton and Serafeim (2009) and Iatridis (2010). The LSE is considered the most appropriate setting for the testing of the research questions because the UK has the largest capital market in the world where IFRS are being used as the primary

accounting standards.⁵ In addition, unlike countries such as Germany (where early adoption of IFRS was allowed), the UK did not allow firms to voluntarily adopt IFRS before 2005. Prior studies such as Daske, Hail, Leuz and Verdi (2008) have shown that the incentives and changes in reporting behaviour of voluntary IFRS adopters may be different from those of mandatory adopters. Thus by choosing the LSE as my research setting I was able to avoid any self selection bias associated with the early adoption of IFRS. In addition, the UK setting is useful for testing what benefits, if any, exist for firms adopting IFRS when the national accounting standards are considered to be high quality and similar to IFRS and the institutional setting is considered to have a high level of enforcement. Enforcement refers to activities of public and private sector entities to promote compliance with accounting standards.

To carry out the analysis I collected data from 2000 to mid 2009. Therefore, the sample period for my thesis includes five years under UK GAAP reporting (2000/01-20004/05) and four years under IFRS reporting (2005/6-2008/9). This results in 2,356 firm-year observations under UK GAAP and 1,823 under IFRS. Data from prior studies on mandatory IFRS adoption are generally confined to the first one or two years after the mandatory adoption of IFRS. As firms need some time to understand and implement IFRS, the number of years under analysis in the post IFRS adoption time period is important (Ernstberger, Stich and Vogler, 2008). Therefore, this thesis makes a contribution to the existing literature on IFRS adoption by analysing a longer time frame.

Following studies such as Lang, Raedy and Yetman (2003), Lang, Raedy and Wilson (2006), Barth, Landsman and Lang (2008) and Paananen and Lin (2009) this thesis operationalises accounting quality in terms of earnings smoothing, managing towards earnings targets, timely loss recognition and value relevance. I use eight individual measures to analyse accounting quality categorised as three measures for earnings smoothing, one for management towards earnings targets, one for timely loss recognition and three measures for value relevance. Two of the earnings smoothing measures look at the variance of earnings while one measure looks at the correlation

⁵ The two largest exchanges, the US and Japan utilise their respective national standards.

between accruals and cash flows. The management towards earnings targets measure is based on the frequency of small positive net incomes while timeliness of loss recognition measure focuses on the frequency of large negative net incomes. Finally, the three value relevance measures analyse the association between accounting numbers (such as earnings and book value of equity) and market measures (such as share price and returns). Therefore, the value relevance measures indicate the informativeness of accounting numbers on investor decision making. The use of multiple measures ensures that different aspects of accounting quality are taken into account and increases the validity of the results. Firms are said to have improved their accounting quality if they display lower levels of earnings smoothing, less management towards earnings targets, timelier loss recognition and higher levels of value relevance.

1.3 THE FINDINGS AND THEIR IMPLICATIONS

My results indicate that in general, accounting quality of UK firms improved post IFRS adoption in terms of displaying less management towards earnings targets and improved value relevance. However, there is no evidence of accounting quality improvements post IFRS adoption with regards to displaying lower levels of earnings smoothing and more timely recognition of losses for the full sample. These results are consistent with the results of prior studies such as Jeanjean and Stolowy (2008) and Callao and Jarne (2010) and Ahmed, Neel and Wang (2012) who do not find reductions in earnings management post IFRS adoption.

Next I investigate the specific mechanisms by which IFRS may have caused accounting quality to improve. The first mechanism is the greater use of fair value measurement and more extensive disclosure requirements imposed by IFRS. The proxies for this mechanism are financial assets, financial liabilities and intangible assets. The results show that the greater use of fair value measurement and more disclosure requirements of financial assets, financial liabilities and intangible assets are associated with improvements in accounting quality in terms of reductions in managing towards earnings targets. In addition, for the financial assets proxy, there was evidence that the value relevance of accounting numbers improved in terms of the relationship between returns and earnings. For the financial liabilities and intangible assets proxies, except for the management towards earnings targets measure, the other

seven measures of accounting quality provided no evidence that the greater use of fair values and disclosure imposed by IFRS are associated with improvements in accounting quality.

Therefore, while there was some evidence that the greater use of fair value measurement contributed to an increase in accounting quality, most areas of accounting quality (such as earnings smoothing) did not show improvements. This may be due to firms using more hedging to reduce volatility in earnings (in anticipation of the increased volatility introduced by the use of fair values under IFRS). In addition, the post-IFRS time period (2005-2009) of my study includes years surrounding the Global Financial Crisis (GFC). Most of the accounting quality measures used in my study may not show improvements in accounting quality due to unanticipated externalities of the GFC. For example, market prices of assets varying significantly from their underlying values could reduce the usefulness of financial information based on fair values (Iatridis, 2012; Beisland, 2010; Laux and Leuz, 2009). Another reason for these results may be due to firms not increasing their disclosure under IFRS. If firms do not provide decision useful information on financial instruments and intangible assets to users (that are complex and difficult to value) then value relevance and in turn accounting quality of these firms' financial statements will not improve. In addition, firms may not be fully complying with the requirements of IFRS. However, issues with non-compliance may be less likely in the post IFRS period as significant changes have been implemented in the UK with the intention of strengthening its institutional oversight system for enforcement.⁶

The inferences drawn from my results using the intangible assets proxy are consistent with studies such as Cairns et al. (2011) who find that the use of fair value measurement for intangibles by UK firms was no more prevalent under IFRS compared to UK as firms were constrained by the requirement that fair value must be determined from an active market. In addition, Hamberg, Panaanen and Novak (2011) who find that after IFRS adoption, Swedish firms display more unidentified intangible assets (that is goodwill) than before, thus making future earnings more dependent on

⁶A discussion of the institutional setting for financial reporting in the UK is provided in Chapter 2.

managers' discretion. They also present some evidence that firms with large proportions of goodwill are reluctant to initiate any impairment under IFRS.

The second mechanism I explore is the more extensive disclosure requirements imposed by IFRS which was proxied by segment reporting. The changes introduced by IFRS intend to increase the disclosure of a firm's financial position and performance to outsiders by providing a greater level of detail on each of the major segments that make up the firm. As these changes only increased disclosure and are not intended to change the earnings measurement practices, this mechanism was tested using the value relevance measures of accounting quality only. The results did not provide evidence that the greater disclosure requirements imposed by IFRS for segment reporting contributed to improvements in value relevance for UK firms under IFRS. The evidence that my results provide are consistent with Nichols and Street (2007) who find that despite IFRS requirements, managers maintain their ability to aggregate segments to protect a firm's excess returns (arguably to limit the information provided to competitors). This view is supported by the UK's Financial Reporting Review Panel's (FRRP's) annual activity reports that raises concerns about over-aggregation of operating segments and failure to provide relevant information on products, services, geographical areas and major customers (FRRP, 2010; FRRP, 2011).

Finally I predict that contemporaneous improvements in the regulatory activities and institutional oversight system in foreign countries in the post IFRS period is associated with improvements in accounting quality. Supporting this prediction, the results of two out of three earnings smoothing measures, managing towards earnings targets and timeliness of loss recognition measures provided evidence that UK firms that are cross listed on foreign stock exchanges (predominantly Germany and the US) showed greater improvements in accounting quality compared to the non cross listed firms.

My results are consistent with the results of previous studies such as Zéghal, Chtourou and Sellami (2011) who find a positive influence of the number of cross listings in reducing earnings management for French firms that adopted IFRS under a mandatory setting. In addition, both Street and Bryant (2000) and Street and Gray (2001) find a positive association between compliance with IAS and having a listing or filing in the US. Similarly, my results are consistent with the evidence provided by Glaum and Street (2003) who find that the level of compliance with IAS is higher among German firms when they are cross listed on US exchanges.

In summary, my results reveal that despite the UK being perceived as having a high level of accounting quality prior to IFRS adoption, UK firms benefited by its adoption through improvements in certain aspects of accounting quality such as reductions in management towards earnings targets and improvements in value relevance. My investigation into specific mechanisms that may be associated with improvements in accounting quality revealed that few of the various mechanisms under analysis provide explanations for improvements in different aspects of accounting quality of UK firms. For example, the evidence suggests that improvements in accounting quality for UK firms, in terms of reduction in management towards earnings targets, are linked to accounting under IFRS for financial assets, financial liabilities, intangible assets and the cross listing status of the firm.

Interestingly, the findings suggest additional regulations and enhanced scrutiny, via changes in the regulatory regimes in foreign countries, have played a part in improving the accounting quality of UK firms that are cross listed, in terms reducing earnings smoothing and management towards earnings targets and enhancing the timeliness of loss recognition. Thus, my results add to the literature by giving some insights into the mechanisms by which accounting quality may have increased in the UK post IFRS adoption. The results of my study have policy implications as they indicate that some firms may not be providing comprehensive disclosure of relevant financial information or fully complying with the accounting standards. To a certain extent, my results are supportive of the continued efforts of the IASB to improve reporting practices by replacing or amending the IFRS that were adopted in 2005 for financial instruments, intangible assets and segment reporting as the Board recognises that there is scope for further improvement in the standards. My results in relation to cross listed firms support the call for policy initiatives to improve enforcement activity to facilitate the effective global application of IFRS (IFRSF, 2012).

1.4 THE STRUCTURE OF THE THESIS

The remainder of this thesis is organised in the following way. Accounting quality can be influenced not only by accounting standards but also by other regulations such as company law and listing rules as well as enforcement mechanisms. Therefore Chapter 2 provides an outline of the institutional setting in the UK that existed prior to the

adoption of IFRS. Chapter 2 also discusses changes that occurred in regulations and enforcement after IFRS adoption, as these changes can affect the incentives of firms to improve the quality of their financial reporting and in turn accounting quality. An overview of the theoretical background for this thesis and relevant empirical literature is provided in Chapter 3. Chapter 4 develops the testable hypotheses used to investigate the research questions. Chapter 5 sets out the sample selection and data collection techniques, describes the statistical tests performed and presents descriptive statistics. Chapter 6 summarises and discusses the main results and the robustness tests. Chapter 7 presents the conclusions of the thesis and notes its limitations. It also presents ideas on how this line of research can be extended.

CHAPTER 2: INSTITUTIONAL SETTING FOR UK FINANCIAL REPORTING

2.1 INTRODUCTION

The objective of the IASB is to develop a single set of high quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles (IASCF, 2010). This thesis addresses two research questions related to the above mentioned aim of the IASB. First, has the adoption of IFRS in the UK resulted in better accounting quality for UK firms? Second, if accounting quality is better, what are the specific mechanisms by which accounting quality has improved post IFRS adoption in the UK? Firms are interpreted to have higher accounting quality if they display less earnings smoothing and management towards earnings targets, more timely loss recognition and higher value relevance.

The LSE was chosen as the research setting for this thesis because it is the world's largest capital market using IFRS as its primary accounting standards. Accounting quality is affected by a country's institutional setting for financial reporting that not only includes accounting standards but also various enforcement mechanisms (Ball, 2006). Traditionally these have been developed at a national level, although with the advent of IFRS, there is increasing cross-country coordination of these activities. The aim of this chapter is to outline the institutional setting in the UK that existed prior to the adoption of IFRS and discuss changes which occurred after its adoption, as these changes can in turn affect accounting quality.

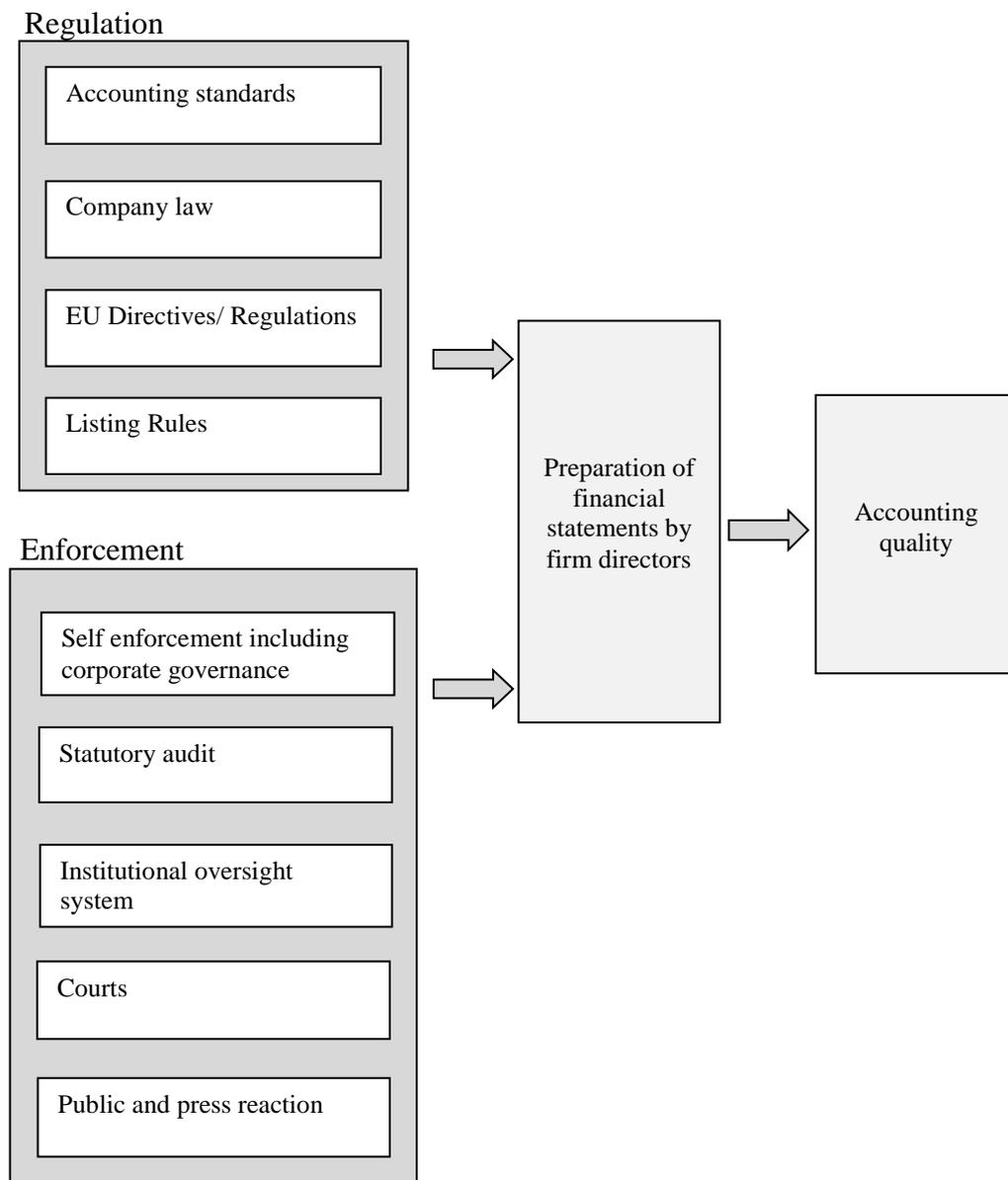
My overview discusses the institutional setting prior to IFRS adoption at 2005 and the changes that occurred around adoption and the immediate post adoption period. Changes in the UK regulatory structure from 2010 onwards are not discussed as it is outside my study period. To provide a background for my empirical analysis, in Section 2.2 I present a model of the institutional setting for financial reporting in the UK. In Section 2.3 I discuss regulations such as accounting standards, company law, EU Directives and stock exchange listing rules that firm directors need to follow in the preparation of financial reports. In Section 2.4 I discuss enforcement mechanisms such

as firm corporate governance, external audit, institutional oversight systems, courts and public and press reaction. The chapter concludes with a summary in Section 2.5.

2.2 OVERVIEW OF THE INSTITUTIONAL SETTING FOR FINANCIAL REPORTING IN THE UK

The body of national laws and practices, together with the institutions that administer and enforce them can be called the institutional setting. The following figure presents a model of the institutional setting for financial reporting in the UK.

Figure 2-1: Institutional Setting for Financial Reporting in the UK



Directors are responsible for ensuring that firm financial reports present a true and fair view of the firm and are prepared in accordance with the relevant accounting standards. Accounting standards, company law, EU Directives/Regulations and listing rules form the regulations which directors need to follow in the preparation of financial statements. In addition to regulations, the strength of the enforcement mechanisms have an effect on the incentives of financial statement preparers to produce high quality financial statements (Cairns, 2004; Lamfalussy, 2001; Ball, 2006). The enforcement mechanisms according to FEE (2001) include (i) self enforcement including the implementation of appropriate corporate governance structures such as audit committees, (ii) statutory audits by external auditors, (iii) courts, (iv) institutional oversight system such as independent regulators, and (v) public and press reactions.

I have included all these elements in Figure 2-1. Each of these regulatory and enforcement mechanisms are discussed in detail in the following sections. It must be noted that although these mechanisms are discussed in discrete sections, there are interactions between these elements. For example, Regulation (EU) 1606/2002 had an effect on the accounting standards UK firms use in the preparation of their consolidated accounts. Similarly EU Directives influence company law when the Directives are incorporated into UK national law.

2.3 REGULATION

The aim of regulation is to protect the interests of investors and creditors from the sub-optimal behaviour of insiders and preserve the stability of the financial system and investors' confidence in financial markets (Leuz, 2010). Regulations include accounting standards, company law, EU Directives/Regulations and listing rules. In the following sections I discuss each of the above mentioned components including how these components affect accounting quality and whether there have been any changes such as new regulations and reforms over time which may affect accounting quality during my study period.

2.3.1 Accounting standards

High quality accounting standards have numerous benefits. They assist investors to compare the value of alternative investments by promoting disclosure and

comparability of financial reports. They also assist investors and creditors to monitor the performance of insiders. Accounting standards provide accountants with principles and rules of authority in the preparation of financial reports. In addition, they assist auditors to refuse demands by clients to accept reports which do not comply with accounting standards and are potentially misleading. Thus, they curb opportunities for insiders of the organisation to hide sub-optimal behaviour such as spending corporate resources on maximising their own utility (Benston, 1982). Accounting standards are needed in complex financial markets because they facilitate decisions on capital allocation and monitoring and rewarding of performance (Brown, 2011). Thus, improvements in accounting standards can lead to reduced earnings management by the insiders of the organisation and promote more useful financial information, thereby improve accounting quality.

Prior to 2005, all UK firms were required to prepare their financial reports according to UK GAAP. Following Regulation (EU) 1606/2002, UK firms that are listed on the Main Board of the LSE have to report their consolidated financial statements according to IFRS for financial periods starting from 1 January 2005.⁷

2.3.1.1 UK Generally Accepted Accounting Principles (UK GAAP)

UK GAAP is considered to be one of the highest quality sets of national standards in the world (Horton and Serafeim, 2009). Similar to IFRS, UK GAAP are principles based accounting standards. The true and fair requirement is a central concept in UK financial reporting and the UK Conceptual Framework (Statement of Principles for Financial Reporting). An advantage of a principles based accounting system is that it reduces the scope for financial statement preparers to comply with narrow interpretations of rules without divulging decision useful information (Schipper, 2003). That is, it aims to prevent the preparation of financial reports that meet the technical requirements of the standards but violate their purpose of providing decision useful information to investors. Principles based standards help to limit the opportunistic discretion of directors whereby they make aggressive accounting choices and omit decision useful information from financial statements (Benston, Bromwich and

⁷Firms listed on the Alternative Investment Market (AIM) of the LSE, which caters mainly to smaller firms relative to those listed on the Main Board were allowed to adopt IFRS at a later date and are excluded from this study. These firms mandatorily adopted IFRS for fiscal periods commencing on or after 1 January 2007 (LSE, 2005).

Wagenhofer, 2006a). Therefore, relative to rules based standards, principles based standards such as UK GAAP limit the scope of insiders to engage in earnings management and improve the value relevance of financial statements to outsiders.⁸

Over time national standard setters have taken UK GAAP through several iterations of reforms in order to enhance the standard setting process as well as the standards themselves. For example, from 1970 to 1990 national accounting standards in the UK were issued by the Accounting Standards Committee (ASC). These standards were called Statements of Standard Accounting Practices (SSAPs). However, from 1990 national accounting standards were issued by a newly formed Accounting Standards Board (ASB). The standards developed by the ASB are referred to as Financial Reporting Standards (FRSs). The ASB also adopted the SSAPs that had already been issued by the ASC. Some of the SSAPs have been superseded by FRSs. The SSAPs and FRSs in combination are referred to as UK GAAP (ASB 2002).

The ASC was criticised due to its lack of authority to take action on difficult accounting issues, lack of direction in terms of a conceptual framework and its dominance by the accounting profession (Whittington 1989; Roberts, Weetman and Gordon, 2005, p.462). In the wake of several corporate collapses and financial scandals relating to poor financial reporting, a committee under the chairmanship of Sir Ronald Dearing was established ‘to review and report on the standard setting process’ (Dearing, 1988, p.1). Following recommendations made by the Dearing Report a restructure of the financial reporting regulatory bodies was carried out and the ASB was established in 1990. The ASB is an autonomous accounting standard setter and unlike its predecessor it can issue accounting standards in its own authority without the approval of another body (ASB, 2002).

The Dearing Report also identified the need for a theoretical or conceptual framework. Therefore, the ASB published a Statement of Principles for Financial Reporting in 1999. While the previous standards were based on principles there were inconsistencies between them as they were developed piecemeal. In addition they had not kept up with modern developments and some were not in line with international

⁸ In this thesis I use firm directors, managers and insiders interchangeably as directors and managers form part of a firm’s insider group.

developments. The development of a comprehensive statement of principles aims to maintain consistency between the different accounting standards, assist financial statement preparers in interpreting existing accounting standards and guide the reporting of new or emerging issues in the absence of applicable accounting standards (ASB, 1999).

UK GAAP are perceived to be high quality standards (Horton and Serafeim, 2009). Both UK GAAP and IFRS are principles based standards (Benston et al., 2006a). In addition, Bae, Tan and Welker (2008) find that the actual number of differences between IAS and UK GAAP are minor compared to the domestic accounting standards in countries such as Germany and France. However, the adoption of IFRS imposed significant costs to UK firms in terms of one time transitional costs (such as retraining staff and changing information systems) as well as ongoing compliance costs (ICAEW, 2007).⁹ Therefore, it is pertinent to investigate whether there are any benefits, in terms of improvements in accounting quality, for UK firms due to the adoption of IFRS and the mechanisms by which such improvements may occur.

2.3.1.2 International Financial Reporting Standards (IFRS)

IFRS are issued by the IASB. Prior to 2001, international standards were issued by the IASB's predecessor, the IASC that issued IAS. The IASB accepted the IAS already issued by the IASC. The IASB is viewed as better-funded, better-staffed and more independent than the IASC (Ball, 2006). The IASB's role is standard setting. Enforcement of IFRS is the responsibility of the respective national regulatory bodies in jurisdictions adopting IFRS (Cairns, 2004).

Since 2001, more than 120 countries have required or permitted the use of IFRS. All remaining major economies have established time lines to converge with or adopt IFRS in the near future. In 2007, the US Securities and Exchange Commission (SEC)

⁹ The Institute of Chartered Accountants in England & Wales (ICAEW, 2007, p.61) estimates the typical cost of preparing the first IFRS consolidated financial statements for European publicly traded companies is: (i) Companies with turnover below €500m - 0.31% of turnover; (ii) Companies with turnover from €500m to €5,000m - 0.05% of turnover; (iii) Companies with turnover above €5,000m - 0.05% of turnover.

The ICAEW estimate the typical ongoing costs of preparing IFRS consolidated financial statements is: (i) Companies with turnover below €500m - 0.06% of turnover; (ii) Companies with turnover from €500m to €5,000m - 0.01% of turnover; (iii) Companies with turnover above €5,000m - 0.008% of turnover.

removed the requirement for non-US firms registered in the US to reconcile their financial reports with US GAAP if their accounts complied with IFRS as issued by the IASB. Additionally, the SEC has also published a proposed roadmap on the adoption of IFRS for domestic US firms (IASCF, 2010).

UK firms listed on the Main Board of the LSE have to report their consolidated financial statements according to IFRS for financial periods starting after 1 January 2005. They were not allowed to report under IFRS before 2005. Thus the first sets of annual reports that are IFRS compliant are reported by firms which have 30 December financial year ends. Firms that have alternative year ends reported their first IFRS compliant reports in 2006.

The IASB has adopted a similar approach to accounting standard setting to the ASB in that it intends for IFRS to be principles based. IFRS are based on IASB's Framework for the Preparation and Presentation of Financial Statements (adopted from the IASC). This conceptual framework sets out the concepts that underlie the preparation and presentation of financial statements for external users (IASCF, 2001).¹⁰

There are similarities between the IASC's Framework and the ASB's Statement of Principles for financial reporting (Gee, 2006). For example, both frameworks require that firm financial statements provide a 'true and fair' depiction of the financial position of the firm (Van Hulle and Leuven, 1993). However, there are many differences between the individual standards under UK GAAP and IFRS. It is argued that IFRS use more current measurement methods such as fair values and provide greater disclosure of certain assets or liabilities compared UK GAAP (PwC, 2005; Hoogendoorn, 2006). In addition, IFRS introduced standards in areas where UK GAAP did not have equivalent standards such as in the reporting of financial instruments (IAS 39 *Financial Instruments: Recognition and Measurement*, IAS 32 *Financial Instruments: Presentation*) and share based payments (IFRS 2 *Share-based Payment*) (Cairns, 2004; Cairns et al., 2011). The greater guidance provided by the introduction of these new standards should limit the discretion that insiders have in the

¹⁰The Framework for the Preparation and Presentation of Financial Statements that was published in 1989 is being revised by the IASB. The revisions are being carried out in phases based on individual chapters. In September 2010 the IASB issued a revised Conceptual Framework that included Chapters 1, 3 and 4. When the conceptual framework project is completed, the IASB will have a comprehensive single document called the Conceptual Framework for Financial Reporting.

preparation of financial statements, thereby scope for earnings smoothing. These standards also require greater disclosure, increasing the usefulness of financial statements to users. Fair value accounting rules aim to incorporate more timely information about economic gains and losses on assets and liabilities in the financial statements. This could result in a reduction in the scope for earnings smoothing by the preparers of financial statements and an increase in the value relevance of earnings for investors (Ball, 2006). However, there are certain transactions where IFRS appear to allow greater flexibility or less disclosure, such as the recognition of retirement benefits (Cairns, 2004).

In order to assess the mechanisms that may cause the adoption of IFRS to improve the accounting quality of UK firms, this thesis focuses on the accounting standards where IFRS requires greater disclosure or current value measurement practices compared to UK GAAP. These specific differences between UK GAAP and IFRS are discussed in detail in Chapter 4.

2.3.2 Company law

Company law is the second regulatory element depicted in Figure 2-1 in the UK institutional setting for financial reporting. Company laws are concerned with the legal relations between corporate insiders (including directors) and the corporation itself and the legal relations between the corporation and certain outsiders (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1998).

Company law provides investors with protection against expropriation by the insiders of the firm by giving investors the right to take them to court to recover any losses the investors may have suffered. Furthermore, if the courts find that the financial reports are defective, they can order the directors to personally pay for any legal costs incurred by the investors in applying to the courts. In addition, the directors may have to personally pay for the costs incurred by the firm in preparing revised accounts. This reduces the incentive of insiders to publish misleading financial statements (Armour, Black, Cheffins and Nolan, 2009).

Successive Companies Acts have aimed to extend financial reporting disclosure requirements and to make financial information more accessible to minority shareholders, with the intention of improving the ability of shareholders to assess the

financial performance and position of a firm (Taylor and Turley, 1986). Useful disclosures should limit the ability of insiders to conceal dysfunctional behaviour and thus increase value relevance of financial statements, and ultimately accounting quality.

The 1948, 1967 and 1981 Companies Acts have been the main statutes that have shaped accounting disclosure requirements in the UK. The 1948 Act was significant because it reflected a radical change in the approach to legislation in accounting. One of the major provisions in this Act was the requirement for every firm to present annually to shareholders a set of accounts which comprised a balance sheet and profit and loss account along with Directors' and Auditors' Reports. Furthermore, for the first time, the profit and loss account had to be audited. This Act required the firm's auditors to report whether the financial statements provide a 'true and fair view' of the firm's financial position at the end of the period and profitability during the period (Cowan, 1965). This is in contrast to the arguably more rules based approach adopted in the US requiring financial reports to be presented 'fairly in conformity with generally accepted accounting principles.' In addition, the fairly non-restrictive true and fair concept was vastly different to the approach adopted in Continental Europe, where following specified statutory accounting rules was the norm (Benston et al., 2006a).

Opponents of the true and fair view approach argue that it gives managers too much discretion. However, its proponents highlight the additional flexibility allows insiders to select an appropriate course of action to ensure that the accounts provide an accurate reflection of the particular circumstances of the firm (Joos and Lang, 1994). Another advantage of the 'true and fair view' concept is that it prevents directors from seeking to conceal pertinent information by applying narrow interpretations of the regulatory requirements (Flint, 1982). Therefore, this concept can be viewed as more effective in reducing the incentives of insiders to exploit minority investors (Tweedie and Kellas, 1987). Thus it is perceived that the adoption of the 1948 Act resulted in a vast improvement in the UK regulatory system, as emphasis shifted away from the importance of accounting regulation in ensuring the numerical accuracy of accounts, towards improving the quality of financial reporting disclosure and the protection of shareholders and creditors (Roberts et al., 2005).

The 1967 Act significantly extended the disclosure requirements of the previous Act. For example, it required an additional breakdown of the directors' compensation between the Chairman and directors at various levels of compensation (Main, 1993). Furthermore, the 1967 Act required firms to disclose in the profit and loss account or notes the turnover for the year and method of computation, income from investments, auditors' remuneration and interest payable. It also made provisions which aided investors in assessing the future cash flows of the firm. For example, it required firms to provide details on interest payable, capital expenditures and the breakdown between loans payable within and beyond five years (Taylor and Turley, 1986). Therefore, the 1967 Company Act continued the trend established by the 1948 Act of improving financial reporting disclosure (Roberts et al., 2005).

The trend towards greater disclosure continued with the enactment of the 1981 Act. A notable provision of this Act is the requirement that firms disclose details of cost of sales in the profit and loss account. The content of the Directors' Report was also expanded to include a statement of future prospects. Most importantly it was subjected to an audit where the auditor must report on any inconsistencies between information in the Directors' Report and information in the accounts (Taylor and Turley, 1986). The 1981 Act had a significant impact on the UK regulatory system because it implemented the European Economic Community's (EEC) Fourth Directive (Roberts et al., 2005). Further discussion of the impact of the Fourth Directive on UK regulation is provided in Section 2.3.3.

The most recent act is the 2006 Act and it aims to make it easier for shareholders to take directors to court. This is achieved by introducing a new statutory right for shareholders to bring proceedings under the firm's name against its directors and to recover losses the firm has suffered as a result of their negligence, default, breach of duty or breach of trust. This is referred to as a derivative or class action. Prior to the 2006 Act, shareholders had very limited common law rights to bring action in their firm's name and historically the level of litigation in the UK had been low (Benston, Bromwich, Litan and Wagenhofer, 2006b, p.91). Although the 2006 Act aims to increase the ability of minority shareholders to seek remedial action against insiders of the organisation, it also requires that shareholders gain permission from the courts to proceed with derivative actions (Davies and Rickford, 2008). Therefore, it is argued that the effect of the 2006 Act on derivative action and in turn investor protection may

not be significant because the entitlement for shareholders to bring such actions is subject to the courts allowing them to proceed (Reisberg, 2009). To date there have not been any studies which have compared the level of derivative action pre and post adoption of the 2006 Act.

Another important development in the 2006 Act is the introduction of the first ever statutory code for directors. Sections 171 to 177 of the Act codifies the following general duties of a firm director: (i) to act within his or her powers, (ii) to promote the success of the firm, (iii) to exercise independent judgement, (iv) to exercise reasonable care, skill and diligence, (v) to avoid conflicts, (vi) not to accept benefits from third parties and (vii) to declare interest in proposed transactions. Previously, the general duties of directors had been developed and enshrined in case law. The replacement of these common law principles with statutory duties makes directors exposed to both civil and criminal liabilities (Davies and Rickford, 2008).

Successive Companies Acts attempt to improve investor protection by increasing disclosure requirements and the ability of shareholders to take legal action against the insiders of the organisation (Taylor and Turley, 1986; Davies and Rickford, 2008). These changes aim to reduce the ability of insiders to exploit the outsiders of the organisation thereby discouraging earnings management and improving the quality of financial information. However, there have been no empirical studies that specifically investigate whether the introduction of successive Companies Acts have enhanced investor protection and accounting quality in the UK. A related discussion on the level of litigation in the UK is provided in Section 2.4.4.

2.3.3 European Union Directives and Regulations

In January 1973 the UK joined the European Economic Community (EEC) that later evolved into what is now the EU. At the time of this thesis the EU has 27 member states. Legislative instruments adopted by the EU take the form of Directives and Regulations. A Directive commits the member states to ratify it by incorporating the provisions of the Directive into national law within a certain time period. However, Regulations become immediately effective without the transposition into national law (Benston et al., 2006b, p.147).

The most fundamental EU Directives on financial reporting are the Fourth and Seventh Directives. The Fourth Directive was issued in 1978 and deals with the accounts of limited liability companies (Benston et al., 2006b, p.136). The development of the Fourth Directive began in 1965, at a time when the UK was not a part of the EEC. Thus, the first draft of this Directive was prepared under a strong German influence because at that time, out of the six EC member states (France, Germany, Italy, Belgium, Netherlands and Luxembourg), Germany had the most developed company law in accounting (Nobes, 1993). Therefore the first draft of the Fourth Directive, issued in 1971, showed a more rules based approach to regulation and emphasised the accuracy of bookkeeping rather than the financial reports reflecting the underlying value of the firm. For example the general requirements of the first draft stated in article 2(3) that the annual accounts ‘shall reflect as *accurately* as possible the firm’s assets, liabilities, financial position and results’ (Walton, 1997, emphasis added). However, January 1973 saw the arrival of the UK into the EC resulting in a shift in regulatory power away from Germany. The outcome of this event is that the heavily revised article 2(3) of the finally adopted version stating that ‘the annual accounts shall give a *true and fair view* of the firm’s assets, liabilities, financial position and profit and loss’ (Van Hulle and Leuven, 1993). As previously noted, the true and fair view concept is a central element in company law in the UK (Alexander, 1993). Therefore, the UK was successful in influencing the EC to adopt regulations which were similar to those effective in the UK (Roberts et al., 2005).

An area where the Fourth Directive has had an impact on the UK regulatory system is the introduction of detailed formats for the balance sheet and the profit and loss account. These provisions reflect the French and German traditions where rigid reporting formats were the norm but contrasts with the previous flexibility in the UK reporting. The enactment of the Fourth Directive into UK Company Law meant that for the first time in the UK’s reporting history, detailed firm account formats were prescribed by law (Thorell and Whittington, 1994). Nonetheless, these provisions may not have had a significant impact on the UK’s reporting practices because although the UK did not have statutory reporting formats, firms had for many years followed a similar pattern of reporting by convention (Taylor and Turley, 1986, p.151).

While the Fourth Directive deals only with disclosures of individual firms, the Seventh Directive focuses on consolidated accounts of groups. The Seventh Directive was

introduced with objectives of improving financial reporting and disclosure practices to assist host countries control multinational corporations (Parker, 1996). This Directive extends the requirements of the Fourth Directive to cover group accounts, introduces standards of consolidation and deals with other issues particularly relevant to multinational corporations (Joos and Lang, 1994). When the Seventh Directive was issued, only two countries in the EU (UK and Ireland) had comprehensive legal requirements that applied to consolidated accounts (Thorell and Whittington, 1994).

A highly contentious issue in the development of the Seventh Directive was the criteria for consolidation of group accounts. This was due to the conflict between the UK approach (based on legal control as measured by equity share ownership) and the German approach (where emphasis is placed on management influence and economic control). The adopted version of the Directive is biased more towards the UK accounting practice by requiring the use of the legal control approach. However, the Directive also provides member states a wide range of optional conditions including the option to apply the economic control criterion (Taylor and Turley, 1986). In fact the Seventh Directive, like the Fourth, offered around fifty options to be exercised either by the member country or the firm (Thorell and Whittington, 1994).

The sanction of numerous options and the flexibility given to member states in the implementation of the Directives into national law have led some commentators to question the real effects of the Directives on accounting practices (Walton, 1992). Furthermore at the time the Seventh Directive was issued, the UK was one of only two countries in the EU which had comprehensive legal requirements that applied to consolidated accounts (Thorell and Whittington, 1994). Therefore, the effects of the Fourth and Seventh Directive in improving financial reporting and ultimately accounting quality in the UK is uncertain. This is supported by the findings of Joos and Lang (1994) which revealed that the substantial differences in accounting practices existing between Germany, France and the UK were largely unaffected by the adoption of the Fourth and Seventh Directives.

Historically Directives have been the most common form of legislation for regulating financial disclosure. However in 2002, Regulation (EC) No 1606/2002, of the European Parliament and of the Council of 19 July 2002, on the application of IAS was issued. This Regulation requires all listed firms of member states to prepare

consolidated financial statements based on international accounting standards with a view to harmonising the financial information presented by firms. It is intended to ensure a high degree of transparency and comparability of financial statements and hence efficient functioning of capital markets (Regulation (EC) No 1606/2002, Article 1). The effect of Regulation (EC) No 1606/2002 on accounting practice and in turn accounting quality will depend on the extent of differences between UK GAAP and IAS and also changes in the institutional setting in which IAS are used over time. Differences between UK GAAP and IAS are discussed in Chapter 4 while changes in the institutional setting relating to enforcement in the UK is discussed in Section 2.4.

2.3.4 Listing rules

Stock exchange listing rules are an important element for ensuring good accounting quality as these rules can be used to reinforce standards of transparency and corporate governance (FEE, 2002). The UK, together with the US is perceived to have the most developed and sophisticated capital markets in the world with extensive listing rules to ensure a fair and efficient market (PWC, 2002).

Prior to 2000 the LSE was the competent authority for admission of securities for listing and the subsequent admission of securities to trading. However, in 2000 under the Financial Services and Markets Act 2000 (hereafter FSMA 2000), the Financial Services Authority (FSA) became the competent authority for listing in the UK (UK Listing Authority).¹¹ In its role as the UK Listing Authority (UKLA), the FSA acts as the securities regulator, focusing on listed firms. The FSA is responsible for admitting securities to the Official List while the admission of securities to trading continues to be the responsibility of the LSE (FSA, 2008). The FSA is empowered to make rules relating to the admission of securities to listing, the enforcement of those obligations and the suspension and cancellation of listing (FSMA 2000 Part IV). These rules are collectively known as Listing Rules.

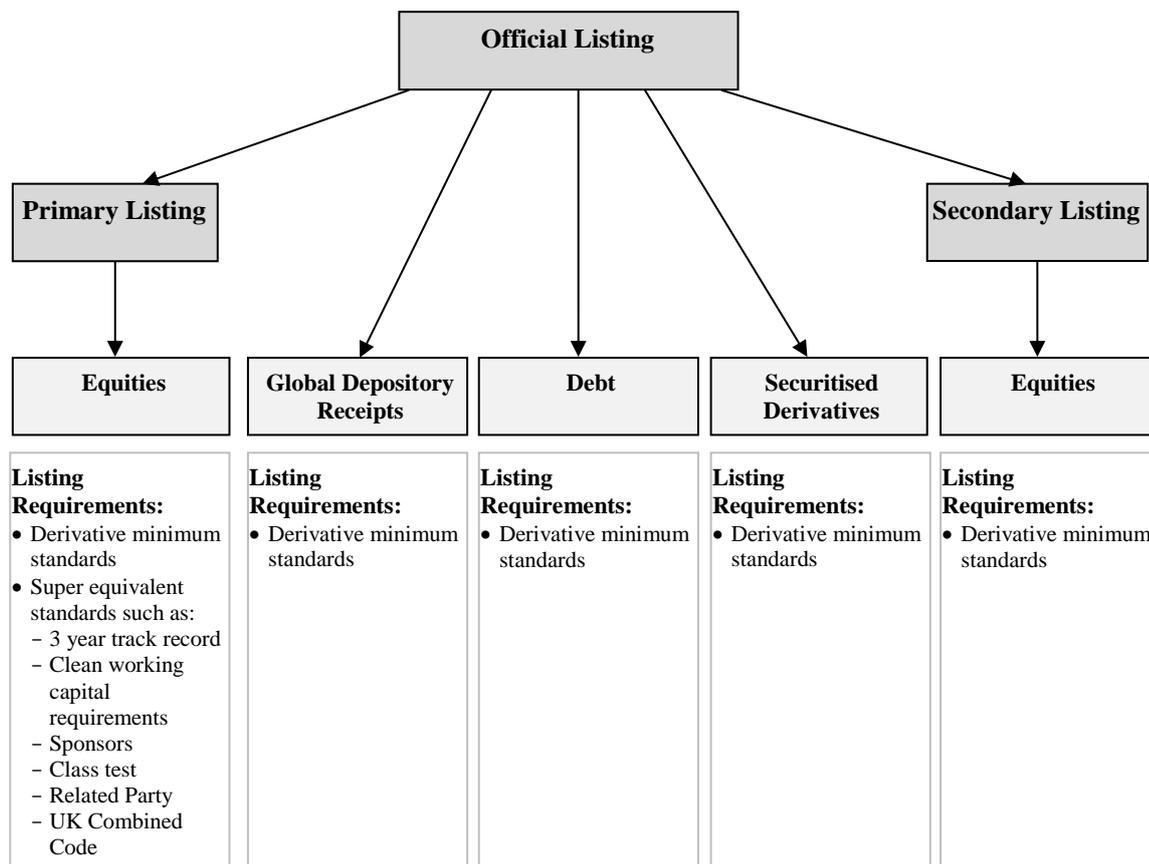
Therefore in the UK, at the time of this thesis, the role of the stock exchange (LSE) and the regulator (FSA) is delineated. This assists in avoiding conflict of interest situations that arise when the stock exchange has commercial interests in maximising

¹¹ Further information on the FSA is provided in Section 2.4.3 of this chapter.

the number of firms listed on its exchange but is also responsible for setting listing rules and enforcement. The severity of the listing rules and enforcement mechanisms could discourage firms from listing due to additional costs associated with compliance (FEE, 2002).

At the time of this thesis, there are five types of listings on the Official List of the LSE. These are depicted in Figure 2-2.¹² A firm originating from the UK wishing to list its shares on the LSE must have a primary listing, which imposes the most stringent listing requirements for entry on the Official List. An overseas firm (including European Economic Area firms) wishing to list its equity may have a primary or secondary listing or have its Global Depository Receipts (GDRs) listed (FSA 2008).

Figure 2-2: Listing segments on the Official List and the listing requirements for each segment.



[Source: FSA, 2008, p.11]

This thesis focuses on firms originating from the UK and having a primary listing on the LSE. The major difference in the listing requirements between the primary listing

¹² Firms listed on the Alternative Invested Market (AIM) on the LSE are not on the Official List.

and other forms of listing is that there are additional requirements these firms have to meet on top of the EU Directive requirements. The additional requirements are collectively referred to as ‘super equivalent standards’ while the requirements imposed by the EU Directives are referred to as ‘directive-minimum standards’. Some of the super equivalent standards for obtaining a Primary Listing include:

- A three year revenue earnings record which has been independently audited without qualification within a period of six months of the prospectus.
- Unqualified working capital statements.
- Appointment of a Sponsor to advise on key transactions such as the Initial Public Offerings and subsequent issues of shares.

Furthermore, once a firm has been granted a Primary Listing, it has to meet additional ongoing obligations such as:

- Providing information in its annual report about compliance with the code of corporate governance in its country of incorporation (which is the Combine Code for UK firms) and directors’ remuneration.
- Obtaining shareholder approval on the disposal or acquisition of assets that reach certain thresholds and related party transactions.

UK firms have been required to follow the above mentioned additional requirements even before the introduction of IFRS. However in 2005, the FSA introduced a new requirement for firms with a primary listing whereby these firms have to comply with six Listing Principles that are enforceable as rules. These Principles are included in Chapter 7 of the Listing Rules (FSA, 2010a). They require a listed firm to (i) take reasonable steps to enable its directors to understand their responsibilities and obligations as directors, (ii) take reasonable steps to establish and maintain adequate procedures, systems and controls to enable it to comply with its obligations, (iii) act with integrity towards holders and potential holders of its listed equity securities, (iv) communicate information to holders and potential holders of its listed equity securities in such a way as to avoid the creation or continuation of a false market in such listed equity securities, (v) ensure that it treats all holders of the same class of its listed equity securities that are in the same position equally in respect of the rights attaching to such listed equity securities, and (vi) deal with the FSA in an open and cooperative manner.

With the introduction of the Listing Principles the FSA did not intend to significantly change the Listing Rules which were in existence. The intent was to encourage firms to comply with the spirit as well as the letter of the listing rules (FSA 2010a). If compliance with the Listing Rules has increased post 2005 then this should be reflected in improvements in accounting quality through improvements in the timely dissemination of information, greater transparency and less scope for earnings management by insiders through better corporate governance.

2.4 ENFORCEMENT

While laws and regulations are an important aspect of accounting quality, the enforcement of these regulations is equally important (Ball, 2006; Brown, 2011). The effectiveness of a regulatory regime is dependent on both substantive rules and enforcement mechanisms (Armour, 2008). The main objective of an enforcement regime is to ‘detect and correct errors and omissions before they enter the public domain’ (FEE, 2002, p.22). Historically the UK is perceived to have high quality statute law, corporate governance mechanisms and accounting standards (Benston et al., 2006b, p.95). However, prior to the adoption of IFRS, there had been concerns about the enforcement of these regulations by public sector bodies. For example, instances of formal action taken by regulatory bodies such as the FSA and the FRRP are limited and shareholder litigation has been noticeably absent in the UK. However, these omissions were mitigated by informal action such as private requests for remedial action by regulatory bodies and requests for executive turnover following inferior performance by shareholders (Armour, 2008; MacNeil, 2007).

While the IASB issues international standards, it does not monitor or undertake actions to enforce compliance. The IASB relies on national bodies to monitor and ensure compliance with IFRS (Cairns, 2004). Therefore, the IASB’s objective of improving reporting quality may not be achieved if the national enforcement bodies do not operate effectively (Brown and Tarca, 2005; Ball, 2006; Pope and McLeay, 2011; Kim, Li and Li, 2012). This is highlighted in Regulation (EC) No 1606/2002 clause 16, where it states that a ‘proper and rigorous enforcement regime is key to underpinning investors’ confidence in financial markets. Member States are required to take appropriate measures to ensure compliance with international accounting standards. Thus, it is important to examine the monitoring and enforcement bodies that exist in

the UK and any changes in their operation or structure that may have occurred prior to or during the adoption of IFRS as these changes may influence the incentives of firms to improve financial reporting quality.

The enforcement mechanisms discussed in this section are consistent with those identified by FEE (2001) and shown in Figure 2-1. These are (i) self enforcement including the implementation of appropriate corporate governance structures such as audit committees, (ii) statutory audits by external auditors, (iii) courts, (iv) institutional oversight system such as independent regulators and (v) public and press reactions.

2.4.1 Self enforcement including corporate governance

Effective internal corporate governance mechanisms are an essential part of the UK financial reporting framework. Corporate governance mechanisms are geared towards preventing top management from exploiting their position within the firm and to increase the transparency of their actions (FEE, 2002). Thereby, good corporate governance mechanisms may lead to reduced scope for earnings management and thus better accounting quality. Corporate governance mechanisms are seen as the first line of defence in ensuring high quality financial reporting (FEE, 2002). Internal corporate governance mechanisms include items such as the constitution and membership of the board of directors and its committees, the structure of share ownership, financing arrangements, and the form of executive compensation (Shleifer and Vishny, 1997; Brown, Beekes and Verhoeven, 2011). Corporate governance in the UK is guided by common law, the LSE listing rules and some requirements of the FSA (Benston et al., 2006b, p.95).

As a result of some major scandals (for example, the Maxwell scandal) rules relating to corporate governance have been progressively strengthened since the 1990s (Benston et al., 2006b, p.95).¹³ One of the most important developments was the creation of the Cadbury Committee and the resulting report ‘The Financial Aspects of Corporate Governance’ published in 1992. The Cadbury Committee was established in May 1991 by the Financial Reporting Council (FRC), the LSE and the accountancy profession to

¹³The Maxwell scandal involved the illegal use by a failing UK firm of assets in its pension fund by evading existing corporate governance mechanisms which resulted in thousands of pensioners being defrauded. For a detailed discussion of the Maxwell scandal refer to Stiles and Taylor (1993).

review aspects of corporate governance specifically related to financial reporting and accountability. The three main recommendations of the report were (i) that boards of publicly traded firms have at least three non-executive directors, (ii) that the board establish an audit committee focusing on the financial reporting aspects of the firm and (iii) the role of Chief Executive Officer (CEO) and Chairman be undertaken by separate individuals. Consistent with the last recommendation, the Higgs Report (2003) found that in 2002, 95% of the largest UK firms have separate individuals as the CEO and Chairman. This contrasts with only 20% of US firms.

Since the Cadbury Report's release in 1992, there has been successive committees established and reports published with the intention of strengthening the corporate governance system in the UK. The most important reports are: Greenbury Report (1995), Hampel Report (1998), Turnbull Report (1999), Smith's Report (2003) and Higgs Report (2003). Various recommendations from these reports have been consolidated to make the Combined Code. Since the first publication of the Combined Code in 1998 it has been reviewed several times and the most recent version was published in 2008 by the FRC. The Combined Code of Corporate Governance applies to all listed UK firms and provides guidelines on establishing an effective audit committee and guidance to directors. The audit committee is seen as a cornerstone of the UK public's confidence in corporate governance and financial reporting. The Combined Code states that the duties of the audit committee should include carrying out reviews of the scope and results of external audits and monitoring the independence and objectivity of the external auditors. The Combined Code also provides guidelines on Board composition such as a separation of roles between the Chairman and the CEO (FRC, 2008).

Although compliance with the Combined Code is not mandatory, the LSE listing rules require UK firms listed on the Main Board to comply with the Combined Code or give a clear rationale as to why the recommendations of the Combined Code are not being followed. It is expected that this 'comply or explain' approach should give directors enough flexibility to adopt appropriate corporate governance measures for each unique firm while giving investors enough information to gain an understanding of the firm's corporate governance arrangements that are in place (FRC, 2006).

The FRC carried out a review on the effectiveness of the Combined Code in March 2009 (FRC, 2009). The review sought the views of various parties such as firms, investors, accountancy firms and professional bodies on any aspect of the Combined Code and its application. One of the main findings of the review was that almost all respondents felt that the Combined Code and its predecessors have contributed to overall improvements in governance among listed firms since the first code was introduced in 1992.

As discussed in Section 2.3.2, the directors of a firm are required under company law to prepare annual financial statements that provide a true and fair view of the firm's financial position and performance (Companies Act 2006, clause 393). The directors of listed firms are required to present the financial statements to shareholders in the general meeting (Companies Act 2006, clause 437). In addition directors may be removed at any time by an ordinary resolution of the general meeting (Companies Act 2006, clause 168) and such a meeting may be requested by 10% of the firm's voting shares. The threat of removal from the Board of Directors may work as an effective substitute to legal action and reduce the incentive of insiders to exploit outsiders of the firm (Brown et al. 2011; Armour, 2008). Buchanan, Netter and Yang (2010) found that during the period between 2000 to 2006 UK shareholders requisitioned significantly more proposals that aim to elect or remove specific directors than US shareholders. The authors argue that this is due to corporate governance rules in the UK making it easier for shareholders to initiate changes to directors compared to the rules in the US.

Strong corporate governance mechanisms stop insiders from exploiting their position within the firm and to increases the transparency of their actions (FEE 2002). In addition better governed firms tend to release more informative disclosures in a timely manner (Beekes and Brown, 2006). Thus, good corporate governance is essential to high quality financial reporting (FEE, 2003). Hence the above mentioned reforms implemented in the UK since the 1990s with the aim of strengthening their corporate governance mechanisms may have improved their accounting quality through reductions in earnings management and improved value relevance of financial information.

2.4.2 Statutory audits by external auditors

Another key element of enforcement is the external audit of financial statements by independent auditors (FEE, 2001). The UK has historically relied on auditors to ensure compliance with accounting standards and all UK domestic firms are required to have their accounts audited under UK auditing standards by a UK registered auditor (Fearnley and Hines, 2003).

Independent auditors who are experts in the rules are an important element of financial reporting enforcement (Brown and Tarca, 2005). Statutory audits improve the reliability of the financial statements by subjecting them to scrutiny by an independent external party (FEE, 2001). The quality of audits will have an impact on investor confidence of financial statements (Brown et al. 2011).

Historically, creative accounting and the quality of audit was an issue in the UK because of the lack of enforcement against insiders and auditors of firms who engage in sub-optimal behaviour (Fearnly and Hines, 2003). Prior to the 1990s, there was significant pressure on auditors to align their interests with those of the preparers of financial statements more than external stakeholders (McBarnet and Whelan, 1999, pp. 4-6). However due to several high profile corporate collapses, the UK Government initiated significant reforms in the regulation and supervision of auditors. A review was carried out by the Department of Trade and Industry in 2003 of the regulatory arrangements for the accountancy and audit professions. The review recommended that the FRC take on the responsibilities of setting accounting and auditing standards, their enforcement and monitoring and the oversight of the major professional accountancy bodies from the Accountancy Foundation (which was fully funded by professional accounting bodies). In addition the review highlighted the need to significantly strengthen the independence of setting auditing standards and monitoring the audit of listed firms by transferring those responsibilities from the professional accountancy bodies to an independent regulator. These recommendations aimed to alleviate concerns about lack of independence and the complexity of the regulatory arrangements for the accountancy and audit professions (DTI, 2003).

Following the recommendations of the DTI (2003) the FRC became responsible for the overall oversight of audits. There are several entities within the FRC assisting it to

discharge its responsibilities in relation to monitoring and improving audit quality. These are the Professional Oversight Board (POB), the Audit Inspection Unit (AIU) and the Auditing Practices Board (APB).¹⁴

The POB was set up in 2004 and provides independent oversight of the auditing, accounting and actuarial professions through their respective recognised professional bodies. Furthermore, the POB monitors the audit quality of economically significant entities (mainly listed firms) through the AIU (FRC, 2010). The AIU is a part of the POB and by monitoring and encouraging improvements in audit quality, the AIU intends to contribute to the FRC's overall aim of promoting confidence in the UK's corporate reporting and governance. The APB is responsible for setting audit standards. If in carrying out its duties, the AIU identifies areas where changes to auditing, ethical or quality control standards appear to be needed to promote audit quality, it will bring this to the attention of the APB (AIU, 2005). The current structure is a significant alteration from the system that existed before 2003 where most powers (including setting auditing and ethical standards) were held by the professional bodies, such as the Institute of Chartered Accountants in England and Wales (ICAEW) (Fearnley and Hines, 2003).

The AIU commenced inspections in June 2004 and published its first annual Audit Quality Inspections report in July 2005. By March 2005 the AIU had carried out investigations of 27 audits (AIU, 2005). By 2009 the AIU had significantly increased the number of inspections it carries out to 70. Eight were considered by the AIU to require significant improvement in certain areas (AIU, 2009). The AIU recommendations for actions are sent to the accountancy bodies which then should take appropriate action. The POB monitors whether the professional bodies have taken appropriate action to the AIU recommendations. The AIU may also inform other relevant bodies that fall under the FRC. For example if the AIU has concerns about the corresponding financial statements of an audit it has reviewed, it may inform the FRRP (Cearns and Ferran, 2008).

¹⁴With effect from 2 July 2012 the AIU has been re-named the Audit Quality Review Team.

If the auditors conclude that the financial reports show a material departure from the accounting standards or do not depict a true and fair view of the firm, they can qualify their reports (FEE, 2000; Citron and Taffler, 2001). This in turn alerts investors, the public and the independent enforcement bodies to possible irregularities in the financial statements of the relevant firms. For example, the FRRP investigates all accounts brought to its attention with qualified audit opinions for non compliance with the accounting requirements (FRRP, 2009). Therefore, scrutiny by independent auditors increases the detection of manipulation of financial information by outsiders (FEE, 2002). This should result in less earnings smoothing and improved value relevance of financial information which in turn should result in better accounting quality. However, as in the case with Enron and Arthur Andersen, auditors are less likely to qualify financial reports if their independence, thereby their integrity, is compromised (McConnel and Banks, 2003).

In the aftermath of high profile collapses in the US such as Enron, WorldCom and Arthur Andersen, auditor independence and the provision of non audit services became significant issues in the US. Consequently the UK government set up the Coordinating Group on Audit and Accounting Issues (CGAA) to lead a review of the UK regulatory framework (CGAA, 2003). Following the CGAA's final report in 2003 key changes implemented include the requirement for engagement partners to rotate every five years and other key partners to rotate every seven years. There are also greater disclosure requirements about fees paid for non audit services (Fearnley and Beattie, 2004). These changes should improve the independence of the auditors, thereby strengthening their power to insiders engaging in earnings management. The changes should also enhance investor confidence and potentially value relevance of financial statements. Therefore, these reforms may indirectly have a positive impact on accounting quality.

2.4.3 Institutional oversight system

Another essential element for ensuring high accounting quality is a robust institutional oversight system for monitoring the correct application of accounting standards by independent enforcement bodies. Therefore the EU's Committee of European Securities Regulators (CESR) released recommendations for all member states to set

up independent enforcement bodies to promote high quality, comparable financial reporting (CESR, 2003).¹⁵ These enforcement bodies should when necessary, have the power to enforce compliance and force changes to financial statements through actions such as negotiation, sanctions and initiating a court case. According to FEE (2002) they should at minimum, carry out reactive enforcement where they investigate matters for which complaints about non-compliance are received. In FEE's view enforcement bodies should also carry out proactive enforcement where firm financial reports are selected for investigation based on factors such as the type of business, previous issues with the quality of financial reporting and whether financial reports were qualified by the auditors. This is consistent with Standard No. 1 *Financial Information Enforcement of Standards on Financial Information in Europe* published by CESR (2003). Standard No. 1 recommends that EU national enforcers of financial information should adopt a risk-based proactive approach to the selection of financial information for review rather than a purely rotation or reactive approach.

2.4.3.1 Financial Reporting Review Panel

In the UK, the FRRP was established in 1991 to ensure that the accounts and other financial reports of public firms and large private firms comply with the Companies Act and relevant accounting standards (Roberts et al, 2005). Additionally, since April 2006, the FRRP has begun reviewing Director's Reports. Like the ASB, the umbrella body for the FRRP is the FRC.

The FRRP is mainly concerned with material departures from accounting standards, where, as a result of the discretion in preparation of the accounts in question, do not provide a true and fair view. The FRRP selects cases for review in a number of ways. First, it carries out discussions with the FSA and the FRRP's Standing Advisory Group on sectors of the economy under strain or likely to give rise to difficult accounting issues. Then it selects a number of sectors and reviews a selection of accounts from each. The Panel also takes into consideration firm specific risk factors identified by a qualified audit report or analysis of key ratios (FRRP, 2005). For example in October 2008, the FRRP announced that its monitoring activity for the following year would

¹⁵ CESR is the body mandated by the European Commission to develop a harmonised approach to the enforcement of financial information across EU member states. On 1 January 2011, CESR was replaced by the European Securities and Markets Authority (ESMA).

focus on the banking, retail, travel and leisure, commercial property and house building sectors (FRRP, 2008a). Next, based on its own risk assessment model, the FRRP identifies cases where accounting problems are more likely. For example, the FRRP reviewed the adequacy of impairment disclosures in the 2008 financial statements because the severe economic downturn increased the importance of these types of disclosures (FRRP, 2008b). Furthermore, the FRRP responds to complaints from the public, the press and the professionals. In all instances the cases are selected based on the FRRP's assessment of the risk of non-compliance and the risk of significant consequences if there is non-compliance (FRRP, 2008c).

The FRRP has procedures in place for reviewing and investigating firm accounts and director's reports. First, the FRRP engages in a preliminary review for indications of a potential breach of accounting or reporting requirements. After the preliminary analysis, a decision is made whether or not to proceed with the case. A decision to continue the case will result in the commencement of correspondence with the firm. If the firm responds satisfactorily to the FRRP's enquiries, the case will be dropped. However, when it does not, a formal enquiry will be opened and a Panel Group consisting of five or more FRRP members is set up. The Panel Group may request meetings with firm representatives and decide on remedial action (FRRP, 2008c).

Remedial action may be in the form of re-issuing of accounts, publication of a corrective supplementary statement or restatement of comparatives in the proceeding year's accounts. The Panel Group may make an application to court if it is unable to come to an agreement with the firm directors (FRRP, 2008c). On application to the court, the Panel will inform the Registrar of Companies and at the same time make a public announcement. The FRRP maintains a fund of two million pounds to cover legal costs.

Until 2005, the FRRP acted reactively on issues that were brought to its notice through complaints (Fearnely, Hines, McBride and Brandt, 2000). However, due to criticisms of this approach and concerns arising out of widely publicised corporate collapses in the US during 2002, the UK Government and the FRC established the Consultative Group on Audit and Accounting (CGAA). The aim of the CGAA is to review the adequacy and, where practicable, to improve the effectiveness of the UK regulatory regime. The CGAA recommended that the FRRP develop a proactive role in the

enforcement of accounting standards (FRRP, 2004). This recommendation is consistent with FEE's views and CESR's Standard No.1. Therefore, in December 2004, the FRRP announced that it would begin proactive enforcement from 2005 (FRRP, 2004).

In December 2004, the FRRP announced it would commence proactive enforcement based on a risk based approach in its annual review of financial reports. Table 2-1 provides information on the number of accounts reviewed by the FRRP due to complaints and proactive enforcement for fiscal periods from 2004/05 to 2007/08. It shows a steady increase in the total number of accounts reviewed by the FRRP from a total of 226 reviewed from the 2004/05 accounts to 326 from the 2007/08 accounts (an increase of 44%). The number of accounts chosen due to the proactive enforcement has increased from 184 in the 2004/05 accounts to 270 in the 2007/08 accounts. This represents an increase of 46%. The increased number of accounts investigated by the FRRP indicates that it is committed to improving its monitoring activities and ensuring that firms comply with the accounting standards. This activity can be expected to improve accounting quality.

Table 2-1: Cases reviewed by the Financial Reporting Review Panel from 2004 to 2008

Reporting periods	Complaints	Proactive	Total Number of cases reviewed
2004/05*	42	184	226
2005/06	60	224	284
2006/07	45	266	311
2007/08	56	270	326

* This reporting period consists of 15 months commencing from 01 January 2004 to 31 March 2005.

This table presents information on the number of firm accounts reviewed by FRRP for financial reporting periods from 2004/05 to 2007/08. It provides a breakdown of the number of accounts reviewed based on complaints and proactive enforcement (risk based approach). Data for this table was obtained from the annual activity reports published by the FRRP (2005-2008).

Table 2-1 shows the majority of the accounts reviewed by the FRRP during these four years have been due to proactive enforcement. For example, 83% of the total number of cases reviewed from the 2007/08 accounts were selected based on proactive enforcement. It must be noted that information on the number of accounts reviewed by the FRRP prior to these years is not publicly available, making it difficult to make a direct comparison of the FRRP investigative activities pre and post 2005. However, given that: (a) prior to 2005, the FRRP only undertook investigations when complaints were received and (b) the number of accounts reviewed by the FRRP due to complaints has remained relatively steady and low in the four year period presented in

Table 2-1, it is logical to assume that prior to 2005 that the number of reviews carried out by the FRRP was significantly lower compared to the post 2005 period. This conclusion is supported by the findings from Brown and Tarca (2007) which reveal that during the 1998-2004 period, the number of cases resulting in press notices by the FRRP averaged four per year.

To date the FRRP has been able to resolve all cases brought to its attention without having to apply for a court order. The Panel's success is partly attributable to the excessive costs firms would have to incur in terms of both the litigation costs and adverse publicity associated with court action (Fearnley et al., 2000). Public announcements are intended to reinforce the deterrent effect of the Panel and this 'name and shame' strategy is cost effective because it is relatively inexpensive for the regulator compared to court action through the legal system (Cearns and Ferran, 2008). Furthermore, in the UK, the court can require directors personally to pay for the costs of restatement of financial statements (Brown and Tarca, 2005). The FRRP appears to be highly effective, without a large budget or bureaucracy, normally associated with effectiveness in other countries (Bruce, 2003; Livne and McNichols, 2009).

Of the 326 accounts reviewed from the 2007/08 period, the FRRP wrote to 112 firms asking for further information. Consequently 68 of the 112 firms approached voluntarily agreed to provide corrected or improved treatments or disclosures in their next set of accounts. Two firm specific press notices were issued during the year under review and both of them related to financial instruments (IAS 39 and IAS 32). The directors of these two firms had voluntarily agreed to adjust the accounts and implement the Panel's findings on the next set of accounts by way of prior period adjustments (FRRP, 2009). Therefore, it appears that the deterrent effect of the FRRP's 'name and shame' strategy appears to be effective in encouraging firms to 'voluntarily' comply with the FRRP's recommendations.

Overall, it is difficult to assess the FRRP's effectiveness in carrying out enforcement actions as much activity is 'behind closed doors'. Additionally the number of cases reviewed by the FRRP prior to 2005 is not publicly available. Commentators have argued that the FRRP has been effective, citing its ability to have firms change their accounts without resorting to court action and its relatively low operating costs (Fearnley et al., 2000; Hines et al., 2001). The increase in the number of accounts

reviewed by the FRRP from 2004/05 to 2007/08 indicates that it is committed to improving enforcement activities and ensuring firms comply with IFRS, thereby reducing the incentive of insiders to release misleading financial reports. This would have a positive effect on accounting quality through less earnings management and greater value relevance.

2.4.3.2 Financial Services Authority

The FSA is an independent non-governmental body that has been the sole regulator of financial services in the UK since December 2001. The responsibility for supervising banks, listed money market institutions and related clearing houses was transferred from the Bank of England to the FSA by the Bank of England Act 1998. The FSA acquired further rule-making, investigatory and enforcement powers by the Financial Services and Markets Act 2000. This made the FSA the competent authority for admitting firms on the Official List, thus making it the UK Listing Authority.¹⁶ The FSA was given these statutory powers in order to meet the four objectives of (i) maintaining confidence in the financial system, (ii) promoting public understanding of the financial system, (iii) securing the appropriate degree of protection for consumers and (iv) reducing the extent to which it is possible for a business to be used for a purpose connected with financial crime (FSA, 2002).

A major objective of the FSA is to ensure transparency and efficient operation of capital markets. This involves not only the transparency of market trades but also the transparency of corporations in which the public invests. Therefore the FSA encourages firms to increase disclosure and to follow best practice to avoid investors being misled (FSA, 2010b). If the FSA is effective in carrying its enforcement activities it should have a positive impact on accounting quality by reducing the incentive of firm insiders in producing misleading financial reports.

The FSA is responsible for most financial services markets, exchanges and firms in the UK. The scope of businesses which come under the jurisdiction of the FSA has increased in recent times. From November 2004 the FSA has regulated mortgage businesses while general insurance activities have been regulated by the FSA since

¹⁶ Further information on FSA's role as the UK Listing Authority is provided in Section 2.3.4.

January 2005. The FSA sets the standards that these firms must meet and can take action against them if they fail to meet these (FSA, 2010b).

However, the FSA is not intended to be a detailed regulator for all areas of the financial markets. Instead, in certain areas, it registers self-regulatory bodies, establishes their rules of behaviour, and monitors their conduct. Hence the LSE lays down its own detailed regulations within the more general rules set by the FSA. However, listing rules are set and enforced by the FSA. The FSA also authorises individuals to carry out investment business and ensures compliance by visiting and inspecting firms regularly. This approach is consistent with the government policy on regulation of encouraging competition rather than carrying out close enforcement (Benston et al., 2006b, p.86).

Following the tradition of previous regulators in the UK, the FSA does not play a direct role in determining the contents of accounting reports, the only exception being the detailed regulation of prospectuses which are beyond the scope of this thesis. Although the FSA has the authority to specify accounting reports for any entity coming under its jurisdiction, to date it has chosen not to exercise this power. The FSA has adopted a more principles based approach to regulation. This is because the FSA believes an approach that is based less on detailed rules and focuses more on outcomes will allow it to achieve its regulatory objectives in a more efficient and effective way (FSA, 2010b).

A Memorandum of Understanding was established between the FSA and FRRP in 2005 that sets out how the two bodies will cooperate to promote effective monitoring and enforcement of standards for financial information. The FSA is responsible for prospectuses and the maintenance of the Official List. The FRRP is responsible for ensuring that the accounts and financial and other reports of companies and other entities comply with the law and relevant reporting requirements such as accounting standards. Generally, the FRRP focuses on the annual reports of public and large private firms. Where there are areas of overlap the two authorities have agreed that the body with the most appropriate function and powers will lead the investigations or commence enforcement actions (FSA and FRRP, 2005).

The FSA has a very strong set of penalties available for use. The FSA has the authority to deny authorization to individuals and organizations that do not meet its qualifications after inspection or investigation. The FSA can apply for injunctions to stop unauthorised activities and in some cases prosecute those involved in such activities and request restitution. The FSA can also issue private warnings, publicly censure and levy severe financial penalties for firms which do not comply with transparency obligations (FSA 2006).

Recently the FSA has increased the resources committed to pursuing enforcement and supervisory activities and have increased the financial penalties imposed on firms in order increase it's credibility as a deterrence against financial crime. For example, the FSA has increased the number of supervisory staff from 526 in 2007/08 to 703 in 2008/09. Net costs for ongoing regulatory activities incurred by the FSA also increased from £298m in 2007/08 to £335m in 2008/09 (FSA, 2008; FSA, 2009). Jackson and Roe (2009) show that the staffing levels and budgets provide a good indication of the strength of public enforcement. In addition, Jackson (2007) highlights the importance of monetary sanctions imposed by the regulator as an indicator of its effectiveness. During the 2008/09 financial year the FSA imposed a record £27.3 million in financial penalties, which is a significant increase from an average of £14 million over the previous five years. These penalties relate to issues such as money laundering and financial fraud and breaches of listing rules. The FSA was also successful in their first ever insider dealing trial in the 2008/09 period (FSA, 2009). In addition the FSA collaborates with the FRRP in extracting data and information about UK banks and insurance firms so that assistance can be provided to CESR for investigations of EU financial institutions (FRRP, 2009). However, criticisms have been directed towards the FSA at its use of a 'light handed approach' and the limited number of cases it has brought to court (MacNeil, 2010). For example, Barnes (2011) highlights that since 2005 there have been just seven criminal convictions in the UK for insider dealing plus five more for other forms of market abuse. In contrast there have been 534 in the US, so Barnes (2011) emphasises the need for the FSA to be more active in carrying out prosecutions to be a credible deterrent to stop sub-optimal behaviour by the insiders.

If the increase in enforcement activities by the FSA in recent times is effective in reducing earning misstatements and improving investor confidence it should result in

less earnings management and greater value relevance which would improve overall accounting quality.

2.4.4 Courts

In principle, a strong system of legal enforcement could substitute for weak rules since active and well functioning courts can step in and rescue investors abused by the management (La Porta et al., 1998, p.1140). Private litigation can reduce the incentive for insiders to exploit outsiders as the penalties for being discovered are severe. Thereby, improvements in the rights of investors in pursuing legal action could increase accounting quality by reducing earning management. However, high financial costs of taking such actions and uncertainty regarding whether the action would be successful could deter investors from pursuing legal action against firm directors (FEE, 2001, p.15, La Porta, Lopez-de-Silanes and Shleifer, 2006). In addition, an inherent disadvantage of a regulatory system that purely relies on the courts compared to a regulatory body (such as the FSA or FRRP) is the length of time it takes to make a final legal judgement and the risk of inconsistency in the interpretation of accounting standards by different courts (FEE, 2002).

Historically the UK is perceived to be a low litigious environment. Armour et al. (2009) carried out a comprehensive search for filings from 2004 to 2006 in the UK and found that lawsuits against directors of public firms alleging breach of duty are nearly nonexistent. In addition during the 1990-2006 period there were no derivative actions initiated by shareholders of listed firms (where minority shareholders are authorised to commence litigation in the firm's name). This may be because UK law has traditionally taken a restrictive approach to derivative action actions (Armour, 2008). In addition, Francis (2004) and Seetharaman, Gul and Lynn (2002) point out that instances of litigation against firm auditors for negligence is low in the UK compared to the US.

The FRRP may make an application to court if it is unable to come to an agreement with the firm directors (FRRP, 2008c). The FRRP maintains a fund of two million pounds to cover legal costs. As previously mentioned, to date the FRRP has been able to resolve all cases brought to its attention without having to apply for a court order (FRRP, 2010). Their success has been contributed to the excessive costs that firms would incur in terms of both litigation costs and adverse publicity due to court action

(Fearnley et al., 2000). This conclusion is supported by Armour et al. (2009) who carried out an analysis of the enforcement mechanisms in the UK and found that informal enforcement actions such as requests by the FRRP and FSA for remedial action, press announcements and strong corporate governance frameworks surrounding issues such as related party disclosures played a greater role in enforcement activity in the UK compared to formal enforcement through court actions. Due to the low litigious environment in the UK it is unclear whether there will be any influence on accounting quality post IFRS adoption from legal enforcement through courts.

The 2006 Act intends to make it easier for investors with valid claims to take directors to court and seek compensation (Davies and Rickford, 2008).¹⁷ If the 2006 Act is effective in achieving this aim it should reduce the incentives of insiders to act opportunistically and enhance the level of investor protection and in turn accounting quality. However, the effect of the 2006 Act on the level of litigation and investor protection in the UK is yet to be tested.

The Rule of Law dimension of the Worldwide Governance Indicators (WGI) compiled for the World Bank looks at the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.¹⁸ The estimate for the Rule of Law dimension for the UK does not show a significant increase with a mean of 1.64 during the 2000-2004 period compared to a mean of 1.68 for the 2005-2009 period (Kaufmann et al., 2012). This implies that there have not been significant changes in the court system in the UK, indicating that changes in enforcement through courts are unlikely to contribute to improvements in accounting quality.

2.4.5 Public and press reaction

FEE (2002) highlights the importance of investors, analysts, rating agencies and the financial press that have clear ethical obligations to raise issues of dubious financial reporting, to a framework of high quality financial reporting. Possible negative

¹⁷A greater discussion on the 2006 Act is provided in Section 2.3.2.

¹⁸The full dataset for the WGI is available from: www.govindicators.org.

reaction by the public and the press can encourage the appropriate application of accounting standards (FEE, 2001). In addition media coverage can force governments and regulatory bodies to be more accountable and active in carrying out their duties (Besely, Burgess and Prat, 2002; Besely and Prat, 2006). Therefore, media penetration is an important factor that determines the level of information disseminated by firms. Bushman and Piotroski (2006) reveal that the average penetration of media channels in the economy, as reported by World Development Indicators, is significantly higher in the UK between the 1993 to 1995 period at 90.81 compared to the mean of 51.46 across 203 countries. The Freedom House Press Freedom Index measures for each country the level of press freedom in three categories: the legal environment, political influences and economic pressures. The index ranges from zero to 100, with a lower value indicative of higher press freedom and the UK received a score of zero for 2005 (Freedom House, 2005). This indicates that the UK has a well developed communication infrastructure that assists in the dissemination of information produced by firms and enhances the access that outsiders have to this information. It also indicates that the media has sufficient freedom to hold the government and regulatory bodies accountable and bring attention to failures in the market due to their inactivity. This should increase the incentives of financial statement preparers to produce high quality accounts and for regulators to carry out appropriate enforcement actions. This in turn should reduce earnings management and improve the timeliness and value relevance of financial information with a positive effect on accounting quality.

Another form of information dissemination about the compliance of financial reporting by firms is press notices issued by the FRRP. In cases where negative assessments have been made the FRRP releases press notices briefly summarising the accounting or legal issue and any remedial action agreed upon. These press notices are released to both the financial press and financial markets. Therefore, these firm specific press notices may have both an economic effect through lower share prices and a reputational effect due to adverse publicity. Thus press notices play an important role in deterring firms from engaging in creative accounting and in informing the preparers and users of accounts of the appropriate application of the accounting requirements (Hines, McBride and Page, 1999). This should result in lower earnings management and improved value relevance of financial information. However, the number of press notices issued by the FRRP is relatively low. For example, Brown and Tarca (2007) report that on average there have been four press notices issued per year between

1998-2004. The table below summarises the number of firm specific press notices issued by the FRRP since it started proactive enforcement in 2005. The average number for the 2005-2009 period is three press notices per year. Therefore, there does not appear to be an increase in the number of press notices being issued in the post 2005 IFRS period. It must be noted that the FRRP does not issue press notices for cases that it has investigated but does not require remedial action. Therefore, it has been suggested by the FRRP that the low number of press notices issued in recent years can be indicative of a generally high level of compliance by firms (Brown and Tarca, 2007). Better compliance with accounting standards in post 2005 period implies possible improvements in the accounting quality of UK firms.

Table 2-2: Press notices released by the Financial Reporting Review Panel from 2004 to 2008

Reporting periods	UK GAAP accounts	IFRS accounts	Total
2005/06	2	1	3
2006/07	4	0	3
2007/08	0	2	4
2008/09	0	2	2

*This table presents information on the number of firm specific press notices issued by the FRRP during the 2005-2009 period. This information has been gathered from the FRRP's annual activity reports and its website.

2.5 SUMMARY

This chapter described the legal and institutional framework for corporate financial reporting in the UK, including the laws and regulations UK firms must follow and the regulatory bodies that promote compliance with reporting requirements. The UK has an extensive legal and regulatory framework to protect the interests of investors. The laws and regulations as well as the regulatory bodies have evolved and experienced extensive reform in recent times in order to improve their efficiency and effectiveness. The adoption of IFRS by UK listed firms for consolidated accounts is just one aspect of the changes in the UK institutional setting. In this chapter, in addition to discussing accounting standards, I have reviewed other forms of regulations such as company law, EU Directives and Regulations, and stock exchange listing rules. I have also reviewed various enforcement mechanisms such as self enforcement (including the implementation of appropriate corporate governance structures such as audit committees), statutory audits by external auditors, courts, institutional oversight systems (such as independent regulators), and public and press reactions. These regulations and enforcement mechanisms together will affect the incentives of

financial statements preparers to produce high quality financial reports and of regulators to produce appropriate regulations and of enforcement bodies to undertake appropriate action. These will in turn affect the accounting quality of UK firms.

In the next chapter I present theories related to the incentives of accounting standard setters such as the IASB to set high quality accounting standards and for firms to produce high quality financial reports,. I expect these incentives to act towards improving accounting quality. In addition I discuss relevant empirical literature on voluntary and mandatory IFRS adoption.

CHAPTER 3: LITERATURE REVIEW

3.1 INTRODUCTION

The aim of this thesis is to examine whether the mandatory adoption of IFRS in the UK has resulted in an increase in accounting quality. In addition, my thesis investigates the specific mechanisms by which IFRS may have caused accounting quality to increase. Specifically, I analyse whether the financial reports of UK firms listed on the LSE exhibit less earnings smoothing and management towards earnings targets, more timely loss recognition and higher value relevance after IFRS adoption compared to when firms reported under UK GAAP.

In Chapter 2, I present the institutional setting for financial reporting in the UK including a discussion of changes to regulations and enforcement mechanisms applicable to UK firms. These regulations and enforcement mechanisms are intended to curb firm insiders' incentives for earnings management and enhancing the informativeness of the information provided to investors, thus promoting accounting quality (FEE, 2001). The purpose of this chapter is to provide an overview of the theoretical background for this thesis and to highlight relevant empirical literature. In Section 3.2, I discuss the motivations of accounting standard setters such as the IASB to set high quality standards and the incentives of firms to produce high quality financial reports by complying with the accounting standards and providing comprehensive disclosure. Next, in Section 3.3, I highlight empirical studies that analyse consequences of both voluntary and mandatory IFRS adoption including changes in accounting quality and economic benefits for firms and capital market effects. The effects on accounting quality are analysed in terms of measures such as earnings management, timeliness of loss recognition, management towards earnings targets and value relevance. Economic benefits and capital market effects are discussed in terms of firm cost of capital, abnormal returns and analyst following. The chapter concludes with a summary in Section 3.4.

3.2 THEORETICAL BACKGROUND

The main theoretical background for this thesis is based on information economics which recognises that certain parties to business transactions may have more information than others. For example, managers and other insiders of a firm may know more about a firm's financial performance and position than outsiders such as investors. This problem is referred to as information asymmetry.

Information asymmetry gives insiders the opportunity to act sub-optimally in their own interest at the expense of outsiders. For example, managers may selectively release information such as delaying the release of poor earnings to increase the value of the stock options they hold or hide related party transactions. In response to the problem of information asymmetry, one line of thought proposes that market forces (in this instance the demand and supply of information and capital) will resolve this issue. For example, in reaction to managers providing inadequate information on firm performance and position, investors will not supply resources such as debt and equity capital. However, the second line of thought argues that information is such a complex and important resource that market forces alone fail to sufficiently manage the problem. This is consistent with the 'lemons' problem as described by Akerlof (1970). The 'lemons' problem indicates that a breakdown in the functioning of the capital market may occur because investors are unable to differentiate between the firms that have good disclosure and bad disclosure (lemons). Realising this possibility, investors will value both good and bad firms at an average level. Therefore, may undervalue some firms with good disclosure and overvalue some with bad disclosure. Hence, in order to protect investors and the efficient functioning of capital markets, regulation and enforcement is introduced. As discussed in Chapter 2, regulations (such as accounting standards, company law and listing rules) and enforcement mechanisms (such as corporate governance, audits, enforcement bodies, courts and public and the press) in combination influence the incentives of financial statement preparers to produce high quality financial statements (FEE, 2002; Cairns, 2004; Lamfalussy, 2001; Ball, 2006). This in turn will affect accounting quality.

Accounting standards are an important aspect of financial reporting regulation. High quality accounting standards promote disclosure and comparability of financial reports through several mechanisms. Accounting standards provide firms with principles and

rules of authority in the preparation of financial reports and provide guidance on relevant information that should be disclosed to outsiders. In addition, they provide a basis for auditors to refuse demands by insiders to accept reports that do not comply with accounting standards and are potentially misleading. Thereby, they curb opportunities for insiders of the organisation to hide sub-optimal behaviour and exploit investors (Benston, 1982). Thus, improvements in accounting standards can lead to reduced earnings management by the insiders of the organisation and promote the disclosure of useful financial information, thereby improving accounting quality.

The mandatory adoption of IFRS in the EU and other countries such as Australia, for financial years beginning after January 2005, was a pivotal step towards achieving the IASB's objective of the adoption of a single set of high quality standards throughout the world. Regulation (EU) 1606/2002, that mandated the use of IFRS for consolidated accounts of listed entities in EU member states, maintains that the adoption of IFRS aims to ensure a high degree of transparency and comparability of financial statements and hence the efficient functioning of capital markets (Article 1). Regulation (EU) 1606/2002 (paragraph 9) also highlights the importance of the application of the international accounting standards resulting in financial statements that are useful to users and provide a true and fair view of the financial position and performance of an enterprise. This in turn may improve the accounting quality of financial information produced by firms. However, these benefits will only be achieved if (i) IFRS is of higher quality than national standards being replaced and (ii) there are incentives for firms to comply with these standards and provide comprehensive disclosure (through mechanisms such as corporate governance, independent audit and enforcement) in order to produce high quality financial reports (Ball, 2006). Below I discuss theories related to the incentives of (i) accounting standard setters such as the IASB to set high quality accounting standards and (ii) firms to produce high quality financial reports by complying with the accounting standards and providing comprehensive disclosure, thereby assisting in improving accounting quality.

3.2.1 Incentives for accounting standard setters to produce high quality accounting standards

Watts and Zimmerman (1978) outline a theory explaining the development of regulations such as accounting standards. Their theory, called positive accounting theory, aims to improve the understanding of pressures influencing the setting of

accounting standards, effects of standards on different parties (such as investors and managers) and reasons for these parties to attempt to influence the development of accounting standards (Watts and Zimmerman, 1978, p.112).

Positive accounting theory assumes that individuals (such as managers) will act to maximise their own utility. Some factors that influence managers' attitudes towards specific accounting standards include the effects these standards may have on taxes, political costs, costs of information production (such as bookkeeping costs), debt covenants and management compensation plans.¹⁹ Watts and Zimmerman (1978) show that firms that are affected more by changes to accounting standards exert greater pressure on the standard setting body by lobbying against the changes, thereby decreasing the likelihood of their adoption.

Watts (1977) discusses the role of politicians and government bureaucrats in the development and regulation of accounting standards. He builds on previous studies such as Downs (1957) and Buchanan and Tullock (1962) which highlight that individuals in the political process (such as politicians and voters) are utility maximisers who act in their own self interest. They also redistribute wealth and maximise their own welfare via the political process. Politicians and government bureaucrats are influenced by the likelihood they will be blamed for any future crises as this will influence their careers. Therefore, they consider the effects of alternative regulations on the likelihood of blame when they draft and interpret them. As politicians and bureaucrats are less likely to be blamed for asset undervaluations compared to asset overvaluations, they may be biased towards introducing accounting standards that undervalue assets. An important example of conservative accounting which influenced accounting practice to the present day is the mandating of historical

¹⁹The predictions made by positive accounting theory are mainly organised into three hypotheses (Scott, 2009, pp. 287-288). These are:

- (i) The bonus plan hypothesis - all other things being equal, managers of firms with bonus plans are more likely to choose accounting treatments that shift reported earnings from future periods to current periods.
- (ii) The debt covenant hypothesis - all other things being equal, managers of firms are more likely to choose accounting treatments that shift reported earnings from future periods to current periods the closer the firm is to violating accounting based debt covenants.
- (iii) The political cost hypothesis - all other things being equal, the greater the political costs faced by a firm, the more likely the manager will choose accounting treatments that defer reported earnings from current to future periods. An example of an event where political costs arise is where a firm's high profitability attracts negative media and consumer attention.

cost accounting by the SEC in 1934 following the Stock Market Crash of 1929, to prevent firms from carrying out excessive asset write-ups (Zeff, 2007).

In a similar vein, Watts (1977) highlights that crises are often catalysts for the introduction of new regulations aimed at improving inadequate disclosure. Politicians, bureaucrats and accounting standard setters may be motivated to introduce standards that reduce the diversity in accounting methods available to firms in order to avoid blame for future crises. However, changes in accounting standards reducing diversity can impose costs on firms and their management (such as increased taxes, reduced management compensation or decreased ability to smooth earnings). Therefore, to avoid the increased costs of more stringent regulations, insiders may be motivated to lobby against proposed standards that reduce the diversity of accounting methods and restrict their choice of method. Kenny and Larson (1993) examine the lobbying of the IASC (the predecessor of the IASB) by firms in response to Exposure Draft 35 (ED 35, *Financial Reporting of Interests in Joint Ventures*). The authors find that professional and trade organisations lobby on behalf of their constituents and tend to support the majority positions held by constituents. A recent example of lobbying behaviour is illustrated by Hochberg, Sapienza and Vissing-Jorgensen (2009). They investigate the impact of the Sarbanes-Oxley Act (SOX) on shareholders by studying the lobbying behaviour of investors and firm insiders to influence the final rules that were implemented. The authors argue that SOX was implemented because the U.S. Congress came under increasing pressure by the public, after the Enron scandal, to pass legislation to make it more difficult for insiders to engage in sub-optimal behaviour. Hochberg et al. (2009) find that while investors lobbied in favour of SOX (as they expected SOX to more closely align the interests of insiders and shareholders), firm insiders lobbied against it and argued for delays, exemptions, and loopholes in the implementation of SOX.

Watts (1977) argues that accounting standards setters have conflicting incentives towards the introduction of standards reducing accounting diversity. While they have an incentive to introduce these regulations to avoid blame for future crises they also do not wish to impose costs on firms and their management in order to avoid excessive lobbying. Watts (1977) states that the standard setters will choose the course of action that maximises their own utility. Kenny and Larson (1993) find that when faced with

lobbying, the IASC seeks acceptance from its constituency by adapting its position to that which is more palatable to the lobbyists.

Public interest theory postulates that regulatory agencies are created for bona fide purposes and they intervene and create regulations to overcome inefficiencies in a 'free' market. However this theory does not take into account that certain parties that have influence over the regulatory system seek to achieve their own agendas that are undesirable to the general public (Posner, 1974). The economic theory of regulation as introduced by Stigler (1971) takes into account the influence of lobbyists and cartels. According to the economic theory of regulation, the coercive powers of the state are a valuable product which various parties wish to solicit. This product is governed by the forces of demand and supply and the introduction of regulation is the outcome of these forces. Due to the resources that organisations have at their disposal, they may influence the regulators to such an extent that regulations maximising their own wealth but not benefiting the general public may be introduced (Ball, 2009).

Zeff (2002, p.43) highlights that one of the obstacles the IASB faces in achieving its objective of developing high quality accounting standards is the intense 'political' pressures it may be subjected to when it attempts to prescribe specific accounting treatments, increase disclosure requirements and tighten allowed interpretations. These pressures are a real force that can impede efforts to achieve convergence with high accounting quality. Major accounting standard setters such as the FASB and the IASB have a due process allowing individuals and firms to comment on proposed accounting standards.²⁰ However, with 'political lobbying', these parties attempt to influence standard setting outside the due process, through politicians. This can involve "overt or covert threats seeking intervention in order to overturn a proposed standard or to compromise the standard-setter's reputation, independence, powers or even its existence" (Zeff, 2010, p.207). For example, Zeff (2002) and Nobes and Parker (2010, p.265) provide a discussion on the pressures put on the IASB by firms about setting accounting treatments on specific issues such as goodwill, employee stock options and financial instruments. In these instances the IASB was made aware by various lobbying groups that if it were to make IFRS more stringent than the existing

²⁰Königsgruber (2010) provides a detailed discussion on the standard setting process in the EU and the US.

accounting practices, their support for the IASB and the adoption of IFRS would be jeopardised. The intense lobbying activity by EU banks on the development and introduction of IAS 39 *Financial Instruments: Recognition and Measurement*, leading to the involvement of high profile politicians such as former French president Jacques Chirac, highlights the intense pressures that the IASB can be subjected to (Whittington, 2005). Providing support to the existence of political lobbying, Ramanna (2008) finds firms that have incentives to lobby against the removal of pooling in the reporting of business combinations can be linked via political contributions to Congress persons who became involved against the FASB's position on this issue.

In summary, positive accounting theory highlights that firms will lobby the accounting standard setters to either adopt standards that give them greater choice or to reject standards that limit their existing discretion in the preparation of financial statements. The economic theory of regulation postulates that due to the resources firms have at their disposal, they may 'capture' the regulator (in this setting, the IASB) so accounting standards that do not benefit the general public may be introduced (Ball, 2009). However, public interest theory argues regulatory agencies are created for bona fide purposes and they intervene and create regulations to overcome inefficiencies in a 'free' market. Considering these competing influences Zeff (2002) highlights the importance of the IASB not retreating from sensitive and controversial issues (such as the accounting of financial instruments) that are in need of high-quality standards.

Regulation (EU) 1606/2002 (paragraph 9) highlights the importance of the application of IFRS resulting in 'financial statements that are useful to users and provide a true and fair view of the financial position and performance of an enterprise'. This in turn should result in better accounting quality. Therefore, determining whether IFRS are 'high quality' standards could be based on whether the adoption of IFRS results in better accounting quality. However, as noted by Ball (2006) accounting quality is not only influenced by accounting standards but also by the incentives of firms to complying with these new regulations and provide comprehensive disclosure. It is difficult to disentangle the effects of variations in firm level incentives and changes in accounting standards on accounting quality. Therefore, in the next section I discuss the firm level incentives to produce high quality financial reports by complying with the accounting standards and providing comprehensive disclosure.

3.2.2 Incentives of firms to produce high quality financial reports

Agency theory highlights the incentives of managers to hide poor performance of the firm or their activities to transfer firm wealth to themselves, which may result in lower quality reports. A manager's incentives to disclose financial information can be explained by agency theory, in the context of asymmetric information between managers and providers of capital (Jensen and Meckling, 1976).²¹ An agency relationship arises from a contract between a firm's shareholders (the principals) and its managers (the agents). Under this contract, shareholders delegate decision making power to the managers. Therefore, a separation between ownership and control occurs leading to a conflict of interest between the shareholders and managers because both parties are presumed to be utility maximisers (Ross, 1973). Thus the managers may engage in suboptimal decision making and not always act in the best interest of the shareholders. When a firm's shares are diffusely held, there is a greater separation between ownership (by investors) and control (by managers). In addition individual shareholders have less power compared to firms with closely held shares. Hence, in the case of a firm with diffusely held shares, the potential for conflict between the shareholders and managers is greater (Benston, 1982). Therefore, in order to hide their suboptimal behaviour, managers may not provide shareholders with financial information that provides an accurate view of a firm's financial position and performance.

Shareholders can limit the incentives of the managers to engage in suboptimal behaviour by monitoring and bonding mechanisms aimed at ensuring that the managers' behaviour is adequately aligned with the shareholders' interests. Some of these monitoring and bonding mechanisms are discussed in Chapter 2 and include requirements for the publication and independent auditing of financial statements, good internal controls through corporate governance mechanisms, budget restrictions, operating rules and incentive compensation schemes (Berhold, 1971). Jensen and Meckling (1976) define agency costs as the sum of: (i) monitoring expenditures by the principal, (ii) bonding expenditures by the agent, and (iii) the residual loss. Residual

²¹In this context, the term information asymmetry refers to information differences and conflicting incentives that arise between a firm's managers (agents) and the shareholders (principals) because the manager possesses more information about the value of the firm.

loss is the monetary cost to the principal due to their reduction in welfare as a result of the agent making decisions that do not maximise the firm's value.

Since the managers, who are the entrepreneurs in this model, will ultimately bear the monitoring costs, they incur bonding costs (including the cost of preparing financial reports to the shareholders) to assure the shareholders that they will act in accordance of their agreements. Managers therefore have an incentive to reduce agency costs. One way of reducing these agency costs is through disclosing more information in the financial statements and having those statements audited so that the shareholders can better assess the decisions made by the managers (Watts, 1977).

Jensen and Meckling (1976) also described an agency relationship between another set of principals, the firm's debtholders and managers who act on behalf of the shareholders.²² In this relationship, a conflict of interest between the debtholders and managers arises, specially if the managers own equity in the firm whereby managers have an incentive to maximise the wealth of the equity holders. Managers can use methods such as making excessive dividends payments to transfer wealth from the debt holders to equity holders.²³ As a result, debtholders include restrictive covenants in the debt contract (on borrowing, dividends, production and investment decisions) to limit opportunities for managers to behave sub-optimally. Monitoring costs encompass the costs involved in writing these restrictive covenants and enforcing them. Debtholders will price-protect via interest rates or restrict their funding, and ultimately the managers will bear these monitoring costs as well (Jensen and Meckling, 1976).

²²In this case, the managers' interests are totally aligned with shareholders' interests.

²³Smith and Warner (1979) discuss some of these problems including excessive dividend payments, claim dilution, asset substitution and underinvestment. The problem of excessive dividend payments occurs when debt is loaned to a company assuming a certain level of dividend payout (and the debt is priced accordingly) and then the company pays a higher level of dividends. This action would reduce the asset base guaranteeing the debt and thereby reduce the value of debt. A claim dilution occurs when debt is issued at a price reflecting an undertaking that no additional debt will be issued but subsequently debt of equal or higher priority is issued. This results in the original debt being more risky and lowers its value to debtholders. An asset substitution occurs when debt is issued at a price that reflects investment in projects of a particular variance or risk but subsequently projects with higher variance or risk are undertaken because the benefits of positive movements would mainly accrue to the equity holders while the losses will mainly be borne by debt holders. An underinvestment problem arises when the value of debt falls because the company rejects positive investment projects on the basis that most of the benefits accrue to debtholders.

Therefore, to reduce these costs, managers have an incentive to incur bonding costs (such as providing more information in the financial statements) to facilitate debtholders' assessment of the firm's ability to meet its debts and to assure debtholders that their interests are properly protected. Watts (1977) argues that the more leveraged the firm, the greater the need for monitoring of the agency relationship between managers and debtholders and greater is the need for disclosure of information on the activities of the managers and the performance of the firm.

The basic behavioural assumption underlying agency theory is that people tend to act in their own self-interest. As managers own only a fraction of a firm's equity, they will only bear a small proportion of the cost the firm incurs in diverting resources to the managers while they get to enjoy all the benefits. Therefore, in an unconstrained environment (that is, in the absence of monitoring or bonding mechanisms) managers' may have an incentive to divert all of the firm's wealth to themselves (Jensen and Meckling, 1976). However, several theories have been presented to explain why managers' incentives to exploit firm wealth and not disclose the true state of affairs of the firm may be constrained. One explanation is the market for finance. From time to time, managers may need to raise more finance from the market for new investments. However, the market participants would be reluctant to provide finance to a firm where they are aware that the managers misappropriated funds on previous occasions. Therefore the market will either not provide funds or will require a higher yield to compensate for the likely misuse of the resources (Watts, 1977).

The market for corporate control also acts as a constraint. The threat of takeover and successful proxy fights by dissatisfied shareholders or other firms that consider the performance of the firm can be improved with better management, reduce the incentives of the managers to misuse resources (Manne, 1965). In addition, the market for managerial labour acts as a constraint. The future earnings potential of managers is a function of their current performance. While the manager may not immediately suffer any losses from the current underperformance of the firm, his future earnings will be negatively affected if the firm were to fail. In addition, managers who frequently misuse resources and underperform may not be able to attract talented managers to the firm. This is because potential recruits would be unwilling to join a firm that is unresponsive towards managerial performance and may not reward good performance (Fama, 1980).

However, critics of the efficiency of finance, takeover and managerial services markets argue that these mechanisms will only be effective in curbing the incentives of managers to misuse resources if the outsiders of the organisation obtain sufficient information about the operations of the firm in order to make informed decisions about future investments and job opportunities. If this information is not available to outsiders, then the self interested decision making and sub optimal performance of the insiders will go unpunished. Thus, governments and regulatory institutions intervene and implement rules and regulations (such as accounting standards, company law and listing rules) and carry out enforcement (such as investigations and statutory audits) to increase the incentives of firms to disclose information to outsiders (Ball et al., 2003). Also, regulations such as accounting standards can assist public accountants by giving them a basis for refusing client demands to use accounting methods which can lead to misleading information being presented in financial reports (Benston, 1982).

IFRS aims to make improvements in recognition, measurement and disclosure where traditionally there have been gaps in the disclosures made by firms in areas such as financial instruments (IAS 39 and IAS 32), intangible assets (IAS 38, IFRS 3) and segment reporting (IAS 14).²⁴ In addition, as discussed in Chapter 2, during the time period around IFRS adoption in the UK, changes to regulations such as company law have been implemented and regulatory bodies such as the FRRP have made improvements in their enforcement activities. In combination these changes in the regulations and enforcement activities should create incentives for firms to reduce earnings management and enhance disclosure, thereby improving accounting quality.

Another theory related to the incentives of firms to produce high quality financial reports is what may be termed as the “capital need” theory as presented by Choi (1973). According to this theory, firms have an incentive to comply with mandatory reporting requirements and to increase voluntary disclosure to provide more financial information to investors. Firms can reduce the level of uncertainty for investors about the future performance of the firm and thereby obtain capital at a lower cost.

²⁴The specific differences between UK GAAP and IFRS are presented in Chapter 4.

Foster (1986, pp.31-33) discusses how efficient capital markets can influence the information disclosed by firms in their financial reports. When firms attempt to raise capital at the lowest possible cost, they compete with each other in capital markets on the type of security offered and on the terms of the issue and future returns. However, investors may be uncertain about the quality of a firm and its securities. In such instances, they will demand information to assist them to better ascertain the timing and the risk of existing and future cash flows. This in turn enables them to value firms more accurately and to make other investment decisions such as choosing a portfolio of securities. Therefore, firms have an incentive to disclose information in their financial reports that will reduce undiversifiable information risk and enable them to raise capital at a reduced cost. Consistent with the “capital need” theory there have been several studies such as Diamond and Verrecchia (1991), Botosan (2007), Francis, Khurana and Pereira (2005), and Francis, Nanda and Olsson (2008) that find a negative association between quality of disclosure of financial information and cost of capital for firms.

In addition, listed firms have to meet the requirements of the stock exchange as well as regulators (such as the FSA and the FRRP) and are under greater public scrutiny compared to unlisted firms. Therefore, listed firms are more likely to have greater compliance with relevant regulations and higher levels of disclosure than unlisted firms. In support of this claim Singhvi and Desai (1971) find that the quality of annual report disclosure is higher for listed firms compared to unlisted firms.

Stock exchanges tend to have varying listing requirements (Adhikari and Tondkar, 1992). Firms listed on multiple stock exchanges may have higher levels of compliance and disclosure as they attempt to meet the requirements of different stock exchanges. This effect is greater in an international setting where the firms are cross listed on foreign stock exchanges because the demand for information by foreign investors is higher due to them being unacquainted with the relative merits of the firms. Cross listed firms have to meet the listing requirements of multiple stock exchanges. Furthermore, cross listed firms come under the additional scrutiny of the foreign regulators. For example, non-US firms cross listed into the US come under the scrutiny of the SEC. The “bonding hypothesis” proposed by Coffee (2002) highlights that controlling shareholders can use a stock exchange listing in a high investor protection country (such as the US) to bond themselves to the regulatory requirements of that

country to assure minority shareholders that they are less likely to be exploited. Therefore, cross listed firms may have greater incentive to produce high quality financial statements by complying with the accounting standards and providing comprehensive disclosure. Consistent with this reasoning Choi (1973) finds that sample firms significantly improved their disclosure on entry into an international capital market. In addition, Cooke (1993) reveals that cross listed Japanese firms disclose more information than firms which only have domestic listings. Street and Bryant (2000) find that the extent of compliance with IFRS and disclosure levels are higher for firms that have a US listing. Lang et al. (2003) show that non-US firms that have cross-listed in to the US have less earnings management compared to a matched sample of foreign firms that are not-cross listed. The cross listed firms also report accounting data that are more conservative, take account of bad news in a more timely manner, and are more strongly associated with share price compared to the non-cross listed firms. Also, Zéghal et al. (2011) find that mandatory adoption of IFRS had a greater effect on reducing the level of earnings management (based on discretionary accruals) for French firms that are listed on foreign markets compared to firms listed only on domestic stock exchanges.

In summary, agency theory highlights that insiders may have incentives to produce low quality financial reports to hide poor performance of the firm or their suboptimal decision making (to transfer firm wealth to themselves from shareholders). However, the markets for takeovers and managerial labour act as constraint to the suboptimal behaviour of managers. In addition capital needs theory highlights that firms wanting to raise capital are motivated to produce high quality financial reports to reduce undiversifiable information risk and enable them to raise capital at a lower cost. Furthermore, firm specific factors such as listing on foreign stock exchanges may provide firms with additional incentives to provide high quality financial reports.

In this section I have discussed theories related to the incentives of firms to produce high quality financial reports by complying with accounting standards and providing comprehensive disclosure. If firms were complying with the requirements of IFRS and providing greater disclosure, it may improve the quality of their financial statements, in turn enhancing accounting quality and providing economic benefits such as lower cost of capital. Thus, in the next section I discuss empirical studies examining various

aspects of voluntary and mandatory IFRS adoption, such as effects on accounting quality and economic impacts.

3.3 EMPIRICAL STUDIES

The objective of the IASB is to develop a single set of high quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles (IASCF, 2010). Regulation (EU) 1606/2002 (paragraph 9) highlights the importance of the application of IFRS resulting in financial statements that are useful to users and provide a true and fair view of the financial position and performance of an enterprise. This in turn may improve the accounting quality of financial information produced by firms.

The aim of my thesis is to examine whether and by which mechanisms IFRS may have caused accounting quality to improve for UK firms. Following prior studies such as Lang et al., (2003), Lang et al., (2006), Barth et al., (2008) and Paananen and Lin (2009), this thesis operationalises accounting quality in terms of earnings smoothing, managing towards earnings targets, timely loss recognition and value relevance. A detailed discussion of the definition of accounting quality is presented in Chapter 4 while the proxies for measuring accounting quality are discussed in Chapter 5.

Regulation (EC) 1606/2002 states that the adoption of IFRS aims to ensure a high degree of transparency and comparability of financial statements and hence the efficient functioning of capital markets (Article 1). In this section I discuss empirical studies that have examined whether the expected benefits of IFRS adoption have accrued for firms reporting under these standards. The empirical studies relating to IFRS can be grouped based on those that focus on (a) voluntary adoption and (b) mandatory adoption. Countries such as Germany and Switzerland allowed early adoption of IFRS. It is important to analyse the studies on voluntary and mandatory adopters separately as these firms could have differing incentives to comply with IFRS and provide comprehensive disclosure. Voluntary adopters may have adopted IFRS early to provide a signal to investors that the firm is committing to increased levels of disclosure and transparency while the mandatory adopters are doing so because they are forced to (Daske et al., 2008). Therefore, changes in accounting quality and capital market effects may vary between voluntary and mandatory IFRS adopters.

Mandatory adoption was required in EU member states and countries for fiscal periods commencing on or after 1 January 2005. Therefore, studies on voluntary adoption focus on the period prior to 2005 and include single country and comparative studies. They tend to cover a longer time period than studies on mandatory adoption since data for the mandatory period is still limited. In the following sections I discuss the impact of IFRS on accounting quality in a voluntary and mandatory setting.

3.3.1 Voluntary adoption of IFRS

For ease of discussion, the studies on voluntary adoption can be broadly classified into studies that specifically investigate accounting quality under IFRS and those that more generally study the economic benefits and capital market effects of IFRS adoption.

3.3.1.1 Accounting quality under voluntary IFRS adoption

The intended benefits of IFRS such as improved informativeness and comparability of financial information will not be achieved if firms do not comply with the requirements of these accounting standards. Therefore, Street, Gray and Bryant (1999) examine the extent of compliance with international standards for firms from around the world reporting under IAS in 1996. The results reveal significant levels of non compliance with IAS. Examples of methods used by firms which are contrary to IAS include failure to capitalise specific development costs, the use of inventory valuation methods not allowed by IAS, and charging goodwill to reserves or amortising goodwill over periods in excess of 20 years. The results highlight extensive levels of non compliance in sample firms that pose a significant problem for the IASC (the predecessor organisation of the IASB) and have implications for the adoption of international standards in the future. The authors conclude that the IASC should engage with national regulators to improve firms' compliance with IAS.

Harris and Muller (1999) examine the association between firm value and IAS and US GAAP amounts. Their sample consists of foreign firms listed in the US, reconciling from IAS to US GAAP in their Form 20-F filing, during the years 1992 to 1996. They find mixed results, dependent on the regression model specified. The results indicate that IAS amounts are more highly associated with price-per-share while US GAAP

amounts are more highly associated with returns. In addition, there was evidence that investors find the US-GAAP earnings reconciliation adjustments value-relevant.

Bartov, Goldberg and Kim (2005) also examine multiple sets of accounting standards. The authors compare the value relevance of IAS, US GAAP and German GAAP for firms listed on German stock exchanges. They measure comparative value relevance in terms of the slope coefficient of the returns/earnings regression. They find that the value relevance of US GAAP and IAS based earnings is higher than that of German GAAP. They do not find a significant difference between the value relevance of US GAAP and IAS based figures.

German firms adopting IAS had to prepare reconciliations from German GAAP to IAS for the year before adoption. This provides an ideal opportunity to compare German GAAP and IAS financial statements for firms during the same time period. Hung and Subramanyam (2007) compare the accounting numbers of 80 German firms that adopted IFRS during 1998 to 2002 to examine the effects of the IFRS adoption on financial statement numbers. They find that total assets and book value of equity as well as the variability of book value and net income are significantly higher under IAS compared to German GAAP. The authors conclude their results are indicative of the greater focus under German GAAP on income smoothing and balance sheet conservatism. However, the results also reveal that the book value of equity and net income are no more value relevant under IAS than under German GAAP. This result is inconsistent with Bartov et al. (2005) who find higher value relevance for IAS based earnings compared to German GAAP. The results of Hung and Subramanyam (2007) and Bartov et al. (2005) may differ due to different measures of value relevance used in each study. In the case of Hung and Subramanyam (2007), the difference in value relevance was measured in terms of difference in the R^2 of returns/earning regressions while Bartov et al. (2005) use the slope coefficient of regression models. In a review of many IFRS studies Soderstrom and Sun (2007) conclude that it is more appropriate to use the difference in R^2 to test the relative value relevance between two accounting standards, thus my thesis uses this approach when carrying out comparisons of value relevance between UK GAAP and IFRS.

Another voluntary adoption study focusing on Germany is Van Tendeloo and Vanstraelen (2005). They investigate whether German firms adopting IFRS engage in

less earnings management than those reporting under German GAAP. They operationalise earnings management in terms of discretionary accruals. These findings reveal that IFRS adopters do not exhibit less earnings management than firms reporting under German GAAP, indicating that IFRS does not impose a significant constraint on earnings management, as measured by discretionary accruals.

A pivotal study on the voluntary adoption of IFRS is Barth et al. (2008). They examine whether the application of IFRS is associated with higher accounting quality than the application of non-US domestic accounting standards for a broad sample of firms in 21 countries. The authors measure accounting quality in terms of earnings smoothing, managing towards earnings targets, timely recognition of losses and value relevance. Barth et al. (2008) interpret lower earnings smoothing and management towards earnings targets, more timely recognition of losses and higher levels of value relevance as indicative of better accounting quality. The measures for accounting quality for my thesis are mainly based on Barth et al. (2008), albeit with some additions and improvements (discussed further in Chapter 5). Barth et al. (2008) examine firms which voluntarily adopted IAS from 1994 to 2003 and find that generally firms applying IAS exhibit less earnings smoothing, less managing of earnings towards targets, more timely loss recognition and higher value relevance compared to a matched sample of firms applying domestic standards. However, improvements in accounting quality can be attributed to changes in firm's incentives and the economic environment in addition to changes in accounting standards (Ball et al., 2003). Although Barth et al. (2008, pp.496-497) attempt to mitigate the influences of firm incentives and the economic environment on their results, they state that they cannot be sure their findings are attributable to changes in accounting standards per se.

3.3.1.2 Economic benefits and capital market effects of voluntary IFRS adoption

If firms were to increase financial reporting quality through greater compliance and disclosure, they may reduce the level of uncertainty for investors, and in turn receive economic benefits such as lower cost of capital (Choi, 1973). It is intended that the use of high quality international standards such as IFRS should increase the information provided to investors and consequently improve the efficient and effective functioning of capital markets (Regulation (EU) 1606/2002). There are several studies which have examined whether the adoption of IFRS has resulted in lower cost of capital for firms. For example, Leuz and Verrecchia (2000) analyse German firms which have switched

to IFRS or US GAAP from German GAAP. They investigate whether the switch to a set of 'international' reporting standards has reduced firm cost of capital due to reducing information asymmetries. They measure the information asymmetry component of cost of capital based on bid-ask spread, trading volume and share price volatility. The results reveal firms committing to IFRS or US GAAP have lower bid-ask spreads and higher trading volume indicating a reduction in costs associated with information asymmetry. However the results do not reveal a significant reduction in share price volatility.

To the extent that IFRS adoption results in more information on firm performance being provided to investors and a restricted set of measurement methods, it should result in decreased analyst forecast errors. Ashbaugh and Pincus (2001) examine whether the differences between non-US domestic GAAPs and IAS has an influence on the analyst forecast accuracy. They find that greater differences in domestic accounting standards relative to IAS are positively associated with analyst forecast errors. In addition the results reveal that IAS adoption is positively associated with reductions in analyst forecast errors indicative of improvements in the informativeness of financial information under IAS.

In a more recent study, Cuijpers and Buijink (2005) examine the determinants and consequences of voluntary adoption of IAS or US GAAP for firms listed and domiciled in the EU. Contrary to Leuz and Verrecchia (2000), they do not find evidence of lower cost of capital for the IAS or US GAAP adopters. They find a positive relationship between IAS or US GAAP adoption and analyst following. However, the results indicate that uncertainty among analysts and investors appears to be higher for firms using IAS or US GAAP compared to the firms reporting under local GAAPs. On further analysis they find that 'recent adopters' have higher forecast dispersion and lower analyst following than 'early adopters'. 'Early adopters' are defined as firms which adopted IAS or US GAAP prior to the 1998 financial year. This indicates that analysts take some time to understand the financial reports once the standards are changed and the benefits of adopting IAS or US GAAP take some time to accrue.

Similarly Daske (2006) investigates whether the adoption of IFRS or US GAAP results in measurable economic benefit to German firms in terms of reduced cost of equity

capital. The sample period is 1993 to 2002 and cost of equity capital is operationalised as an implied rate of return on a valuation model using financial analysts' consensus earnings forecasts and share prices. The statistical techniques used by Daske (2006) are intended to be more advanced than those used in prior studies such as Leuz and Verrecchia (2000). Contrary to expectation, Daske (2006) finds cost of equity capital increases during the transition period around the adoption of IFRS or US GAAP.

As discussed in Chapter 2, in addition to high quality accounting standards, enforcement mechanisms and rules and regulations to protect investors are important to achieving improvements in accounting quality. Accordingly, Renders and Gaeremynck (2007) examine the determinants of early adoption of IFRS by firms in Europe to provide insights into the associated costs and benefits. Specifically, they examine the influences of country level corporate governance mechanisms and laws protecting investors on the early adoption of IFRS. The authors construct their own proxies to assess the country level corporate governance mechanisms (Corporate Governance Index) and laws protecting shareholders (modified shareholders' rights index developed by La Porta et al. (1998)). The results reveal that strong investor protection laws and corporate governance mechanisms are positively related to early IFRS adoption. These results indicate that the loss of private benefits of control (such as the ability to divert assets from the firm) through IFRS adoption are smaller for the insiders of early IFRS adopters.

A schedule of major studies examining the voluntary adoption of IAS is presented in Table 3-1. These studies have generally provided mixed results in terms of compliance with IAS, and the effectiveness of IAS in reducing earnings management and improving value relevance. For example Street et al. (1999) find significant levels of non compliance among sample firms. If firms are not complying with IAS or providing comprehensive disclosure, they will not be reducing information asymmetry risk for investors. Therefore, firms may not receive economic benefits such as reductions in cost of capital as a result of adopting IAS. Possibly due to inconsistencies in compliance with IAS and disclosure between firms, studies on the economic consequences and the capital market effects of IAS have also provided mixed results on aspects such as the relationship between IAS adoption and firm cost of capital.

Table 3-1: Summary of major studies on voluntary IAS adoption

Study	Country	Sample period	Main findings
<i>Panel A: Studies related to accounting quality</i>			
Street, Gray and Bryant (1999)	12 countries worldwide	1996	Significant levels of non compliance with IAS among sample firms.
Harris and Muller (1999)	US (foreign firms which reconcile from IAS to US GAAP in their Form 20-F filing)	1992-1996	Mixed results as IAS amounts are more highly associated with price-per-share while US GAAP amounts are more highly associated with returns.
Van Tendeloo and Vanstraelen (2005)	Germany	1999-2001	IAS adopters do not exhibit less earnings management than firms reporting under German GAAP.
Bartov, Goldberg and Kim (2005)	Germany	1998-2000	Value relevance of US GAAP and IAS based earnings is higher than that of German GAAP.
Hung and Subramanyum (2007)	Germany	1998- 2002	Less income smoothing and balance sheet conservatism under IAS. However, book value of equity and income are no more value relevant under IAS than under German GAAP.
Barth, Landsman and Lang (2008)	21 countries worldwide	1994-2003	IAS firms exhibit less earnings smoothing, less managing of earnings towards targets, more timely loss recognition and higher value relevance compared to a matched sample of firms which applied domestic standards.
<i>Panel B: Studies related to economic benefits and capital market effects</i>			
Leuz and Verrecchia (2000)	Germany	1998	Firms that commit to IFRS or US GAAP have lower bid-ask spreads and higher trading volume indicating a reduction in costs associated with information asymmetry. However, there is no significant reduction in share price volatility.
Ashbaugh and Pincus (2001)	13 countries worldwide	1990-1993	Greater differences in domestic accounting standards relative to IAS are positively associated with analyst forecast errors. In addition, IAS adoption is positively associated with reduction in analyst forecast errors.
Cuijpers and Buijink (2005)	12 countries in the EU	1999	No evidence of lower cost of capital for the IAS or US GAAP adopters. There is a positive relationship between IAS or US GAAP adoption and analyst following.
Daske (2006)	Germany	1993-2002	Cost of equity capital increases during the transition period around the adoption of IFRS or US GAAP.
Renders and Gaeremynck (2007)	7 countries in the EU	2001	Strong investor protection laws and corporate governance mechanisms are positively related to early IFRS adoption.

Of the voluntary adoption studies, Barth et al. (2008) is the most relevant study for my thesis. It provided the most consistent findings in terms of the adoption of IAS resulting in better accounting quality compared to non-US domestic accounting standards. However, this study was not able to determine whether the improvements in accounting quality are a result of the adoption of higher quality accounting standards

or changes in the incentives of firms or environmental changes such as the introduction of better enforcement mechanisms by national regulators.

Studies examining the voluntary adoption of IAS tend to suffer from self selection bias as the incentives of firms that voluntarily adopted IAS may be different from firms that were forced to adopt IAS under mandatory rules. In addition, significant changes to IAS occurred over their sample periods which could affect the reliability of the results and their ability to provide evidence on the impact of IAS adoption (Soderstrom and Sun, 2007; Jeanjean and Stolowy, 2008).²⁵ Studies on mandatory adoption of IFRS are more able to avoid these underlying issues. In the next section I discuss studies that examine the mandatory adoption of IFRS.

3.3.2 Mandatory adoption of IFRS

For ease of discussion, the studies on mandatory adoption are also broadly grouped into studies which specifically investigate accounting quality under IFRS and more generally the economic benefits and capital market effects of IFRS adoption.

3.3.2.1 Accounting quality under mandatory IFRS adoption

There have been several studies that have looked at accounting quality post IFRS adoption in terms of reductions in earnings management. For example, Jeanjean and Stolowy (2008) examine whether firms from the UK, France and Australia show changes in earnings management (operationalised as the ratio of small reported profits to small reported losses) post IFRS adoption. Based on data for 2002-2006, they did not find a reduction in earnings management. In fact, earnings management significantly increased in France. Similarly, Callao and Jarne (2010) find, based on their study of firms from 11 EU countries using data from 2003-2006, that earnings management has increased post IFRS adoption. The countries where earnings management (operationalised in terms of discretionary accruals) has increased the most are France and the UK. Callao and Jarne (2010) argue that the increase in earnings management observed may be attributable to additional flexibility and subjectivity that IFRS introduces in the reporting of certain items compared to local

²⁵IAS were issued by the IASC since its inception in 1973. Over the period 1973-2000, the IASC issued a number of standards at various times and also updated existing standards (Camfferman and Zeff, 2007).

GAAPs. Ahmed et al. (2012) examine changes in accounting quality using data from 2002-2007 from 20 countries that adopted IFRS and 15 countries that did not. Their results indicate that firms that adopt IFRS exhibit significant increases in income smoothing and aggressive reporting of accruals, and a significant decrease in timeliness of loss recognition compared to benchmark firms that do not adopt IFRS. However, the results do not indicate significant differences across IFRS and benchmark firms in meeting or beating earnings targets. In line with the explanations provided by Callao and Jarne (2010), Ahmed et al. (2012) attribute their findings to the greater flexibility and managerial discretion provided by IFRS compared to domestic GAAP. Ahmed et al. (2012) find that their results primarily hold for firms in strong enforcement countries. Therefore, the authors argue that the enforcement mechanisms in these countries were not able to counter the initial effects of greater flexibility in IFRS relative to domestic GAAP.

UK firms that mandatorily adopted IFRS in 2005 had to provide a reconciliation of their previous year's UK GAAP statements under IFRS. Horton and Serafeim (2009) investigate whether the disclosure of these IFRS reconciliation adjustments to previously disclosed UK GAAP accounts have information content. The evidence shows that differences in earnings per share between UK GAAP and IFRS figures for the prior year's accounts are positively and significantly associated with share price, indicating that investors find the reconciliations value relevant. Further analysis reveals that the values of the positive reconciliation adjustments are significantly associated with share prices even before the date the reconciliations are disclosed to investors through the first set of IFRS financial statements. In contrast, the negative reconciliation adjustments are associated with share prices only after the reconciliations are disclosed. The authors argue that this is consistent with the premise that managers communicate good news even prior to IFRS adoption, as opposed to bad news which was revealed only after the firm adopted IFRS. Thus, IFRS appears to provide a medium through which negative information is revealed more reliably to investors.

Davalle, Onali and Magarini (2010) also investigate whether value relevance (operationalised in terms of the relationship between accounting numbers and market data) increased after IFRS adoption. Their results for the overall sample (with firms from Germany, Spain, France, Italy and the UK) indicate that the value relevance of

earnings has increased post IFRS adoption while the value relevance of book value of equity has decreased. However, further analyses on individual country data provides mixed evidence whereby the influence of earnings on share price increased in Germany, France and the UK while the influence of book value of equity decreases in each of the countries excluding the UK. In addition, the authors analyse changes in the earning smoothing and timeliness of losses and the results do not provide any evidence that earnings smoothing has decreased and timeliness of losses increased for firms in any of the sample countries post IFRS adoption. The authors argue that these results provide evidence that the IASB's aim to improve cross-border comparability of financial statements by means of harmonisation of accounting standards and improvements in accounting quality may not have been achieved.

A recent study that carries out a pre-post IFRS adoption comparison of accounting quality is Chen, Tang, Jiang and Lin (2010). Their sample includes publicly listed companies in 15 member states in the EU. Accounting quality is measured in terms of earnings smoothing, management towards earnings targets, magnitude of absolute discretionary accruals, accruals quality and timely loss recognition. Data for the pre-adoption period is collected from 2000-2004 while the IFRS period includes 2005-2007. The results provide some evidence of improvements in accounting quality. That is, post IFRS adoption there is evidence of less managing earnings toward a target, a lower magnitude of absolute discretionary accruals and higher accruals quality. However, the results also indicate higher levels of earnings smoothing and less timely recognition of losses in the IFRS adoption period.

A study focussing purely on accounting quality of UK firms post IFRS adoption is Iatridis (2010). His sample excludes financial institutions and consists of 241 firms listed on the LSE. The results reveal that firms report less smooth accounting numbers, more timely recognition of losses and a lower frequency of small profits post IFRS adoption, which is indicative of less earnings management. In addition, based on regressions of accounting numbers and market measures (such as share price and returns) the author finds that the IFRS amounts are more value relevant than UK GAAP amounts. The author states that his findings show that the implementation of IFRS has reduced the scope for earnings management, is related to more timely loss recognition and more value relevant accounting measures. However, the sample period of this study is limited to 2004 for the pre-adoption period and 2005 for the post-

adoption period which undermines the reliability of the results. In addition, this study excludes firms from the financials industry which limits the generalisability of the results given that a high percentage of firms on the LSE are from the financials industry.²⁶

Aubert and Grudnitski (2011) investigate the impact of IFRS adoption by identifying significant differences in return on assets (ROA) amounts for firms calculated under local accounting standards and restated IFRS figures for the 2004 financial year (as stated in the 2005 annual reports). The evidence shows significant differences between ROA under local accounting standards and IFRS figures for firms from Belgium, Finland, France, Germany, the Netherlands, Norway, Sweden, Switzerland and the UK. However the authors do not find any evidence that IFRS earnings numbers are more value relevant or timely compared to local standards, indicating that while mandatory IFRS adoption may have an impact on firm reporting numbers, these changes may not necessarily translate to more informative and high quality financial reports.

Verriest, Gaeremynck and Thornton (2012) also investigate the IFRS adoption process. Specifically they examine the association between corporate governance strength (based on variables such as board independence, board functioning and audit committee effectiveness) and firms' compliance and disclosure choices made by first-time IFRS adopters. The results indicate considerable diversity in compliance and disclosure between firms. The evidence shows that firms with stronger governance mechanisms engage in more transparent IFRS restatements, comply with IFRS more rigorously and provide better disclosure quality than firms with weaker governance. Thus, the authors highlight the importance of stronger governance guidelines in promoting higher adoption quality.

3.3.2.2 Economic benefits and capital market effects of mandatory IFRS adoption

If the adoption of IFRS leads to higher quality financial reporting information then information asymmetry between firm managers and investors may be lower. Therefore, the adoption of IFRS may result in a net benefit to investors as their costs of

²⁶For example, as at 31 October 2006, out of 1,392 firms listed on the LSE for issuance of equity instruments, 639 firms (45.90%) were from the financials industry.

estimating a firm's financial position and performance will be lower. If investors believed that IFRS will lead to better quality financial statements, the share price reactions to announcements that increased the likelihood of IFRS adoption should be positive. Prior to 2005 UK firms were not allowed to use IFRS while early adoption of IFRS was allowed in other countries such as Germany. Therefore, Christensen et al. (2007) analyse share price reaction to announcements which made the probability of mandatory IFRS adoption more likely in the UK. The results show that the share price reaction was positive for UK firms more likely to adopt IFRS voluntarily. UK firms sharing similar characteristics to German voluntary adopters experienced a significantly lower increase in their cost of equity subsequent to the announcement of mandatory IFRS adoption in the EU. Christensen et al. (2007) conclude that cross-sectional variations in the economic consequences of mandatory IFRS adoption on firms are related to the probability that the firm would have adopted IFRS voluntarily if it had been given the choice. Armstrong, Barth, Jagolinzer and Riedl (2010) also focus on announcements of IFRS adoption. They examine stock market reactions for firms from 18 countries in EU to events associated with the likelihood of IFRS adoption in Europe. The results reveal an incrementally positive reaction for firms with lower pre-adoption information quality, indicative of investors expecting that IFRS adoption will result in greater benefits for these firms. The evidence also shows an incrementally negative reaction for firms domiciled in code law countries. The authors conclude that this may be due to investors' concerns over enforcement of IFRS in those countries.

If the adoption of IFRS results in better quality disclosures, then it should decrease the uncertainty for investors and in turn increase the liquidity of shares, reduce costs of capital and increase the equity value of firms. Therefore, Daske et al. (2008), analyse the capital market effects of IFRS adoption on items such as market liquidity, cost of capital, and firm valuations for firms from 26 countries. They find that market liquidity and firm valuations increased around the time of the mandatory IFRS adoption for firms from countries with relatively stricter enforcement regimes and where the institutional environment provides incentives for more transparent earnings. The authors also find some evidence of reductions in cost of capital associated with IFRS adoption. These effects are weaker when local GAAP are closer to IFRS. Comparing mandatory and voluntary adopters, they find that the capital market effects are most pronounced for firms that voluntarily switch to IFRS. Thus, the results of Christensen

et al. (2007), Armstrong et al. (2010) and Daske et al. (2008) point to the costs and benefits of IFRS adoption varying between firms.

Li (2010) also examines the capital market effects of IFRS adoption focusing on the cost of equity capital for voluntary and mandatory adopters in Europe. The results reveal that mandatory adopters benefit from a significant decrease in their cost of equity capital. In addition, voluntary adopters have significantly lower cost of equity prior to 2005 compared to mandatory adopters. However, unlike the mandatory adopters, the voluntary adopters do not experience a significant reduction on their cost of capital after 2005 and the difference between the two types of firms becomes insignificant post 2005. Further analysis reveals that increased disclosure and enhanced comparability are mechanisms through which mandatory IFRS adoption leads to lower cost of equity capital. In addition, the reduction in cost of capital for mandatory adopters is only present in firms from countries with strong enforcement mechanisms. Therefore, both Daske (2008) and Li (2010) highlight the importance of enforcement in improving financial reporting quality.

The effects of confounding factors such as concurrent changes in the institutional setting are an inherent problem when carrying out pre-post IFRS adoption comparisons. Byard, Li and Yu (2011) attempt to control for such factors by using a control sample of voluntary adopters in Europe. This study examines the effect of the mandatory adoption of IFRS on analysts' forecast errors and forecast dispersion. The results reveal that compared to the control sample, the analysts' absolute forecast dispersion decreases only for firms domiciled in countries with both strong enforcement regimes and domestic accounting standards that differ significantly from IFRS. Similarly, Horton, Serafeim and Serafeim (2012) find that analysts' consensus forecast errors decrease for firms that mandatorily adopt IFRS relative to forecast errors of other firms. They also find that the magnitude of the decrease in forecast errors is associated with the firm-specific differences between local GAAP and IFRS. Taken together these results are indicative of improvements in the information environment post mandatory IFRS adoption, conditional on the difference between IFRS and prior GAAP and the level of enforcement.

Landsman, Maydew and Thornock (2012) investigate whether the information content of earnings announcements, measured in terms of abnormal return volatility and

abnormal trading volume, increases in countries following mandatory IFRS adoption. The evidence show that the information content increased in 16 countries that mandated the adoption of IFRS relative to the 11 that reported under local accounting standards. Using path analysis, Landsman et al. (2012) discern three mechanisms through which IFRS adoption increases information content: reducing reporting lag (length of time between period end and earnings announcement), increasing analyst following, and increasing foreign investment. The authors also find that firms in strong legal enforcement countries experienced a greater increase in information content following mandatory IFRS adoption than firms from countries with weak enforcement.

In summary, as shown in Table 3-2, studies which examine the mandatory adoption of IFRS have generally provided mixed results in terms of the quality of IFRS and the apparent effectiveness of the standards in reducing earnings management and improving the informativeness of financial reports. The results of studies such as Jeanjean and Stolowy (2008) and Callao and Jarne (2010) and Ahmed et al. (2012) indicate that the adoption of IFRS has not resulted in reductions in earnings management while Iatridis (2010) provides contrary evidence. In fact Jeanjean and Stolowy (2008), Callao and Jarne (2010) and Ahmed et al. (2012) find some evidence of increases in earnings management and they generally attribute their findings to the greater flexibility and managerial discretion provided by IFRS compared to domestic GAAP.

Table 3-2: Summary of major studies on mandatory IAS adoption

Study	Country	Sample period	Main findings
<i>Panel A: Studies related to accounting quality</i>			
Jeanjean and Stolowy (2008)	UK, France and Australia	2002-2006	Earnings management did not decrease post IFRS adoption.
Horton and Serafeim (2009)	UK	2004	Investors find IFRS reconciliation adjustments value relevant.
Callao and Jarne (2010)	11 countries in the EU	2003-2006	Earnings management based on discretionary accruals has increased post IFRS adoption.
Davalle, Onali and Magarini (2010)	Germany, Spain, France, Italy and UK	2002-2007	Value relevance of earnings has increased post IFRS adoption while the value relevance of book value of equity has decreased, for the overall sample. Individual country data provide mixed evidence on value relevance. No evidence that earnings smoothing has decreased and timeliness of losses increased for sample firms.
Chen, Tang, Jiang and Lin (2010)	15 countries in the EU	2000-2007	Less managing earnings toward a target, a lower magnitude of absolute discretionary accruals and higher accruals quality, post IFRS adoption. However, higher levels of earning smoothing and less timely recognition of losses.

Iatridis (2010)	UK	2004-2005	UK firms report less smooth accounting numbers, more timely recognition of losses and a lower frequency of small profits and higher value relevance post IFRS adoption.
Aubert and Grudnitski (2011)	13 countries in the EU	2004	Significant differences between ROA under local accounting standards and reconciled IFRS figures. No evidence that IFRS earnings numbers are more value relevant or timely compared to local standards.
Verriest, Gaeremynck, Thornton (2012)	15 countries in Europe	2004	Firms with stronger governance mechanisms engage in more transparent IFRS restatements, provide better disclosure quality and comply with IFRS more rigorously than weaker governance firms.
Ahmed, Neel and Wang (2012)	20 countries worldwide	2002-2007	IFRS firms show an increase in income smoothing and aggressive reporting of accruals and reduction in the timeliness of loss recognition relative to benchmark firm. Their results mainly hold even for firms from strong enforcement countries.
<i>Panel B: Studies related to economic benefits and capital market effects</i>			
Christensen, Lee and Walker (2007)	UK	1996-2004	Share price reaction is positive and increases in cost of equity capital lower, to announcements that increased the likelihood of IFRS adoption, for firms which were more likely to adopt IFRS voluntarily.
Daske , Hail, Leuz and Verdi (2008)	26 countries worldwide	2001-2005	Market liquidity and firm valuations increased for firms from countries with relatively strict enforcement regimes and an institutional environment that provides incentives for more transparent earnings. These effects are weaker when domestic standards are closer to IFRS.
Li (2010)	18 countries in the EU	1995-2006	Mandatory adopters from countries with strong enforcement mechanisms benefit from a significant decrease in their cost of equity capital.
Armstrong, Barth, Jagolinzer, and Riedl (2010)	18 countries in the EU	2002-2005	Incrementally positive stock market reactions to events associated with the likelihood of the IFRS adoption for firms with lower pre-adoption information quality.
Byard, Li and Yu (2011)	20 countries in Europe	2003-2006	Analysts' absolute forecast dispersion decreased for mandatory adopters who are domiciled in countries with both strong enforcement regimes and domestic standards that differ significantly from IFRS.
Horton, Serafeim and Serafeim (2012)	46 countries worldwide	2001-2007	Analysts' consensus forecast errors decrease for firms that mandatorily adopt IFRS relative to forecast errors of other firms. The magnitude of the forecast errors decrease is associated with the firm-specific differences between local GAAP and IFRS.
Landsman, Maydew and Thornock (2012)	27 countries worldwide	2002-2007	Information content (based on abnormal return volatility and abnormal trading volume) of earnings announcements increased in countries that mandated adoption of IFRS relative to those that that did not. Firms from countries with relatively strong legal enforcement experienced a greater change in information content.

Studies that have looked at the economic benefits of IFRS adoption such as Daske et al. (2008) and Li (2010) provide some evidence that firms have benefited through improved liquidity, reduced cost of capital and higher equity valuations. Furthermore, Armstrong et al. (2010), Christensen et al. (2007), Daske et al. (2008), Byard et al. (2011), Landsman et al. (2012) have demonstrated the importance of a strong enforcement regime in achieving some of the expected benefits of IFRS adoption such

as reduction in information asymmetry between managers and investors and lower cost of capital.

Studies on mandatory adoption have generally faced difficulties due to the limited availability of time series data for the post IFRS period. This raises concerns about the reliability of the results as firms and investors may take time to understand the application of IFRS. While IFRS imposes more stringent requirements for certain areas of financial reporting, it allows more flexibility or subjectivity in others (Cairns, 2004). Therefore, overall improvements in financial reporting may not be observable leading to the mixed results evidenced in the previous literature. Thus, it is important to identify the specific areas or mechanisms by which IFRS may cause accounting quality to improve. In addition, the incentives of voluntary adopters are different from mandatory adopters. So many of the studies on mandatory adopters that focused on countries such as Germany (where voluntary adoption was allowed) suffer from self-selection bias as the incentives of voluntary adopters may be different from those of mandatory adopters. My thesis adds to the literature by using a longer sample period (2005-2009) beyond the first adoption year and investigating the specific mechanisms by which IFRS may cause accounting quality to improve. In addition, I focus on a country that did not allow firms to voluntarily adopt IFRS before 2005, thereby avoiding the issues faced by other studies with self selection bias. UK GAAP was considered to be a set of high quality standards (Horton and Serafeim, 2009). Furthermore, the UK is perceived to be a high enforcement country and differences between UK GAAP and IFRS are considered to be low (Kaufmann et al., 2012; Bae et al., 2008). Therefore, my thesis contributes to the literature by examining whether the adoption of IFRS is associated with any improvements in accounting quality in a setting where there are high quality domestic accounting standards, strong enforcement and a low number of differences between the domestic and international standards.

3.4 SUMMARY

The purpose of this chapter is to provide an overview of the theoretical background for my study and to highlight the relevant empirical literature. Therefore, I present theories related to the incentives of (i) accounting standard setters such as the IASB to set high quality accounting standards and (ii) firms to produce high quality financial reports, thereby assisting in improving accounting quality. In addition, I analyse prior studies

for the insights they provide about the adoption of IFRS and identify areas where my thesis contributes to the existing literature.

I demonstrate potential influences on the accounting quality of IFRS reports by considering both the institutional framework, examined in Chapter 2, and the incentives for accounting standard setters to develop high quality standards and for managers to comply with IFRS and provide comprehensive disclosure is presented in this chapter. Based on this understanding, hypotheses that explore the research questions are presented in Chapter 4.

CHAPTER 4: HYPOTHESES DEVELOPMENT

4.1 INTRODUCTION

In Chapter 2, I describe the institutional setting for financial reporting in the UK including the regulations that firm directors need to follow in the preparation of financial reports and mechanisms to enforce these regulations. In Chapter 3, I review prior studies related to accounting quality. The purpose of this chapter is to develop a set of testable hypotheses about the relationship between IFRS adoption and accounting quality in the UK.

To develop appropriate hypotheses, I define accounting quality in Section 4.2. Then, specific differences in the reporting requirements between UK GAAP and IFRS are outlined in Section 4.3. The discussion thereafter leads to a formal statement of hypotheses in Section 4.4. These hypotheses and the chapter are summarised in Section 4.5.

4.2 DEFINITION OF ACCOUNTING QUALITY

The IASB aims to develop a single set of high quality, understandable, enforceable and globally accepted financial reporting standards (IASCF, 2010). The objective of my thesis is to examine whether accounting quality has increased due to the mandatory adoption of IFRS in the UK. Accounting quality is an elusive concept and although there are established mechanisms for measuring accounting quality (such as earnings smoothing, accruals quality and value relevance), it has not yet been clearly defined. Following Ball and Shivakumar (2005, p. 84) and Soderstrom and Sun (2007, p. 686) I conceptualise accounting quality as the usefulness of accounting to all relevant parties in the economy to facilitate investment and credit decisions. This is consistent with the IASB's Conceptual Framework for Financial Reporting (2010, paragraph OB2). The Conceptual Framework states that the objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity.

The Conceptual Framework (paragraph QC4) also highlights that for information to be useful, it must be relevant (that is, provide an indication of future cash flows) and faithfully represent what it purports to represent (that is, information must be complete and unbiased). It also states that the usefulness of financial information to various users is enhanced by the qualitative characteristics of comparability, verifiability, timeliness, and understandability. This highlights that accounting quality is a multi-faceted concept which explains the manifold measures used in prior studies to capture accounting quality.

Following studies which have been discussed in Chapter 3 such as Lang et al. (2003), Lang et al. (2006), Barth et al. (2008) and Paananen and Lin (2009), this thesis operationalises accounting quality in terms of earnings smoothing, managing towards earnings targets, timely loss recognition and value relevance.

Agency theory suggests that insiders have an incentive to hide a firm's current poor performance if their incomes are tied to firm performance through bonus compensation plans (Moses, 1987; Beattie, Brown, Ewers, John, Manson, Thomas and Turner, 1994). Insiders may also want to under report strong performance in order to give them a buffer in future periods of poor performance. Earnings smoothing can be defined as 'the intentional dampening of fluctuations about some level of earnings that is currently considered to be normal for a firm' (Beidleman, 1973, pp. 653). Earnings smoothing may result in information that is biased and does not faithfully represent the true performance of the firm. In addition, the value relevance of information may be reduced as it hinders the ability of outsiders to predict future cash flows. Therefore, earnings smoothing may decrease the usefulness of financial information to outsiders. Thus consistent with prior studies such as Lang et al. (2005), Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010), I interpret high levels of earnings smoothing to reflect lower accounting quality.

In terms of hiding poor performance, studies such as Burgstahler and Dichev (1997) and Degeorge, Patel and Zeckhauser (1999) provide evidence that insiders use their discretion in accounting treatments to avoid showing small losses. Although managers have incentives to avoid reporting losses of any magnitude, they are less able to cover up larger losses. Therefore, there is a tendency by insiders to manage earnings towards small positive net income (Leuz, Nanda and Wysocki, 2003). This also results in

biased information being provided to outsiders, which reduces their ability to predict future cash flows. Hence, a higher frequency of managing towards earning targets by insiders is viewed as reducing accounting quality.

Recognition of losses is considered timely if they are included in the financial statements as they occur instead of being spread over multiple future periods. Ball and Shivakumar (2005) discuss two main mechanisms by which timely recognition of losses improves the usefulness of financial information for investors and creditors. The first is corporate governance. When a firm has strong corporate governance, insiders have to recognise losses as they occur. Therefore, they are less likely to invest in loss making “pet” projects or “trophy” acquisitions. They are also more likely to stem losses faster as they cannot defer the recognition of losses to future periods (and future generations of managers). The second mechanism is through improved efficiency in debt agreements. If losses are recognised in a timely manner, financial statements provide more accurate information to lenders on the pricing of debt. In addition, accuracy in financial statements may trigger the breach of debt covenants earlier. Therefore, timely recognition of losses improves the usefulness of financial information to investors and lenders, thereby increasing accounting quality.

The IASB’s Conceptual Framework (QC5-QC10) highlights that a fundamental qualitative characteristic of financial information is relevance. Relevant financial information is capable of making a difference in the decisions made by users. For information to be relevant, it should have predictive value or confirmatory value. Information is considered to have predictive value if it can be used by users to predict future outcomes. Financial information has confirmatory value if it provides feedback about previous evaluations. Therefore, if financial information is relevant, investors will use it in when making investment decisions. This will result in a closer association between accounting numbers such as earnings and market measures such as share prices and returns (Amir, Harris Venuti, 1993; Francis and Schipper, 1999; Ali and Hwang, 2000; Hung, 2000). Consistent with prior studies such as Lang et al. (2006), Lang et al. (2003), Barth et al. (2008), I operationalise value relevance as the association between accounting numbers and market measures. Financial information that has greater value relevance is more useful for investors, thus indicative of better accounting quality.

In summary, it is argued that lower earnings smoothing and managing towards earnings targets and higher timeliness of loss recognition and value relevance are linked to greater usefulness of financial information to outsiders, thereby better accounting quality. My thesis examines whether accounting quality for UK firms has increased after IFRS adoption and what mechanisms contributed to these improvements.

4.3 IFRS VERSUS UK GAAP

In my thesis I investigate three major mechanisms by which accounting quality of UK firms may have increased post IFRS adoption. These are the increased use of fair value measurement for certain assets and liabilities, more extensive disclosure requirements and greater enforcement.

There is a belief that IFRS uses more fair value measurement and imposes more extensive disclosure requirements in certain areas of financial reporting, such as financial instruments and intangible assets, compared to UK GAAP (Nobes and Parker, 2006; Ball, 2006; Horton and Serafeim, 2009).²⁷ The IASB defines fair value as ‘the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm’s length transaction’ (IAS 39, paragraph 9). In measuring fair values, the IASB first places emphasis on quoted prices from an active market. Therefore, when an active market is present, market values are used as fair values. When quoted prices are not available in active markets, the IASB requires the use of, when available, market based information in making an assessment of fair values. This reflects the principle that rational knowledgeable parties would take into account market information when making an assessment of the price for exchanging an asset or liability in an arm’s length transaction. When assets and liabilities are not traded on active markets and market information is not available, the IASB prohibits the use of fair values, because estimations of fair values will be unreliable and open to manipulation (IAS 39, Appendix A, paragraphs AG80 and AG81; Cairns, 2006).²⁸

²⁷Detailed discussions on the specific differences in the measurement requirements between UK GAAP and IFRS in the areas of financial instruments and intangible assets are provided in Sections 4.3.1.1 and 4.3.1.2 respectively.

²⁸Subsequent to the period of my study the IASB provided more guidance about fair value measurement and associated disclosures in IFRS 13 *Fair Value Measurement*. IFRS 13 applies to periods beginning on or after 1 January 2013.

Proponents of fair value measurement argue that it better reflects the economic substance of assets and liabilities compared to historical cost measurement because fair values provide more current valuation information (Penman, 2007). This is confirmed by the findings in Barth (1994) which show that fair values have significant explanatory power beyond that provided by historical cost measurement. In addition, Barth, Beaver and Landsman (1996) find that investors perceive fair values of bank loans as a better reflection of underlying values with more relevance and reliability than historical cost amounts. Fair values are perceived to be market based measures that are unbiased and are unaffected by firm specific factors (Penman, 2007). The use of current measures (such as impairment instead of amortisation) may increase the volatility of earnings and reduce the scope for insiders to manipulate earnings. It also provides more timely information on the performance of the insiders (Ball, 2006). This in turn reduces the scope for earnings smoothing and management towards earning targets and improves the timeliness of loss recognition and value relevance. These factors in combination indicate that fair value measurements increase the usefulness of financial information to outsiders thereby improving accounting quality.

IFRS also requires more extensive disclosure requirements in areas such as financial instruments, intangible assets and reporting of geographic and business segments.²⁹ Increased disclosure should improve the usefulness of financial information to outsiders and reduce information asymmetry. Thereby outsiders are better able to make assessments on the future performance of firms (Leuz and Verrecchia, 2000). This should result in a closer association between accounting numbers and market measures and in turn, improve value relevance. Therefore, the more extensive disclosure requirements associated with IFRS should result in better accounting quality.

As mentioned in Chapter 2, around the time of IFRS adoption there were changes in the regulatory activities and institutional oversight system for enforcement in the UK. For example, until 2005 the FRRP acted purely on a reactive basis, when issues were brought to its notice (Fearnely et al., 2000). Due to criticisms of this approach, the FRRP commenced proactive enforcement of accounting standards from 2005 based on

²⁹Detailed discussions on the specific differences in the disclosure requirements between UK GAAP and IFRS in the areas of financial instruments, intangible assets and segmental reporting are provided in Sections 4.3.1.1, 4.3.1.2 and 4.3.2 respectively.

a risk based approach (FRRP, 2004).³⁰ The FRRP is mainly concerned with material departures from accounting standards, where as a result of the digression, the accounts in question do not provide a true and fair view (FRRP, 2005). The number of cases investigated by the FRRP has increased significantly from 226 in 2004/05 to 326 in 2007/08. In addition, several countries including the US and Germany increased their regulatory and enforcement practices during the time around IFRS adoption. For example, all foreign firms coming under the scope of the SEC in the US have to meet all the requirements of SOX by financial years ending on or after 15 July 2006 (Piotroski and Srinivasan, 2007). Thus, UK firms cross listed in these countries have to meet the additional regulatory requirements and come under enhanced scrutiny of the enforcement bodies. Better enforcement is a key factor in improving accounting quality, as it provides insiders with incentives to adhere to the requirements of the accounting standards, because there is a higher probability that their self interested decision making and sub optimal performance will be detected and punished (Ball et al., 2003; Ball, 2006). Therefore, better enforcement provides insiders with greater incentive to comply with the relevant accounting standards (Street and Bryant, 2000). The heightened enforcement activity during the post IFRS adoption period should result in financial statements that comply more with the accounting standards. This provides users with more useful financial information, thereby improving accounting quality.

Overall, due to the combined effects of the greater use of fair values, more extensive disclosure requirements and heightened enforcement in the post IFRS adoption period, it is expected that there will be less earnings smoothing and management towards earnings targets, and more timely recognition of losses and higher value relevance, and in turn, improved accounting quality. Therefore, the first hypothesis (formally stated in the alternative form) is:

H1: UK firms have higher accounting quality under IFRS compared to UK GAAP.

In addition to examining whether the mandatory adoption of IFRS in the UK has resulted in an increase in accounting quality, my thesis aims to discover the specific

³⁰A detailed discussion of the role and activities of the FRRP is provided in Chapter 2.

mechanisms by which IFRS caused accounting quality to increase. Therefore, further hypotheses are developed in the following sections to focus on possible mechanisms.

4.3.1 Greater use of fair value measurement and extensive disclosure requirements under IFRS

To date, no empirical studies of UK firms have investigated whether accounting quality post IFRS adoption has increased due to the greater use of fair values and more extensive disclosure requirements imposed by IFRS for specific accounting issues. The greater use of fair values and more detailed disclosures in certain areas of financial reporting under IFRS should decrease earnings smoothing and management towards earnings targets, increase timeliness of loss recognition and improve value relevance. Therefore, the second hypothesis (formally stated in the alternative form) is:

H2: Post IFRS accounting quality is higher due to the increased use of fair value measurement and associated more extensive disclosure requirements.

By undertaking an extensive analysis of the existing literature on UK GAAP and IFRS I identified two major areas where IFRS requires UK firms to use more fair values and provide greater disclosures. These are in relation to accounting for financial instruments and intangible assets, which are discussed below.

4.3.1.1 Financial instruments

As capital markets have grown, so has both the volume and complexity of financial instruments. Therefore, comprehensive accounting standards which provide clear guidance on the reporting of these instruments are necessary in order to reduce the potential for misleading information to be presented to the users of financial statements (Rodgers, 2007, p.241).

Prior to 2005, there was no comprehensive standard under UK GAAP which covered financial instruments (although some aspects were covered under FRS 4 *Capital Instruments*) and UK GAAP mainly relied on historical cost measures (Nobes, 2001; Panaretou, Shackleton and Taylor, 2012). The measurement of financial assets was determined by Company Law and EU directives such as the Fourth Directive. Noncurrent financial assets were measured at either cost or net realisable value while

current financial assets were required to be measured at the lower of cost and net realisable value (Cairns et al., 2011).

In contrast, the IASB standards for adoption in 2005 included two standards relating to financial instruments:³¹

- IAS 39 *Financial Instruments: Recognition and Measurement*
- IAS 32 *Financial Instruments: Presentation*

While IAS 39 incorporates extensive disclosure requirements and requires the use of fair value measurement for certain financial instruments (Cairns and Nobes, 2000; Gee, 2006), IAS 32 provides guidance on the presentation of financial instruments in the financial statements.

Financial assets

IAS 39 classifies financial assets and financial liabilities into discrete categories that determine their method of measurement (e.g. cost, amortised cost or fair value). This categorisation also establishes whether any gains and losses are required to be recognised immediately in the profit and loss account or taken to equity (Mirza, Holt and Orrell, 2006, pp.205-209).

IAS 39 (paragraph 45) classifies financial assets into the following four categories;

- (i) Financial assets at fair value through profit or loss;
- (ii) Held-to-maturity investments;
- (iii) Loans and receivables; and
- (iv) Available-for-sale financial assets.

Initial recognition of all four categories of financial assets is at fair value (IAS 39, paragraph 43). However, the measurement of these assets after initial recognition differs. The following table provides an overview of each category of financial assets and their accounting treatment under IFRS.

³¹IFRS 7 *Financial Instruments: Disclosures* is not discussed in this thesis because it only became effective for fiscal periods beginning on or after 1 January 2007.

Table 4-1: Major categories of financial assets and their accounting treatment under IFRS

Category	Description	Accounting treatment under IFRS
(i) Financial assets at fair value through profit and loss	<ul style="list-style-type: none"> Any asset so designated on initial recognition. Assets held for trading (includes derivatives). 	Initial recognition and measurement at subsequent balance sheet dates at fair values and the movements taken directly to the profit and loss account.
(ii) Loans and receivables	<ul style="list-style-type: none"> Non derivative financial assets with fixed or determinable payments that are not quoted on an active market. 	Initial recognition at fair value. Measurement at subsequent balance sheet dates using amortised cost.
(iii) Held-to-maturity investments	<ul style="list-style-type: none"> Financial assets with fixed or determinable payments and fixed maturity that the entity has the positive intent and ability to hold to maturity. 	Initial recognition at fair value. Measurement at subsequent balance sheet dates using amortised cost.
(iv) Available-for-sale	<ul style="list-style-type: none"> Assets not classified in any of the other categories. Assets so designed on initial recognition (often assets that are held for liquidity purposes). 	Initial recognition fair value. Movements in subsequent balance sheet days taken directly to the reserves. However, if the asset is sold or subject to impairment the gains and losses taken to reserves are recycled through the face of the profit and loss account.

Source: Rodgers, 2007 (pp. 244-45).

As shown in Table 4-1, the first category is financial assets at fair value through profit and loss. This includes financial assets that are (a) so designated on initial recognition, and (b) held for trading. Derivative assets which are not designated as hedging instruments are considered to be held for trading financial assets (IAS 39. paragraph 9).

In recent times, there has been an exponential growth in the volume of financial derivatives. The price of derivatives is highly dependent on underlying factors such as interest rates and exchange rates, resulting in a high level of volatility in their values. Fair values for derivatives can be more value relevant than historical cost figures (Whittington, 2005, p.139). However, under UK GAAP, derivatives were usually stated initially at historical cost which was often nil (Gee, 2006, p.114). Under IAS 39, as shown in Table 4-1, derivatives fall under the ‘financial assets at fair value through profit and loss’ category. Thereby, IAS 39 requires the recognition of all derivatives not designated as hedging instruments on the balance sheet and measurement of the resulting assets or liabilities at each financial year end at fair value with all gains and losses recognised in profit and loss. Therefore, IFRS requires greater use of fair value measurement and more disclosure of derivatives compared to UK GAAP.

As seen in Table 4-1, the initial recognition of loans and receivables, held-to-maturity investments and available-for-sale financial assets are at fair values under IFRS. Loans and receivables, and held-to-maturity investments are reported at amortised cost in subsequent periods (IAS 39. paragraph 46(a)). Changes in valuations of available-for-sale financial assets in subsequent periods are included in reserves as unrealised gains or losses until disposal or impairment, at which point they are taken to the profit and loss account (IAS 39. paragraph 55(b)). This is because IAS 39 recognises that the liquidity of these assets is different from derivatives and that the annual revaluations may be unreliable, costly and not as value relevant because changes in value will not be realised (Whittington, 2005).

Under IAS 39, all four types of financial assets are initially recognised at fair values, although the measurement in subsequent periods may differ. The initial recognition of all financial assets at fair value and the subsequent measurement of derivative assets and held-for-trading assets at fair value is a major difference between UK GAAP and IFRS because UK GAAP did not require, nor in many cases allow, the use of fair values (Nobes, 2001; Cairns et al., 2011). In addition, IAS 39 provides detailed guidelines and imposes greater restrictions on the use of hedge accounting and on the use of certain instruments such as hedging instruments or as hedged items (Nobes, 2001; Cairns, 2004; KPMG, 2003).

Financial liabilities

UK GAAP did not deal with financial liabilities other than a firm's own debt (Gee, 2006). IAS 39 (paragraph 47) classifies financial liabilities into two categories. Both categories of financial liabilities are initially recognised at fair value. The following table provides an overview of each category of financial liabilities and their accounting treatment under IFRS.

Table 4-2: Major categories of financial liabilities and their accounting treatment under IFRS

Category	Description	Accounting treatment under IFRS
(i) Financial liabilities at fair value through profit and loss	<ul style="list-style-type: none"> • Any liability so designated on initial recognition. • Liabilities held for trading (includes derivatives). 	Initial recognition and measurement at subsequent balance sheet dates at fair values and the movements taken directly to the profit and loss account.
(ii) Financial liabilities at amortised cost	<ul style="list-style-type: none"> • All financial liabilities other than those at fair value through profit and loss. 	Initial recognition at fair value. Measurement at subsequent balance sheet dates using amortised cost.

As shown in Table 4-2, financial liabilities at fair value through profit and loss includes financial liabilities which are (a) so designated on initial recognition and (b) held for trading. Derivative liabilities that are not designated as hedging instruments are considered to be held for trading financial liabilities (IAS 39, paragraph 9). Thereby, IAS 39 requires the recognition of all derivative liabilities on the balance sheet (as debtors and creditors) and measurement of the resulting assets or liabilities at each financial year end at fair value with all gains and losses recognised in profit and loss. Therefore, IFRS requires greater use of fair value measurement and more disclosure of derivative liabilities compared to UK GAAP.

The second category is financial liabilities at amortised cost. These are financial liabilities that are not held for trading. Financial statement preparers argued that annual revaluation of these financial liabilities (prior to maturity) do not provide useful information because any movements in value have not been realised and revaluations can be unreliable and expensive. Therefore, IAS 39 allows these financial liabilities to be recognised initially at fair values but then amortised over subsequent periods (Whittington, 2005).

The initial measurement of all financial assets and liabilities at fair value and the valuation of derivatives on subsequent dates at fair value is a major difference between UK GAAP and IFRS because UK GAAP did not require, nor in many cases allow the use of fair values (Nobes, 2001; Cairns et al., 2011). IAS 39 also restricts the reclassification of financial assets and liabilities between categories, which stops firms from changing the measurement method for financial instruments. For example, firms are not allowed to reclassify items in or out of the ‘financial assets/liabilities at fair value through profit and loss’ category. This limits the ability of insiders to smooth earnings through the reclassification of financial instruments. Therefore the potential for insiders to provide misleading information on the financial performance and position of the firm to outsiders is decreased (Mirza et al., 2006, p.209).³² In addition, IAS 39 has more extensive disclosure requirements compared to UK GAAP, which

³²For example, if a firm wished to show a higher profit in a specific year, it could reclassify a financial asset which had a higher fair value than the amortised book value, into the ‘financial assets at fair value through profit and loss’ category from the ‘available for sale financial assets’ category. IAS 39 precludes firms from doing so, in order to limit sub-optimal behaviour.

was silent on the disclosure of many financial instruments. For example, under IAS 39 all derivatives are to be recognised in the balance sheet at fair values. Also IAS 39 clearly specifies that financial assets can only be derecognised when control over contractual rights are lost and financial liabilities can only be derecognised when they are extinguished. UK GAAP did not have an equivalent requirement for the derecognition of financial assets and liabilities (Cairns, 2004).

The greater use of fair values in measurement and more detailed disclosure of financial assets and liabilities under IFRS can potentially increase the volatility of earnings, reduce the scope for earnings smoothing and provide more useful information for outsiders of the organisation. This may lead to an increase in accounting quality through lower earnings smoothing and management towards earnings targets and improved timeliness in loss recognition and value relevance. The impact on earnings volatility and asset recognition and thereby accounting quality will be greater for firms that have higher amounts of financial assets and liabilities. Therefore, in order to test H2, I compare improvements in accounting quality for firms with higher levels of financial assets and financial liabilities to firms with lower levels of financial assets and financial liabilities. H2 will be supported if firms with higher levels of financial assets and liabilities show greater improvements in accounting quality compared to firms with lower levels of financial assets and liabilities.

The treatment of derivative assets and liabilities under IAS 39 is similar with initial recognition and measurement at subsequent balance sheet dates at fair values and the movements taken directly to the profit and loss account. However, it is important to analyse the accounting quality implications of financial assets and financial liabilities separately. This is because firms are more reluctant to recognise financial liabilities (compared to financial assets) in their balance sheets because recognising additional liabilities may put them in breach of debt covenants or increase their risk profile and their cost of capital (DeFond and Jiambalvo, 1994). Therefore, the incentives for firms to recognise and disclose information on financial assets and liabilities may vary, influencing the usefulness of financial statements and in turn accounting quality.

4.3.1.2 Intangible assets

The second area where IFRS introduces more fair value measurement and greater disclosure is in relation to accounting for intangible assets. The relevant standards for the recording of intangible assets under IFRS are IAS 38 *Intangible Assets* and IFRS 3 *Business Combinations* while the corresponding UK GAAP standard is FRS 10 *Goodwill and Intangible Assets*. A major difference between IFRS and UK GAAP is that goodwill is amortised under UK GAAP while IFRS requires an annual impairment review (Cairns, 2004). The specific standard relevant to impairments under IFRS is IAS 36 *Impairment of Assets* while under UK GAAP it is FRS 11 *Impairment of Fixed Assets and Goodwill*.

Under UK GAAP, goodwill is amortised over its economic life (FRS 10, paragraphs e-g). There is a rebuttable presumption that the useful economic life of purchased goodwill is no more than 20 years from the date of acquisition. For goodwill which is being amortised over 20 years or less, an impairment test has to be carried out only at the end of the first full year after acquisition or on the occurrence of an event or change in circumstances which indicates that the carrying amount may not be recoverable in full (FRS 10, paragraph j). It is argued that amortisation on a straight line basis does not provide useful information to financial statement users about the actual value of underlying assets (Ravlic, 2003; Jifri and Citron, 2009). Furthermore, a major problem with the amortisation of goodwill is the estimation of useful life. The longer the useful life, the less reliable the estimation may become (Waxman, 2001). Additionally, the rebuttable presumption under FRS 10 that the useful life of goodwill is no longer than 20 years is arbitrary (Stenka, Ormrod and Chan, 2008).³³

In contrast, IAS 36 (paragraph 10) requires an annual impairment review for goodwill, which should take place at the same time each year. This does not necessarily have to be the balance sheet date. If there is a trigger event subsequent to an impairment test being performed on goodwill, then the impairment test must be updated (IAS 36,

³³Under limited circumstances UK GAAP allowed the indefinite useful life of intangibles and goodwill to be assumed as greater than 20 years or even indefinite (FRS 10, paragraph g). However, annual impairments were required for these goodwill and intangibles that were not amortised or amortised over periods greater than 20 years (FRS10, paragraph j). This is similar to the annual impairment reviews required under IFRS. Thus, the ensuing discussion does not examine this category of intangibles as the discussion mainly focuses on the differences between measurement and disclosure requirements under UK GAAP and IFRS.

paragraph 9). An asset is considered to be impaired if its carrying amount exceeds the amount to be recovered through use or sale of the asset (IAS 36, paragraph 1) The impairment loss is recognised as an expense in the income statement (IAS 36, paragraph 60). Wines, Dagwell and Windsor (2007) argue that impairment testing should result in balance sheet values of goodwill that more closely reflects real asset values. Additionally any write downs recognised in the profit and loss statement should reflect declines in the actual value of assets rather than the arbitrary amortisation of goodwill annually. Therefore, the financial statements should provide more useful and timely information on the performance of the firm. This is confirmed by the findings of Horton and Serafeim (2009) who examined information contained in the IFRS reconciliation statements prepared by UK firms for the last year of reporting under UK GAAP (2004/05). They find that IFRS reconciliation adjustments relating to the impairment of goodwill are incrementally value relevant to users and reveal new information compared to UK GAAP. In addition, examining Australian firms that adopted IFRS, Chalmers, Godfrey and Webster (2011) find impairments capture the underlying economic attributes of goodwill better than amortisation.

Furthermore, IAS 36 (paragraph 130) requires extensive disclosure of impairments by segment and, where material, by cash generating unit. IAS 36 (paragraph 134-136) also requires extensive narrative disclosure on the impairment testing process and the disclosure of the key assumptions made in estimating the recoverable amount of an intangible asset and a sensitivity analysis. In the event of a severe economic downturn (such as the Global Financial Crisis), this information can be particularly useful to investors in order to ascertain its effect on the firm (FRRP, 2009).

Another major difference between UK GAAP and IFRS is the treatment of negative goodwill or discount on acquisition (Gee, 2006, p.237). Under UK GAAP, negative goodwill is recognised on the balance sheet within the fixed asset section. This 'negative asset' is then amortised to the profit and loss account (FRS 10, paragraphs 48-51). In contrast, under IFRS negative goodwill is credited to the profit and loss statement immediately and never recognised on the balance sheet (IFRS 3, paragraph 34). Therefore, earnings figures under IFRS may be more useful to investors if they better reflect the underlying financial reality of transactions in a timelier manner.

Under UK GAAP purchased goodwill is the fair value of the consideration given less the fair value of the identifiable net assets acquired. Thus, intangible assets acquired were pooled into a single goodwill asset. In contrast, IFRS 3 *Business Combinations* puts greater emphasis on goodwill as a residual number and expects the acquirer to identify as many assets and liabilities as possible including intangible assets (PWC, 2005). For example, IFRS 3 (paragraph 32) requires acquired goodwill to be initially measured as the excess of the cost of the business combination over the acquirer's interest in the net fair value of the acquiree's identifiable assets (tangible and intangible), liabilities and contingent liabilities. Contingent liabilities should be recognised even if the flow of benefits is not probable but their fair values can be measured reliably (paragraph 23). This was not permitted under UK GAAP (KPMG, 2003). This means that liabilities disclosed in the notes of the target firm but not included as liabilities in its balance sheet are still recognised in the calculation of goodwill. That is, contingent liabilities are deducted from identifiable intangible assets resulting in higher values of goodwill being recorded (Rodgers, 2007, p.126). The aim of this change is to bring about greater transparency in the recording of acquisitions by imposing more requirements for firms to identify and value all the assets acquired. This combined with the requirement for annual impairment testing of goodwill (instead of amortisation) increases the incentive for firms to accurately identify and value intangible assets separately from goodwill (Quilligan, 2006).

The requirements for impairment testing of goodwill instead of amortisation, additional disclosure of impairments, more timely recognition of negative goodwill, and greater transparency in the recording of assets and liabilities acquired under IFRS compared to UK GAAP should result in more useful financial information being provided to users. In addition, annual impairment testing of goodwill (instead of amortisation) and the recognition of negative goodwill in the profit and loss statement (instead of the balance sheet as a 'negative asset') may increase the volatility of earnings, limit the ability of insiders to smooth earnings and improve the timeliness of loss recognition. Therefore, requirements under IFRS associated with intangible assets may increase accounting quality of UK firms.

It is likely that the above mentioned effects on accounting quality will be greatest for firms that have higher levels of intangible assets. Therefore, as another test of H2, I compare relative improvements in accounting quality in firms with higher levels of

intangible assets to firms with lower levels of intangible assets. H2 will be supported if firms with higher levels of intangible assets show greater improvements in accounting quality compared to firms with lower levels of intangible assets.

4.3.2 Extensive disclosure requirements under IFRS

To my knowledge, no empirical studies to date have investigated whether accounting quality post IFRS adoption has increased due to the greater disclosure requirements imposed by IFRS for specific accounting issues. Better disclosure reduces the information asymmetry between insiders and outsiders (Biddle and Hilary, 2006). Better disclosure improves the usefulness of financial information and allows investors to make a better assessment of the financial position and performance of a firm (Hope, 2003). This will improve the value relevance of financial information to investors, which in turn improves accounting quality. Thus the more extensive disclosure requirements imposed by IFRS in certain areas of financial reporting should result in higher accounting quality. Therefore, the third, hypothesis (formally stated in the alternative form) is:

H3: Post IFRS accounting quality is higher due to more extensive disclosure requirements.

Following a review of the existing literature on UK GAAP and IFRS, I identified segment reporting as an area where IFRS requires more extensive disclosure compared to UK GAAP. This is discussed below.

4.3.2.1 Segment reporting

As the complexity and size of firms have increased, so has the number of geographic and business segments within firms. The risks and returns of individual segments within a firm are varied. Estimating future performance of large complex firms can be difficult as relevant information on different risks, returns and opportunities for growth faced by individual segments tend to be concealed in consolidated accounting figures. Segment reporting aims to increase the usefulness of financial statement information to users by disclosing more information on each segment's financial position and performance. This in turn assists in understanding the performance and position of the consolidated entity (Mirza et al., 2006, p.75; Scott, 2009, p. 12; Edwards and Smith, 1996; Roberts, 2000). Thus, segment reporting enables investors to make better informed decisions about the future performance and growth opportunities of a firm

(Prather-Kinsey and Meek, 2004). This is confirmed by prior studies showing that more comprehensive segment reporting is associated with better forecast accuracy by analysts (Baldwin, 1984; Kwon, Sung and Ndubizu, 1998; Nichols, Tunnell and Seipel, 1995).

The respective UK and international standards for segment reporting are SSAP 25 *Segmental Reporting* and IAS 14 *Segment Reporting*. Both SSAP 25 and IAS 14 require information to be disclosed by type of business and geographical segment but they differ significantly on how these segments are determined and what information is presented (Rodgers, 2007, p.91).³⁴

Under SSAP 25, the determination of what constitutes a segment is left to the discretion of the managers. It provides some guidelines in choosing segments based on the risks, returns, rates of growth and development potential but gives the managers considerable flexibility in the choice of segments (Cairns and Nobes, 2000). However, IAS 14 (paragraph 26) reduced this flexibility and requires entities to identify segments based on the organisational units that report within the firm to the board of directors and CEO. The internal system therefore determines both internal and external segment reporting structures. This change should result in more decision useful information being provided to investors (Pierce and Brennan, 2003, p. 524; Emmanuel and Garrod, 2002).

Another difference between IFRS and UK GAAP is that IAS 14 requires the segment classification to be categorised as primary and secondary while no such categorisation existed in SSAP 25 (Nobes, 2001). Thus business segments could be categorised as primary, leaving geographical segments as secondary, or vice versa. According to IAS 14 (paragraphs 26-27), a firm should determine whether business or geographical segments are to be used for its primary segment reporting format based on whether the enterprise's risks and returns are affected predominantly by the products and services it produces or by the fact that it operates in different geographical areas. Where a firm's risks and returns are significantly affected by both types of segments, then both should be treated as primary segments (Roberts, 2000, p.437). The distinction between

³⁴IAS 14 has been superseded by IFRS 8 *Operating Segments*, effective for annual periods beginning on or after 1 January 2009. IAS 14 was effective during the period of this study.

primary and secondary segments is important because IAS 14 requires more disclosures for the primary segments than the secondary segments. The IAS 14 disclosure requirements for the primary category are more extensive than under SSAP 25 (Cairns, 2004). For example IAS 14 (paragraphs 51-67) requires the disclosure of total carrying amount of segment assets, segment liabilities, capital expenditure, and depreciation and amortisation expense for primary segments. These were not required to be disclosed under SSAP 25 for any segments.³⁵

Under UK GAAP, segment reporting could be avoided if the directors think that it would be seriously prejudicial to the reporting entity (SSAP 25, paragraph 6). An example is where a firm identifies itself as having a competitive disadvantage because it is the only firm in the relevant industry that has to provide segment information. This exemption is not available in IAS 14 (Cairns, 2004; Nobes, 2001). The elimination of this exemption may have a significant effect on the level of disclosure because historically UK firms have been very reluctant to disclose segment information based on concerns relating to competitive disadvantage (Edwards and Smith, 1996).

The greater disclosure requirements imposed by IAS 14 should reduce the ability of managers to conceal decision useful information from outsiders. In addition it should improve the usefulness of financial statements for investors as they gain access to detailed information on the financial position and performance of each of a firm's segments. This in turn should improve the ability of investors to forecast future earnings and cash flows of the firm. Therefore, it is predicted that the greater disclosure requirements for segment reporting imposed by IAS 14 should result in improved usefulness of financial information to investors, in turn leading to an increase in accounting quality.

It is expected that the above mentioned effects on financial reporting practice and ultimately accounting quality will be largest for firms which have a higher number of reporting segments. Therefore, to test H3 I compare improvements in accounting quality of firms with a higher number of business and geographic segments to firms with a lower number of segments. H3 will be supported if firms with more business

³⁵To provide the reader with an example of segmental reporting for primary and secondary segments under IFRS, I have presented in Appendix A excerpts from the Abacus Group Plc annual report for 2007 relating to segmental reporting.

and geographic segments show greater improvements in accounting quality compared to firms with fewer segments.

4.3.3 Changes in the regulatory activities and institutional oversight system for enforcement in foreign countries

While laws and regulations are important, the strength of enforcement mechanisms have an effect on the incentives of financial statement preparers to produce high quality financial statements (Cairns, 2004; Lamfalussy, 2001; Ball, 2006). As mentioned in Chapter 2, around the time of IFRS adoption, there were changes in the regulatory activities and institutional oversight system for enforcement in the UK.³⁶ Similarly, changes have been implemented in foreign countries such as the US and Germany, with the intent of increasing the strength of their regulations and robustness of their institutional oversight system, and in turn improving the incentives of insiders to provide more useful information to financial statement users (Benston et al., 2006b; Hitz, Ernstberger and Stich, 2012; Ernstberger et al., 2012). UK firms cross listed in foreign countries come under their regulatory regimes. This in turn may have an effect, over and above the effect of changes implemented in the UK, on the incentives of the UK firms having a cross listing, to improve their accounting quality compared to firms that are not cross listed.

Prior studies have examined the effects of listing on foreign stock exchanges (such as the US) on cross listed firms.³⁷ However, my study specifically looks at the effects of changes in the regulatory and enforcement regime, during the post IFRS adoption period, on the accounting quality of UK firms cross listed on foreign stock exchanges.

³⁶For example, the introduction of proactive enforcement by the FRRP. My study design did not allow me to disentangle the effects of changes in accounting standards and changes in enforcement in the UK on accounting quality. Therefore, I do not test whether changes in enforcement that occurred in the UK have resulted in better accounting quality post IFRS adoption.

³⁷For example, Lang et al. (2006) compare earnings of US firms with UK GAAP reconciled earnings for cross-listed non-US firms. Non-US firms' earnings exhibit more evidence of smoothing, greater tendency to manage towards a target, lower association with share price and less timely recognition of losses. Lang, Lins and Miller (2003) find that non-US firms cross listing on US exchanges have greater analyst coverage and increased forecast accuracy than firms that are not cross listed. Baker, Nofsinger and Weaver (2002) find that firms listing shares on the New York Stock Exchange (NYSE) or the LSE experience a significant increase in visibility, as proxied by analyst coverage and print media attention.

Germany and the US are the top cross listing destinations for multi-national firms around the world (Banalieva and Robertson, 2010). The ensuing discussion mainly focuses on changes in the regulatory activities and institutional oversight systems in Germany and the US, as all the cross listed firms in my final sample are listed either in Germany or US (or both).³⁸

Major regulatory changes have been enacted to promote consistent and faithful application of IFRS in Germany. In December 2004, the financial statement monitoring act (Bilanzkontrollgesetz, BilKoG) was passed, establishing the legal basis for creating a two tier external financial reporting enforcement structure. The first tier is the private sector institution – Financial Reporting Enforcement Panel (‘Deutsche Prüfstelle für Rechnungslegung DPR e.V.’ referred to as DPR). The DPR monitors compliance with financial reporting requirements focusing on the consistent and faithful application of IFRS. The second tier is the Federal Financial Supervisory Authority (‘Bundesanstalt für Finanzdienstleistungsaufsicht’ referred to as BaFin). The BaFin only steps in on limited circumstances such as when firms refuse to cooperate with the DPR or there are serious concerns about the accuracy of an assessment made by DPR. The BaFin is a government agency and has the executive power to direct firms to disclose the DPR findings (Hitz et al, 2012). The DPR began its operations in July 2005. During the 2005 to 2009 period, the DPR initiated and completed 507 examinations of which it found 116 cases to be erroneous (DPR, 2010). Once the DPR has established that there has been an error, firms are required to disclose the DPR’s findings in a press release. Hitz et al. (2012) reveal that there is significant negative investor reaction around the release of these error findings which is indicative of the effectiveness of this “name and shame” strategy.

In addition, auditor oversight reforms were carried out in Germany that established the Auditor Oversight Commission (Abschlussprüferaufsichtskommission, referred to as AOC). The AOC began operations in January 2005 with the intent of enhancing the oversight of auditors and ensuring quality assurance of auditors (Volmer, Werner and Zimmerman, 2007; Ernstberger et al., 2012). The AOC proactively carries out inspections and makes announcements on the areas it will focus on in the forthcoming

³⁸A detailed breakdown and associated discussion on the foreign countries in which the cross listed firms have a listing is provided in Chapter 5 (Section 5.4.4).

year. As stated in Section 2.4.2 of Chapter 2, the quality of the external audit is an important factor that influences accounting quality because it reduces the incentives of insiders to engage in earnings management because the auditors can qualify the financial statements or notify external authorities of irregularities. In addition, audit quality has an influence on investor confidence in the financial statements and therefore the reliance they place on the earnings numbers (FEE, 2002). If investors consider information in the financial statements to be reliable, they may make greater use of that information when making investment decisions. Therefore, there should be a closer association between earnings and market measures (such as share prices and returns) during the post IFRS period, which would demonstrate improved value relevance.

The regulatory reforms implemented in Germany were intended to encourage the faithful and consistent application of IFRS (Ernstberger et al., 2012). The strengthening of the enforcement regime by the introduction of DPR and BaFin as well as auditor oversight through the AOC may decrease the incentive of the firm's insiders to engage in earnings smoothing, managing earnings towards targets and not revealing losses in a timely manner. In addition, these changes should encourage firms to provide more useful information to investors and also to increase the investor's reliance on financial statement information in investment decision making. This in turn will improve value relevance. Therefore, UK firms listed in Germany may have greater incentives to increase their accounting quality during the post IFRS adoption period, as they come under the scrutiny of not only the institutional oversight system in the UK (such as the FRRP) but also the improved oversight system in Germany.

There have also been improvements in the regulatory and enforcement regime in the US. In reaction to a number of high profile corporate collapses such as Enron, WorldCom and Arthur Andersen, SOX was introduced in the US (Zingales, 2009). SOX cover all firms including foreign firms coming under the jurisdiction of the SEC in the US.³⁹ Although SOX came into law on 30 July 2002, foreign firms only have to meet its requirements by financial years ending on or after 15 July 2006 (Piotroski and Srinivasan, 2007). Therefore, UK firms cross listed in the US had to meet the

³⁹Firms with Level 1 and Level 4 American Depositary Receipts (ADRs) are exempted from complying with SOX as these firms have to file with the SEC only the same financial information that they file with their home country regulators or stock exchanges (Piotroski and Srinivasan, 2007).

requirements of SOX soon after they adopted IFRS in 2005. SOX requires more stringent governance practices and greater disclosure than previously. For example, SOX requires (i) the CEO and the Chief Financial Officer (CFO) certification of financial statements (which makes them liable for civil and criminal liabilities), (ii) management and the external auditor to report on the adequacy of the firm's internal control over financial reporting, (iii) the prohibition of loans to officers and directors, and (iv) the inspection of foreign auditors by the Public Company Accounting Oversight Board (Pozen, 2004; Zhang, 2007; Hart, 2009). Another major development under SOX is that the CEO and the CFO can be subject to criminal proceedings if they knowingly signed off on misleading financial statements (Hart, 2009).

The more stringent governance practices, greater disclosure requirements and higher penalties for insiders for providing misleading financial statements imposed by SOX may reduce earnings management and improve the relevance of financial statements, thereby enhancing their usefulness to outsiders. Supporting this argument Hochberg et al. (2009) find that investor trust toward the stock market increased after the passage of the SOX. In addition, Hammersley, Myer and Shakespeare (2007) examine the stock price reaction to management's disclosure of internal control weaknesses under SOX and report that investors find these disclosures informative.

UK firms that are cross listed in the US with Level 2 and 3 ADRs have to meet the requirements of SOX for financial years ending on or after 15 July 2006. Therefore, UK firms listed in the US may have a greater incentive to increase their accounting quality, during the post IFRS adoption period, as they have to not only meet the requirements of IFRS and be subjected to the heightened enforcement activity in the UK, but also meet the additional requirements under SOX. It can be argued that these additional regulations (imposed through law and stock exchange listing requirements) improve financial reporting under IFRS by imposing further reporting requirements, leading to higher accounting quality.

In combination, the regulatory reforms implemented in Germany with the intent of encouraging the faithful and consistent application of IFRS and the effect of SOX in the US, may provide cross listed firms with a greater incentive to reduce earnings smoothing and management towards earnings targets and improve the timeliness of loss recognition and value relevance, in the post IFRS adoption period compared to

firms that are not cross listed. Therefore the fourth, hypothesis (formally stated in the alternative form) is:

H4: Post IFRS accounting quality is higher due to improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms.

In order to test H4, I compare relative improvements in accounting quality of UK firms which have a cross listing on foreign stock exchanges to UK firms which are only listed in the UK. H4 will be supported if firms which are cross listed overseas show greater improvements in accounting quality compared to firms which are not.

There are several reasons why the results may not support the above hypotheses. The incentives of cross listed firms to improve accounting quality following the introduction of stricter regulations may be mitigated by the fact that overseas regulators such as the SEC and BaFin are less likely to prosecute foreign firms than domestic firms. In addition overseas shareholders may face obstacles enforcing US or German court rulings against foreign firms. Therefore, the increased enforcement risk associated with a cross listing may be exaggerated (Siegel, 2005). Moreover, the UK is perceived to be a country with high levels of investor protection (Leuz et al., 2003; Benston et al., 2006b, p.95). Also, the UK increased their enforcement activity around the period of IFRS adoption (as discussed in chapter 2). Therefore UK firms which are cross listed may not have any significant additional incentive to reduce earnings management and improve value relevance and ultimately increase accounting quality, compared to firms which are not cross listed.

4.4 SUMMARY

This chapter commences by defining accounting quality. Then four hypotheses are developed to explore the research questions identified in Chapter 1. The first hypothesis is an overall prediction where I propose that UK firms will have higher accounting quality under IFRS compared to UK GAAP due to the combined effects of greater use of fair value measurement, more extensive disclosure requirements and heightened enforcement in the post IFRS adoption period. For H1, I expect to see improvements in accounting quality through lower levels of earnings smoothing and management towards earnings targets and timelier recognition of losses and improved value relevance.

Next I investigate the mechanisms by which IFRS may cause accounting quality to increase. In H2, I predict that post IFRS adoption accounting quality is better due to the greater use of fair value measurement and associated disclosures. The proxies I use to test H2 are financial assets, financial liabilities and intangible assets. H2 will be supported if firms with more financial assets, liabilities and intangible assets show greater improvements in accounting quality compared to firms with fewer of these assets and liabilities.

I predict in H3 that accounting quality post IFRS adoption may also improve due to more extensive disclosure requirements alone. Specifically, I look at whether firms with more business and geographic segments display greater improvements in accounting quality compared to firms with less, post IFRS adoption. As H3 only looks at improvements in disclosure, and not changes in measurement practices, I test H3 only for improvements in value relevance.

H4 relates to changes in foreign countries to improve their regulations and institutional oversight systems, in the post IFRS adoption period included in my thesis. In order to test whether these changes have resulted in better accounting quality for UK firms, I investigate whether UK firms which have a cross listing on a foreign stock exchange demonstrate greater improvements in accounting quality compared to UK firms that are not listed overseas.

The next chapter discusses how these hypotheses were tested. The chapter describes the sample selection criteria, the operationalisation of the dependent and independent variables, data sources and the statistical techniques used in my thesis.

CHAPTER 5: DATA AND METHOD

5.1 INTRODUCTION

In the previous chapter I highlighted the specific hypotheses that I propose to test the research questions. In this chapter I discuss the research method used to test the hypotheses. Section 5.2 outlines the reasons for choosing the LSE as the research setting. Data sources and method of data collection are discussed in Section 5.3. The sample composition is described in Section 5.4. Section 5.5 outlines the research model and provides an overview of the dependent, independent and control variables. Section 5.6 provides a more detailed discussion of specific accounting quality measures and the regression models used to test the hypotheses. Section 5.7 provides descriptive statistics to give an overview of the sample firms. The chapter concludes with a brief summary in Section 5.8.

5.2 SETTING

The LSE was chosen as the research setting for this thesis because it is the world's largest capital market where firms use IFRS as their primary accounting standards.⁴⁰ As explained in Chapter 3, many studies of mandatory IFRS adopters focused on countries such as Germany (where prior to 2005 voluntary adoption was allowed). These studies suffer from self-selection bias as the incentives of voluntary adopters may be different from those of mandatory adopters. UK firms were not allowed to report under IFRS before 2005 providing a clean sample of firms for investigation in this thesis. UK GAAP is considered to be one of the highest quality sets of national accounting standards in the world (Horton and Serafeim, 2009). The number of differences between UK GAAP and IFRS that existed prior to 2005 are considered to be low (Bae et al., 2008). In addition, historically the UK is perceived to have high quality enforcement mechanisms such as internal corporate governance and institutional oversight systems (Leuz et al., 2003, Benston et al., 2006b, p.95;

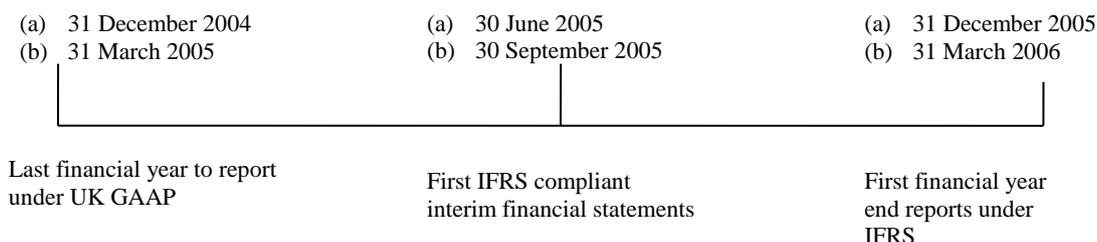
⁴⁰The US and Japan have larger capital markets. However, these two countries primarily use their own national accounting standards. Choosing a large capital market is important as it allows me to carry out my analysis on a sufficient number of firms and improves the generalisability of the findings.

Kaufmann et al., 2012). The UK setting is useful for testing what benefits, if any, exist for firms adopting IFRS when the national accounting standards are considered to be high quality and similar to IFRS and there is a high level of enforcement.

5.3 SAMPLE PERIOD

This thesis focuses on UK firms which are listed on the Main Board of the LSE because these firms are required to report their consolidated financial statements according to IFRS for financial periods starting after 1 January 2005.⁴¹ Figure 5-1 provides an overview of the transition to IFRS for firms with different financial year ends. The first set of IFRS compliant annual reports were provided in 2005 by firms with 31 December financial year end dates. Firms with other year end dates reported their first IFRS compliant reports in 2006.

Figure 5-1: Transition to IFRS for firms with (a) 30 December or (b) 30 March financial year ends



Due to the different year end dates, I refer to the time periods within the sample in terms of ‘adoption years’, whereby the year firms start reporting under IFRS is ‘adoption year 1’. The last year that firms reported under UK GAAP is ‘adoption year 0’. Most sample firms had December and March year ends.⁴² In order to provide a better understanding of the accounting standards used by firms for each year within the sample period, Table 5-1 below presents a breakdown for firms with 31 December and 31 March year ends.

⁴¹Firms which are listed on the Alternative Investment Market (AIM) of the LSE, which caters to smaller firms, were excluded because these firms reported under IFRS for financial periods beginning on or after 1 January 2007.

⁴²A breakdown of the year end dates of sample firms is provided in section 5.3.

Table 5-1: Sample periods under UK GAAP and IFRS

Adoption year	Accounting Standards	31 December year end	31 March year end
-4	UK GAAP	31 December 2000	31 March 2001
-3	UK GAAP	31 December 2001	31 March 2002
-2	UK GAAP	31 December 2002	31 March 2003
-1	UK GAAP	31 December 2003	31 March 2004
0	UK GAAP/IFRS (restated)*	31 December 2004	31 March 2005
1	IFRS	31 December 2005	31 March 2006
2	IFRS	31 December 2006	31 March 2007
3	IFRS	31 December 2007	31 March 2008
4	IFRS	31 December 2008	31 March 2009

*Firms were required to restate the financial reports under IFRS for the year prior to IFRS adoption.

The data I collected covered the time period from 2000 to mid-2009. Therefore, as can be seen from Table 5-1, the sample period for my thesis includes five years under UK GAAP reporting (adoption years -4 to 0) and four years under IFRS reporting (adoption years 1 to 4). At transition, UK firms were required to restate their financial accounts for the year prior to mandatory adoption (adoption year 0) according to IFRS. These restated IFRS figures from adoption year 0 were also collected and used in the calculations where the variables used in my thesis required adoption year 0 data to estimate their values for adoption year 1. For example, in order to estimate the growth variable for adoption year 1, which is proxied by annual percentage change in sales, I used the restated IFRS figures from adoption year 0.

Data in prior studies on IFRS adoption such as Horton and Serafeim (2009), Jeanjean and Stolowy (2008), and Iatridis (2010) are generally confined to the first one or two years before and after the mandatory adoption of IFRS. As firms need some time to understand and implement IFRS, the number of years under analysis in the post IFRS adoption time period is important (Ernstberger et al., 2008). Therefore, this thesis makes a contribution to the literature by analysing four years of data reporting under IFRS. Furthermore, in anticipation of IFRS adoption, UK firms may have made changes to their reporting practices in their last year of UK GAAP reporting. My thesis minimises these effects by analysing five years of data under UK GAAP. Thus, the use of nine years of data in total should improve the reliability of my findings.

5.4 SAMPLE COMPOSITION

5.4.1 Overall sample

The names of all the firms listed on the LSE, along with their country of origin and listing date, were obtained from the LSE website. This list was compiled by the LSE on 31 October 2006 and as of that date, a total of 1,610 firms were listed on its MAIN Board.⁴³ This list included information on firm names, listing dates, country of origin and whether the firms had issued ordinary or preference shares.

Financial reporting and stock market data for these firms was sourced from the Datastream database. Each of the firms on the list downloaded from the LSE had to be located on the Datastream database and if not found, these firms were excluded from the sample. Information on the cross listing status of firms was mainly sourced from Datastream. This data was cross checked with information about cross listed firms available from the Reuters,⁴⁴ Bank of New York and NASDAQ websites.

Table 5-2: Sample of firms available for analysis on the LSE

Panel A	Number of firms	
Total number of firms listed as at 31 October 2006	1,610	100%
<u>Exclusions:</u>		
Foreign firms	316	20%
Firms with only preference shares	134	8%
Late listings	163	10%
Non-consolidated accounts	154	10%
Firms not covered by Datastream or with insufficient data	345	21%
Firms reporting under US GAAP	3	0%
Total firms available for analysis	495	31%

This table presents a breakdown of the firms included in the final sample from the initial 1,610 firms listed on the Main Board of the LSE. At the time of data collection, 31 October 2006 was the date that the latest list of firms was available from the LSE website. In order to eliminate firms that had not been listed on the LSE for a sufficient period of time to do a comparison between UK GAAP and IFRS, firms that listed on the LSE on or after 31 December 2003 were deleted from the sample as late listings.

Table 5-2 provides information about the sample of firms. As at 31 October 2006, a total of 1,610 firms were listed on the Main Board of the LSE. Studies such as Ball et al. (2003) have highlighted that cross country differences in financial statement

⁴³ A comprehensive list of firms listed on the LSE was not available on Datastream. Therefore, I chose to access this information from the LSE. I began data collection in 2006 and at that time, the latest version of this list was compiled on 31 October 2006, by the LSE.

⁴⁴ <http://www.reuters.com/finance/stocks/stocks>.

preparers' incentives have an effect on accounting quality. In order to exclude the effects of the varying incentives of foreign firms listing in the UK, I focus only on firms that originated from the UK. Therefore a total of 316 (20%) firms originating from outside the UK (as identified by the list downloaded from the LSE) were classified as foreign firms and deleted from the sample.⁴⁵ A further 134 (8%) firms had issued only preference shares on the LSE and they were excluded from the final sample. In order to eliminate firms which have been listed on the LSE for an insufficient period of time for me to do a comparison between UK GAAP and IFRS, I deleted 163 (10%) firms that listed on the LSE on or after 31 December 2003.

UK firms are only required to publish their consolidated accounts under IFRS, therefore an additional 154 (10%) firms which did not publish consolidated accounts and continued to report under UK GAAP post 2005 were deleted. The primary source of data for this thesis is the Datastream database and the accounting quality metrics used in my thesis require three years of data under UK GAAP as well as IFRS.⁴⁶ Therefore, a total of 345 (21%) firms were deleted from the sample because they were not covered by Datastream or had insufficient data available over the sample period.

According to the FSA's Disclosure and Transparency Requirement (DTR) 4.4.1, a firm listed on the Main Board has to report with consolidated financial statements prepared according to IFRS. However under DTR 4.4.8, a firm with a registered office in a non-EEA state, whose laws are considered equivalent by the FSA, can be exempt from the requirement to prepare their financial statements according to IFRS. The main country that falls under this exemption is the US. Under DTR 4.4.8, if a firm has a registered office in the US and the FSA is satisfied that the periodic disclosure requirements of Section 13(a) of Securities Exchange Act of 1934 in the US is applicable to the firm, that firm does not have to prepare its financial reports according to IFRS (FSA, 2007). Accordingly, there were three UK firms which satisfied the requirements of DTR 4.4.8 and reported under US GAAP. As the aim of this thesis is to examine the accounting quality of firms reporting under IFRS, these firms were deleted from the final sample. Consequently, the total number of firms available for analysis was reduced from 1,610

⁴⁵Foreign firm originated from mainly the US (43 firms), Ireland (36 firms), India (20 firms), Bermuda (17 firms) and Japan (16 firms).

⁴⁶Further information on the accounting quality metrics is provided in Section 5.4.

to 495 (31%). Financial information from the same 495 firms was compared under UK GAAP and IFRS. My final sample of 495 firms is larger than previous studies that focused on IFRS adoption in the UK. For example, Horton and Serafeim (2009) had 297 firms in their sample because they focused on FTSE 350 firms and Iatridis (2010) had 241 firms as he excluded banks, insurance, pension and brokerage firms.

Table 5-3 presents the year end dates for the first set of financial reports which are published under IFRS for sample firms. The highest number of first time IFRS compliant reports was published in December 2005 whereby 217 (43.84%) firms published during this month. Next 101 (20.40%) firms published in March 2006. April, June and September 2006 saw 33 (6.67%), 35 (7.07%) and 36 (7.27%) firms publish their first set of annual reports under IFRS.⁴⁷

Table 5-3: Year end dates for the first set of financial reports which are published under IFRS for sample firms.

	Number of firms	
December 2005	217	43.84%
January 2006	24	4.85%
February 2006	8	1.62%
March 2006	101	20.40%
April 2006	33	6.67%
May 2006	10	2.02%
June 2006	35	7.07%
July 2006	12	2.42%
August 2006	6	1.21%
September 2006	36	7.27%
October 2006	7	1.41%
November 2006	4	0.81%
December 2006	2	0.40%
Total	495	100%

To further understand the sample composition, Table 5-4 presents the industry breakdown according to the ten digit Global Industry Classification Standard (GICS). Table 5.4 reveals that sample firms represent a range of industries with most firms operating in the Financials (27.88%), Industrials (21.01%) and Consumer Discretionary (18.79%) sectors.

⁴⁷The distribution of year end dates reported in my study is consistent with those reported in Jeanjean and Stolowy (2008) for UK firms.

Table 5-4: Industry breakdown according to the Global Industry Classification System (GICS)

	Number of firms	
Financials	138	27.88%
Industrials	104	21.01%
Consumer Discretionary	93	18.79%
Information Technology	53	10.71%
Materials	37	7.47%
Consumer Staples	26	5.25%
Health Care	19	3.84%
Energy	13	2.63%
Utilities	7	1.41%
Telecommunication Services	5	1.01%
TOTAL	495	100%

The high representation of sample firms from the Financials industry reflects the composition of the general UK market and highlights the importance of including firms from this industry.⁴⁸

When testing H1, where I propose that UK firms will have higher accounting quality under IFRS compared to UK GAAP, I carry out a comparison with all 495 firms in the final sample by pooling their observations under UK GAAP and IFRS. However for the testing of H2 to H4, I grouped firms into sub-categories. These are discussed below.

5.4.2 Greater use of fair value measurement and extensive disclosure requirements under IFRS

As stated in Chapter 4 for H2, I predict that accounting quality post IFRS adoption improved due to the increased use of fair value measurement and associated more extensive disclosure requirements. An in-depth analysis of the existing literature on UK GAAP and IFRS identified two major areas where IFRS requires UK firms to use

⁴⁸ Iatridis (2010) and Leuz et al. (2003) are examples of studies that deleted financial firms from their samples due to concerns that banks and life insurance firms may influence their results. However, studies such as Barth et al. (2006), Lang et al. (2006), Barth et al. (2008) Chen et al. (2010), Horton and Serafeim (2009), Callao and Jarne (2010) and Ahmed et al. (2012) have not deleted financial firms from their final samples. In addition, further analysis revealed that out of the 138 firms from the Financials industry in my sample, there are only eight banks and five life insurance firms. The rest of the Financials firms fall into sub-categories such as real estate, equity investment instruments and general financial. Therefore, Financials firms were not deleted from my final sample.

more fair values and provide greater disclosures. These are in financial instruments and intangible assets. In order to test H2, I compared relative improvements in accounting quality of firms with higher levels of financial instruments/intangible assets to firms with lower levels. The proxies I used to measure financial instruments and intangible assets and the sample composition for each category are discussed below.

5.4.2.1 Financial instruments

Financial instruments consist of financial assets and financial liabilities. Chapter 4 presents a detailed discussion on the treatment of financial assets and financial liabilities under UK GAAP and IFRS. It must be noted that prior to 2005, UK company law permitted specifically banks and other financial institutions to measure certain financial instruments such as held-for-trading securities at fair values. Cairns et al. (2011) reveal that some UK financial institutions did indeed report some held-for trading securities at fair values prior to 2005. However, none of their sample firms reported their derivatives at fair value under UK GAAP, while all of them did so under IFRS. In addition, as discussed in Chapter 4, under IAS 39 derivatives are recognised both at the initial recognition and on subsequent balance sheet dates at fair values. This indicates that the greatest impact on financial reporting practice and earnings volatility with the adoption of IFRS will be for those firms holding a substantial amount of derivatives. Therefore, the proxies for financial assets and liabilities I used in my regressions in the testing of H2 focus on derivative assets and liabilities, where the greatest impact of IFRS is likely to be. The relevant proxies and their acronyms are presented in the following table.

Table 5-5: Proxies for financial instruments

Category	Proxies	Acronym
Financial assets	End of year derivative assets scaled by end of year total assets	FA/TA
Financial liabilities	End of year derivative liabilities scaled by end of year total assets	FL/TA

The data for the proxies were collected for the third year of IFRS adoption (adoption year 3) which corresponds to 2007/2008 calendar years.⁴⁹ This year was chosen

⁴⁹As Datastream did not collect data on derivative assets and liabilities for most of the sample firms prior to 2007, my sample would have been severely depleted if I had chosen to use data prior to 2007 (say from adoption year 0 or 1) to categorise firms. It must be noted that the data on the derivative assets and liabilities was used only to allocate firms in to the FA High vs FA Low and FL High vs FL Low categories. That is, data from derivative assets and liabilities was not included in the regressions when carrying out testing. This is a possible limitation in my thesis

because more comprehensive data was available for these proxies from the Datastream database for calendar years 2007 onwards compared to prior years.

In order to gain an understanding of the distribution of the proxies for financial assets and liabilities, the following table presents the number and percentage of sample firms that fall into different ranges of the proxies.

Table 5-6: Distribution of the proxies used for financial assets and financial liabilities

Range	FA/TA		FL/TA	
	Number of firms	%	Number of firms	%
0	297	60.00	286	57.78
0 < X ≤ 0.05	186	37.58	195	39.39
0.05 < X ≤ 0.10	8	1.62	8	1.62
0.10 < X ≤ 0.15	2	0.40	3	0.61
0.15 < X ≤ 0.20	1	0.20	1	0.20
0.20 < X ≤ 0.25	1	0.20	1	0.20
0.25 < X ≤ 0.30	0	0.00	0	0.00
0.30 < X ≤ 0.35	0	0.00	0	0.00
0.35 < X ≤ 0.40	0	0.00	0	0.00
0.40 < X ≤ 0.45	0	0.00	1	0.20
0.45 < X ≤ 0.50	0	0.00	0	0.00
0.50 < X ≤ 0.55	0	0.00	1	0.20
0.55 < X ≤ 1.00	0	0.00	0	0.00
	495	100.00	495	100.00
Mean	0.005		0.007	
Median	0.000		0.000	
Max	0.202		0.514	

Table 5-6 shows that 297 (60.00%) and 286 (57.78%) firms respectively do not record any financial assets or liabilities for adoption year 3. The mean for FA/TA is 0.005 while the mean for FL/TA is 0.007. The maximum for FA/TA is 0.202 and this was for Barclays, a bank in the Financials industry. The maximum for FL/TA is 0.514 for Glasgow Income Trust, which is also from the Financials industry. Due to the high proportion of firms not recording any financial assets or liabilities, the median for both variables is 0.000. Given the skewed distribution, I used the median to group the firms into the firms with low levels financial assets (FA Low) and financial liabilities (FL Low) and firms with high financial assets (FA High) and financial liabilities (FL High) categories. Therefore, the 297 firms which did not have any derivative assets were in the FA Low category while 198 firms fell into the FA High category. Similarly, 286 firms which did not have any derivative liabilities were in the FL Low category while the other 209 firms were in the FL High category. H2 is supported if the FA High and FL High firms show greater improvements in accounting quality, compared to the FA Low and FL Low firms respectively.

Table 5-7: Industry breakdown according to the Global Industry Classification System (GICS) – Financial Instruments

	FA Low		FA High		FL Low		FL High	
	Number	%	Number	%	Number	%	Number	%
Financials	105	35.35	33	16.67	98	34.27	40	19.14
Industrials	56	18.86	48	24.24	50	17.48	54	25.84
Consumer Discre.	47	15.82	46	23.23	50	17.48	43	20.57
Info.Techn.	41	13.80	12	6.06	35	12.24	18	8.61
Materials	17	5.72	20	10.10	21	7.34	16	7.66
Consumer Staples	7	2.36	19	9.60	10	3.50	16	7.66
Health Care	13	4.38	6	3.03	12	4.20	7	3.35
Energy	8	2.69	5	2.53	9	3.15	4	1.91
Utilities	0	0.00	7	3.54	0	0.00	7	3.35
Telecom. Services	3	1.01	2	1.01	1	0.35	4	1.91
TOTAL	297	100.00	198	100.00	286	100.00	209	100.00

Table 5-7 provides a breakdown of firms based on the industry. Financials firms compose 16.67% of the FA High category and 35.35% of the FA Low category. Similarly, Financials firms are 19.14% of the FL High category and 34.27% of the FL Low category. This is surprising as one would expect there to be a greater representation of firms from the Financials industry in the FA High and FL High categories. However, further analysis of sample firms revealed that most of the Financials firms in the FA Low and FL Low categories are investment trusts with smaller market capitalisations while larger financial institutions, such as banks and life insurance firms (for example HSBS Holdings, Barclays, Royal Bank of Scotland and Old Mutual Plc) are in the FA High and FL High categories.⁵⁰ In fact, all of the eight banks in my final sample are in the FA High and FL High categories. This is consistent with Cummins, Phillips and Smit (2001) who argue that out of Financials firms, banks and insurers particularly active in the derivatives markets. Industrials firms have the highest representation in the FA High and FL High categories with 24.24% and 25.84% respectively.

In order to assess whether the same firms are in the Low and High categories for financial assets and liabilities, I carried out further analysis and the results are presented in Table 5-8. It shows that 48.41% of firms have no derivative assets or liabilities. Therefore these firms were in both the FA Low and FL Low categories. The

⁵⁰Comparisons of the mean and medians for test and control variables between the FA High and FA Low firms (Table 1) and the FL High and FL Low firms (Table 2) are provided in Appendix B.

percentage of firms in the FA High and FL High categories is 30.71%. However, 9.29% of firms had derivative assets (FA High) but did not have any derivative liabilities (FL Low). Another 11.52% of firms did not have any derivative assets (FA Low) but had derivative liabilities (FL Low). Nonetheless, the Spearman Rank correlation coefficient between FA/TA and FL/TA is 0.606 ($p < 0.01$). The different levels of derivative assets and liabilities held by sample firms suggests both FA/TA and FL/TA should be used as proxies for testing changes in accounting quality due to the greater use of fair value measurement and associated more extensive disclosure.

Table 5-8: Breakdown of firms based on financial assets and liabilities

Category	Number	%
FA Low and FL Low	240	48.48
FA High and FL High	152	30.71
FA High and FL Low	46	9.29
FA Low and FL High	57	11.52
TOTAL	495	100.00

5.4.2.2 Intangible assets

The proxy for increased use of fair value measurement and associated more extensive disclosure requirements related to intangible assets is the end of year book value of intangible assets scaled by total assets (INT/TA). This is consistent with the measure used by Goodwin and Ahmed (2001) to measure ‘intangible intensity’. Table 5-9 shows that 106 (21.41%) firms did not record any intangible assets for adoption year 3. Another 92 (18.59%) firms have less than five% of their total assets as intangible assets. The mean for INT/TA is 0.176 while the median is 0.094. The maximum for INT/TA is 0.936 for Spottech Plc, a sports betting firm with a heavy online presence. Given the skewed distribution of this variable due to the large number of firms having either no or low intangible assets, I used the median to group the firms into low intangible asset (Low INT) and high intangible asset (High INT) categories. Therefore, 246 firms ended up in the INT Low category while 249 firms fell into the INT High category. H2 is supported, if the INT High firms show greater improvements in accounting quality compared to the INT Low firms.

Table 5-9: Distribution of the proxy for intangible assets

Range	INT/TA	
	Number of firms	%
0	106	21.41
0 < X ≤ 0.05	92	18.59
0.05 < X ≤ 0.10	52	10.51
0.10 < X ≤ 0.15	37	7.47
0.15 < X ≤ 0.20	25	5.05
0.20 < X ≤ 0.25	35	7.07
0.25 < X ≤ 0.30	31	6.26
0.30 < X ≤ 0.35	20	4.04
0.35 < X ≤ 0.40	22	4.44
0.40 < X ≤ 0.45	20	4.04
0.45 < X ≤ 0.50	16	3.23
0.50 < X ≤ 0.55	7	1.41
0.55 < X ≤ 0.60	10	2.02
0.60 < X ≤ 0.65	3	0.61
0.65 < X ≤ 0.70	2	0.40
0.70 < X ≤ 0.75	10	2.02
0.75 < X ≤ 0.80	3	0.61
0.80 < X ≤ 0.85	2	0.40
0.85 < X ≤ 0.90	1	0.20
0.90 < X ≤ 0.95	1	0.20
0.95 < X ≤ 1.00	0	0.00
	495	100.00
Mean		0.176
Median		0.094
Max		0.936

Table 5-10 shows the distribution of INT Low and INT High firms based on industry. The INT Low group has a higher percentage of firms from the Financials industry (52%) compared to the INT High group (4.02%). Further analysis shows that all eight banks and five life insurance companies in the sample are in the INT Low group. This is consistent with existing literature that suggests banks and insurance firms have low levels of intangible assets (Goodwin and Ahmed, 2006, p.76). The following table also shows the INT Low group has a lower percentage of firms from the Consumer Discretionary industry at 14.23% (35 firms) compared to 23.29% (58 firms) in the INT High Group. Further analysis showed that 19 out of the 21 firms from the Media subsector are in the INT High category, with Informa Plc showing the second highest level of intangible assets scaled by total assets of 0.8905.

The INT High group has a higher representation of firms from the Industrials sector: 32.13% (80 firms) compared to 9.76% (24 firms) in the INT Low group. Further analysis of Industrials firms reveals that 44 out of the 51 firms from the Support Services sub category are in the INT High category, while seven are in the INT Low category.

In addition, the INT High group has a higher representation of firms from the Information Technology sector at 16.47% (41 firms) compared to 4.88% (12 firms) in the INT Low category. Similarly, the INT High group has more firms from the Healthcare Industry 6.43% (16 firms) compared to 1.22% (3 firms) in the INT Low category. These observations are consistent with previous studies such as Goodwin and Ahmed (2006) that identified Information Technology and Healthcare to be ‘intangibles intensive’ industries.

Table 5-10: Industry breakdown according to the Global Industry Classification System (GICS) – Intangibles

	INT Low		INT High	
	Number of firms	%	Number of firms	%
Financials	128	52.03	10	4.02
Consumer Discretionary	35	14.23	58	23.29
Industrials	24	9.76	80	32.13
Materials	17	6.91	20	8.03
Consumer Staples	15	6.10	11	4.42
Information Technology	12	4.88	41	16.47
Energy	5	2.03	8	3.21
Utilities	5	2.03	2	0.80
Health Care	3	1.22	16	6.43
Telecommunication Services	2	0.81	3	1.20
TOTAL	246	100.00	249	100.00

5.4.3 Extensive disclosure requirements under IFRS

I predict in H3 that accounting quality post IFRS adoption improves due to more extensive disclosure requirements alone. I identified segment reporting as an area where IFRS requires more extensive disclosure compared to UK GAAP. As stated in Chapter 4, IAS 14 requires greater disclosure for primary segments and eliminates the exemption provided under UK GAAP (SSAP 25, paragraph 6) where segment reporting can be avoided if the directors think that it would be seriously prejudicial to the reporting entity. I use the number of business and geographic segments (SEG) as the proxy for segment reporting.

Table 5-11 presents the sample distribution based on the number of segments recorded for adoption year 3. Of the 495 sample firms, 66 firms (13.33%) report only one business or geographic segment. The mean number of segments is 4.95 and the median is 5.00. The maximum number of segments is 19 by BHP Billiton. This is a mining firm which has multiple business segments such as petroleum, aluminium and iron ore.

In addition, it owns assets and provides products to customers from multiple geographic segments such as Australia, South Africa and China. Therefore, BHP provides a breakdown of relevant financial information (such as assets, liabilities and capital expenditure) for each of the 19 segments.

Table 5-11: Distribution of the proxy for segment reporting

Number of segments	Number of firms	%
1	66	13.33
2	63	12.73
3	51	10.30
4	45	9.09
5	68	13.74
6	62	12.53
7	49	9.90
8	36	7.27
9	17	3.43
10	18	3.64
≥11	20	4.04
	495	100.00
Mean		4.95
Median		5.00
Max		19.00

As the results of the Kolmogorov-Smirnov test for normality rejected the assumption of normality for the SEG variable at the $p < 0.01$ level, I used the median number of segments to group the firms into firms with low numbers of business and geographic segments (SEG Low) and high number of segments (SEG High). Firms which have five segments or lower were included in the SEG Low category while firms with more than five segments were included in the SEG High category. Therefore, 293 firms ended up in the SEG Low category while 202 firms fell into the SEG High category. H3 is supported, if the SEG High firms show greater improvements in accounting quality compared to the SEG Low firms.

Table 5-12 below shows the distribution of SEG Low and SEG High firms based on industry. It shows that the SEG Low group is composed of 37.54% (110 firms) firms from the Financials industry while the SEG High group is composed of 13.86% (28 firms) firms from the same industry. Further analysis revealed that out of the firms in the Financials industry only banks, life insurance and non-life insurance firms had a greater representation of firms in the SEG High category. Most firms from subcategories such as equity and non-equity investment instruments only operated in one business or geographic area. In addition, the SEG Low group is made up of a

higher percentage of firms from the Consumer Discretionary industry at 21.84% (64 firms) compared to the SEG High category at 14.36% (29 firms). Further analysis showed that out of the 12 firms in the Household Goods sub-category only one firm - Reckitt Benckiser (which is the largest firm based on market capitalisation in the Consumer Discretionary industry) fell into the SEG High category.

Table 5-12: Industry breakdown according to the Global Industry Classification System (GICS) - Segments

	SEG Low		SEG High	
	Number of firms	%	Number of firms	%
Financials	110	37.54	28	13.86
Consumer Discretionary	64	21.84	29	14.36
Industrials	37	12.63	67	33.17
Information Technology	26	8.87	27	13.37
Materials	16	5.46	21	10.40
Consumer Staples	14	4.78	12	5.94
Health Care	13	4.44	6	2.97
Energy	8	2.73	5	2.48
Utilities	3	1.02	4	1.98
Telecommunication Services	2	0.68	3	1.49
TOTAL	293	100.00	202	100.00

The SEG High group has a higher representation of Industrials firms at 33.17% (67 firms) compared to the SEG Low category at 12.63% (37 firms). Further analysis showed that all 10 of the firms in the Aerospace and Defence sub-category are in the SEG High group, with Rolls Royce Group having 12 business and geographic segments. Differences in the representation of firms from various industries in the SEG Low and SEG High categories highlights the importance of controlling for industry effects when testing the hypothesis.

5.4.4 Changes in the regulatory activities and institutional oversight system for enforcement in foreign countries

H4 relates to contemporaneous changes in foreign countries around IFRS adoption to improve their regulations and institutional oversight systems. In order to test whether these changes have resulted in better accounting quality for UK firms, I investigate whether UK firms that are cross listed on foreign stock exchanges (CROSS) demonstrate greater improvements in accounting quality compared to UK firms which are not listed (NONCROSS).

Of the 495 UK firms in the final sample, 246 (49.7%) have a cross listing overseas while 249 (50.3%) do not. The table below shows the countries in which CROSS firms are listed.⁵¹ It must be noted that some of the CROSS firms are listed in more than one foreign country. Therefore, the total of the ‘Number of firms’ column in Panel A is greater than 246.

Panel A of Table 5-13 reveals the secondary listings of the CROSS firms are mainly concentrated in Germany and the US. Out of the 246 CROSS firms, 245 (99.59%) have listed in Germany. This may be due to a variety of reasons such as geographic proximity, low listing costs and Germany being home to the Frankfurt stock exchange (Deutsche Börse) which is the second largest capital market in Europe. In addition, 131 (53.25%) firms have a listing in the US which is the largest capital market in the world. Of these, 105 are listed on the Over the Counter (OTC) market while 24 firms are listed on NYSE, NASDAQ and AMEX markets. There are ten (4.07%), nine (3.66%) and eight (3.25%) firms listed in Ireland, France and South Africa respectively. Four (1.63%) are listed in Netherlands and Switzerland while three (1.22%) are listed in Australia. One (0.41%) firm is listed in each of Canada, Hong Kong, Japan, Luxemburg, Malaysia, Namibia and Sweden. The cross listing statistics in my thesis are similar to those in other studies such as Banalieva and Robertson (2010) who found that Germany and the US were the top cross listing destinations for UK multi-national firms.⁵²

⁵¹Cross listing information for firms was sourced from Datastream. This data was manually cross checked with information available from the Reuters, Bank of New York and NASDAQ websites.

⁵²According to Banalieva and Robertson (2010) reasons for Germany being such a popular destination for cross listing include: the German equity market being a prominent player within the EU; Germany offering the benefit of several regional stock exchanges such as the Frankfurt and Berlin Stock Exchanges; less stringent listing requirements compared to the US; and offering a good platform for entering other European markets such as XETRA.

Table 5-13: Breakdown of countries in which the sample firms which have a cross listing overseas (CROSS) have a secondary listing

Panel A: Country of secondary listing	Number of firms	
Germany	245	99.59%
United States	131	53.25%
United States - OTC	105	42.68%
United States - (NYSE,NSADAQ,AMEX)	24	9.76%
Ireland	10	4.07%
New Zealand	9	3.66%
France	8	3.25%
South Africa	6	2.44%
Netherlands	4	1.63%
Switzerland	4	1.63%
Australia	3	1.22%
Canada	1	0.41%
Hong Kong	1	0.41%
Japan	1	0.41%
Luxemburg	1	0.41%
Malaysia	1	0.41%
Namibia	1	0.41%
Sweden	1	0.41%
Panel B: The number of foreign countries per firm	Number of firms	
1	105	54.00%
2	116	40.00%
3	21	5.00%
4	3	1.00%
5	1	0.00%
Total	246	100.00%

Panel A shows the countries in which the 246 sample firms which have a cross listing in a foreign country (CROSS) are listed. The 'Number of firms' column in Panel A adds up to greater than 246 because some firms are listed in more than one foreign country. Panel B provides information on the number of foreign countries in which the CROSS firms are listed.

Panel B of Table 5-13 provides a breakdown of the number of countries (excluding the UK) in which each of the CROSS firms have a listing. A total of 105 (54%) firms are listed in one foreign country, while 116 (40%) are listed in two countries. There are 21 (5%) firms listed in three countries and another three (1%) firms listed in four countries. Rio Tinto Plc is the only firm that is listed in five countries.

5.4.5 Summary of the sample composition

As stated in Section 5.4 the final sample consists of 495 firms. Data from the same 495 firms are compared under UK GAAP and IFRS. Due to the data required to construct the accounting quality measures in my thesis (which are discussed in Section 5.6),

firms were required to have at least three years of data for the time period under UK GAAP as well as under IFRS to be included in the final sample. Observations for UK GAAP were pooled over five years (adoption years -4 to 0, which generally corresponds to financial years 2000 to 2004). There are four years of pooled observations under IFRS (adoption years 1 to 4, which generally corresponds to financial years 2005-2009).

Table 5-14: Summary of the sample composition

Hypotheses	Categories of firms	No. of firms	No. of observations		
			UK GAAP	IFRS	Total
H1: UK firms have higher accounting quality under IFRS compared to UK GAAP.	All	495	2,356	1,823	4,179
H2: Accounting quality post IFRS adoption is better due to the greater use of fair value measurement and associated more extensive disclosure requirements.	Financial assets				
	• FA High	198	955	737	1,692
	• FA Low	297	1,401	1,086	2,487
	Financial liabilities				
	• FL High	209	999	782	1,781
	• FL Low	286	1,357	1,041	2,398
H3: Accounting quality post IFRS adoption is better due to more extensive disclosure requirements.	Intangible assets				
	• INT High	249	1,192	920	2,112
	• INT Low	246	1,164	903	2,067
H4: Accounting quality post IFRS adoption is better due to improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms.	Number of segments				
	• SEG High	202	977	760	1,737
	• SEG Low	293	1,379	1,063	2,442
H4: Accounting quality post IFRS adoption is better due to improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms.	Cross listing status				
	• CROSS	246	1,178	921	2,099
	• NONCROSS	249	1,178	902	2,080

Table 5-14 provides a summary of the sample composition including categories of firms and the corresponding number of firms and observations used to test each hypothesis. To test H1, I use all 495 firms in the sample and compare the accounting quality under UK GAAP to IFRS by pooling the observations under each time period. H2 is supported, if the FA High, FL High and INT High firms show greater improvements in accounting quality compared to the FA Low, FL Low and INT Low firms. Similarly, H3 is supported if SEG High firms show greater improvements in accounting quality compared to SEG Low firms, while H4 is supported if greater improvements in accounting quality are shown by the CROSS firms compared to the NONCROSS firms.

Having explained the sample composition in this section, I now discuss the research model including the independent, dependent and control variables in the next section.

5.5 RESEARCH MODEL

As stated in Chapter 4, I examine whether the mandatory adoption of IFRS in the UK has resulted in an increase in accounting quality (H1). In addition, my thesis analyses mechanisms through which IFRS may have caused accounting quality to improve such as: the greater use of fair value measurement and associated more extensive disclosure requirements (H2); more extensive disclosure requirements alone (H3); improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms (H4).

Therefore, the dependent variable is accounting quality. For H1, IFRS adoption is the independent variable. For H2 to H4 the specific mechanisms through which accounting quality may have improved post IFRS adoption are the independent variables. For the purposes of my thesis, firm level variables such as size and growth are used as control variables. Thus I use multivariate analysis based on the following model to explore the research questions:

$$\text{Accounting Quality} = f(\text{IFRS adoption (H1) / mechanisms through which IFRS caused accounting quality to improve (H2-H4), firm level control variables}).$$

5.5.1 Dependent variable

Following previous studies such as Barth et al. (2006), Barth et al. (2008), and Paananen and Lin (2009), accounting quality is measured in terms of earnings smoothing, managing towards earnings targets, timeliness of loss recognition and value relevance. Higher accounting quality is reflected by less earnings smoothing, less managing towards earnings targets, timelier recognition of losses and higher value relevance.

Table 5-15 provides a summary of measures of accounting quality and examples of prior studies that have used these measures. I use eight individual measures of accounting quality to increase the validity of the results and to ensure that different aspects of accounting quality are taken into account. A comprehensive discussion of each of these measures is provided in Section 5.6.

Table 5-15: Measures of accounting quality

Variable	Measures	Used by
1. Earnings smoothing	1.1. Variance of change in net income	Leuz, Nanda and Wysocki (2003)
	1.2. Ratio of the change in net income over the change in cash flows	Lang, Raedy and Yetman (2003) Barth, Landsman, Lang and Williams (2006)
	1.3. Spearman partial correlation between operating accruals and operating cash flows	Lang, Raedy and Wilson (2006) Barth, Landsman and Lang (2008) Paananen and Lin (2009) Chen, Tang, Jiang and Lin (2010) Ahmed, Neel and Wang (2012)
2. Managing towards earnings targets	2.1 Frequency of small positive net income	Lang, Raedy and Yetman (2003) Barth, Landsman, Lang and Williams (2006) Lang, Raedy and Wilson (2006) Barth, Landsman and Lang (2008) Paananen and Lin (2009) Chen, Tang, Jiang and Lin (2010)
		3.1. Frequency of large negative net income
3. Timeliness of loss recognition	3.1. Frequency of large negative net income	Lang, Raedy and Yetman (2003) Barth, Landsman, Lang and Williams (2006) Lang, Raedy and Wilson (2006) Barth, Landsman and Lang (2008) Paananen and Lin (2009) Chen, Tang, Jiang and Lin (2010)
4. Value relevance	4.1 R ² from a regression of share prices on earnings and book value of equity	Easton and Harris (1991) Lang, Raedy and Yetman (2003)
	4.2 R ² from a regression of earnings on share returns	Ball, Robin and Wu (2003) Bartov, Goldberg and Kim (2005)
	4.3 R ² from a regression of share returns on earnings	Barth, Landsman, Lang and Williams (2006) Lang, Raedy and Wilson (2006) Barth, Landsman and Lang (2008) Paananen and Lin (2009)

5.5.2 Independent variables

IFRS adoption is the independent variable for H1. The mechanisms through which accounting quality may have improved post IFRS adoption are the independent variables for H2 to H4. Therefore for H2, the greater use of fair value measurement and associated more extensive disclosure requirements is the independent variable. The proxies for the independent variable in H2 are the amount of financial assets, financial liabilities and intangible assets. The independent variable in H3 is more extensive disclosure requirements imposed by IFRS and the proxy is the number of segments. Improvements in the regulatory activities and institutional oversight system in foreign

countries is the independent variable in H4 and the proxy is the cross listing status of the sample firms.

5.5.3 Control variables

As discussed in the following section prior research has shown that factors associated with the disclosure of financial information and compliance with accounting standards may vary with both country and firm level factors. Therefore, in my model I have included several firm level control variables which have been used in previous studies. Barth et al. (2006), Lang et al. (2006), Barth et al. (2008), and Khan and Watts (2009) are three key studies in the area of accounting quality that have used all of these control variables in their analysis. In order to maintain consistency and allow comparison of my results with prior studies, I have operationalised each of the control variables as they were used in the above mentioned studies. A summary of the control variables and their definitions are provided in Table 5-16.

Table 5-16: Definitions of control variables

Variables	Definition
Size (SIZE)	Natural logarithm of market value of equity in billions of pounds at the end of the financial year
Growth (GROWTH)	Annual percentage change in sales at the end of the financial year
Equity Issue (EISSUE)	Annual percentage change in book value of equity at the end of the financial year
Leverage (LEV)	Total liabilities scaled by end of year book value of equity at the end of the financial year
Debt Issue (DISSUE)	Annual percentage change total liabilities at the end of the financial year
Turnover (TURN)	Annual sales scaled by total assets at the end of the financial year
Cash flows (OCF)	Annual net cash flow from operating activities scaled by total assets at the end of the financial year
Market to Book (MB)	Market value of equity at the end of the year scaled by the book value of equity at the end of the financial year
Number of countries firms are cross listed (NUMCROSS)	Number of countries in which a firm's shares are listed ⁵³
Auditor (AUD)	Indicator variable is set to one if the firm's auditor is PricewaterhouseCoopers, KPMG, Ernst & Young or Deloitte Touche Tohmatsu and zero otherwise

⁵³To avoid issues with multicollinearity, the number of countries cross listed (NUMCROSS) is not used as a control variable in the testing of H4 where it is predicted that the accounting quality post IFRS adoption is better due to improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms.

Industry (IND) Indicator variable based on the Common Industry Classification System (GICS) , where firms are categorised into the following ten industries: Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Telecommunication Services and Utilities. The Utilities industry sector has been used as the benchmark

Size (SIZE)

Watts and Zimmerman (1986, p.235) argue that larger firms are more likely to be subject to wealth transfers as a result of political costs due to government intervention. That is, larger firms are more politically visible and generally exposed to attack in the form of greater regulation, such as price controls and the threat of nationalisation. Therefore, larger firms have a greater incentive to disclose more information in their annual reports than smaller firms to enhance their reputation and public image and to lessen public criticism or the threat of government intervention (Watts and Zimmerman, 1978; Holthausen and Leftwich, 1983). Due to the effect that differences in firm size can have on managerial incentives to report high quality accounting information, I include size as a control variable. Consistent with prior studies, firm size is proxied by the market value of equity in billions of pounds as at the end of the financial reporting period. The market value data was not normally distributed and in order to create a normal distribution necessary for statistical analysis, I take the natural log to transform this data. Consistent with Barth et al. (2006), Lang et al. (2006), Barth et al. (2008), and Khan and Watts (2009), I use market value of equity rather than other commonly used measures of size (such as the book value of total assets or total revenue) because it depicts a firm's current value as seen by the investing public (Wallace and Naser, 1995; Glaum and Street, 2003).

Growth (GROWTH)

Aussenegg, Inwinkl and Schineider (2008) show a linkage between the growth of firms and earnings management. They argue that firms with higher levels of growth may be riskier and therefore have a greater incentive to 'window dress' their accounts. Therefore, firms with higher levels of growth may engage in more earnings management which in turn will reduce accounting quality. Following previous studies such as Lang et al. (2003) and Chen et al. (2010) I have estimated a firm's growth as the annual percentage change in sales.

Equity issue (EISSUE)

Cooper and Grindler (1996), Welker (1995) and Botosan (1997) show that firms increase disclosure levels in order to facilitate equity issuance and reduce the cost of equity capital. Therefore, firms with higher levels of equity issuance may have better accounting quality. Thus, it is important to control differences between firms in the level of equity issuance. The variable is computed as percentage change in book value of equity at the end of the financial year.

Leverage (LEV)

Firms with higher levels of leverage may have an incentive to disclose more information in order to reduce agency costs by reassuring debt holders that their interests are protected (Sengupta, 1998). However, lending agreements could also include debt covenants relating to the maintenance of certain minimum financial ratios. Therefore, firms that have high levels of leverage may have an incentive to engage in earnings management (Eng and Mak, 2003; Aussenegg et al., 2008). Thus, I control for firm leverage that is calculated as the end of year total liabilities divided by end of year book value of equity.

Debt issue (DISSUE)

Sengupta (1998) shows that firms which intend to issue debt have an incentive to provide better quality disclosures in order to reduce the costs of debt financing. Therefore I have controlled for firm debt issue which is calculated as the percentage change in total liabilities during the financial year.

Turnover (TURN)

Firms that have low levels of sales relative to total assets may have to raise capital in the future in order to continue operations, which in turn could affect their disclosure patterns and accounting quality (Lang et al., 2006). Therefore, I have included a control for the level of firm turnover which is defined as the annual sales divided by end of financial year total assets.

Cash flows (OCF)

It is argued that firms with higher cash flows have less incentive to engage in earnings management because they are more likely to reach earnings targets and less likely to default on loans (Aussenegg et al., 2008). Thus, firms with higher cash flows may have better accounting quality. Therefore, I have included annual net cash flow from operating activities scaled by total assets at financial year end as a control variable.

Market to Book (MB)

Khan and Watts (2009) argue that firms with a higher MB ratio are likely to have more growth options, that is related to the incentives of firms to improve their governance. Firms with higher MB also have a higher risk of litigation if their assets are risky and lead to volatile returns, in turn affecting their disclosure practices. Consistent with Khan and Watts (2009) I operationalise MB as end of year market value of equity scaled by end of year book value of equity. I only use the market to book (MB) variable as a control in one of my accounting quality measures (namely measure number 4.2), that is related to value relevance, and assesses the relationship between earnings (net income per share scaled by share price) and share returns. This measure is based on the Basu (1997) model which has been augmented by Khan and Watts (2009) to include the MB ratio (among other variables such as size and leverage).

Number of countries firms are cross listed (NUMCROSS)

The “bonding hypothesis” proposed by Coffee (2002) highlights that controlling shareholders can use a stock exchange listing in a high investor protection country (such as the US) to bond themselves to the regulatory requirements of that country to assure minority shareholders that they are less likely to be exploited. Consistent with the bonding hypothesis, Lang et al. (2003) find that non-US firms that have cross-listed in to the US have less earnings management compared to a matched sample of foreign firms that are not-cross listed. The cross listed firms also report accounting data that are more conservative, take account of bad news in a more timely manner, and are more strongly associated with share price compared to the non-cross listed firms. Thus, cross listed firms may have better accounting quality than firms that are not cross listed. Therefore I include the number of countries in which each firm is cross listed as a control variable. However, to avoid issues with multicollinearity I exclude this as a control variable when carrying out all tests for H4, where it is

predicted that the accounting quality post IFRS adoption is better due to improvements in the regulatory activities and institutional oversight system in foreign countries, as the independent variable is the listing status of the firm.

Auditor (AUD)

DeAngelo argues (1981) that larger audit firms have incentives to supply a higher level of audit quality, as they risk losing some of their reputation if they are associated with clients whose reporting practices are considered as offering 'bad quality. Thus, Craswell and Taylor (1992) suggest a firm's choice of auditor may be associated with the decision to disclose more or less information. Accordingly, Inchausti (1997) find a positive association between the use of a Big 6 auditor and disclosure of financial information by firms. In addition, Becker, Defond, Jiambalvo, and Subramanyam (1998) find that firms with a Big 6 auditor are less likely to engage in earnings management. This indicates that the use of a Big 6 auditor is related to better disclosure and less earnings management, in turn higher accounting quality. Therefore, I control for possible variations in auditor quality by including an indicator variable that is set to one if the firm's auditor is PricewaterhouseCoopers, KPMG, Ernst & Young or Deloitte Touche Tohmatsu and zero otherwise.

Industry (IND)

Watts and Zimmerman (1986, p.239) argue that firms belonging to politically sensitive industries will disclose more information, since they are subject to lobbying from government agencies and interest groups. Furthermore, Botosan and Harris (2000) demonstrate that the disclosure practices of firms are influenced by the industry they operate in because they come under pressure to conform to the industry norm. The industry sector for each firm was determined based on the ten digit Global Industry Classification Standard (GICS) system used by Standard and Poor's. Indicator variables are used to represent the ten industry groups (Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Telecommunication Services and Utilities). The Utilities industry sector has been used as the benchmark (where it was omitted from the regressions).

Having discussed the independent, dependent and control variables in this section, I now explain each of the eight accounting quality measures used in my study.

5.6 ACCOUNTING QUALITY METRICS

This section describes the accounting quality measures used in my thesis. In order to capture various aspects of accounting quality I use eight measures that aim to assess the quality of financial reporting by looking at earnings smoothing, managing towards earnings targets, timeliness of loss recognition and value relevance.

5.6.1 Earnings smoothing

Agency theory suggests that insiders have an incentive to hide a firm's current poor performance for various reasons such as their incomes being tied to firm performance through bonus compensation plans (Moses, 1987; Beattie et al., 1994). Insiders may also want to under report strong performance in order to give themselves a buffer for possible future periods of poor performance (Beidleman, 1973). Therefore, the first earnings smoothing measure I use in my thesis captures the extent that insiders reduce the variability of reported earnings. The first earnings smoothing measure is the variability of the change in net income (ΔNI) (Item 1.1 in Table 5-15) used in studies such as Lang et al. (2005), Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010). Earnings smoothing is shown by a smaller variance in the ΔNI variable. However, it is likely that variance in ΔNI is affected by a variety of firm level factors that are unrelated to earnings smoothing. Accordingly, this measure of earnings smoothing is based on the residual from the following equation of change in net income on control variables that also includes industry fixed effects:

$$\Delta NI_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 NUMCROSS_{it} + \varepsilon_{it} \quad (1)$$

where ΔNI is the change in net income available to ordinary shareholders scaled by total assets at the end of the financial year; $SIZE$ is the natural logarithm of market value of equity in billions of pounds at the end of the financial year; $GROWTH$ is annual percentage change in sales at the end of the financial year; $EISSUE$ is annual percentage change in book value of equity at the end of the financial year; LEV is end

of year total liabilities scaled by end of year book value of equity; DISSUE is annual percentage change in total liabilities at the end of the financial year; TURN is annual sales scaled by total assets at the end of the financial year; OCF is annual net cash flow from operating activities scaled by total assets at the end of the financial year; AUD is an indicator variable is set to one if the firm's auditor is PricewaterhouseCoopers, KPMG, Ernst & Young or Deloitte Touche Tohmatsu and zero otherwise; NUMCROSS is the number of countries in which a firm's shares are listed.

The residuals from equation (1) are referred to as ΔNI^* . The cross sectional variance of ΔNI^* for each firm over the UK GAAP and IFRS time periods is calculated. Then I carried out a Kolmogorov-Smirnov test on the variance of ΔNI^* to test for violations of the assumption that the variable is normally distributed. For all the comparisons carried out in this thesis, the null hypotheses of a normal distribution was rejected for the variability of ΔNI^* . Therefore, I use the Wilcoxon rank test for differences in medians to investigate whether the variance of ΔNI^* is significantly different under IFRS and UK GAAP. A higher variability of ΔNI^* is indicative of managers smoothing their earnings less and therefore better accounting quality.

The second measure of earnings smoothing is based on the ratio of the variability of ΔNI scaled by change in operating cash flows (ΔOCF) (Item 1.2 in Table 5-15) and is drawn from studies such as Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010). ΔNI is scaled by ΔOCF because firms with more volatile cash flows tend to have more volatile earnings. If managers use accruals to smooth earnings, then the variability of earnings should be lower than that of cash flows. Since the change in operating cash flows can be influenced by other factors not associated with earnings smoothing, an equation similar to equation (1) is utilised, which also includes industry fixed effects:

$$\begin{aligned} \Delta OCF_{it} = & \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \\ & \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 NUMCROSS_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

where ΔOCF is the change in annual net cash flow from operating activities scaled by total assets at the end of the financial year and other variables are defined in Equation (1) above. The residuals from this regression were named ΔOCF^* and was then used to scale each firm's corresponding ΔNI^* (calculated as per Equation (1)). The resulting

variable is the ratio of change in net income over change in cash flows ($\Delta NI^*/\Delta OCF^*$) and I then calculated the cross-sectional variance of $\Delta NI^*/\Delta OCF^*$ for each firm over the UK GAAP and IFRS time periods. Then I tested the variability of $\Delta NI^*/OCF^*$ for violations of normality using the Kolmogorov-Smirnov test. For all the comparisons carried out in this thesis, the null hypotheses of a normal distribution was rejected for the variability of $\Delta NI^*/OCF^*$. Therefore, I used the Wilcoxon rank test for differences in medians to assess whether the variability of $\Delta NI^*/OCF^*$ is significantly different under UK GAAP and IFRS. A higher variability of $\Delta NI^*/OCF^*$ is indicative of managers smoothing their earnings less and therefore better accounting quality.

The third measure of earnings smoothing is the Spearman correlation between accruals (ACC) and cash flows (OCF) (Item 1.3 in Table 5-15). Insiders may use their accounting discretion to conceal significant changes in a firm's operating cash flows by the early reporting of future revenues or delaying the reporting of current expenses to conceal poor current performance. They may also wish to hide stronger than expected current performance to create a buffer for the future (Leuz et al., 2003). Accruals and cash flows generally have a negative correlation, however, a larger negative correlation indicates earnings smoothing as managers react to poor cash flows by increasing accruals or concealing better than expected performance by decreasing accruals (Land and Lang, 2002; Drake et al., 2009). Since cash flows and accruals can be influenced by factors not related to earnings management, I did not calculate their correlations directly. Instead, I compare the correlations of residuals from Equation (3) and (4), which include control variables, as well as industry fixed effects. The residuals from Equation (3) and (4) are named OCF* and ACC* respectively:

$$OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 AUD_{it} + \alpha_8 NUMCROSS_{it} + \varepsilon_{it} \quad (3)$$

$$ACC_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 AUD_{it} + \alpha_8 NUMCROSS_{it} + \varepsilon_{it} \quad (4)$$

where ACC is annual net income available to ordinary shareholders at the end of the financial year less annual cash flow from operating activities, scaled by total assets at the end of the financial year and the other variables are defined as in Equation (1).

Next I test the residuals from these two regressions (ACC* and OCF*) for violations of normality using the Kolmogorov-Smirnov test. For all comparisons carried out in this thesis, the null hypotheses of a normal distribution was rejected for ACC* and OCF*. Consequently, I used the Spearman rank correlation to investigate the extent of the correlation between ACC* and OCF*. Finally, the correlation coefficients from the Spearman rank correlation tests were investigated for the significance in the differences between the various groups under comparison.⁵⁴ A lower negative correlation between the residuals of Equation (3) and (4) is indicative of lower earnings smoothing, thereby better accounting quality.

As the above mentioned three measures relate to earnings, I do not use them when testing hypotheses H3 where it is predicted that accounting quality post IFRS adoption is better due to more extensive disclosure requirements. The proxy used for testing H3 is segment reporting. It was considered not appropriate to include the accounting quality measures on earnings smoothing in the testing of H3 as the changes imposed by IFRS on segment reporting did not directly relate to earnings measurement practices.

5.6.2 Managing towards earnings targets

Studies such as Burgstahler and Dichev (1997) and Degeorge et al. (1999) provide evidence that insiders use accounting discretion to avoid showing small losses. Although managers have incentives to avoid reporting losses of any magnitude, their ability to cover up large losses is less than for small losses (Leuz et al., 2003). Therefore in this accounting quality measure, I look at a firm's tendency to manage earnings towards targets, namely towards small positive net incomes (Item 2.1, Table 5-15). Following Burgstahler and Dichev (1997) 'small positive net incomes' is defined to be where net income scaled by total assets is between 0 and 0.01. A firm's tendency to report small positive earnings could be affected by a variety of factors unrelated to earnings management. Accordingly, instead of directly comparing the frequency of small positive net incomes between IFRS and UK GAAP, I use the following pooled regression that also includes industry fixed effects:

⁵⁴The significance test for differences in correlation coefficients is located in the following website: <http://www.quantitativeskills.com/sisa/statistics/correl.htm>

$$\begin{aligned}
FIRM(0,1)_{it} = & \alpha_0 + \alpha_1 SPOS_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} \\
& + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \\
& \alpha_9 AUD_{it} + \alpha_{10} NUMCROSS_{it} + \varepsilon_{it}
\end{aligned} \tag{5}$$

where FIRM (0,1) is an indicator variable which is given a value of one for observations under IFRS and zero for observations under UK GAAP. SPOS is an indicator variable set to one for observations for where annual net income scaled by total assets is between 0 and 0.01 and zero otherwise (Lang et al., 2003). A negative coefficient for SPOS indicates that there is a lower frequency of small positive net incomes under IFRS compared to UK GAAP, therefore demonstrating better accounting quality.

Similar to the earning smoothing measures, I do not use this measure when testing H3, as H3 does not relate to changes in earnings measurement practices.

5.6.3 Timely loss recognition

Ball and Shivakumar (2005) highlights the benefits of recognising large losses as they occur rather than spreading their effects over multiple periods, in providing investors with more value relevant information and incentivising managers to stem the losses faster. Following Lang et al. (2003), Lang et al. (2005) and Barth et al. (2008) I operationalised large losses (LNEG) as observations where annual net income scaled by total assets is less than -0.2 and zero otherwise (Item 3.1 in Table 5-15). A higher frequency of LNEG is indicative of, ceteris paribus, better accounting quality as it shows that managers are recognising large losses as they occur. A firm's tendency to report large losses could be affected by a variety of factors unrelated to earnings management. Accordingly, instead of directly comparing the frequency of LNEG between various categories of firms, timely loss recognition is measured as the coefficient of LNEG from Equation (6) that also includes controls for industry fixed effects:

$$\begin{aligned}
FIRM(0,1)_{it} = & \alpha_0 + \alpha_1 LNEG_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} \\
& + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \alpha_9 AUD_{it} + \\
& \alpha_{10} NUMCROSS_{it} + \varepsilon_{it}
\end{aligned} \tag{6}$$

where, FIRM (0,1) is an indicator variable which is given a value of one for observation under IFRS and zero for observations under UK GAAP. LNEG is an indicator variable set to one for observations where annual net income scaled by total assets is less than -0.2 and zero otherwise. Accordingly, a positive coefficient for LNEG suggests that firms recognise large losses more frequently under IFRS compared to UK GAAP, and they therefore have better accounting quality.

Similar to the previous accounting quality measures, I do not use the timeliness of loss recognition measures when testing H3 as it does not relate to changes in earning measurement practices.

5.6.4 Value relevance

I include three measures of value relevance in my study (Items 4.1 to 4.3 in Table 5-15). First, value relevance is measured in terms of the association (adjusted R^2) from a regression of share prices on earnings and book value of equity derived from Ohlson (1995) (Item 4.1 in Table 5-15). Firms with superior accounting quality are expected to exhibit higher association between share prices and earnings because higher quality earnings should better reflect a firm's underlying economics (Ali and Hwang, 2000). Share price (P), is first regressed on industry fixed effects in order to control for mean differences in share price across industries. The residuals from this regression (P^*) are then regressed on book value of equity per share (BVEPS) and net income per share (NIPS). To increase the likelihood that all relevant accounting information is in the public domain, I use P three months after financial year-end. Thus, the first value relevance measure is based in the adjusted R^2 from equation (7).

$$P^*_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 NIPS_{it} + \varepsilon_{it} \quad (7)$$

Following prior studies such as Lang et al. (2006), Lang et al. (2003), Barth et al. (2008), I test for the significance of differences in adjusted R^2 using Cramer's test (1987).⁵⁵ A higher adjusted R^2 indicates that there is a closer association between

⁵⁵I carried out Cramer's test (1987) in SAS using a macro created by the University of North Carolina (Chapel Hill). It tests for the difference in adjusted R^2 for two non-nested models and has been used in Lang et al. (2006).

earnings and share prices, therefore greater usefulness of financial information to users. Thus, a higher adjusted R^2 is indicative of better accounting quality.

An alternate measure of value relevance is based on the timely recognition of losses (Item 4.2 in Table 5-15). I examine a reverse regression, with earnings as the dependent variable and returns as the independent variable based on the Basu (1997) model. Following prior studies such as Barth et al. (2008), I predict that firms having higher accounting quality should show a higher association between earnings (net income per share scaled by price) and returns. Instead of looking at the direct relationship between earnings and returns, my thesis follows Khan and Watts (2009) who augment the Basu (1997) model to include firm based characteristics such as size (SIZE), leverage (LEV) and market to book ratio (MB). Khan and Watts (2009) highlight the importance of these three variables in approximating a firm's investment opportunity set. Therefore these factors could have an effect on the incentives of firms to produce high quality financial reports, thereby influencing accounting quality. In order to control for the above mentioned factors, first I run Equation (8) as a pooled regression that includes indicator variables for industry fixed effects. To the best of my knowledge, mine is the only thesis in the area of accounting quality which controls for size, leverage and market to book when analysing the association between earnings and returns.

$$NIPS_{it}/P_{it-1} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LEV_{it} + \beta_3 MB_{it} + \varepsilon_{it} \quad (8)$$

NIPS/P is net income per share available to ordinary shareholders at financial year end scaled by share price at the beginning of the financial year; MB is end of year market value of equity scaled by end of year book value of equity and other variables are defined in Equation (1) above.

The residuals from equation (8) are referred to as NIPS/P* and the association between earnings and returns is assessed using the adjusted R^2 of Equation (9). To ensure that investors' responses to the previous year's earnings is excluded, I calculated the twelve month stock return (RET) starting from nine months before financial year end and ending three months after financial year end (Easton and Harris, 1991; Basu, 1997; Ball et al., 2000; Ball et al., 2003; Barth et al., 2008).

$$[NIPS_{it}/P_{it-1}]^* = \beta_0 + \beta_1 RET_{it} + \beta_2 DT_{it} + \beta_3 RET_{it}^* DT_{it} + \varepsilon_{it} \quad (9)$$

where DT is an indicator variable set to one if returns are negative and zero otherwise. The DT variable is included in the regression because differences in accounting quality is more prominent in ‘bad news’ firms than ‘good news’ firms that have less incentive to engage in earnings management (Ball et al., 2000). As with the previous measures, the significance of the differences in R^2 is assessed based on Cramer’s test (1987).

The final measure of value relevance looks at the association (adjusted R^2) from a regression of returns on earnings (Item 4.3 in Table 5-15). If investors value the information provided in the annual reports, there should be a greater association between returns and earnings. Returns (RET) is first regressed on industry fixed effects in order to control for mean differences in returns across industries. The residuals from this regression are named RET^* . Easton and Harris (1991) demonstrated when assessing the relationship between returns and earnings that not only the level of earnings (NIPS) but also changes in earnings ($\Delta NIPS$) are correlated with returns. Therefore, following Easton and Harris (1991), the association between returns and earnings is assessed using the adjusted R^2 of the following regression:

$$RET^* = \beta_0 + \beta_1 NIPS_{it}/P_{it-1} + \beta_2 \Delta NIPS_{it}/P_{it-1} + \varepsilon_{it} \quad (10)$$

where $\Delta NIPS_{it}/P_{it-1}$ is change in net income per share available to ordinary shareholders at financial year end scaled by beginning of year share price. While the above mentioned model, which specifically includes a variable to take into account changes in earning, has been used in value relevance studies such as Alford et al. (1993), Amir et al. (1993) and Ali and Hwang (2000), to the best of my knowledge it has not been used in prior studies relating to accounting quality. As with the previous measures, I assess the significance of the difference in adjusted R^2 based on Cramer’s test (1987) and interpret a higher adjusted R^2 as indicative of better accounting quality.

5.6.5 Summary of the accounting quality metrics

In summary, my thesis uses eight different measures of accounting quality that look at earnings smoothing, management of earnings towards targets, timeliness of loss

recognition and value relevance. For ease of reference the models used to calculate each of these measures are shown in Table 5-17.

I use all eight measures in the testing of H1, H2 and H4. However, I use only the value relevance measures when testing H3 as this hypothesis relates to more extensive disclosure requirements alone introduced by IFRS and it is anticipated that these changes will not influence earnings measurement practices.

In the previous section I discussed the dependent, independent and control variables and in this section I have provided a detailed discussion of the accounting quality measures. Next I present descriptive statistics for each of the variables used in this thesis.

Table 5-17: Summary of the measures of accounting quality

Accounting quality measure	Model	Better accounting quality
1. Earning Smoothing		
1.1. Variance of residuals from the Δ NI model	$\Delta NI_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 NUMCROSS_{it} + \varepsilon_{it}$	Higher variance
1.2. Variance of residuals from the Δ NI model scaled by the variance of residuals from the Δ OCF model	$\Delta OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 NUMCROSS_{it} + \varepsilon_{it}$	Higher variance
1.3. Correlation between the residuals of the OCF and ACCRUALS models	$OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 AUD_{it} + \alpha_8 NUMCROSS_{it} + \varepsilon_{it}$ $ACC_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 AUD_{it} + \alpha_8 NUMCROSS_{it} + \varepsilon_{it}$	Less negative correlation
2. Managing towards earnings targets		
2.1. Frequency of small positive net income (SPOS)	$FIRM(0,1)_{it} = \alpha_0 + \alpha_1 SPOS_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \alpha_9 AUD_{it} + \alpha_{10} NUMCROSS_{it} + \varepsilon_{it}$	Lower frequency of SPOS
3. Timeliness of loss recognition		
3.1. Frequency of large negative net income (LNEG)	$FIRM(0,1)_{it} = \alpha_0 + \alpha_1 LNEG_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \alpha_9 AUD_{it} + \alpha_{10} NUMCROSS_{it} + \varepsilon_{it}$	Higher frequency of LNEG
4. Value relevance		
Adjusted R^2 from a regression of :		
4.1. Share prices on book value of equity and earnings	$P^*_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 NIPS_{it} + \varepsilon_{it}$	Higher adjusted R^2
4.2. Earnings on share returns	$[NIPS_{it} / P_{it-1}]^* = \beta_0 + \beta_1 RET_{it} + \beta_2 DT_{it} + \beta_3 RET_{it}^* DT_{it} + \varepsilon_{it}$	Higher adjusted R^2
4.3. Share returns on earnings	$RET^*_{it} = \beta_0 + \beta_1 NIPS_{it}/P_{it-1} + \beta_2 \Delta NIPS_{it}/P_{it-1} + \varepsilon_{it}$	Higher adjusted R^2

Δ NI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. SIZE is the natural logarithm of market value of equity in billions of pounds as of the end of the financial year. GROWTH is annual percentage change in sales at the end of the financial year. EISSUE is annual percentage change in book value of equity at the end of the financial year. LEV is total liabilities divided by book value of equity at financial year end. DISSUE is annual percentage change in total liabilities at the end of the financial year. TURN is annual sales divided by end of year total assets at the end of the financial year. OCF is annual net cash flow from operating activities scaled by total assets at the end of the financial year. AUD is an indicator variable is set to one if the firm's auditor is PricewaterhouseCoopers, KPMG, Ernst & Young or Deloitte Touche Tohmatsu and zero otherwise. NUMCROSS is the number of countries in which a firm's stock is listed. Δ OCF is change in annual net cash flow from operating activities scaled by total assets at the end of the financial year. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by total assets at the end of the financial year. FIRM (0,1) is an indicator variable which is set to one for observations under IFRS and zero under UK GAAP. SPOS is indicator set to one for observations for which annual net income scaled by total assets is between 0 and 0.01 and set to zero otherwise. LNEG is an indicator variable set to one for observations for which annual net income scaled by total assets is less than -0.2 and zero otherwise. P^* is the residuals from a regression where share price three months after financial year end (PRICE) is regressed on industry fixed effects. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. NIPS/ P^* is the residuals from the following regression: $NIPS_{it} / P_{it-1} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LEV_{it} + \beta_3 MB_{it} + \varepsilon_{it}$, where NIPS/ P^* is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price; MB is end of year market value of equity scaled by end of year book value of equity. RET is cumulative stock return computed over 12 months, starting from nine months before financial year end and ending three months after financial year end. DT is an indicator set to one for observations for which RET are negative and zero otherwise. RET^* is the residuals from a regression where RET is regressed on industry fixed effects. Δ NIPS/ P^* is change in net income per share at financial year end scaled by beginning of year share price.

5.7 DESCRIPTIVE STATISTICS

In this section I present descriptive statistics for the sample firms to provide insight into firm attributes. Table 5-18 and Table 5-19 present the descriptive statistics for the dependent and control variables. Specifically, Table 5-18 presents the descriptive statistics for each of these variables pooled over the sample period while Table 5-19 presents the descriptive statistics for each year in the sample period. In order to reduce the effects of extreme observations I have winsorised each of the variables at the 2.5 and 97.5 percentiles. The dependent and control variables are presented in the order they appear in the accounting quality measures.

Table 5-18: Descriptive statistics for test and control variables

	Mean	Median	Min	Max	Std Dev
Dependent Variables					
ΔNI	-0.005	-0.001	-0.225	0.181	0.067
ΔOCF	0.000	-0.001	-0.167	0.174	0.064
ACC	-0.037	-0.027	-0.270	0.127	0.077
OCF	0.069	0.064	-0.129	0.261	0.080
RET	-0.039	0.043	-1.281	0.764	0.445
NIPS/P	0.059	0.056	-0.279	0.487	0.126
PRICE (£)	3.441	2.210	0.160	16.540	3.626
BVEPS (£)	2.375	1.350	0.083	13.984	2.938
NIPS (£)	0.219	0.113	-0.404	1.557	0.368
ΔNIPS/P	0.003	0.006	-0.423	0.387	0.129
Control Variables					
LEV	2.176	1.118	0.024	19.409	3.604
GROWTH	0.106	0.074	-0.416	0.978	0.253
EISSUE	0.111	0.074	-0.492	1.251	0.313
DISSUE	0.115	0.058	-0.622	1.468	0.375
TURN	0.898	0.791	0.017	2.957	0.771
SIZE (£bn)	1.688	0.204	0.006	23.026	4.409
MB	2.371	1.657	0.470	10.643	2.141

This table presents descriptive statistics of the continuous variables for the 495 firms in the final sample over the sample period. The total number of firm year observations is 4,179. All variables have been winsorised at the 2.5 and 97.5 percentiles. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. ΔNIPS/P is change in net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

Table 5-19: Descriptive statistics for test and control variables by year

n	Adoption Year								
	-4	-3	-2	-1	0	1	2	3	4
	439	438	491	493	495	493	495	495	340
Panel A: Dependent Variables									
ΔNI									
Mean	-0.007	-0.014	-0.003	0.008	0.008	-0.006	0.005	-0.010	-0.036
Median	-0.003	-0.004	0.001	0.003	0.001	-0.001	0.003	-0.002	-0.018
Std. Dev.	0.071	0.072	0.069	0.063	0.059	0.056	0.059	0.069	0.076
ΔOCF									
Mean	0.001	0.002	0.003	0.001	-0.001	-0.007	0.000	0.002	-0.004
Median	-0.003	0.002	0.002	0.001	-0.002	-0.005	-0.001	0.000	-0.004
Std. Dev.	0.071	0.069	0.062	0.057	0.058	0.062	0.064	0.067	0.069
ACC									
Mean	-0.034	-0.049	-0.052	-0.043	-0.032	-0.023	-0.021	-0.032	-0.060
Median	-0.022	-0.036	-0.039	-0.037	-0.027	-0.019	-0.015	-0.023	-0.041
Std. Dev.	0.075	0.080	0.078	0.071	0.068	0.072	0.076	0.073	0.091
OCF									
Mean	0.068	0.070	0.070	0.070	0.068	0.066	0.068	0.068	0.073
Median	0.066	0.065	0.062	0.063	0.067	0.062	0.063	0.061	0.070
Std. Dev.	0.083	0.081	0.078	0.080	0.078	0.081	0.083	0.082	0.078
RET									
Mean	-0.067	-0.111	-0.136	0.283	0.148	0.155	0.088	-0.374	-0.481
Median	0.033	-0.033	-0.091	0.277	0.172	0.177	0.111	-0.313	-0.411
Std. Dev.	0.451	0.426	0.466	0.292	0.271	0.299	0.306	0.431	0.451
NIPS/P									
Mean	0.077	0.062	0.053	0.067	0.063	0.073	0.075	0.043	0.007
Median	0.058	0.046	0.047	0.064	0.054	0.066	0.064	0.055	0.042
Std. Dev.	0.137	0.138	0.141	0.144	0.112	0.118	0.114	0.093	0.121
PRICE (£)									
Mean	3.022	2.813	2.382	3.027	3.519	4.355	4.773	3.803	3.020
Median	2.100	1.875	1.520	2.070	2.430	3.010	3.250	2.110	1.620
Std. Dev.	2.979	2.910	2.631	2.984	3.400	4.169	4.433	4.188	3.692
BVEPS (£)									
Mean	2.279	2.251	2.091	2.194	2.301	2.440	2.650	2.675	2.513
Median	1.368	1.331	1.242	1.169	1.224	1.311	1.472	1.530	1.614
Std. Dev.	2.811	2.755	2.688	2.863	2.949	3.053	3.217	3.147	2.803
NIPS (£)									
Mean	0.198	0.165	0.159	0.186	0.211	0.287	0.321	0.247	0.167
Median	0.117	0.100	0.074	0.078	0.100	0.135	0.168	0.131	0.091
Std. Dev.	0.322	0.314	0.314	0.324	0.338	0.411	0.434	0.398	0.405
ΔNIPS/P									
Mean	0.013	-0.032	-0.002	0.016	0.008	0.054	0.020	-0.011	-0.062
Median	-0.003	-0.004	0.003	0.008	0.006	0.046	0.010	0.004	-0.012
Std. Dev.	0.133	0.152	0.138	0.116	0.104	0.132	0.103	0.112	0.136
Panel B: Control Variables									
LEV									
Mean	1.893	1.909	2.149	2.186	2.155	2.326	2.149	2.223	2.699
Median	1.053	1.101	1.082	1.088	1.065	1.177	1.121	1.163	1.308
Std. Dev.	3.141	3.016	3.624	3.789	3.636	3.705	3.582	3.644	4.245
GROWTH									
Mean	0.169	0.063	0.064	0.083	0.107	0.133	0.129	0.101	0.113
Median	0.116	0.049	0.031	0.051	0.070	0.105	0.101	0.080	0.082
Std. Dev.	0.311	0.257	0.254	0.229	0.236	0.244	0.238	0.225	0.267
EISSUE									
Mean	0.190	0.049	0.010	0.098	0.123	0.186	0.180	0.109	0.030
Median	0.102	0.020	0.004	0.062	0.086	0.142	0.128	0.085	0.016
Std. Dev.	0.388	0.275	0.265	0.273	0.298	0.297	0.316	0.307	0.340
DISSUE									
Mean	0.097	0.020	0.083	0.079	0.134	0.163	0.134	0.170	0.156
Median	0.098	0.040	0.008	0.017	0.061	0.074	0.035	0.102	0.113
Std. Dev.	0.292	0.276	0.389	0.343	0.383	0.393	0.422	0.423	0.390

TURN									
Mean	0.914	0.917	0.903	0.930	0.921	0.866	0.887	0.863	0.880
Median	0.810	0.834	0.822	0.837	0.829	0.779	0.750	0.760	0.692
Std. Dev.	0.763	0.773	0.775	0.788	0.783	0.755	0.769	0.748	0.788
SIZE (£bn)									
Mean	1.593	1.469	1.356	1.376	1.550	1.797	1.994	2.000	2.168
Median	0.198	0.175	0.145	0.167	0.199	0.236	0.282	0.278	0.287
Std. Dev.	4.234	4.047	3.898	3.903	4.164	4.559	4.843	4.854	5.136
MB									
Mean	2.595	2.250	2.150	2.202	2.467	2.603	2.602	2.402	1.950
Median	1.584	1.539	1.377	1.531	1.745	1.985	2.039	1.810	1.417
Std. Dev.	2.564	2.123	2.123	2.098	2.218	2.043	2.107	2.028	1.746

This table presents descriptive statistics of the 495 sample firms for each year in the sample period. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). All variables have been winsorised to the 2.5 and 97.5 percentiles. Δ NI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. Δ OCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

Earnings and cash flows

Table 5-18 shows that pooled over the period, sample firms on average have net income per share (NIPS) of £0.219. Table 5-19 reveals that the annual mean NIPS steadily increases from adoption year -1 to adoption year 2 from £0.186 to £0.321, then declines to £0.167 by adoption year 4. This is consistent with an economic decline as adoption year 2 corresponds to financial year 06/07 which was followed by the GFC. The median of NIPS for the whole sample period is lower than the mean at £0.113. The median NIPS also follows the general pattern of the mean where it increases to £0.168 by adoption year 2 then declines to £0.091 by adoption year 4. The mean net income per share scaled by beginning of year price (NIPS/P) for the whole sample period is 0.059 (Table 5-18). Table 5-19 reveals that the yearly pattern for this variable is consistent with NIPS as it increases to 0.075 by adoption year 2 then declines to 0.007 by adoption year 4. The annual means for the change in net income per share scaled by beginning of year price (Δ NIPS/P) also follow a similar pattern where the changes have generally been positive until adoption year 2 (0.20) and then negative during adoption years 3 and 4 (-0.011 and -0.062 respectively). Similarly, the Δ NI variable (defined as change in net income available to ordinary shareholders at

financial year end scaled by total assets at financial year end) has a mean of 0.5% during adoption year 2 then decreases to -1% and -3.6% during adoption years 3 and 4 respectively (Table 5-19). Therefore, these four measures indicate that sample firms experience an increase in profitability until adoption year 2 which is followed by a sharp decline consistent with the GFC.

The mean for operating cash flows scaled by end of year assets (OCF) for the whole sample period is 0.069 while the median is 0.064 (Table 5-18). Table 5-19 reveals that the annual mean OCF has remained positive and relatively stable over the sample period with the lowest mean displayed in adoption year 1 at 0.066. The mean OCF figures are stable around 0.068 to 0.073 over the sample period. The changes in operating cash flow variable (Δ OCF) is calculated as the change in annual net cash flow from operating activities scaled by total assets at financial year end. The mean and median figures for the Δ OCF are 0% and -0.1% respectively (Table 5-18). The annual figures for Δ OCF remain relatively steady with the annual means and medians remaining close to zero (Table 5-19). The lowest figure for Δ OCF is in adoption year 1 with a mean of -0.7%. Then Δ OCF remains around zero for adoption years 2 and 3 and decreases to -0.4% in adoption year 4. Therefore, it appears that while there have been some reductions in cash flows, these reductions are not as large as those observed in firm level earnings.

Overall, the earnings measures of NIPS, NIPS/P, Δ NIPS/P and Δ NI consistently reveal that sample firms experience a decline in profitability from adoption year 2, indicative of the GFC. However, the cash flow measures of OCF and Δ OCF do not show correspondingly large reductions in operating cash flow levels.

Other accounting measures

The mean level of accruals (ACC) over the sample period is -0.037 (Table 5-18). This variable is defined as annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. Negative accruals indicate that firms have more cash flows than accounting earnings. Table 5-19 reveals that the annual mean level of accruals became more negative from adoption year 2. The annual mean accruals was -0.021 in adoption year 2 and it declined to the lowest levels over the whole sample period of

-0.060 by adoption year 4, indicating that firms experienced a decline in their earnings levels compared to their net cash flow during this period. Therefore, the descriptive statistics for the accruals measure are consistent with the patterns of the earnings and cash flow measures discussed above.

The mean (median) book value of equity per share (BVEPS) is £2.375 (£1.35) over the sample period (Table 5-18). The annual mean BVEPS has been steady increasing from £2.091 in adoption year -3 to £2.675 in adoption year 3 (Table 5-19). There has been a slight decrease in adoption year 4 to £2.513.

Market measures

The average share price (PRICE) for firms over the sample period is £3.441. The median share price is much lower at £2.210 reflecting skewness in price. (Table 5-18). Table 5-19 reveals that over the sample period the highest mean and median share prices were observed in adoption year 2 of £4.773 and £3.250 respectively. Then the share prices declines to a mean of £3.020 and a median of £1.620 by adoption year 4. As expected, based on theories of market efficiency, the annual means for PRICE closely follow the pattern for NIPS where the means decline from adoption year -4 to -2 then increase to the highest points during the period in adoption year 2 after which they decline sharply by adoption year 4.

The descriptive statistics for the annual share returns (RET) show a similar pattern to the share prices. This variable is defined as cumulative stock return computed over 12 months, starting from nine months before financial year end and ending three months after financial year end. The overall mean (median) stock return over the sample period is -3.9% (4.3%) (Table 5-18). The annual mean RET declined from a high of 8.80% in adoption year 2 to -37.4% and -48.1% in adoption years 3 and 4 respectively (Table 5-19). The change reflects the sharp decline in share prices as a result of the GFC.

Control variables

Firm size (SIZE) is measured in terms of the market value of equity in billions of pounds at the end of the financial year. Table 5-18 shows that the mean market value of equity over the whole sample period is £1.688 billion. The median is much lower at

£0.204 billion which is reflective of the high standard deviation of 4.409. The market value of the smallest firm was only £6 million while the largest firm had a market value of £23.026 billion.

Annual sales scaled by end of year total assets (TURN) shows overall mean and median levels of 0.898 and 0.791 respectively for the whole sample period (Table 5-18). Table 5-19 reveals that the annual mean turnover remains around 0.90 over the sample period while the median hovers around 0.80 but declines to 0.69 in adoption year 2. Firm level growth (GROWTH) is measured in terms of percentage change in sales. The overall mean and median growth rates are 10.6% and 7.4% over the sample period (Table 5-18).

Firm level leverage (LEV) is computed as total liabilities divided by end of year book value of equity. The overall mean level of leverage is 2.176 and the median is 1.118 reflecting the relatively high standard deviation of 3.604 (Table 5-18). The annual mean and median leverage levels increased to their highest levels over the nine year sample period in adoption year 4 to 2.699 and 1.308 (Table 5-19).

Equity issue (EISSUE) is defined as the percentage change in book value of equity. The overall mean (median) level of equity issuance is 11.1% (7.4%) (Table 5-18). The annual pattern for EISSUE is similar to PRICE and NIPS in that it declined to the lowest point by adoption year -2, showed an increase until adoption year 1 then decreased (Table 5-19). The means for EISSUE in adoption year -2, 2 and 4 are 1.0, 18.0 and 3% respectively. Debt issue is computed as the percentage change in end of year total liabilities (DISSUE) and the overall mean (median) for the period is 11.5% (5.8%) (Table 5-18). However, DISSUE does not show a consistent trend overtime.

The market to book ratio (MB) is operationalised as end of year market value of equity scaled by end of year book value of equity. The overall mean (median) MB ratio is 2.371 (1.657). Similar to EISSUE and PRICE, the MB ratio drops to its lowest annual median level in adoption year -2 (Table 5-19). In addition, there is a drastic decline in the median MB from 1.810 in adoption year 3 to 1.417 in adoption year 4. This could be reflective of the effects of the GFC.

In summary, measures of earnings such as NIPS, NIPS/P, Δ NIPS/P and Δ NI consistently indicate that sample firms experience a large decline in earnings from adoption year 2, which is consistent with the effects of the GFC. However, the cash flow measures of OCF and Δ OCF do not show large reductions in operating cash flow levels. Furthermore, the accruals measure becomes more negative. This indicates that although accounting earnings decreases, firm level cash flows are not declining at comparable levels. In addition, the median share prices (PRICE) and annual cumulative share returns (RET) follow the pattern of the earnings variables where they plummet after adoption year 2. The fall in these two variables could be due to a combination of decreases in firm profitability and the effects of the GFC.

Figure 5-2: Overview of annual trends in earnings (Δ NI), cash flows (Δ OCF) and returns (RET)

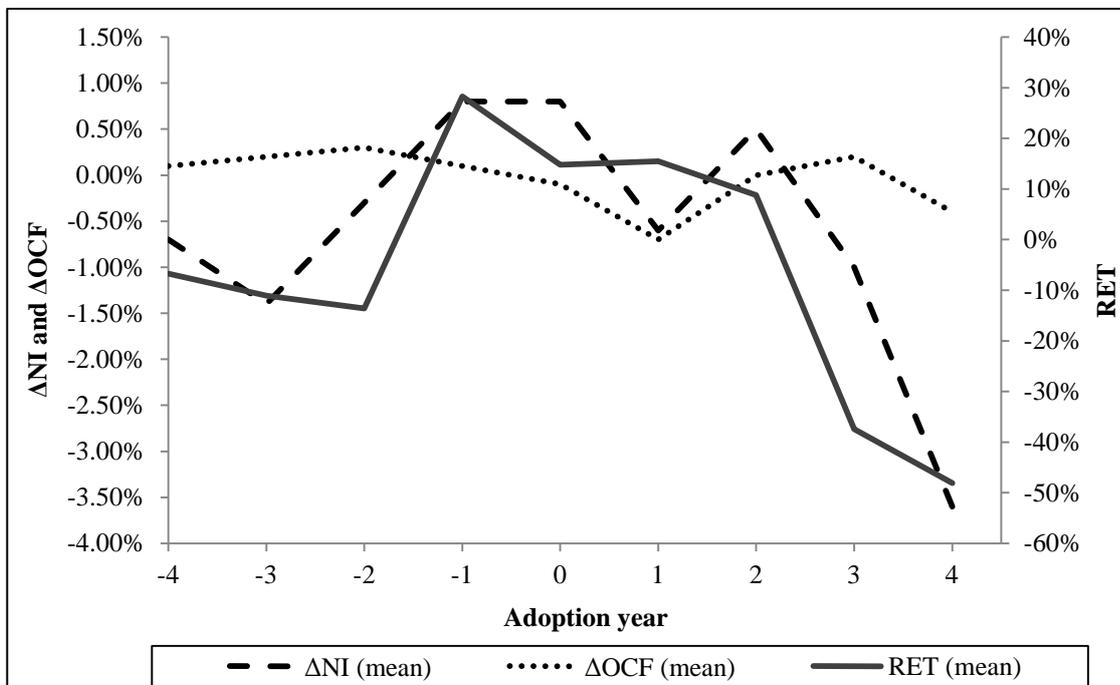


Figure 5-2 provides a summary of the annual trends in the earnings, cash flows and market measures by presenting the annual means for the Δ NI, Δ OCF and RET variables. It shows sharp falls for Δ NI and RET after adoption year 2 while cash flows (Δ OCF) do not show such a drastic decline. One possible explanation for the large decreases in earnings that are not reflected in cash flows (in the post adoption year 2 period) is the write down of assets by firms to market values. Due to the GFC, the

market value of certain assets (such as real estate) in the UK decreased significantly.⁵⁶ If firms were writing down assets to the declined market values, it may result in a decrease in earnings and not have a corresponding effect on cash flows.

5.7.1 Tests for normality and bivariate relationships among variables

Table 5-20 presents the results for the one sample Kolmogorov-Smirnov test where the continuous variables were investigated for violations of the normality assumption.

Table 5-20: One-Sample Kolmogorov-Smirnov Test for normality

Dependent Variables	Test Statistic (Kolmogorov-Smirnov Z)
ΔNI	10.040***
ΔOCF	5.988***
ACC	5.655***
OCF	3.780***
RET	5.765***
NIPS/P	10.041***
PRICE	11.813***
BVEPS	14.069***
NIPS	10.526***
ΔNIPS/P	12.071***
Control Variables	
LEV	17.791***
GROWTH	7.702***
EISSUE	9.139***
DISSUE	8.603***
TURN	8.174***
SIZE	2.251***
MB	12.100***

*** significant at $p < 0.01$. Significant results denote that the population is not normally distributed.

This Table presents descriptive statistics of the continuous variables for the 495 firms in the final sample over the sample period. The total number of firm year observations is 4,179. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. ΔNIPS/P is change in net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the natural logarithm of the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

⁵⁶For example, Adair, Berry, Haran, Lloyd and McGreal (2009) reveal that the annual capital growth for UK property (commercial and residential) was at -14.4% by December 2008.

If the variables are not distributed normally, then it is inappropriate to use parametric tests that assume normality to analyse the data. As can be seen from Table 5-20, all of the continuous variables are significant at the $p < 0.01$ level. Therefore, the null hypothesis of a normal distribution is rejected and non parametric tests must be used in the univariate analysis.

Table 5-21 presents information about the correlations between the continuous variables. Spearman rank correlation was chosen to test the direction and strength of the relationships between these variables due to the non parametric distribution of the data.

This table shows that the highest correlation of 0.78 was between net income per share (NIPS) and net income per share scaled by price (NIPS/P). However, this is not problematic given these two dependent variables are not included in the same regression. Other variables were also correlated, but no correlation was high enough to impair the regression results.⁵⁷

⁵⁷As a rule of thumb, multicollinearity is a potential statistical problem when the correlation coefficient exceeds 0.80 (Gujarati, 2003, p.359).

Table 5-21: Correlation coefficients for the continuous variables (Spearman's Rho)

	Δ NI	Δ OCF	ACC	OCF	RET	NIPS/P	P	BVEPS	NIPS	Δ NIPS/P	LEV	GROWTH	EISSUE	DISSUE	TURN	SIZE
Δ NI	1.00															
Δ OCF	0.29***	1.00														
ACC	0.18***	-0.32***	1.00													
OCF	0.12***	0.33***	-0.61	1.00												
RET	0.30***	0.08***	0.06***	0.11***	1.00											
NIPS/P	0.35***	0.05***	0.28***	0.29***	0.35***	1.00										
PRICE	0.05***	-0.01	0.14***	0.16***	0.26***	0.27***	1.00									
BVEPS	-0.05***	-0.03***	0.23***	-0.11***	0.08***	0.29***	0.66***	1.00								
NIPS	0.24***	0.01	0.28***	0.28***	0.22***	0.78***	0.66***	0.55***	1.00							
Δ NIPS/P	0.57***	0.09***	0.17***	0.07***	0.28***	0.39***	0.11***	0.03*	0.30***	1.00						
LEV	-0.05***	-0.01***	-0.17***	0.12***	-0.01	0.12***	0.10***	-0.14***	0.15***	0.04***	1.00					
GROWTH	0.15***	0.13***	0.05***	0.11***	0.16***	0.21***	0.15***	0.04**	0.22***	0.18***	0.08***	1.00				
EISSUE	0.19***	-0.01	0.24***	0.10	0.23***	0.42***	0.23***	0.11***	0.40***	0.26***	0.03**	0.39***	1.00			
DISSUE	-0.15***	-0.07***	0.04***	0.03	0.07***	0.14***	0.14***	0.07***	0.17***	0.03*	0.17***	0.43***	0.24***	1.00		
TURN	0.01	-0.00	-0.31***	0.45***	0.01	0.13***	-0.13***	-0.34***	0.04***	0.05***	0.35***	0.03*	0.00	-0.03*	1.00	
SIZE	0.01	0.00	0.00	0.15***	0.04*	0.13***	0.57***	0.32***	0.40***	0.05***	0.35***	0.14***	0.16***	0.14***	0.09***	1.00
MB	0.06***	0.01	-0.14	0.37***	0.06***	0.05***	0.25***	-0.35	0.19***	0.10***	0.40***	0.18***	0.16***	0.13***	0.36***	0.41***

*** significant at $p < 0.01$ two tailed test.

** significant at $p < 0.05$ two tailed test.

* significant at $p < 0.10$ two tailed test.

This table presents Spearman's rank correlations between the continuous variables for the 495 sample firms over the sample period. The total number of firm year observations is 4,179. Δ NI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. Δ OCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. Δ NIPS/P is change in net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

5.8 UNIVARIATE COMPARISON OF TEST AND CONTROL VARIABLES UNDER UK GAAP AND IFRS

Table 5-22 provides a comparison of the variables under UK GAAP and IFRS for the 495 sample firms. While Table 5-19 (in Section 5.7) provided annual descriptive statistics for each variable, for comparison purposes Table 5-22 presents statistics where observations have been pooled over five years (adoption years -4 to 0) under UK GAAP and the observations under IFRS have been pooled over four years (adoption years 1 to 4). In addition, Table 5-22 includes t-statistics for differences in means and z-scores for the Wilcoxon rank sum test for differences in medians.

Table 5-22 reveals that the mean (median) values for the change in net income (ΔNI) variable under UK GAAP is -0.1% (0.0%) while it is -1.0% (-0.2%) under IFRS and the differences in the means and medians are significant ($p < 0.01$). This indicates that sample firms report more volatile earnings in the IFRS period compared to the pre-adoption period. However, some variations in earnings may be caused by variations in cash flows as opposed to reductions in earnings smoothing (Barth et al., 2006, Barth et al., 2008). The means for the change in cash flow (ΔOCF) variable is not significantly different between the two time periods. However, the median value for ΔOCF is significantly higher under IFRS at -0.2% compared to 0.0% under UK GAAP ($p < 0.05$). Therefore, some of the higher variance in earnings observed in the post IFRS period may be due to variations in cash flows.

Table 5-22 shows that the mean (median) net income per share (NIPS) is higher under IFRS at £0.263 (£0.137) compared to £0.184 (£0.095) under UK GAAP ($p < 0.01$). The annual data presented earlier in Table 5-19 implies that most of the increase in NIPS, observed in the post IFRS period, mainly occurred in adoption years 1 and 2 (as earnings declined after adoption year 2). Table 5-22 also shows that neither the mean nor the median values for the operating cash flow variable (OCF) are significantly different between the two time periods. The mean (median) OCF under UK GAAP is 0.069 (0.065) while it is 0.068 (0.063) under IFRS. Firm accruals (ACC) is calculated as annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. The increase in NIPS and the relatively stable level of cash flows explains the less negative mean

(median) values displayed by ACC in the IFRS period of -0.032 (-0.022) compared to -0.042 (-0.032) under UK GAAP ($p < 0.01$).

Table 5-22: Univariate comparison of continuous test and control variables under UK GAAP and IFRS

	Mean			Median		
	UKGAAP n = 2,356	IFRS n = 1,823	t- statistic	UKGAAP n = 2,356	IFRS n = 1,823	Wilcoxon z- statistic
Dependent Variables						
ΔNI	-0.001	-0.010	4.08 ***	0.000	-0.002	3.25 ***
ΔOCF	0.001	-0.002	1.56	0.000	-0.002	2.00 **
ACC	-0.042	-0.032	-4.23 ***	-0.032	-0.022	4.67 ***
OCF	0.069	0.068	0.33	0.065	0.063	0.50
RET	0.029	-0.125	11.14 ***	0.091	-0.035	11.04 ***
NIPS/P	0.064	0.053	2.85 ***	0.053	0.058	0.20
PRICE	2.955	4.069	-9.57 ***	2.000	2.620	6.67 ***
BVEPS	2.221	2.574	-3.81 ***	1.264	1.485	4.50 ***
NIPS	0.184	0.263	-6.71 ***	0.095	0.137	5.87 ***
ΔNIPS/P	0.001	0.006	-1.14	0.004	0.009	-4.26 ***
Control Variables						
LEV	2.066	2.319	-2.26 **	1.084	1.178	-2.82 ***
GROWTH	0.096	0.119	-2.93 ***	0.058	0.091	-5.58 ***
EISSUE	0.093	0.134	-4.23 ***	0.053	0.108	-7.32 ***
DISSUE	0.084	0.156	-6.03 ***	0.044	0.084	-5.70 ***
TURN	0.917	0.873	1.83 *	0.828	0.755	-2.01 **
SIZE	14.662	19.747	-3.62 ***	1.769	2.622	-6.71 ***
MB	2.328	2.426	-1.46	1.551	1.819	-4.93 ***

***significant at $p < 0.01$ (two-tailed). **significant at $p < 0.05$ (two-tailed). *significant at $p < 0.10$ (two-tailed).

This table presents the means and medians of the continuous variables for the 495 sample firms under UK GAAP and IFRS. Observations for UK GAAP are pooled over five years (adoption years -4 to 0). Observations for IFRS are pooled over four years (adoption years 1 to 4). T-statistics for the differences in means, z-scores for the Wilcoxon rank sum tests for differences in medians and p values (two-tailed) are also shown. All variables have been winsorised at the 2.5 and 97.5 percentiles. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from nine months before financial year end and ending three months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. ΔNIPS/P is change in net income per share scaled by beginning of year share price. MB is end of year market value of equity scaled by end of year book value of equity.

The median share price three months after financial year end (PRICE) is also higher under IFRS at £2.62 compared to £2.00 under UK GAAP ($p < 0.01$). Similarly the market value of equity (SIZE) has increased as the median is £2.622 billion under IFRS, while it is £1.769 billion under UK GAAP ($p < 0.01$). The book value of equity per

share (BVEPS) has increased from £1.264 under the UK GAAP period to £1.485 under IFRS ($p < 0.01$). The median figure for the market to book ratio (MB) has also significantly increased where it is 1.819 under IFRS compared to 1.551 under UK GAAP ($p < 0.01$). This indicates that the market value of equity has increased at a higher rate than the book value of equity. However, the median values for annual cumulative returns (RET) have decreased significantly whereby it is 9.1% under UK GAAP and -3.5% under IFRS. A possible cause for this may be the GFC, which saw significant decreases in share returns.

Firm leverage (LEV) is higher in the IFRS period with a median of 1.178 compared to 1.084 under UK GAAP ($p < 0.01$). This is consistent with the increase in the median values for debt issue (DISSUE). Under IFRS, the median is 8.4% compared to 4.4% under UK GAAP, indicating firms are issuing more debt during the IFRS period. The medians for the equity issue variable (EISSUE) have also increased from 5.3% under UK GAAP to 10.8% under IFRS. Similarly, the median for the GROWTH variable has increased from 5.8% under UK GAAP to 9.1% under IFRS.

In summary, the descriptive statistics in Table 5-22 reveal that significant changes have occurred in most of the test and control variables. While earnings measures such as NIPS show an increase post IFRS adoption, cash flows (OCF) have not increased, resulting in an increase in accruals (ACC). In addition, the volatility of earnings (ΔNI) has increased but so has the volatility of cash flows (ΔOCF). Market based measures such as share price (P), market value of equity (SIZE) and market to book ratio (MB) have increased. However, cumulative share returns (RET) have declined significantly in the IFRS period compared to the UK GAAP period. The increases in the median values of the equity issue (EISSUE), debt issue (DISSUE) and growth (GROWTH) variables provide an indication that sample firms are requiring more funds under IFRS compared to under UK GAAP.

Table 5-23 provides frequency statistics for the dichotomous variables under UK GAAP and IFRS. Pearson's Chi-square tests were carried out to test whether the proportions of the dichotomous variables were significantly different between the two time periods. The results reveal that the frequencies of all three dichotomous variables are not significantly different between the periods.

Table 5-23: Frequency statistics for dichotomous variables under UK GAAP and IFRS

Variable	UKGAAP n = 2,356		IFRS n = 1,823		p-values for Pearson's χ^2 test
	n	%	n	%	
<i>Big 4 Auditor(AUD)</i>					
Use Big 4 auditor (1)	1,957	83%	1,510	83%	0.842
Does not use Big 4 auditor (0)	399	17%	313	17%	
<i>Total</i>	2,356	100%	1,823	100%	
<i>Frequency of small positive net income (SPOS)</i>					
Net income scaled by total assets is between 0 and 0.01 (1)	214	9%	152	8%	0.398
Net income scaled by total assets less than 0 and greater than 0.01 (0)	2,142	91%	1,671	92%	
<i>Total</i>	2,356	100%	1,823	100%	
<i>Frequency of large negative net income (LNEG)</i>					
Net income scaled by total assets is less than -0.20 (1)	92	4%	58	3%	0.213
Net income scaled by total assets is greater than -0.20 (0)	2,264	96%	1,765	97%	
<i>Total</i>	2,356	100%	1,823	100%	

This table presents the frequencies and the results of Pearson's chi-square tests (two-tailed) for the dichotomous variables for the 495 sample firms, under UK GAAP and IFRS. Observations for UK GAAP are pooled over five years (adoption years -4 to 0). Observations for IFRS are pooled over four years (adoption years 1 to 4). AUD is an indicator variable set to one if the firm's auditor is PricewaterhouseCoopers, KPMG, Ernst & Young or Deloitte Touche Tohmatsu and zero otherwise. SPOS is an indicator variable set to one where net income available to ordinary shareholders scaled by total assets at financial year end is between 0 and 0.01, and zero otherwise. LNEG is an indicator variable set to one when net income available to ordinary shareholders scaled by total assets at financial year end is less than -0.2, and zero otherwise.

5.9 SUMMARY

In this chapter I discussed the rationale for the choice of country and stock exchange, the time period under analysis, and the sources of data and the sample composition. In addition details of the dependent, independent and control variables are provided and the overall regression model which is used to test each of the hypotheses is shown. Next I present a detailed discussion of the eight accounting quality measures that assess the quality of financial reporting in the areas of earnings smoothing, managing towards earnings targets, timeliness of loss recognition and value relevance. Finally, the descriptive statistics and univariate comparisons for the test and control variables are discussed. In the next chapter, I present the multivariate results for the testing of the hypotheses along with the analysis of the results.

CHAPTER 6: RESULTS

6.1 INTRODUCTION

This thesis aims to address two research questions. First, has the adoption of IFRS in the UK resulted in better accounting quality for UK firms? Second, what are the specific mechanisms by which accounting quality may have increased post IFRS adoption in the UK? In order to address the second research question, I investigate the following three mechanisms: (a) both the greater use of fair value measurement and associated extensive disclosure requirements imposed by IFRS compared to UK GAAP (measurement and disclosure), (b) more extensive disclosure requirements imposed by IFRS compared to UK GAAP (disclosure only) and, (c) improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms (enforcement).

The impact of the greater use of fair value measurement and associated more extensive disclosure requirements in IFRS is proxied by financial assets, financial liabilities and intangible assets. I use segment reporting as a proxy for more extensive disclosure requirements. Improvements in the regulatory activities and institutional oversight system in foreign countries is proxied by the cross listing status of firms.

In order to capture various aspects of accounting quality, I use eight measures established in the prior literature to assess the quality of financial reporting in the areas of earnings smoothing, managing towards earnings targets, timeliness of loss recognition and value relevance. In Chapter 5, I discuss the research method adopted in this thesis and describe the calculation of each of the eight measures of accounting quality. The sample composition, descriptive statistics and univariate comparisons of the data are also provided in Chapter 5.

Chapter 6 contains the primary results of my thesis. The multivariate results for H1 to H4 are presented from Section 6.2 to 6.5. The chapter concludes with a summary in Section 6.6.

6.2 OVERALL IMPROVEMENTS IN ACCOUNTING QUALITY

Table 6-1 presents the results for H1 where it is predicted that UK firms have higher accounting quality under IFRS compared to UK GAAP. All 495 firms in the final sample are included in the testing of H1. As stated in Chapter 5, there are five years of observations under UK GAAP (adoption years -4 to 0) and four years under IFRS (adoption years 1 to 4). The following discussion looks at each facet of accounting quality included in my thesis. That is, earnings smoothing, managing towards earnings targets, timeliness of loss recognition and value relevance are each examined in turn. Then a summary of the results is provided. H1 is supported if the UK firms show less earnings smoothing and management towards earnings targets, more timely recognition of losses and better value relevance in the IFRS period compared to when firms reported under UK GAAP.

Earning smoothing

Agency theory suggests that insiders have an incentive to hide a firm's current poor performance if their remuneration and other rewards are tied to firm performance (Jensen and Meckling, 1976). Insiders may also under-report strong performance in order to give themselves a buffer in future periods of poor performance (Beidleman, 1973; Moses, 1987; Beattie et al., 1994). This is referred to as earnings smoothing. Following Lang et al. (2005), Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009) and Chen et al. (2010) the first set of accounting quality measures I used considered whether earnings smoothing reduced after the adoption of IFRS. These results are presented in Panel A of Table 6-1.

The first earnings smoothing metric is the variability of change in net income (ΔNI^*) (Item 1.1 in Table 6-1). A higher variance for ΔNI^* indicates that the firms are less likely to smooth their earnings (Barth et al., 2008). Accordingly, I predicted firms will display higher variability of ΔNI^* under IFRS compared to UK GAAP.

Table 6-1: Comparison of accounting quality in UK firms under UK GAAP and IFRS

<i>Panel A: Earnings smoothing</i>	Prediction	UKGAAP	IFRS	z- score
1.1 Variance of ΔNI^*	UKGAAP < IFRS	(n=495) 0.0010	(n=495) 0.0013	0.701
1.2 Variance of $\Delta NI^*/\Delta OCF^*$	UKGAAP < IFRS	1.1565	1.0235	1.302 ^(a)
1.3 Correlation OCF^* and ACC^*	UKGAAP < IFRS	(n=2,356) -0.4910	(n=1,823) -0.5410	2.184 ^(a)
<i>Panel B: Managing towards earnings targets</i>	Prediction		Coefficient	Wald- stat
2.1 Frequency of SPOS	Negative		(n=4,179) -0.2270	3.345**
<i>Panel C: Timeliness of loss recognition</i>	Prediction		Coefficient	Wald- stat
3.1 Frequency of LNEG	Positive		(n=4,179) -0.0080	0.002
<i>Panel D: Value relevance</i>	Prediction	UKGAAP	IFRS	z- score
R^2 for association between:		(n=2,356)	(n=1,823)	
4.1 P* and accounting numbers	UKGAAP < IFRS	0.3576	0.5349	92.156***
4.2 NIPS/P* and RET	UKGAAP < IFRS	0.0597	0.1177	32.978***
4.3 RET* and earnings	UKGAAP < IFRS	0.0654	0.1673	68.455***

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). *significant at the $p < 0.10$ level (one-tailed). ^(a)significant but contrary to the prediction. This table presents results for the comparison of accounting quality under UK GAAP and IFRS for all 495 firms in the final sample. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4).

Item 1.1 presents the median cross sectional variance of ΔNI^* under UK GAAP and IFRS along with the z-score for the Wilcoxon rank sum test for differences in medians (paired sample).

Item 1.2 presents the median cross sectional variance of $\Delta NI^*/OCF^*$ under UK GAAP and IFRS along with the z-score for the Wilcoxon rank sum test for differences in medians (paired sample).

Item 1.3 presents the correlation coefficients for the relationship between OCF^* and ACC^* under UK GAAP and IFRS along with the z-score for the test on differences in correlations.

Item 2.1 presents the coefficient for SPOS and the Wald statistic representing the significance of the coefficient.

Item 3.1 presents the coefficient for LNEG and the Wald statistic representing the significance of the coefficient.

Items 4.1, 4.2 and 4.3 present the R^2 for relevant regressions stated below and the z-score from Cramer's Test (1987) that analyses the significance of differences in R^2 .

ΔNI^* is the residuals from **Equation 1**: $\Delta NI_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 NUMCROSS_{it} + \varepsilon_{it}$, where ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. $SIZE$ is the natural logarithm of the market value of equity at financial year end. $GROWTH$ is annual percentage change in sales. $EISSUE$ is annual percentage change in book value of equity. LEV is total liabilities scaled by book value of equity at financial year end. $DISSUE$ is annual percentage change in total liabilities. $TURN$ is annual sales divided by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. AUD is an indicator variable set to one if the firm's auditor is PricewaterhouseCoopers, KPMG, Ernst & Young or Deloitte Touche Tohmatsu and zero otherwise. $NUMCROSS$ is the number of countries in which a firm's stock is listed.

ΔOCF^* is the residuals from **Equation 2**: $\Delta OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 OCF_{it} + \alpha_8 AUD_{it} + \alpha_9 NUMCROSS_{it} + \varepsilon_{it}$, where ΔOCF is the change in operating cash flows available to ordinary shareholders at financial year end scaled by total assets at financial year end.

OCF^* is the residual from **Equation 3**: $OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 AUD_{it} + \alpha_8 NUMCROSS_{it} + \varepsilon_{it}$

ACC^* is the residual from **Equation 4**: $ACC_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 EISSUE_{it} + \alpha_4 LEV_{it} + \alpha_5 DISSUE_{it} + \alpha_6 TURN_{it} + \alpha_7 AUD_{it} + \alpha_8 NUMCROSS_{it} + \varepsilon_{it}$, where ACC is annual net income available to ordinary shareholders at financial year end less annual net cash flow from operating activities.

The coefficient for small positive net income (**SPOS**) is calculated using the following pooled regression (**Equation 5**): $FIRM(0,1)_{it} = \alpha_0 + \alpha_1 SPOS_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \alpha_9 AUD_{it} + \alpha_{10} NUMCROSS_{it} + \varepsilon_{it}$, where $FIRM$ is an indicator variable which is set to one for when firms reported under IFRS (adoption years 1 to 4) and is set to zero for when firms reported under UK GAAP (adoption years -4 to 0); $SPOS$ is an indicator variable set to one when net income available to ordinary shareholders scaled by total assets at financial year end is between 0 and 0.01, and zero otherwise.

The coefficient for large negative net income (**LNEG**) is calculated using the following pooled regression (**Equation 6**): $FIRM(0,1)_{it} = \alpha_0 + \alpha_1 LNEG_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 EISSUE_{it} + \alpha_5 LEV_{it} + \alpha_6 DISSUE_{it} + \alpha_7 TURN_{it} + \alpha_8 OCF_{it} + \alpha_9 AUD_{it} + \alpha_{10} NUMCROSS_{it} + \varepsilon_{it}$, where $LNEG$ is an indicator variable set to one when net income available to ordinary shareholders scaled by total assets at financial year end is less than -0.2, and zero otherwise.

The association between P^* and accounting numbers is assessed using the R^2 of the following regression (**Equation 7**): $P^*_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 NIPS_{it} + \varepsilon_{it}$, where P^* is the residual of a regression where share price ($PRICE$) in pounds three months after financial year end is first regressed on industry indicator variables; $BVEPS$ is book value of equity per share at financial year end. The significance of the differences in adjusted R^2 for each of the value relevance measures in Panel D is tested using Cramer's test (1987).

$NIPS/P^*$ is the residual from **Equation 8**: $NIPS_{it}/P_{it-1} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 LEV_{it} + \beta_3 MB_{it} + \varepsilon_{it}$, where $NIPS$ is net income per share available to ordinary shareholders at financial year end; P is share price at the beginning of the financial year; MB is end of year market value of equity scaled by end of year book value of equity. The association between $NIPS/P^*$ and RET is assessed using the adjusted R^2 of the following regression: $[NIPS_{it}/P_{it-1}]^* = \beta_0 + \beta_1 RET_{it} + \beta_2 DT_{it} + \beta_3 RET_{it}^* DT_{it} + \varepsilon_{it}$, where RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end; DT is an indicator variable set to one if returns are negative and zero if returns are positive.

RET* is the residual of a regression where firm cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end is regressed on industry indicator variables.

The association between **RET*** and earnings is assessed using the R^2 of the following regression **Equation 9**: $RET^* = \beta_0 + \beta_1 NIPS_{it}/P_{it-1} + \beta_2 \Delta NIPS_{it}/P_{it-1} + \varepsilon_{it}$, where $\Delta NIPS$ is change in net income per share available to ordinary shareholders at financial year end.

ΔNI can be influenced by firm specific factors that are unrelated to changes in accounting standards. Therefore, I regressed ΔNI for each sample year on the corresponding firm level control variables (presented in Equation 1). That is, I ran this regression nine times (for each year in the final sample) by using observations for the 495 firms in the final sample. The residuals from the first level regressions were named ΔNI^* . Then I pooled ΔNI^* for each firm for the five years under UK GAAP and the four years under IFRS. This allowed me to calculate the variance of ΔNI^* for each firm under UK GAAP and IFRS. Hence I ended up with 495 observations for the variance of ΔNI^* for each time period. As the results of the one sample Kolmogorov-Smirnov test rejected the normality assumption for the variance of ΔNI^* for UK GAAP and IFRS, I used the Wilcoxon rank sum test for differences in medians (paired sample) to assess whether the variance of ΔNI^* was significantly different for firms, under UK GAAP and IFRS. Panel A of Table 6-1 provides results for the Wilcoxon rank sum test including the median values for the variance of ΔNI^* . As predicted, the median variance of ΔNI^* is higher under IFRS compared to UK GAAP (0.0013 versus 0.0010). However, the difference is not significant.

Firms with more volatile earnings may also have more volatile cash flows (Barth et al., 2008). Therefore, the second earnings management metric controls for this by scaling changes in net income by changes in operating cash flows (Item 1.2 in Table 6-1). As with the first earnings management metric, I regressed changes in operating cash flows (ΔOCF) for each year on the corresponding control variables depicted in Equation 2. The residuals from these regressions are named ΔOCF^* and are then used to scale ΔNI^* . The resulting variable is the ratio of change in net income over change in cash flows ($\Delta NI^*/\Delta OCF^*$). As with the previous measure, I then calculated the cross sectional variance of $\Delta NI^*/\Delta OCF^*$ for each firm under UK GAAP and IFRS. The Kolmogorov-Smirnov test rejected the assumption of normality for the variance of $\Delta NI^*/\Delta OCF^*$ under UK GAAP and IFRS. Thus, I used the Wilcoxon rank sum for differences in medians to determine whether the variance of ΔNI^* were significantly different under UK GAAP and IFRS. Similar to the first earnings management metric, a higher variance for $\Delta NI^*/OCF^*$ indicates that firms are less likely to manage earnings.

Therefore, I predicted that firms will display greater variability under IFRS compared to UK GAAP. Panel A of Table 6-1 shows that the median variance of $\Delta NI^*/OCF^*$ is 1.1565 under UK GAAP and 1.0235 under IFRS. This lower variance under IFRS is not consistent with the prediction.

The next measure of earnings smoothing investigates the correlation between accruals and cash flows (Item 1.3 in Table 6-1). Generally, correlations between accruals and cash flows display negative values. A larger negative correlation can indicate earning smoothing because managers may be responding to poor cash flow performance by increasing accruals (Land and Lang, 2002; Drake, Myers and Myers, 2009). Therefore, I predicted that firms will display a less negative relationship between accruals and cash flows under IFRS compared to UK GAAP. Similar to the previous two measures of earnings management, both ACC and OCF were first regressed on the corresponding control variables (depicted in Equations 3 and 4), where observations are pooled for the 495 sample firms separately for the five years under UK GAAP (2,356 observations) and the four years under IFRS (1,823 observations).⁵⁸ Then residuals from these two regressions (ACC^* and OCF^*) were tested for violations of normality. The null hypothesis of a normal distribution was rejected for both variables. Consequently, the Spearman Rank correlation was utilised to investigate the extent of the correlation between ACC^* and OCF^* . Finally, differences between the correlation coefficients under UK GAAP and IFRS were tested for significance. The correlation coefficients and the z-score for the significance test are provided in Panel A of Table 6-1. The correlation coefficient between ACC^* and OCF^* is -0.4910 under UK GAAP while -0.5410 under IFRS, which is inconsistent with the prediction. Therefore all three measures of earnings smoothing do not support H1 as they do not provide any evidence that UK firms reduced their level of earnings smoothing post IFRS adoption.

Managing towards earnings targets

The next accounting quality measure is the frequency of small positive net income (SPOS) (Item 2.1 in Table 6-1). The premise underlying this measure is that firms prefer to manage their earnings and report small positive income figures rather than

⁵⁸As presented in Table 5-14 in Chapter 5(Section 5.4.5), the number of observations (n) for the 495 sample firms for the five years under UK GAAP is 2,356 and 1,823 under IFRS.

negative income. Therefore, I predicted that firms will report a lower frequency of small positive net income under IFRS compared to UK GAAP. SPOS is an indicator set to one when annual earnings scaled by total assets is between 0.00 and 0.01 and zero otherwise. I do not directly compare firms' percentages of SPOS under UK GAAP and IFRS because a firm's reported level of SPOS may be affected by firm specific factors unrelated to IFRS adoption. Instead, as depicted in Equation 5, I regressed SPOS along with other control variables on a dichotomous variable (FIRM) which is set to one for observations under IFRS and zero for observations under UK GAAP. Therefore, all 4,179 observations in the final sample are included in this regression with the dependent variable (FIRM) differentiating between observations under IFRS and UK GAAP. A negative coefficient for SPOS indicates that firms manage their earnings towards small positive earnings targets less frequently under IFRS compared to UK GAAP, providing evidence of higher accounting quality. The coefficient for SPOS and the Wald statistic are presented in Panel B of Table 6-1.⁵⁹ The results are consistent with the prediction because the coefficient for SPOS is negative (-0.2270) and significant at the $p < 0.01$ level. Therefore, H1 is supported because the result shows that insiders manage earnings towards targets less under IFRS compared to UK GAAP.

Timeliness of loss recognition

The next proxy for accounting quality considers the timeliness of loss recognition which is measured in terms of the frequency of large negative net income (LNEG) (Item 3.1 in Table 6-1). A higher frequency for LNEG indicates that firms recognise losses as they occur instead of spreading them over multiple future periods. Therefore, I predicted that firms will display a higher frequency of large negative net income under IFRS compared to UK GAAP. LNEG was set to one when annual earnings scaled by total assets are less than -0.20. Similar to SPOS, LNEG is regressed along with other control variables on a dichotomous variable (FIRM) which was set to one for observations under IFRS and zero for observations under UK GAAP (as per Equation 6). A positive coefficient for LNEG indicates that firms recognise large losses more frequently under IFRS. The coefficient for LNEG and the Wald statistic is presented in Panel C of Table 6-1. The results are not consistent with the prediction where the coefficient for LNEG is negative. Therefore, the results for LNEG do not support H1.

⁵⁹ The Wald Test determines the significance of individual coefficients in a regression model.

Value relevance

The final set of accounting quality measures focus on the value relevance of accounting amounts. For each of the value relevance measures, I have compared the adjusted R^2 of the corresponding regressions between IFRS and UK GAAP using Cramer's test (1987). A higher adjusted R^2 is indicative of a closer relationship between accounting amounts and market measures and therefore better accounting quality. Panel D of Table 6-1 presents the adjusted R^2 and the z-scores for the Cramer's test for each of the value relevance measures.

The first value relevance metric compares the explanatory power (adjusted R^2) from a regression of book value of equity per share (BVEPS) and net income per share (NIPS) on share prices (PRICE) (Item 4.1 in Table 6-1). The premise underlying this metric is that firms with better accounting quality should display a stronger association between share prices and reported accounting amounts because higher quality accounts should better reflect a firm's underlying economics (Ali and Hwang, 2000). Therefore, I predicted that firms will display a greater association (that is, a higher adjusted R^2) between PRICE and BVEPS and NIPS under IFRS, compared to UK GAAP. In order to control for industry fixed effects, PRICE was first regressed on industry indicator variables. The residuals of this were denoted as P^* and were regressed on NIPS and BVEPS using Equation 7. This regression was carried out twice for pooled observations under UK GAAP (2,356 observations) then IFRS (1,823 observations). The adjusted R^2 for the two regressions, denoting the strength of the relationship between the dependent and independent variables were then tested for differences using the Cramer's test. Consistent with the prediction, the adjusted R^2 under IFRS is 0.5349 compared to 0.3576 under UK GAAP and the difference is significant at $p < 0.01$. This indicates that accounting amounts such as NIPS and BVEPS have greater predictive ability, therefore are more value relevant to investors under IFRS compared to UK GAAP. In addition, I have presented the coefficients for NIPS and BVPS in Appendix C, Table 1, Panel A. It shows that the coefficient for BVPS has increased from 0.2149 under UK GAAP to 0.3997 under IFRS. Also the coefficient for NIPS is 4.0562 and 4.9305 under UK GAAP and IFRS respectively. The increases in the coefficients for BVEPS and NIPS are consistent with the results for the comparison of the adjusted R^2 under UK GAAP and IFRS.

The second value relevance metric is based on the explanatory power from regressions of annual stock return (RET) on net income per share scaled by beginning of year price (NIPS/P), which is based on the Basu (1997) model (Item 4.2 in Table 6-1). Firms with better accounting quality should show a greater association between earnings and share returns. In order to control for the effects of firm based characteristics such as size (SIZE), leverage (LEV) and market to book ratio (MB) on earnings, I first carried out a pooled regression of NIPS/P on the above mentioned three variables and industry fixed effects using Equation 8. The residuals from this first level regression, referred to as NIPS/P* were then regressed on RET using Equation 9. Similar to the previous measure, this regression is carried out twice by pooling the observations under UK GAAP and IFRS. Consistent with the prediction, the adjusted R^2 under IFRS is 0.1177 while it is 0.0597 under UK GAAP and the difference is significant at $p < 0.01$.

If investors value the information provided in the annual reports, there should be a greater association between returns and earnings (Ali and Hwang, 2000). Therefore, the third and final measure of value relevance looks at the explanatory power of earnings on returns. Following Easton and Harris (1991), I investigated the explanatory power of both the level and changes in earnings (represented by NIPS/P and Δ NIPS/P) on returns (RET) (Item 4.23 in Table 6-1). RET was first regressed on industry fixed effects in order to control for mean differences in returns across industries. The residuals from this regression were named RET* and were regressed on net income per share scaled by beginning of year share price (NIPS/P) and change in income per share scaled by beginning of year share price (Δ NIPS/P), as per Equation 10. The results reveal that consistent with the prediction that the adjusted R^2 is higher under IFRS at 0.1673 compared to 0.0654 under UK GAAP and the difference is significant at $p < 0.01$.

Summary of results for H1

Table 6-2 summarises the results for H1 for each of the eight measures of accounting quality.

Table 6-2: Summary of results for H1

Accounting quality measure	H1
<i>Earnings smoothing</i>	
1.1 Variance of Δ NI*	Not supported
1.2 Variance of Δ NI*/ Δ OCF*	Not supported
1.3 Correlation between OCF* and ACC*	Not supported

<i>Managing towards earnings targets</i>	
2.1 Frequency of SPOS	Supported
<i>Timeliness of loss recognition</i>	
3.1 Frequency of LNEG	Not supported
<i>Value relevance</i>	
4.1 P* and accounting numbers	Supported
4.2 NIPS/P* and RET	Supported
4.3 RET* and earnings	Supported

In summary, all three measures for earnings smoothing do not provide an indication that firms are less likely to manage their earnings under IFRS compared to UK GAAP. In addition, the results of the timeliness of loss recognition measure do not provide any evidence that insiders recognise larger negative earnings in a timelier manner post IFRS adoption.

My results are consistent with the results of prior studies on mandatory IFRS adoption such as Jeanjean and Stolowy (2008) who find that the pervasiveness of earnings management (operationalised in terms of small loss avoidance) did not decline after the introduction of IFRS in Australia, France and the UK. Similarly, Callao and Jarne (2010) find that earnings management in terms of the level of discretionary accruals has increased in the UK post IFRS adoption. My results are also consistent with Chen et al. (2010) who looked at listed firms in 15 EU member states and find that earnings smoothing in terms of the variance of ΔNI^* increased after the adoption of IFRS. In addition, the authors find that timeliness of loss recognition operationalised in terms of the frequency of LNEG decreased post IFRS adoption. My results are also similar to that of Devalle et al. (2010) who did not find a reduction in earnings smoothing (Variance of ΔNI^*) or an increase in the timeliness of loss recognition (LNEG) for firms from the UK, Germany, Italy, France and Spain post IFRS adoption. Likewise Ahmed et al. (2012) examined the accounting quality of firms from 20 countries including the UK. The authors found that income smoothing (operationalised in terms of variance of ΔNI^* , variance of $\Delta NI^*/\Delta OCF^*$, correlation between OCF^* and ACC^*) increased post IFRS adoption. The results of Ahmed et al. (2012) also reveal that the timeliness of loss recognition decreased post IFRS adoption.

However, the results of the earnings management and timeliness of loss recognition measures in my study are inconsistent with Iatridis (2010) who looked at the effects of IFRS adoption for 241 UK firms based on data from 2004 (pre adoption period) and

2005 (post adoption). Iatridis (2010) finds that post IFRS adoption earnings management declined and timeliness of loss recognition improved. Earnings management is measured using the volatility in earnings, volatility in earnings compared to cash flows and levels of discretionary accruals. However, Iatridis (2010) does not explain the methods used to operationalise the volatility of earnings measures. Timeliness of loss recognition was calculated in terms of the frequency of LNEG. The differences in the results between Iatridis (2010) and my thesis could be attributable to variations in the measures used and the way they are operationalised, time periods under analysis and the number of sample firms.⁶⁰

There are several reasons why the results in my thesis for the timeliness of loss recognition measure may not support the prediction. Using data from 1985-1995, Ball et al. (2000) show that UK firms had timely recognition of losses even prior to the adoption of IFRS. Hence the incremental effect of IFRS adoption on managers' incentives to recognise losses may not be significant. Also the recognition of large losses could in fact be indicative of lower accounting quality. For example, Kirschenheiter and Melumad (2002) find that for sufficiently 'bad' news, the managers prefer to take a 'big bath' and minimise earnings (that is maximise losses) in the current period. This increases their ability to report profits in future periods. Therefore, a higher frequency of larger negative losses would in fact not be representative of better accounting quality. Another possible explanation is that the introduction of IFRS may have caused reductions in earnings smoothing and improvements in the timeliness of loss recognition in specific areas (such as the reporting of financial instruments and intangible assets) that are not observable in the results for the full sample. This underscores the importance of investigating specific mechanisms by which IFRS may cause accounting quality to improve.

My results for the management towards earnings targets supports H1 and is consistent with Chen et al. (2010) because they find a reduction in the frequency of small positive net incomes (SPOS) post IFRS adoption. In addition, the results for all three measures

⁶⁰For example, my study has five years of observations under UK GAAP and four years under IFRS while Iatridis (2010) has one year under each time period. My study has 495 firms in the final sample and included firms from the Financials industry while Iatridis (2010) has 241 firms and excluded Financials firms.

of value relevance in my study revealed that there is a closer association between accounting numbers and market measures under IFRS. This is indicative of improvement in the usefulness of financial information provided to investors. My results for the value relevance measures are consistent with the findings of Devalle et al. (2010) report that the influence of earnings and book value of equity on market measures such as share price and returns increased in the UK post IFRS adoption. Using panel-data regression analysis and a Chow test for structural breaks, the authors were able to conclude that the increases in the value relevance observed in the UK were attributable to the adoption of IFRS rather than to other factors. Iatridis (2010) also find improvements in value relevance post IFRS adoption for UK firms. Value relevance is operationalised in terms of the explanatory power (R^2) and coefficients obtained from regressions of share price on book value of equity per share, net profit per share and earnings per share on returns.

In summary, for the full sample of 495 UK firms used in my thesis, there is evidence that accounting quality improved post IFRS adoption with respect to managing towards earnings targets and value relevance. However, there is no evidence that accounting quality improved with regards to earnings smoothing and timeliness of loss recognition. A reason that all eight of the accounting quality measures did not show uniform increases in accounting quality could be due to the high quality of UK GAAP that was applied by UK firms prior to the adoption of IFRS. UK GAAP was considered to be one of the highest quality sets of national standards in the world (Horton and Serafeim, 2009; Benston et al., 2006). In addition, the actual number of differences between IFRS and UK GAAP is minor compared to countries such as Germany and France (Bae et al., 2008). Therefore, the scope for IFRS to improve accounting quality of UK firms may have been limited. Furthermore, each of the measures that I use in my thesis captures different aspects of accounting quality and it is reasonable to assume that the effect of IFRS on each of these measures will not be uniform (Dechow, Ge and Schrand, 2010). In the next sections I investigate mechanisms that may cause accounting quality of UK firms to improve post IFRS adoption.

6.3 FAIR VALUE MEASUREMENT AND EXTENSIVE DISCLOSURE REQUIREMENTS

As stated in Chapter 4, for H2 I predict that accounting quality post IFRS adoption improved due to the greater use of fair values and disclosure. The proxies I use to test H2 are financial assets, financial liabilities and intangible assets. The results for each of these proxies are discussed below.

6.3.1 Financial assets

UK GAAP mainly relied on historical cost measures and there was no comprehensive standard that covered financial assets (Nobes, 2001). In contrast by 2005, the IASB had issued two standards relating to financial instruments: IAS 39 and IAS 32, that require greater use of fair value measurement and associated more extensive disclosure requirements compared to UK GAAP (Cairns and Nobes, 2000; Gee, 2006). I presented a detailed discussion of the differences in the measurement and disclosure of financial assets under IFRS and UK GAAP in Chapter 4.

In Chapter 5 (Section 5.4.2.1), I explained how firms were categorised into FA High and FA Low groups based on whether they had higher than median derivate assets scaled by total assets (FA High), or otherwise (FA Low). Thereby, the final sample of 495 firms was broken down into 198 FA High firms and 297 FA Low firms.

Under UK GAAP, derivative assets were usually recorded initially at historical cost which was often nil (Panaretou et al., 2012). In contrast, IAS 39 classifies derivative assets which are not designated as hedging instruments as held for trading financial assets. The initial recognition on the balance sheet and subsequent measurement of the resulting assets and liabilities at each financial year end of held for trading financial assets are to be at fair value with all gains and losses recognised in profit and loss. Therefore, IFRS requires greater use of fair value measurement and more disclosure of derivatives compared to UK GAAP (Cairns and Nobes, 2000; Gee, 2006). Compliance with the IFRS requirements may increase the volatility of firms' earnings, thereby reduce their ability to smooth and manage earnings. In addition, the IFRS requirements should increase the timeliness of loss recognition as well as improve the value relevance of accounting information in the balance sheet.

As the FA High firms would be more affected by the greater use of fair value measurement and associated more extensive disclosure requirements for financial assets imposed by IFRS, H2 is supported if FA High firms show greater improvements in accounting quality compared to FA Low firms. Therefore, Table 6-3 presents the results for pre-post accounting quality comparisons for FA High and FA Low firms.

Table 6-3: Comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median financial assets (FA High) and lower than median financial assets (FA Low)

	<i>FA High</i> (N=198)				<i>FA Low</i> (N=297)			
<i>Panel A: Earnings smoothing</i>	Prediction	UK GAAP	IFRS	z- score	Prediction	UK GAAP	IFRS	z- score
		(n=198)	(n=198)			(n=297)	(n=297)	
1.1 Variance of Δ NI*	UK GAAP < IFRS	0.0009	0.0008	1.927 ^(a)	no difference	0.0013	0.0015	0.413
1.2 Variance of Δ NI*/ Δ OCF*	UK GAAP < IFRS	0.9474	1.0958	0.025	no difference	0.1822	1.0065	1.362
		(n=955)	(n=737)			(n=1,401)	(n=1,086)	
1.3 Correlation between OCF* and ACC*	UK GAAP < IFRS	-0.5950	-0.5850	0.312	no difference	-0.4220	-0.5230	3.220 ^{###}
<i>Panel B: Managing towards earnings targets</i>	Prediction	Coefficient		Wald- stat	Prediction	Coefficient		Wald- stat
		(n=1,692)				(n=2,487)		
2.1 Frequency of SPOS	Negative	-0.3460		2.727 ^{**}	no difference	-0.1900		1.477
<i>Panel C: Timeliness of loss recognition</i>	Prediction	Coefficient		Wald- stat	Prediction	Coefficient		Wald- stat
		(n=1,692)				(n=2,487)		
3.1 Frequency of LNEG	Positive	0.3010		0.473	no difference	-0.0870		0.164
<i>Panel D: Value relevance</i>	Prediction	UK GAAP	IFRS	z- score	Prediction	UK GAAP	IFRS	z- score
Adjusted R ² for association between:		(n=955)	(n=737)			(n=1,401)	(n=1,086)	
4.1 P* and accounting numbers	UK GAAP < IFRS	0.3080	0.4693	35.962 ^{***}	no difference	0.4063	0.5583	45.724 ^{###}
4.2 NIPS/P* and RET	UK GAAP < IFRS	0.0669	0.1043	8.653 ^{***}	no difference	0.0546	0.1234	23.284 ^{###}
4.3 RET* and earnings	UK GAAP < IFRS	0.0622	0.2021	37.552 ^{***}	no difference	0.0661	0.1520	34.565 ^{###}

This table presents results for the comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median financial assets scaled by total assets (FA High) to firms which have lower than median financial assets scaled by total assets (FA Low). Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). There are 198 firms with higher than median financial assets (FA High) and 297 firms with lower than median financial assets (FA Low). The detailed calculation of each of the accounting quality measures are shown in Table 6-1.

In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented under UK GAAP and IFRS and the z-score for Wilcoxon rank sum test for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) (Item 2.1) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) (Item 3.1) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score for the Cramer's test (1987) for the differences in R².

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). ###significant at the $p < 0.01$ level (two-tailed). ^(a)significant but contrary to the prediction.

Earning smoothing

Panel A of Table 6-3 reports the results of accounting quality metrics that relate to earnings smoothing. The first metric for earnings smoothing is the variability of ΔNI^* . A higher variance for ΔNI^* indicates that firms are less likely to smooth their earnings, thereby having better accounting quality (Item 1.1 in Table 6-3). Thus, I predicted that FA High firms will have a higher variability of ΔNI^* under IFRS compared to UK GAAP, while FA Low firms will show no difference. Using the method detailed in Chapter 5 (Section 5.6.1) I calculated the cross sectional variation of ΔNI^* for each firm by pooling the relevant observations for ΔNI^* for the five years under UK GAAP and four years under IFRS. Thereby, I obtained the variability of ΔNI^* for each firm under UK GAAP and another under IFRS (hence the values for 'n' presented in Table 6-3 for Item 1.1 is equal to the number of firms in each group under analysis). Then I calculated the median of the variability of ΔNI^* under UK GAAP and IFRS for the FA High and the FA Low firms. I carried out a Wilcoxon rank sum test to investigate whether the medians under UK GAAP and IFRS are different. The Wilcoxon rank sum test is carried out separately for the FA High and the FA Low firms. Table 6-3 presents the median values for the variance of ΔNI^* and the z-score for the Wilcoxon rank sum test for differences in medians. The results do not support H2 as the FA High firms show a lower variance under IFRS at 0.0008 compared to 0.0009 under UK GAAP ($p < 0.05$). The FA Low firms do not show a significant difference in the variance of ΔNI^* between the two periods.

The second earnings smoothing measure looks at the variance of $\Delta NI^*/\Delta OCF^*$ (Item 1.2 in Table 6-3). A higher variance is indicative of less earnings smoothing and better accounting quality. The variance of $\Delta NI^*/\Delta OCF^*$ was calculated in a similar manner to the previous measure, with the added step of scaling ΔNI^* by ΔOCF^* to take into account the effects of changes in cash flows on the volatility of earnings. Although the variability of $\Delta NI^*/\Delta OCF^*$ is higher for the FA High firms under IFRS at 1.0958, compared to 0.9474 under UK GAAP, the difference in medians is not significant. The FA Low firms do not show a significant difference in the variance of $\Delta NI^*/\Delta OCF^*$ between the two periods. Therefore the results do not support H2.

The next measure of earnings management investigates the correlation between cash flows (OCF*) and accruals (ACC*) (Item 1.3 in Table 6-3). A higher negative correlation is indicative of earning smoothing and lower accounting quality. Therefore I predicted that FA High firms will display a less negative relationship between accruals and cash flows under IFRS compared to UK GAAP, while the FA Low firms will not show a significant difference. Panel A of Table 6-3 presents the correlation coefficients for the Spearman rank correlation under IFRS and UK GAAP and the z-score for the difference in correlation coefficients. The results do not support H2. Although the FA High firms show a smaller negative correlation coefficient under IFRS at -0.5850 compared to -0.5950 under UK GAAP, the difference is not significant.

In summary, all three of the earnings smoothing measures do not show greater reductions in earnings management by the FA High firms compared to the FA Low firms. Thus I do not find evidence that the greater use of fair values and more disclosure required by IAS 39 and IAS 32 has resulted in a beneficial outcome to investors in terms of lower earnings smoothing and in turn, better accounting quality. However, if the FA High firms had better accounting quality than the FA Low firms prior to the adoption of IFRS, then the scope of IFRS to further improve their reporting practices, and thus accounting quality, may be limited.

Therefore, I investigated whether the FA High firms displayed better accounting quality compared to FA Low firms prior to the adoption of IFRS. The results of the robustness checks (presented in Panel A of Table 6-4) reveal that FA High firms in fact had a lower variance of ΔNI^* and a more negative correlation between ACC^* and OCF^* (indicative of lower accounting quality) compared to the FA Low firms under UK GAAP and continued to do so under IFRS. The results of the variability of $\Delta NI^*/\Delta OCF^*$ showed no significant difference between the two groups of firms under UK GAAP or IFRS. Therefore, there is no evidence that the FA High firms had lower earnings smoothing, thus better accounting quality under UK GAAP. In fact, the robustness tests reveal that FA High firms persistently show higher levels of earnings smoothing in the areas of variance of ΔNI^* and correlation between ACC^* and OCF^* . This is consistent with Barton (2001) who revealed that insiders use derivatives to smooth earnings.

Table 6-4: Robustness comparison of accounting quality between firms with higher than median financial assets (FA High) to lower than median financial assets (FA Low), under IFRS and UK GAAP

	UK GAAP				IFRS			
	Prediction	FA High (n=198)	FA Low (n=297)	z- score	Prediction	FA High (n=198)	FA Low (n=297)	z- score
Panel A: Earnings smoothing								
1.1 Variance of Δ NI*	no difference	0.0009	0.0013	2.773 ^{###}	FA High>FA Low	0.0008	0.0015	4.755 ^(a)
1.2 Variance of Δ NI*/ Δ OCF*	no difference	0.9474	1.1822	0.652	FA High>FA Low	1.0958	1.0065	0.166
1.3 Correlation between OCF* and ACC*	no difference	-0.5950	-0.4220	5.598 ^{###}	FA High>FA Low	-0.5850	-0.5230	1.873 ^(a)
Panel B: Managing towards earnings targets								
			Coefficient (n=2,356)	Wald- stat			Coefficient (n=1,823)	Wald- stat
2.1 Frequency of SPOS	no difference		-0.2790	1.869	Negative		-0.1060	0.175
Panel C: Timeliness of loss recognition								
			Coefficient (n=2,356)	Wald- stat			Coefficient (n=1,823)	Wald- stat
3.1 Frequency of LNEG	no difference		-0.8050	6.293 ^{###}	Positive		-0.8770	12.152 ^(a)
Panel D: Value relevance								
				z- score				z- score
Adjusted R ² for association between:		(n=955)	(n=1,401)			(n=737)	(n=1,086)	
4.1 P* and accounting numbers	no difference	0.3080	0.4063	31.470 ^{###}	FA High>FA Low	0.4693	0.5583	19.237 ^(a)
4.2 NIPS/P* and RET	no difference	0.0669	0.0546	3.854 ^{###}	FA High>FA Low	0.1044	0.1234	4.571 ^(a)
4.3 RET* and earnings	no difference	0.0622	0.0661	1.502	FA High>FA Low	0.2021	0.1520	13.782 ^{***}

This table presents results for the comparison of accounting quality between the 198 firms with higher than median financial assets scaled by total assets (FA High) and the 297 firms which have lower than median financial assets scaled by total assets (FA Low), under IFRS and UK GAAP. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The detailed calculation of each of the accounting quality measures are shown in Table 6-1.

In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented for the FA High and the FA Low firms and the z-score for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score fore the Cramer's test (1987) for the differences in R².

^{###}significant at the $p < 0.01$ level (two-tailed).^{***}significant at the $p < 0.01$ level (one-tailed). ^{**}significant at the $p < 0.05$ level (one-tailed). ^(a)significant but contrary to the prediction.

Managing towards earnings targets

The next accounting quality measure is the frequency of small positive net income (SPOS) (Item 2.1 in Table 6-3). SPOS is an indicator set to one when annual earnings scaled by total assets is between 0.00 and 0.01 and zero otherwise. A negative coefficient for SPOS indicates that firms manage their earnings towards small positive earnings targets less frequently under IFRS compared to UK GAAP. The coefficient for SPOS and the Wald statistic are presented in Panel B of Table 6-3. The results are consistent with the prediction, because the coefficient for SPOS for FA High firms is negative (-0.3460) and significant at the $p < 0.01$ level. In addition the results for FA Low firms do not reveal any changes in the frequency of SPOS under UK GAAP and IFRS. Taken together these results support H2 as they reveal FA High firms show a greater reduction in managing towards earnings targets, indicating an improvement in accounting quality post IFRS adoption, compared to the FA Low firms.

Timeliness of loss recognition

Panel C of Table 6-3 provides the results for timeliness of loss recognition that is measured in terms of the frequency of large negative net income (LNEG) (Item 3.1 in Table 6-3). A positive coefficient for LNEG indicates that firms recognise large losses more frequently, thereby display better accounting quality, under IFRS compared to UK GAAP. The coefficient for LNEG and the Wald statistic are presented in Panel C of Table 6-3. While the sign of the coefficient for LNEG for the FA High firms is positive at 0.3010, the Wald statistic is not significant. Therefore, the results for LNEG do not support the prediction that firms will recognise large losses in a timelier manner under IFRS. In addition, the results for robustness tests (presented in Panel C of Table 6-4) reveal that FA High firms in fact had a significantly lower frequency of LNEG compared to the FA Low firms under UK GAAP, and continued to do so under IFRS.

Mayers and Smith (1982) and Smith and Stulz (1985) state that hedging decreases the probability that firms will encounter financial distress, by reducing the variability of earnings. Iatridis (2012) shows that UK firms use derivatives for hedging as a substitute for earnings management in order insulate themselves from falls in prices on the value of their underlying assets. Iatridis (2012) also finds that the transition to IFRS has affected earnings of hedgers in a significantly positive manner compared to non-hedgers. Sample firms in my thesis were grouped in the FA High and FA Low

categories based on their levels of derivative assets. Therefore, if FA High firms used derivatives hedging to reduce the risk of price falls on the value of their underlying assets, it would explain why they exhibit persistently low levels of large losses compared to the FA Low firms.

Value relevance

The main results for the value relevance measures are presented in Panel D of Table 6-3. For each of the value relevance measures, I compared the adjusted R^2 of the corresponding regressions between IFRS and UK GAAP using Cramer's Test (1987). A higher adjusted R^2 is indicative of a better association between earnings and market measures (such as share prices), thereby greater value relevance and accounting quality because higher quality accounts should better reflect a firm's underlying economics (Barth et al., 2008). H2 is supported if FA High firms show greater improvements in value relevance than the FA Low firms. Panel D of Table 6-3 presents the adjusted R^2 and the z-scores for Cramer's test (1987).

The first value relevance metric compares the explanatory power (adjusted R^2) from a regression of share prices (P) on book value of equity per share (BVEPS) and net income per share (NIPS) (Item 4.1 in Table 6-3). Consistent with the prediction, the adjusted R^2 for the FA High firms is higher under IFRS at 0.4693, compared to 0.3080 under UK GAAP and the difference is significant at $p < 0.01$. However, the results for the FA Low firms also indicate that their value relevance has increased to 0.5583 under IFRS compared to 0.4063 under UK GAAP ($p < 0.01$). This indicates that while accounting amounts such as NIPS and BVEPS have greater predictive ability and are more value relevant to investors under IFRS compared to UK GAAP, these changes are not associated with the greater fair value measurement and more extensive disclosure specifically relating to financial assets. This conclusion is supported by the results of the robustness tests (Item 4.1 in Table 6-4). These results reveal that FA High firms had significantly lower value relevance compared to FA Low firms under UK GAAP and continue to do so under IFRS.

The second value relevance metric is based on the explanatory power from a regression of net income per share scaled by beginning of year price (NIPS/P) on annual stock return (RET) based on the Basu (1997) model (Item 4.2 in Table 6-3).

Consistent with the prediction, the adjusted R^2 for the FA High group is higher under IFRS at 0.1043 while it is 0.0669 under UK GAAP and the difference is significant at $p < 0.01$. However, the results for the FA Low firms also indicate a higher R^2 under IFRS at 0.1234 compared to 0.0546 under UK GAAP ($p < 0.01$). The robustness tests ((Item 4.2 in Table 6-4), reveal that FA High firms had a significantly higher adjusted R^2 (0.0669) compared to FA Low firms (0.0546) under UK GAAP ($p < 0.01$), but under IFRS this was reversed, whereby FA High firms had significantly lower adjusted R^2 (0.1044) compared to FA Low firms (0.1234) ($p < 0.01$). Taken together these results do not support H2 because they do not show greater improvements in value relevance for the FA High firms compared to the FA Low firms.

The final measure of value relevance looks at the explanatory power of the level and changes in earnings (represented by NIPS/P and Δ NIPS/P) on returns (RET) (Item 4.3 in Table 6-3). The adjusted R^2 for the FA High group is higher under IFRS at 0.2021 while it is 0.0622 under UK GAAP and the difference is significant at $p < 0.01$. The results for the FA Low firms also indicate a higher adjusted R^2 under IFRS at 0.1520 compared to 0.0661 under UK GAAP ($p < 0.01$). The robustness tests (Item 4.3 in Table 6-4) reveal that there was no significant difference in the adjusted R^2 between the FA Low (0.0661) and FA High firms (0.0622) under UK GAAP. However, under IFRS, the FA High firms have a significantly higher adjusted R^2 of 0.2021 compared to 0.1520 in the FA Low firms ($p < 0.01$). This indicates that the association between earnings and returns improved more for FA High firms. This supports H2 and indicates that improvements specifically relating to greater fair value measurement and associated more extensive disclosures about financial assets are associated with improvements in value relevance and therefore accounting quality post IFRS adoption. A defining characteristic of this value relevance measure (compared to the previous two measures which did not support H2) is that it includes independent variables that captures at not only the level (represented by NIPS/P) but also changes in earnings (represented by Δ NIPS/P). Easton and Harris (1991) demonstrated the importance of looking at the changes in earnings when analysing the relationship between returns and earnings. Subsequently Alford et al., (1993), Amir et al., (1993) and Ali and Hwang (2000) have used this model, but to my knowledge it has not been used in studies related to accounting quality prior to my thesis.

Summary of results for H2 with the proxy of financial assets

For H2, I predicted that accounting quality post IFRS adoption improved due to the greater use of fair values and disclosure. The following table summarises the results for H2, using the financial assets proxy, for each of the eight measures of accounting quality. H2 is supported if FA High firms show greater improvements in accounting quality compared to FA Low firms.

Table 6-5: Summary of results for H2 with the proxy of financial assets

Accounting quality measure	H2 is supported/ not supported
<i>Earnings smoothing</i>	
1.1 Variance of ΔNI^*	Not supported
1.2 Variance of $\Delta NI^*/\Delta OCF^*$	Not supported
1.3 Correlation between OCF^* and ACC^*	Not supported
<i>Managing towards earnings targets</i>	
2.1 Frequency of SPOS	Supported
<i>Timeliness of loss recognition`</i>	
3.1 Frequency of LNEG	Not supported
<i>Value relevance</i>	
4.1 P^* and accounting numbers	Not supported
4.2 $NIPS/P^*$ and RET	Not supported
4.3 RET^* and earnings	Supported

In summary, the results for the earnings smoothing and timeliness of loss recognition measures do not provide evidence that FA High firms show a greater increase in accounting quality compared to the FA Low firms. Similarly the results for the P^* and accounting numbers, and $NIPS/P^*$ and RET measures of value relevance do not support H2. The results for these measures may not support H2 because firms may not have improved their level of disclosure of financial assets post IFRS adoption. This could be because they do not understand the requirements in IAS 39 or IAS 32 or problems with the requirements in the standards.⁶¹

Another reason the earnings smoothing and the timeliness of loss recognition measures do not support H2 may be due to the greater use of hedging by the FA High firms. Hedging is used by firms to reduce the risk of adverse price changes in an underlying asset by taking an offsetting position. For example, if a firm has a risky asset and

⁶¹Due to concerns raised about disclosure requirements of IAS 32, the IASB introduced IFRS 7 *Financial Instruments: Disclosures* in 2007. The disclosure requirements under IFRS 7 are perceived to be higher than the previous standard (Bischof, 2009). However, this thesis does not effectively capture the effects of IFRS 7 as it only became effective for fiscal periods beginning on or after 1 January 2007 and my sample period ends in mid 2009.

wishes to minimise this risk, the risk may be hedged by acquiring an asset (or the option to acquire an asset) whose value moves in the opposite direction (Scott, 2009, p. 243-244). Firms often use derivatives for hedging and risks that firms generally wish to hedge against include foreign exchange rates, commodity prices and interest rates (Chalmers and Godfrey, 2000). A hedge that perfectly matched the exposure of the underlying asset would no longer affect the net income figure (Duh, Hsu and Alves, 2012). Based on data from 2005-2008, Iatridis (2012) finds that UK firms use hedging as a substitute for earnings management in order to minimise variations in earnings.⁶² In addition, Beisland (2010) reveals that during times of high volatility (such as the GFC period) firms are more likely to engage in hedging. Therefore, if the FA High firms were hedging their assets with an offsetting position, then their earnings would be less volatile and they are less likely to incur large losses. Thus, results of earnings smoothing measures may not support the hypothesis as the use of derivatives for hedging by the FA High firms may prevent any increases in the volatility of earnings or instances of large losses.

The results for the managing towards earnings targets measure (Item 3.1) supports H2 and shows that FA High firms have reduced their management of earnings towards targets more than the FA Low firms. Recall that the results for H1 (Table 6.1, Panel C), where the full sample of 495 firms were analysed, showed that UK firms display a significant reduction in management of earnings towards targets under IFRS compared to UK GAAP. The results for H2 indicate that the greater use of fair values and more extensive disclosure requirements imposed by IFRS for financial assets may have contributed to the reduction in the management towards earnings targets, thereby better accounting quality, observed for the full sample.

⁶²Iatridis (2012) investigated characteristics displayed by UK firms that hedge (hedgers) compared to firms that do not (non hedgers). He finds that hedgers are larger in size and have higher levels of leverage, growth, liquidity and profitability. Table 1 in Appendix B presents descriptive statistics for the test and control variables comparing the FA High firms to the FA Low firms. The median market value of equity (size) of FA High firms is £0.633 billion compared to £0.117 billion for the FA Low firms ($p < 0.01$). The median leverage of FA High and FA Low firms is 1.681 and 0.737 respectively ($p < 0.01$). FA High firms also have higher levels of growth with a median level of 8.2 percent compared to 6.6 percent for the FA Low firms ($p < 0.01$). The level of operating cash flows scaled by total assets (OCF) is used as a proxy for liquidity by Iatridis (2012). The median value of OCF for FA High firms is 0.080 and 0.049 for FA Low firms ($p < 0.01$). Net income per share (NIPS) provides an indication of firm profitability and the median value of NIPS for FA High firms is 0.183 compared to 0.074 for FA Low firms ($p < 0.01$). Therefore, the FA High firms in my study display the characteristics of larger size and higher levels of leverage, growth, liquidity and profitability observed by Iatridis (2012) in the hedgers. Indirectly this may provide some evidence that the FA High firms in my study are more likely to be engaging in hedging compared to the FA Low firms.

The results for all of the value relevance measures, presented in Panel D of Table 6-3, consistently show improvements in accounting quality for both FA High and FA Low firms. However, only the third value relevance measure, where the relationship between RET* and earnings is analysed (Item 4.3), supports H2 because it shows greater improvements in value relevance for FA High firms compared to FA Low firms. The results for H1 show improvements in value relevance in the full sample of firms post IFRS adoption for Item 4.3 (Table 6-1, Panel D). The results for Item 4.3 in H2 indicates that the greater use of fair values and more extensive disclosure requirements imposed by IFRS for financial assets may have contributed to the results observed for the full sample.

6.3.2 Financial liabilities

In Chapter 5 I explained how firms were categorised into FL High and FL Low groups based on whether they had higher than the median level of derivative liabilities scaled by total assets. Consequently the final sample of 495 firms is broken down into 209 FL High firms and 286 FL Low firms. In Chapter 4 (Section 4.3.1.1) I provide a detailed discussion of the different treatment of financial liabilities under IFRS and UK GAAP.

While the treatment of derivative assets and liabilities under IAS 39 is similar, it is important to analyse their accounting quality implications separately. This is because firms are more reluctant to recognise financial liabilities compared to financial assets in their balance sheets as recognising additional liabilities may put them in breach of debt covenants or increase their risk profile and in turn, their cost of capital (DeFond and Jiambalvo, 1994). Therefore, the incentives of firms to recognise financial assets and liabilities and consequently their level of compliance with IAS 39 may vary, thus influencing accounting quality. In addition, as stated in Chapter 5, the correlation between financial assets scaled by total assets and financial liabilities scaled by total assets variables is moderate at 60%. Therefore, firms that have financial assets do not necessarily have high levels of financial liabilities. This highlights the importance of testing for changes in accounting quality due to the greater use of fair value measurement and disclosure of financial assets and liabilities independently due to differences in the incentives and types of firms holding these financial instruments.

As noted previously, IFRS requires more fair value measurement and associated more extensive disclosure requirements for financial liabilities compared to UK GAAP. Therefore, H2 will be supported if FL High firms show greater improvements in accounting quality, post IFRS adoption, compared to FL Low firms. Table 6-6 presents the results for the UK GAAP and IFRS comparisons for the FL High and FL Low firms.

Earning smoothing

Panel A of Table 6-6 provides information on the results of accounting quality metrics relating to earnings smoothing. The first metric for earnings management is the variability of ΔNI^* (Item 1.1). A higher variance for ΔNI^* indicates that the firms are less likely to smooth their earnings, therefore have better accounting quality. Accordingly, I predicted that FL High firms will display greater increases in the variability of ΔNI^* post IFRS adoption compared to the FL Low firms. Contrary to the prediction, the variance of ΔNI^* is lower under IFRS at 0.0008 and 0.0012 under UK GAAP ($p < 0.05$). The results for the FL Low firms show no significant difference in the variance of ΔNI^* between the two time periods. Therefore, H2 is not supported for the variability of ΔNI^* measure of earnings smoothing.

The next earnings smoothing measure is the variance of $\Delta NI^*/\Delta OCF^*$ (Item 1.2 in Table 6-6). Similar to the previous measure, a higher variance is indicative of less earnings smoothing and better accounting quality. H2 is supported if FL High firms display greater increases in the variability of $\Delta NI^*/\Delta OCF^*$ post IFRS adoption compared to the FL Low firms. The results presented in Panel A of Table 6-6 do not support H2 as the variance of $\Delta NI^*/\Delta OCF^*$ is lower under IFRS at 0.9937 compared to 1.1866 UK GAAP, and the difference is not significant. The FL Low firms show a decrease in the variance of $\Delta NI^*/\Delta OCF^*$ where it is 1.1777 under UK GAAP and 0.9269 under IFRS ($p < 0.10$).

Table 6-6: Comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median financial liabilities (FL High) and lower than median financial liabilities (FL Low).

	<i>FL High</i> (n=209)				<i>FL Low</i> (n=286)			
Panel A: Earnings smoothing								
	Prediction	UK GAAP	IFRS	z- score	Prediction	UK GAAP	IFRS	z- score
		(n=209)	(n=209)			(n=286)	(n=286)	
1.1 Variance of Δ NI*	UK GAAP < IFRS	0.0012	0.0008	2.138**	no difference	0.0012	0.0017	0.180
1.2 Variance of Δ NI*/ Δ OCF*	UK GAAP < IFRS	1.1866	0.9937	0.154	no difference	1.1777	0.9269	1.777#
		(n=999)	(n=782)			(n=1,086)	(n=1,401)	
1.3 Correlation between OCF* and ACC*	UK GAAP < IFRS	-0.5370	-0.5390	0.0588	no difference	-0.4630	-0.5400	2.497###
Panel B: Managing towards earnings targets								
	Prediction	Coefficient		Wald- stat	Prediction	Coefficient		Wald- stat
		(n=1,781)				(n=2,398)		
2.1 Frequency of SPOS	Negative	-0.5110		6.203***	no difference	0.006		0.002
Panel C: Timeliness of loss recognition								
	Prediction	Coefficient		Wald- stat	Prediction	Coefficient		Wald- stat
		(n=1,781)				(n=2,398)		
3.1 Frequency of LNEG	Positive	-0.7110		2.514 ^(a)	no difference	0.178		0.652
Panel D: Value relevance								
	Prediction	UK GAAP	IFRS	z- score	Prediction	UK GAAP	IFRS	z- score
		(n=999)	(n=782)			(n=1,357)	(n=1401)	
R ² for association between:								
4.1 P* and accounting numbers	UK GAAP < IFRS	0.3014	0.4614	37.928***	no difference	0.4177	0.5791	45.786###
4.2 NIPS/P* and RET	UK GAAP < IFRS	0.0508	0.0760	6.202***	no difference	0.0611	0.1539	29.979###
4.3 RET* and earnings	UK GAAP < IFRS	0.0591	0.1494	26.126***	no difference	0.0659	0.1923	48.141###

This table presents results for the comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median financial liabilities scaled by total assets (FL High) to firms which have lower than median financial liabilities scaled by total assets (FL Low). Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The detailed calculation of each of the accounting quality measures are shown in Table 6-1.

In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented under UK GAAP and IFRS and the z-score for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score for the Cramer's test (1987) for the differences in R².

The significance of the differences in adjusted R² for the value relevance measures in Panel D are tested using Cramer's test (1987). ***significant at the $p < 0.01$ level (one-tailed).

**significant at the $p < 0.05$ level (one-tailed). *significant at the $p < 0.10$ level (one-tailed). ###significant at the $p < 0.01$ level (two-tailed). ##significant at the $p < 0.05$ level (two-tailed).

#significant at the $p < 0.10$ level (two-tailed). ^(a)significant but contrary to the prediction.

The next measure of earnings management investigates the correlation between cash flows (OCF*) and accruals (ACC*) (Item 1.3 in Table 6-6). I first carried out regressions of OCF and ACC on relevant control variables (such as size and leverage) and name the residuals OCF* and ACC*. I calculated the correlation between the two variables by pooling the observations under each time period. A larger negative correlation is indicative of earning smoothing and lower accounting quality. Therefore I predicted that FL High firms will display a smaller negative relationship between accruals and cash flows under IFRS compared to UK GAAP, while the FA Low firms will show no significant difference. Panel A of Table 6-6 presents the correlation coefficients for the Spearman rank correlation and the z-score for the test of differences in correlations. The results do not support H2 as the correlation coefficient for the FL High firms is more negative under IFRS at -0.5390 compared to -0.5370 under UK GAAP, and the difference is not significant.

In summary, all three of the earnings smoothing tests do not support H2 as they do not provide any evidence that IFRS is associated with improvements in accounting quality due to better measurement and disclosure of financial liabilities during the sample period. In addition, robustness checks were carried out to ensure that FL High firms did not display lower earnings smoothing, therefore better accounting quality, compared to FL Low firms prior to the adoption of IFRS. Results are presented in Table 6-7. The robustness checks reveal there was no significant difference in the variance of ΔNI^* and variance of $\Delta NI^*/\Delta OCF^*$ between FL High and FL Low firms under UK GAAP. In addition, under UK GAAP the correlation between ACC* and OCF* is more negative for the FL High firms at -0.5370 compared to -0.4670 for the FL Low firms, which is indicative of higher earnings smoothing and lower accounting quality. The results under IFRS for all three earnings smoothing measures presented in Table 6-7, show that FL High firms do not have lower earnings smoothing compared to the FL Low firms. Thus, the robustness checks further confirm the results reported for H2 in the preceding paragraphs. In essence, the results for the earnings smoothing measures based on the proxy of financial liabilities are similar to those based on financial assets.

Managing towards earnings targets

The frequency of small positive net income (SPOS) is the next accounting quality measure. The results for the UK GAAP and IFRS comparison is presented in Table 6-6 (Item 2.1). A negative coefficient for SPOS indicates that firms manage their earnings towards small positive earnings targets less frequently under IFRS compared to UK GAAP, which is indicative of higher accounting quality. The coefficient of SPOS and the Wald statistic are presented in Panel B of Table 6-6. The results are consistent with the prediction because the coefficient of SPOS for FL High firms is negative (-0.5110) and significant at the $p < 0.01$ level. In addition the results for FL Low firms do not reveal a significant change in the frequency of SPOS under UK GAAP and IFRS. Taken together these results support H2 they reveal that FL High firms show a greater reduction in managing towards earnings targets, thereby an improvement in accounting quality, post IFRS adoption compared to the FL Low firms.

Timeliness of loss recognition

Panel C of Table 6-6 provides the results for the UK GAAP and IFRS comparison for the timeliness of loss recognition measure, which is operationalised in terms of the frequency of large negative net income (LNEG) (Item 3.1). A positive coefficient for LNEG indicates that firms recognise large losses more frequently under IFRS, therefore accounting quality is better. The coefficient for LNEG and the Wald statistic are presented in Panel C of Table 6-6. Contrary to the prediction, the coefficient of LNEG for FL High firms is negative at -0.7110. Therefore, the results for LNEG do not support the prediction that FL High firms will recognise large losses in a timelier manner under IFRS compared to UK GAAP. These results are confirmed by the findings from the robustness tests (Table 6-7), whereby the coefficient for LNEG is negative under both UK GAAP and IFRS (indicating that FL High firms recognise large losses less frequently than the FL Low firms).

Table 6-7: Robustness comparison of accounting quality between firms with higher than median financial liabilities (FL High) and lower than median financial liabilities (FL Low), under IFRS and UK GAAP

	<i>UK GAAP</i>				<i>IFRS</i>			
	Prediction	FL High (n=209)	FL Low (n=286)	z- score	Prediction	FL High (n=209)	FL Low (n=286)	z- score
Panel A: Earnings smoothing								
1.1 Variance of Δ NI*	no difference	0.0012	0.0012	1.083	FL High>FL Low	0.0008	0.0017	4.020***
1.2 Variance of Δ NI*/ Δ OCF*	no difference	1.1866	1.1777	1.084	FL High>FL Low	0.9937	0.9269	0.149
1.3 Correlation between OCF* and ACC*	no difference	-0.5370	-0.4670	2.225 ^{##}	FL High>FL Low	-0.5390	-0.5400	0.0298
Panel B: Managing towards earnings targets								
2.1 Frequency of SPOS	no difference		0.1750	0.811	Negative		-0.3030	1.385
Panel C: Timeliness of loss recognition								
3.1 Frequency of LNEG	no difference		-0.2340	0.712	Positive		-1.7400	13.746***
Panel D: Value relevance								
R ² for association between:		(n=999)	(n=1,357)			(n=782)	(n=1,041)	
4.1 P* and accounting numbers	no difference	0.2948	0.4186	40.720 ^{###}	FL High>FL Low	0.4614	0.5791	25.824***
4.2 NIPS/P* and RET	no difference	0.0432	0.0599	5.386 ^{###}	FL High>FL Low	0.0760	0.1539	19.163***
4.3 RET* and earnings	no difference	0.0566	0.0699	5.192 ^{###}	FL High>FL Low	0.1494	0.1923	12.262***

This table presents results for the comparison of accounting quality between the 209 firms with higher than median financial liabilities scaled by total assets (FL High) and the 286 firms that had lower than median financial liabilities scaled by total assets (FL Low), under IFRS and UK GAAP. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The calculation of each of the accounting quality measures is discussed in Table 6-1.

In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented for the FL High and the FL Low firms and the z-score for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score for the Cramer's test (1987) for the differences in R².

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). ^{###}significant at the $p < 0.01$ level (two-tailed). ^{##}significant at the $p < 0.05$ level (two-tailed). ^(a)significant but contrary to the prediction.

Value relevance

The next set of accounting quality measures relate to value relevance, operationalised as the association between accounting numbers and market measures. For each of these measures I compared the adjusted R^2 of the corresponding regressions using Cramer's test (1987). A higher adjusted R^2 is indicative of a better association between earnings numbers and market measures, thereby greater value relevance and accounting quality. Therefore, for each of these measures I predicted that post IFRS adoption, the FL High firms will display greater improvements in the adjusted R^2 compared to the FL Low firms. Panel D of Table 6-6 presents the adjusted R^2 and the z-scores for the Cramer's test (1987).

The first value relevance metric compares the adjusted R^2 from a regression of share prices (PRICE) on book value of equity per share (BVEPS) and net income per share (NIPS) (Item 4.1 in Table 6-6). The adjusted R^2 for the FL High group is higher under IFRS at 0.4614 compared to 0.3014 under UK GAAP and the difference is significant at $p < 0.01$. However, the results for the FL Low firms also show a higher adjusted R^2 under IFRS at 0.5791 compared to 0.4177 under UK GAAP ($p < 0.01$). In addition, the results of the robustness tests (Panel C of Table 6-7), show that FL High firms had a significantly lower value relevance compared to FL Low firms under UK GAAP and continue to do so under IFRS. This indicates that a greater use of fair values and more extensive disclosure requirements for financial liabilities is not a mechanism by which the value relevance (in terms of the relationship between P^* and accounting numbers), thereby accounting quality increased post IFRS adoption.

The second value relevance metric is based on the explanatory power from a regression of net income per share scaled by beginning of year price (NIPS/P) on annual stock return (RET) (Item 4.2 in Table 6-6). The adjusted R^2 for the FL High firms under IFRS is 0.0760 compared to 0.0508 under UK GAAP and the difference is significant at $p < 0.01$. However, the results for the FL Low firms also indicate that their value relevance has also increased to 0.1539 under IFRS compared to 0.0611 under UK GAAP ($p < 0.01$). This indicates that while accounting amounts such as NIPS/P have greater predictive ability under IFRS compared to UK GAAP, these changes are not due to greater fair value measurement and associated more extensive disclosure practices specifically relating to financial liabilities. This conclusion is

supported by the results of the robustness tests (Panel C of Table 6-7), which show that FL High firms had a significantly lower value relevance compared to FL Low firms under UK GAAP and continue to do so under IFRS. Therefore, the results of this measure do not support H2.

The final measure of value relevance looks at the association between returns (RET) and earnings (NIPS/P and Δ NIPS/P) (Item 4.3, Table 6-6). Similar to the results for the previous two measures, the results reveal that both FL High and FL Low firms show improvements in value relevance. In addition, the results of the robustness tests, presented in Panel D of Table 6-7 reveal that under UK GAAP the FL High firms had a lower association between returns and earnings compared to the FL Low firms and continued to do so under IFRS. Therefore, although there is a greater association between returns and earnings post IFRS adoption, and thus greater value relevance, these effects are not due to changes implemented by IFRS specifically relating to financial liabilities. Thus H2 is not supported.

Summary of results for H2 with the proxy of financial liabilities

The following table summarises the results for H2, using the financial liabilities proxy, for each of the eight measures of accounting quality. For H2, I predicted that accounting quality post IFRS adoption improved due to the greater use of fair values and disclosure. H2 is supported if the FL High firms show greater improvements in accounting quality compared to the FL Low firms.

Table 6-8: Summary of results for H2 with the proxy of financial liabilities

Accounting quality measure	H2 is supported/ not supported
<i>Earnings smoothing</i>	
1.1 Variance of Δ NI*	Not supported
1.2 Variance of Δ NI*/ Δ OCF*	Not supported
1.3 Correlation between OCF* and ACC*	Not supported
<i>Managing towards earnings targets</i>	
2.1 Frequency of SPOS	Supported
<i>Timeliness of loss recognition</i>	
3.1 Frequency of LNEG	Not supported
<i>Value relevance</i>	
4.1 P* and accounting numbers	Not supported
4.2 NIPS/P* and RET	Not supported
4.3 RET* and earnings	Not supported

In summary, the results for seven out of eight accounting quality measures do not support H2 as they do not provide evidence that FL High firms show a greater increase in accounting quality compared to the FL Low firms. These results may not support H2 because firms may not have improved their level of disclosure with regards to financial liabilities post IFRS adoption.

The earnings smoothing and the timeliness of loss recognition measures may not support H2 due to the greater use of hedging by the FL High firms. Firms can minimise the effect on earnings by negative price movements on underlying asset or liabilities by acquiring an asset or liability whose price moves in the opposite direction (Chalmers and Godfrey, 2000; Duh, Hsu and Alves, 2012; Iatridis, 2012; Beisland, 2010). This will decrease the volatility of earnings and likelihood of financial distress. Firms often use derivatives for hedging purposes (Scott, 2009, p. 243-244; Nguyen, Faff, and Hodgson, 2010). Therefore, my results for the earnings smoothing and timeliness of loss recognition measures may not support H2 because the use of derivatives for hedging by the FL High firms may prevent any increases in the volatility of earnings or instances of large losses.⁶³

The results for all of the value relevance measures consistently show improvements in accounting quality for both FL High and FL Low firms. However, none of these results support H2 as they do not provide evidence that post IFRS adoption, the value relevance of FL High firms improved more than that of FL Low firms. Therefore, these results indicate that the improvements in value relevance observed for the full sample (in the testing of H1, see Table 6-2) are not due to the greater use of fair value measurement and associated more extensive disclosure of financial liabilities. As

⁶³Iatridis (2012) investigates characteristics displayed by UK firms hedgers compared to non hedgers and finds that hedgers are larger in size and have higher levels of leverage, growth, liquidity and profitability. Table 2 in Appendix B presents descriptive statistics for the test and control variables comparing the FL High firms to the FL Low firms. The median market value of equity (size) of FL High firms is higher at £0.613billion compared to £0.118 billion for the FL Low firms ($p < 0.01$). The FL High firms also have more leverage with a median of 1.677 compared to 0.751 for the FL Low firms ($p < 0.01$). FL High firms have higher levels of growth with a median of 8.2 percent versus 6.4 percent for the FL Low firms ($p < 0.01$). Iatridis (2012) uses the level of operating cash flows scaled by total assets (OCF) as a proxy for liquidity. The median value of OCF for FL High firms is 0.075 and 0.051 for FL Low firms ($p < 0.01$). Net income per share (NIPS) provides an indication of firm profitability and the median value of NIPS for FL High firms is 0.176 compared to 0.078 for FL Low firms ($p < 0.01$). Therefore, the FL High firms in my study display the characteristics of larger size and higher levels of leverage, growth, liquidity and profitability observed by Iatridis (2012) in the hedgers. Indirectly this may provide some evidence that the FL High firms in my study are more likely to be hedgers compared to the FL Low firms.

highlighted by Laux and Leuz (2009), during times of financial crisis market prices are distressed and may deviate significantly from fundamental values. This in turn would have a negative effect on the usefulness of financial information based on fair values for investors and their ability to predict future cash flows. Therefore, my results for the value relevance measures may not show greater improvements in value relevance for the FL High firms due to the effects of the GFC on fair values.

The results for the managing towards earnings targets measure supports H2 and shows that FL High firms have reduced their management of earnings towards targets more than the FL Low firms. These results indicate that the greater use of fair value measurement and associated more extensive disclosure specifically relating to financial liabilities may have contributed to the decrease in management of earnings towards targets observed in the testing of the full sample for H1 (Table 6-1, Panel C).

The results for seven out of eight accounting quality measures are consistent between the financial assets and financial liabilities categories. However, the results for the last value relevance measure which looks at the association between returns (RET) and earnings (NIPS/P and Δ NIPS/P) (Item 4.3) differs between financial liabilities and financial assets categories. For this measure, FA High firms show greater improvements in value relevance compared to the FA Low firms (thus supporting H2). However, the results for Item 4.3, based on financial liabilities, do not support H2 because FL High firms do not show greater improvements compared to FL Low firms. Firms may be more reluctant to recognise or disclose information on financial liabilities compared to financial assets in their balance sheets, as recognising additional liabilities may put them in breach of debt covenants or increase their risk profile and inturn their cost of capital (DeFond and Jiambalvo, 1994). Thus, firms may be more likely to make improvements in the recognition and disclosure, thereby accounting quality, of financial assets compared to financial liabilities. This in turn could explain the discrepancy in the results, observed for Item 4.3 in the accounting quality measures, between the financial assets and financial liabilities proxies.

6.3.2.1 Commentary on the overall results for financial instruments

Given the IASB's focus on improving the reporting of financial instruments, it is surprising that of the eight measures of accounting quality only two measures show

improvements in accounting quality associated with the greater use of fair value measurement and extensive disclosures, specifically relating to financial assets and liabilities.

It must be noted that Cairns et al. (2011) find that comparability (in terms of firms' policy choices for like transactions and events) increased significantly with the reporting of derivatives by UK firms after the adoption of IFRS. In addition, they find that while no UK firms measured derivatives at fair values under UK GAAP, 92% reported derivatives at fair values under IFRS. This indicates problems with non-compliance are less likely to have contributed to my results not showing increases in accounting quality based on the proxies of financial assets and financial liabilities. Other possible explanations may relate to insufficient disclosure requirements, problems with the measurement of fair values or inadequate guidance by the accounting standards.

The reporting of derivatives is a particularly complex topic and a difficult area for investors to understand. Therefore, Scott (2009, p.248) highlights the importance of additional disclosure by firms with regards to derivatives in order to improve the usefulness of financial information to users. Recall that out of the three value relevance measures, only one supported H2 using the financial assets proxy. None of the value relevance measures supported H2 using the financial liabilities proxy. Thus, a possible explanation for these results could be that UK firms did not improve their disclosure of financial assets and financial liabilities post IFRS adoption.⁶⁴

The GFC raised concerns about the use of fair values in measuring financial instruments (Mala and Chand, 2011). IAS 39 requires the use of market prices where available when determining fair values. However, in times of financial crisis, market prices can be severely distressed and deviate significantly from the fundamental value of an asset or liability (Laux and Leuz, 2009). In addition, participation in financial

⁶⁴The IASB introduced IFRS 7 *Financial Instruments: Disclosures* in 2007 due to concerns raised about disclosure requirements of IAS 32. The disclosure requirements under IFRS 7 are perceived to be higher than the previous standard (Bischof, 2009). However, this thesis does not effectively capture the effects of IFRS 7 as it only became effective for fiscal periods beginning on or after 1 January 2007 (thus the first set of annual reports will be for financial periods ending 31 December 2007), and my sample period ends in mid 2009. Therefore, UK firms may have improved their disclosures regarding financial instruments, after the introduction of IFRS 7 but this is not being effectively picked up in my study.

markets decreased during the GFC, which in turn affected the liquidity of financial instruments and the ability to identify market prices (Crotty, 2009). The American Bankers Association, which is a critic of fair value measurement, highlighted in a letter to the SEC that fair value measurement may intensify the financial crisis by creating a downward spiral where assets are recognised and sold at increasingly lower prices. They recommend regulators provide guidance that intrinsic value or economic values are appropriate proxies for fair value (ABA, 2008). Banks, particularly in Europe, asked for the option to reclassify financial instruments from the trading category to the held-to-maturity category (where items are recognised in subsequent periods using amortised cost instead fair values) (Guerrera and Hughes, 2008).⁶⁵ However, this argument ignores the fact that the use of fair value measures may give both the firms and investors early warning signals of issues and therefore force the firms to take appropriate actions which in turn could lessen the severity of a crisis.⁶⁶ In addition, regulators including accounting standard setters would be reluctant to give more discretion to financial statement preparers as they can use this discretion to manipulate the financial statements and mislead investors (Laux and Leuz, 2008).

My results support the continued efforts that are being made by the IASB to improve the reporting of financial instruments by issuing standards such as IFRS 7 and IFRS 9 *Financial Instruments*. While IFRS 7 replaces the disclosure requirements in IAS 32, IFRS 9 is intended to replace IAS 39 for annual periods beginning on or after 1 January 2015. In the draft IFRS 9 standard, the IASB has stated that the reason for issuing the new standard was due to concerns raised by the users of financial statements and other stakeholders that the requirements in IAS 39 were difficult to understand, apply and interpret. IFRS 9 intends to remedy some of the issues faced by

⁶⁵The IASB granted this option in limited circumstances from 1 July 2008 (IASB, 2008).

⁶⁶Consistent with this notion, Sir Davis Tweedie (then Chairman of the IASB) in a memorandum submitted to the House of Commons stated that “At the heart of the credit crisis were bad lending practices. Accounting is merely attempting to reflect the economic realities—one where banks were undercapitalised. To return confidence to the market, it will be necessary to face up to the full losses, or banks will not extend credit to each other or to consumers. As experience has shown, the losses initially revealed through the use of fair value are real. Any effort to reduce transparency will delay the recovery process” (Tweedie, 2008, p.2).

financial statement preparers and users by being more principles based and less complex than the previous standards (IFRS 9. paragraph IN2).

6.3.3 Intangible assets

In this section I discuss the results for H2 where I predicted that firms with more intangible assets will have higher accounting quality under IFRS compared to UK GAAP. As stated in Chapter 4 (Section 4.3.1.2), the relevant standards under IFRS that require fair value measurement and greater disclosure of intangible assets are IAS 36, IAS 38 and IFRS 3. IFRS requires impairment testing of goodwill instead of amortisation and greater disclosure to provide information to outsiders on the value of acquisitions which may increase accounting quality.

In Chapter 5 (Section 5.4.2.2) I explain how firms were categorised into INT High and INT Low groups based on their levels of intangible assets scaled by total assets. Thus, the final sample of 495 firms was broken down into 249 INT High firms and 246 INT Low firms. Descriptive statistics of the INT High firms and INT Low firms are provided in Chapter 5 (Section 5.4.2.2). There is a higher representation of firms from Information Technology, Healthcare and Media subsectors in the INT High group compared to the INT Low group. Table 6-9 presents the results for the UK GAAP and IFRS comparison for the INT High and INT Low firms.

Earning smoothing

Panel A of Table 6-9 provides information on the results of the three accounting quality metrics that relate to earnings smoothing. The first metric for earnings smoothing is the variance of ΔNI^* with a higher variance indicative of less earnings smoothing and better accounting quality (Item 1.1). Table 6-9 presents the median values for the cross sectional variance of ΔNI^* under UK GAAP and IFRS and the z-score for the Wilcoxon rank sum test for differences in medians. The results do not support H2 as the INT High firms display a lower variance of ΔNI^* under IFRS at 0.0011 compared to 0.0021 under UK GAAP ($p < 0.01$).

The results for the second earnings management measure (Item 1.2, Table 6-9) also do not support H2 as the INT High firms do not display a significant difference in the

variance of $\Delta NI^*/\Delta OCF^*$ under UK GAAP and IFRS with the variance being 1.2237 and 1.1017 respectively.

The next measure of earnings management investigates the correlation between ACC^* and OCF^* (Item 1.3, Table 6-9). A less negative correlation is indicative of less earnings smoothing and higher accounting quality. The results do not support H2 with the correlation coefficients for both the INT High and INT Low firms not being significantly different between the two time periods.

In summary, none of the earnings smoothing measures support H2 as they do not show that the INT High firms have larger reductions in earnings smoothing, therefore greater improvements in accounting quality, than the INT Low firms. One reason that the results may not support the hypothesis is if the INT High firms had lower earnings smoothing than the INT Low firms under UK GAAP. Then the scope for IFRS to make improvements in the quality of reporting of INT High firms may be limited. Therefore, I carried out robustness checks which investigated differences between the accounting quality of INT High and INT Low firms.

Table 6-9: Comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median intangible assets (INT High) and lower than median intangible assets (INT Low)

	<i>INT High</i> (n=249)				<i>INT Low</i> (n=246)			
Panel A: Earnings smoothing								
	Prediction	UK GAAP	IFRS	z- score	Prediction	UK GAAP	IFRS	z- score
		(n=249)	(n=249)			(n=246)	(n=246)	
1.1 Variance of Δ NI*	UK GAAP < IFRS	0.0021	0.0011	4.308 ^(a)	no difference	0.0006	0.0014	3.643 ^{###}
1.2 Variance of Δ NI*/ Δ OCF*	UK GAAP < IFRS	1.2237	1.1017	0.180	no difference	0.9317	1.0541	2.442 ^{##}
		(n=1,192)	(n=920)			(n=1,164)	(n=903)	
1.3 Correlation between OCF* and ACC*	UK GAAP < IFRS	-0.4820	-0.5220	1.217	no difference	-0.5060	-0.5440	1.182
Panel B: Managing towards earnings targets								
	Prediction		Coefficient	Wald- stat	Prediction		Coefficient	Wald- stat
			(n=2,112)				(n=2,067)	
2.1 Frequency of SPOS	Negative		-0.4890	4.906 ^{**}	no difference		-0.0930	0.356
Panel C: Timeliness of loss recognition								
	Prediction		Coefficient	Wald- stat	Prediction		Coefficient	Wald- stat
			(n=2,112)				(n=2,067)	
3.1 Frequency of LNEG	Positive		-0.3720	1.831 ^(a)	no difference		0.2790	0.974
Panel D: Value relevance								
	Prediction	UK GAAP	IFRS	z- score	Prediction	UK GAAP	IFRS	z- score
		(n=1,192)	(n=920)			(n=1,164)	(n=903)	
R ² for association between:								
4.3 P* and accounting numbers	UK GAAP < IFRS	0.2728	0.4425	48.384 ^{***}	no difference	0.4622	0.6362	40.096 ^{###}
4.1 NIPS/P* and RET	UK GAAP < IFRS	0.0571	0.0637	1.932 ^{**}	no difference	0.0599	0.1783	32.811 ^{###}
4.2 RET* and earnings	UK GAAP < IFRS	0.0697	0.1121	14.688 ^{***}	no difference	0.0582	0.2268	54.790 ^{###}

This table presents results for the comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median intangible assets scaled by total assets (INT High) to firms which have lower than median intangible assets scaled by total assets (INT Low). Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The calculation of each of the accounting quality measures are discussed in Table 6-1.

In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented under UK GAAP and IFRS and the z-score for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score for the Cramer's test (1987) for the differences in R².

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). *significant at the $p < 0.10$ level (one-tailed). ###significant at the $p < 0.01$ level (two-tailed). ##significant at the $p < 0.05$ level (two-tailed). ^(a)significant but contrary to the prediction.

The results for the robustness checks for the earnings smoothing measures are presented in Panel A of Table 6-10. The results reveal that the INT High firms did indeed have lower earning smoothing compared to the INT Low firms under UK GAAP for the variance of ΔNI^* and the variance of $\Delta NI^*/\Delta OCF^*$ measures. For example, under UK GAAP, the INT High firms have a variance of ΔNI^* of 0.0021 while the INT Low firms have a variance of 0.0006 ($p < 0.01$). Similarly, the INT High firms have a higher variance of $\Delta NI^*/\Delta OCF^*$ of 1.2237 compared to 0.9317 for the INT Low firms ($p < 0.05$). The above mentioned results for the robustness tests for the variance of ΔNI^* and the variance of $\Delta NI^*/\Delta OCF^*$ measures partially explain why the results presented in Table 6-9 did not support H2.

Managing towards earnings targets

The frequency of small positive net income (SPOS) is the next accounting quality measure and the results are presented in Panel B of Table 6-9 (Item 2.1). A negative coefficient for SPOS indicates that firms manage their earnings towards small positive earnings targets less frequently under IFRS compared to UK GAAP, indicative of higher accounting quality. The coefficient for SPOS and the Wald statistic are presented in Panel B of Table 6-9. The results for the INT High firms are consistent with the prediction because the coefficient for SPOS is negative (-0.4890) and significant at the $p < 0.01$ level. Moreover, the results for INT Low firms do not reveal any changes in the frequency of SPOS under UK GAAP and IFRS. Taken together, the results support H2 as they reveal that INT High firms show a greater reduction in managing towards earnings targets. Therefore, there is an improvement in accounting quality post IFRS adoption, compared to the INT Low firms. These results are supported by the findings from the robustness tests (Panel B of Table 6-10), which revealed that while there was no significant difference in the frequency of SPOS under UK GAAP between INT High and INT Low firms, INT High firms have a significantly lower frequency of SPOS under IFRS compared to INT Low firms.

Table 6-10: Robustness comparison of accounting quality between firms with higher than median intangible assets (INT High) and lower than median intangible assets (INT Low), under IFRS and UK GAAP

	UK GAAP				IFRS			
	Prediction	INT High (n=249)	INT Low (n=246)	z- score	Prediction	INT High (n=249)	INT Low (n=246)	z- score
Panel A: Earnings smoothing								
1.1 Variance of Δ NI*	no difference	0.0021	0.0006	8.074 ^{###}	INT High> INT Low	0.0011	0.0014	0.454
1.2 Variance of Δ NI*/ Δ OCF*	no difference	1.2237	0.9317	2.034 ^{##}	INT High> INT Low	1.1017	1.0541	0.092
1.3 Correlation between OCF* and ACC*	no difference	(n=1,192) -0.4820	(n=1,164) -0.5060	0.769	INT High> INT Low	(n=920) -0.5350	(n=903) -0.5440	0.271
Panel B: Managing towards earnings targets								
	Prediction	Coefficient		Wald- stat	Prediction	Coefficient		Wald- stat
2.1 Frequency of SPOS	no difference	(n=2,356) -0.2120		1.088	Negative	(n=1,823) -0.6880		6.505 ^{***}
Panel C: Timeliness of loss recognition								
	Prediction	Coefficient		Wald- stat	Prediction	Coefficient		Wald- stat
3.1 Frequency of LNEG	no difference	(n=2,356) -0.1230		0.205	Positive	(n=1,823) -0.3730		0.971
Panel D: Value relevance								
	Prediction	INT High	INT Low	z- score	Prediction	INT High	INT Low	z- score
R ² for association between:		(n=1,192)	(n=1,164)			(n=920)	(n=903)	
4.3 P* and accounting numbers	no difference	0.2690	0.4630	63.559 ^{###}	INT High> INT Low	0.4425	0.6362	41.493 ^(a)
4.1 NIPS/P* and RET	no difference	0.0546	0.0551	0.161	INT High> INT Low	0.0637	0.1783	28.815 ^(a)
4.2 RET* and earnings	no difference	0.0758	0.0586	6.913 ^{###}	INT High> INT Low	0.1121	0.2268	33.594 ^(a)

This table presents results for the comparison of accounting quality between the 249 firms with higher than median intangible assets scaled by total assets (INT High) and the 246 firms that have lower than median intangible assets scaled by total assets (INT Low), under IFRS and UK GAAP. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The calculation of each of the accounting quality measures is discussed in Table 6-1.

In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented for the INT High and the INT Low firms and the z-score for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score fore the Cramer's test (1987) for the differences in R².

^{###}significant at the $p < 0.01$ level (two-tailed). ^{##}significant at the $p < 0.05$ level (two-tailed). ^{***}significant at the $p < 0.01$ level (one-tailed). ^{**}significant at the $p < 0.05$ level (one-tailed). ^(a)significant but contrary to the prediction.

Timeliness of loss recognition

Panel C of Table 6-9 provides the results for the UK GAAP and IFRS comparison for the timeliness of loss recognition measure, which is operationalised in terms of the frequency of large negative net income (LNEG) (Item 3.1). A higher frequency for LNEG indicates that firms recognise losses as they occur instead of smoothing them over multiple future periods. A positive coefficient for LNEG indicates that firms recognise large losses more frequently under IFRS compared to UK GAAP. The coefficient for LNEG and the Wald statistic are presented in Panel C of Table 6-9. Contrary to the prediction, the coefficient is negative and significant (-0.3720, $p < 0.10$) for INT High firms. This is indicative of less timely recognition of losses by INT High firms under IFRS compared to UK GAAP. Further, INT Low firms do not show a significant difference in the frequency of LNEG between the two time periods. Therefore, the results do not support H2 as they do not indicate that the INT High firms show greater improvements in the timeliness of loss recognition, thereby accounting quality, compared to the INT Low firms post IFRS adoption.

Value relevance

The next set of accounting quality measures relate to value relevance, operationalised as the association between accounting numbers and market measures. For each of these measures I have compared the adjusted R^2 of the corresponding regressions between IFRS and UK GAAP using Cramer's test (1987). A higher adjusted R^2 is indicative of a better association between earnings numbers and market measures, thereby greater value relevance and accounting quality. Therefore for each of these measures, I predicted that INT High firms will display greater improvements in their adjusted R^2 post IFRS adoption, compared to the INT Low firms. Panel D of Table 6-9 presents the adjusted R^2 and the z-scores for the Cramer's test (1987).

The first value relevance metric compares the adjusted R^2 from a regression of share prices (PRICE) on book value of equity per share (BVEPS) and net income per share (NIPS) (Item 4.1, Table 6-9). The adjusted R^2 for the INT High firms is higher under IFRS at 0.4425 compared to 0.2728 under UK GAAP and the difference is significant at $p < 0.01$. However, the results for the INT Low firms also indicate a higher R^2 under IFRS at 0.6362 compared to 0.4622 under UK GAAP ($p < 0.01$). Therefore, these

results do not support H2 as they do not show that INT High firms improved their value relevance more than the INT Low firms post IFRS adoption. This conclusion is supported by the results of the robustness tests (Panel D of Table 6-10), which show that INT High firms had significantly lower value relevance, in terms of the relationship between P^* and accounting numbers, compared to INT Low firms under UK GAAP, and continue to do so under IFRS.⁶⁷

The second value relevance metric is based on the explanatory power from a regression of net income per share scaled by beginning of year price (NIPS/P) on annual stock return (RET) (Item 4.2). The main results, presented in Panel D of Table 6-9, show that the adjusted R^2 for the INT High firms is higher under IFRS at 0.0637 while it is 0.0571 under UK GAAP and the difference is significant at $p < 0.05$. The results for the INT Low firms also indicate that their value relevance has increased to 0.1783 under IFRS compared to 0.0599 under UK GAAP ($p < 0.01$). In addition, the results of the robustness tests (presented in Panel D of Table 6-10), show that while there was no significant difference in value relevance under UK GAAP between the INT High and INT Low firms under IFRS, the adjusted R^2 for INT High firms is significantly lower at 0.0637 compared to 0.1783 for the INT Low firms ($p < 0.01$). Therefore, these results do not support H2 as they do not show that INT High firms improved their value relevance more than the INT Low firms post IFRS adoption.

The final measure of value relevance looks at the association between returns (RET) with the level and changes in earnings scaled by share price (represented by NIPS/P and Δ NIPS/P) (Item 4.3). The adjusted R^2 for the INT High group is higher under IFRS at 0.1121 compared to 0.0697 under UK GAAP and the difference is significant at $p < 0.01$. However, the results for the INT Low firms also indicate a higher adjusted R^2 under IFRS at 0.2268 compared to 0.0582 under UK GAAP ($p < 0.01$). The robustness tests (presented in Panel D Table 6-10) reveal that while the INT High firms had a higher adjusted R^2 under UK GAAP compared to the INT Low firms, this was reversed under IFRS, whereby the INT Low firms had an adjusted R^2 of 0.2268 compared to 0.1121 for the INT High firms ($p < 0.01$). Taken together these results do not support H2.

⁶⁷These results are consistent with Barth et al. (2001) who show that the prices of firms with high-intangible assets tend to be less informative.

In summary, all three of the value relevance measures showed improvements in the association between accounting numbers and market measures for both INT High and INT Low firms. However, none of the measures showed that INT High firms made greater improvements in value relevance compared to INT Low firms post IFRS adoption.

This indicates that while earnings have greater predictive ability and are more value relevant to investors, under IFRS compared to UK GAAP (as displayed in the results for H1 in Table 6-2), these changes are not due to more recognition and disclosure specifically relating to intangible assets. Therefore, H2 was not supported.

Summary of results for H2 with the proxy of intangible assets

For H2. I predicted that accounting quality post IFRS adoption improved due to the greater use of fair values and disclosure. The following table summarises the results for H2, using the intangible assets proxy, for each of the eight measures of accounting quality. H2 is supported if INT High firms show greater improvements in accounting quality compared to INT Low firms.

Table 6-11: Summary of results for H2 with the proxy of intangible assets

Accounting quality measure	H2 is supported/ not supported
<i>Earnings smoothing</i>	
1.1 Variance of ΔNI^*	Not supported
1.2 Variance of $\Delta NI^*/\Delta OCF^*$	Not supported
1.3 Correlation between OCF^* and ACC^*	Not supported
<i>Managing towards earnings targets</i>	
2.1 Frequency of SPOS	Supported
<i>Timeliness of loss recognition</i>	
3.1 Frequency of LNEG	Not supported
<i>Value relevance</i>	
4.1 P^* and accounting numbers	Not supported
4.2 $NIPS/P^*$ and RET	Not supported
4.3 RET^* and earnings	Not supported

In summary, out of the eight measures of accounting quality used in this thesis only the results of managing towards earnings targets measure supports H2, because INT High firms show a larger decrease in the frequency of small positive incomes, thereby an increase in accounting quality, compared to INT Low firms. Recall that the results for H1 (Table 6.2), where the full sample of 495 firms were analysed, showed that UK

firms display a significant reduction in management of earnings towards targets under IFRS compared to UK GAAP. The results for H2 indicate that the greater use of fair values and more extensive disclosure requirements imposed by IFRS for intangible assets may have contributed to the reduction in the management towards earnings targets, thereby better accounting quality, observed for the full sample.

There are several reasons why the results for seven of the eight accounting quality measures did not support H2. One reason could be that some firms have not effectively increased their disclosure about the value of intangibles acquired and impairment testing of goodwill. IAS 36 (paragraph 134-136) requires extensive narrative disclosure about the impairment testing process and the disclosure about the key assumptions made in estimating the recoverable amount of an intangible asset and sensitivity analysis. However, the FRRP's annual review of firm accounts in 2009 stated "For those companies that incurred an impairment charge, the narrative did not always explain the events and circumstances that gave rise to it. When provided, explanations tended to be short and generic which, in the absence of other disclosures, would not help users understand the extent to which there may be further impairment in future. Although the amount of the charge was disclosed, some companies did not identify the line item in the income statement in which it was included, making comparison with the prior period difficult" (FRRP, 2009, p.20).⁶⁸ This lack of disclosure could be a key reason that the value relevance measures used in my thesis did not show greater improvements for the INT High firms compared to INT Low firms.

Intangibles are a particularly difficult type of asset class to value and under fair value accounting when there is no market for these assets firms rely upon specific models to determine their value. This gives considerable discretionary power to insiders when making underlying assumptions (Mala and Chand, 2011). Whilst goodwill, which is the difference between the purchase price and the estimated fair value of the acquired net assets, is relatively easy to observe at the time of the acquisition, post-acquisition changes in its value are not. Insiders have considerable discretion in reporting whether and by how much goodwill has been impaired (Lhaopadchan, 2010). The calculation

⁶⁸While this report was issued after my study period, the FRRP's findings are based on firm financial reports for periods ending from December 2007 to June 2008.

of impairment is therefore subject to judgement and estimates making it open for manipulation by management (Bloom, 2009). By not adequately reflecting the value of intangible assets, balance sheets based on fair values may provide users with potentially misleading information concerning the “true” value of the firm (Lhaopadchan, 2010). Therefore, while the fair value measurement of goodwill has the potential to provide investors with more value relevant information (compared to the annual amortisation method), it raises concerns about the reliability of the information due to increased management discretion (Scott, 2009, p. 249). Consistent with this argument Ramanna (2008) finds that US firms that lobbied for the use of fair values for subsequent measurement of acquired goodwill (that is, for the use of impairment tests instead of amortisation) had increased potential for opportunism when reporting their earnings. In addition, Masters-Stout, Costigan and Lovata (2008) find that CEOs typically recognise goodwill impairment early in their tenure to allow them to blame the preceding management and make future earnings look better. My results, where INT High firms do not show greater decreases in earnings smoothing, timeliness of loss recognition or improvements in value relevance compared to the INT Low firms, are consistent with studies such as Hamberg, Panaanen and Novak (2011) who find that after IFRS 3 adoption, Swedish firms display more unidentified intangible assets (that is goodwill) than before, thus making future earnings more dependent on managers’ discretion. They also present some evidence that firms with large proportions of goodwill are reluctant to initiate any impairment.

Under UK GAAP and IFRS, intangible assets other than goodwill are measured at initial recognition at the cost of acquisition or production. They can be measured at subsequent balance sheet dates using either a cost model or (in very restricted circumstances) a revaluation model. The cost model requires items to be measured at cost less any accumulated amortisation and impairment losses. The revaluation model requires items to be measured at fair value less any amortisation and impairment losses after the date of the revaluation. Both UK GAAP and IFRS allow the use of the revaluation model only if the fair value can be determined from an active market for the asset. Very few UK firms revalued intangibles under UK GAAP (Aboody, Barth and Kasznik, 1999). Cairns et al. (2011) find that the use of fair value measurement for intangibles by UK firms was no more prevalent under IFRS compared to UK GAAP as firms were constrained by the requirement that fair value must be determined from an active market. Therefore, the results for most of the accounting measures in my thesis

may not support H2, using the intangible assets proxy, because firms may not be taking up the option to use fair values in the subsequent measurement of certain intangibles.

It must also be noted that my results may not effectively capture the effects of later revisions made to relevant standards as my sample period ends in mid 2009. For example, the IASB amended IAS 36 in January 2008. The revised IAS 36 requires impairment testing of goodwill and intangible assets with an indefinite useful life annually, irrespective of whether there is any indication that it may be impaired. This may have increased reporting of impairments, and thereby fair values, by firms. Therefore, over time changes in the reporting of intangible assets may have led to an increase in accounting quality that is not being captured in the time period used in my thesis.

6.3.4 Overall discussion of the results for H2

In conclusion, I find that H2 was only supported consistently for the managing towards earnings targets measure when I examined three proxies (financial assets, financial liabilities and intangible assets) for mechanisms that could have improved accounting quality under IFRS. In addition, only the third value relevance measure, where the relationship between RET* and earnings is analysed, supports H2 for the financial assets proxy.

One reason why my results did not support H2 could be because firms were not meeting the additional disclosure requirements of IFRS. This conjecture is supported by previous investigations such as the FRRP's annual review of firm accounts in 2009, where they stated that there was insufficient disclosure of underlying assumptions and disclosures often were generic (FRRP, 2009). If firms do not provide decision useful information about financial instruments and intangible assets to users (that are complex and difficult to value) then the value relevance of these firms' financial statements will not improve.

Another reason could be difficulties with fair value measurement. When market prices are not available, fair value measurement allows the use of models based on assumptions to estimate fair values. Critics of fair value measurement have argued that

fair value estimates can be subjective and therefore more easily manipulated by insiders. This may reduce the transparency, comparability and reliability of financial information as firms could price the same asset at different values based on differences in the underlying assumptions used (Beaver, Datar and Wolfson, 1992; Khurana and Kim, 2003; Krumwiede, 2008). Thus, the informativeness of the balance sheet and profit and loss account may be reduced (Penman, 2007). In addition investors may be more reluctant to make investment decisions based on the more subjective fair value numbers (Barth, 1994; Eccher, Ramesh and Thiagarajan, 1996). Also, during times of financial crisis market prices may be severely depressed and deviate significantly from fundamental values. Furthermore, with the advent of the GFC, certain markets became less liquid resulting in difficulties identifying market prices (Laux and Leuz, 2009). Therefore, the greater use of fair value measurement may not improve the value relevance of accounting numbers and in turn accounting quality. In response to these criticisms, the IASB set up an Expert Advisory Panel in 2008 to identify best practices for estimating fair value in illiquid markets and for disclosure. Furthermore, in May 2011 the IASB issued IFRS 13: *Fair Value Measurement* which applies to accounting periods on or after 1 January 2013. In this standard, the IASB acknowledges issues with previous standards such as a lack of clear measurement or disclosure objectives, insufficient guidance and inconsistencies in the requirements contributing to diversity in practice and lack of comparability (IN5-IN6). Future research will be able to investigate whether these changes are successful in improving accounting quality.

6.4 EXTENSIVE DISCLOSURE REQUIREMENTS

As stated in Chapter 4, for H3 I predicted that accounting quality post IFRS adoption improved due to more extensive disclosure requirements. The proxy I use to test H3 is the number of business and geographic segments. The results for H3 are discussed below.

6.4.1 Segment reporting

IAS 14 requires greater disclosure of primary segments and has reduced management's flexibility in choosing reporting segments. For example, under IAS 14, firms are to identify segments based on the organisational units that report within the firm to the board of directors and CEO. Therefore, the internal system of reporting determines external reporting structures with the intention of providing more decision useful information to investors (Cairns and Nobes, 2000, Pierce and Brennan, 2003, p. 524; Emmanuel and Garrod, 2002). IAS 14 also removed the exemption available to directors to avoid segment reporting if they thought that it would be seriously prejudicial to the reporting entity (Cairns, 2004; Nobes, 2001). These changes should improve the usefulness of financial statements to users and in turn improve their ability to forecast future earnings and cash flows of the firm. Thus for H3, I predicted that the greater disclosure requirements imposed by IFRS should result in improved value relevance, in turn leading to an increase in accounting quality. The above mentioned effects on financial reporting practice will be largest for firms having a higher number of reporting segments.⁶⁹ Therefore, H3 is supported if firms with more segments show greater improvements in accounting quality post IFRS adoption, compared to firms with fewer segments.

As detailed in Chapter 5, I categorised firms into SEG High and SEG Low groups based on the number of business and geographic segments. The final sample of 495 firms was broken down into 202 SEG High firms and 293 SEG Low firms and descriptive statistics for each of these categories is provided in Chapter 5 (Section

⁶⁹In Chapter 4 (Section 4.3.2.1) I provide a detailed discussion on differences in segment reporting between IFRS and UK GAAP.

5.4.3). Table 6-12 presents the results for the UK GAAP and IFRS comparison for the SEG High and SEG Low firms.

As discussed in Chapter 5, I do not include the accounting quality measures on earnings smoothing, management towards earnings targets and timeliness of loss recognition because the changes introduced by IFRS relevant to H3 do not have a direct impact on earnings measurement practices. The changes introduced by IAS 14 intend to increase the disclosure of a firm's financial position and performance to outsiders by providing more information about the major segments that make up the firm. Therefore, H3 is tested using only the value relevance measures of accounting quality. Table 6-12 presents the adjusted R^2 and the z-scores for the Cramer's test (1987). H3 is supported if SEG High firms show greater improvements in value relevance compared to SEG Low firms.

The first value relevance metric compares the adjusted R^2 from a regression of share prices (PRICE) on book value of equity per share (BVEPS) and net income per share (NIPS) (Item 4.1 in Table 6-12). The adjusted R^2 for the SEG High group is significantly higher under IFRS at 0.4341 compared to 0.2636 under UK GAAP ($p < 0.01$). However, the results for the SEG Low firms also indicate a significantly higher adjusted R^2 under IFRS at 0.6016 compared to 0.4239 under UK GAAP ($p < 0.01$). This indicates that while earnings have greater predictive ability under IFRS compared to UK GAAP, these changes are not due to the greater disclosure specifically relating to business and geographic segments. This conclusion is supported by the results of the robustness tests (Table 6-13), which show that SEG High firms had a significantly lower value relevance, in terms of the relationship between P^* and accounting numbers, compared to SEG Low firms under UK GAAP, and continue to do so under IFRS.

The next value relevance metric is based on the explanatory power from a regression of net income per share scaled by beginning of year price (NIPS/P) on annual stock return (RET) (Item 4.2 in Table 6-12). The adjusted R^2 under IFRS is significantly higher for the SEG High firms at 0.0756 while it is 0.0550 under UK GAAP ($p < 0.01$). Similarly, results for the SEG Low firms indicate improvements in their adjusted R^2 to 0.1432 under IFRS from 0.0601 under UK GAAP ($p < 0.01$). The results of the robustness tests (presented in Table 6-13), also show that the SEG High

firms displayed significantly lower value relevance compared to the SEG Low firms under UK GAAP and remained so under IFRS. Taken together, these results do not support H3 as they do not show the SEG High firms have greater improvements in value relevance compared to the SEG Low firms.

The final measure of value relevance looks at the association between returns (RET) with the level and changes in earnings scaled by share price (NIPS/P and Δ NIPS/P) (Item 4.3 in Table 6-12). Similar to the results of the previous two measures of value relevance, the results for this measure show improvements in value relevance for both the SEG High and SEG Low firms. Specifically, the adjusted R^2 for the SEG High firms under UK GAAP and IFRS is 0.0632 and 0.1607 respectively and the difference is significant at $p < 0.01$. The SEG Low firms display adjusted R^2 of 0.0633 and 0.1751 respectively under UK GAAP and IFRS ($p < 0.01$). This indicates that while there is a greater association between returns and earnings post IFRS adoption (greater value relevance), these variations are not associated with changes implemented by IFRS specifically relating to segment reporting. This conclusion is supported by the results of the robustness tests (Table 6-13) which show that while there is no significant difference in the adjusted R^2 between the two groups of firms under UK GAAP, the SEG High firms display a significantly lower adjusted R^2 of 0.1607 compared to 0.1751 for the SEG Low group under IFRS ($p < 0.01$).

One of the reasons that SEG High firms persistently show lower levels of value relevance may be due to them being larger and more complex than the SEG Low firms. Therefore, it is more difficult for investors to predict the firm's underlying value. Descriptive statistics (presented in Appendix B) show the median market value of SEG High firms during the IFRS time period was £5.928 billion compared to £1.647 billion for the SEG Low firms ($p < 0.01$).

Table 6-12: Comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median number of segments (SEG High) and lower than median number of segments (SEG Low)

<i>Value relevance</i>	<i>SEG High</i> (<i>N</i> =202)				<i>SEG Low</i> (<i>N</i> =293)			
	Prediction	UK GAAP	IFRS	z- score	Prediction	UK GAAP	IFRS	z- score
R ² for association between:		(<i>n</i> =977)	(<i>n</i> =760)			(<i>n</i> =1,379)	(<i>n</i> =1,063)	
4.1 P* and accounting numbers	UK GAAP < IFRS	0.2636	0.4341	40.359***	no difference	0.4239	0.6016	50.349###
4.2 NIPS/P* and RET	UK GAAP < IFRS	0.0550	0.0756	4.947***	no difference	0.0601	0.1432	27.436###
4.3 RET* and earnings	UK GAAP < IFRS	0.0632	0.1607	27.337***	no difference	0.0633	0.1751	43.734###

This table presents results for the comparison of accounting quality between UK GAAP and IFRS, for firms with higher than median number of business and geographic segments (SEG High) with firms which have lower than median number of business and geographic segments (SEG Low). Out of the 495 firms in the final sample, 202 firms are in the SEG High category while 293 firms are in the SEG Low category. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The calculation of each of the accounting quality measures are discussed in Table 6-1.

The adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score for the Cramer's test (1987) for the differences in R².

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). *significant at the $p < 0.10$ level (one-tailed). ###significant at the $p < 0.01$ level (two-tailed). ##significant at the $p < 0.05$ level (two-tailed). #significant at the $p < 0.10$ level (two-tailed).

Table 6-13: Robustness comparison of accounting quality between firms with higher than median number of segments (SEG High) and lower than median number of segments (SEG Low), under IFRS and UK GAAP

<i>Value relevance</i>	Prediction	<i>UK GAAP</i>			z- score	<i>IFRS</i>		
		SEG High	SEG Low			SEG High	SEG Low	z- score
R ² for association between:		(<i>n</i> =977)	(<i>n</i> =1,379)			(<i>n</i> =760)	(<i>n</i> =1,063)	
4.1 P* and accounting numbers	no difference	0.2598	0.4237	53.793###	SEG High>SEG Low	0.4341	0.6016	36.575 ^(a)
4.2 NIPS/P* and RET	no difference	0.0477	0.0582	3.371###	SEG High>SEG Low	0.0756	0.1432	16.475 ^(a)
4.3 RET* and earnings	no difference	0.0664	0.0646	0.728	SEG High>SEG Low	0.1607	0.1751	4.072 ^(a)

This table presents results for the comparison of accounting quality between firms with higher than median number of business and geographic segments (SEG High) and firms which have lower than median number of business and geographic segments (SEG Low), under IFRS and UK GAAP. Out of the 495 firms in the final sample, 202 firms are in the SEG High category while 293 firms are in the SEG Low category. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The calculation of each of the accounting quality measures is discussed in Table 6-1.

The adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score for the Cramer's test (1987) for the differences in R².

###significant at the $p < 0.01$ level (two-tailed). ##significant at the $p < 0.05$ level (two-tailed). ***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). ^(a)significant but contrary to the prediction.

In summary, the results for all three of the value relevance measures do not support H3 as they do not indicate that greater disclosure of segment reporting is a mechanism by which value relevance, thereby accounting quality, increased post IFRS adoption. There are several reasons as to why the results may not support H3. First IAS 14 does not impose additional disclosure requirements for secondary segments compared to those imposed by SSAP 25. Therefore, the greater disclosure requirements imposed for primary segments may not be enough to significantly improve financial reporting disclosure and ultimately accounting quality.⁷⁰

Second, while IAS 14 provided guidance on identifying reporting segments, some discretion remains with firms. Concerns have been raised that insiders have too much discretion in choosing the reporting segments and the amount and type of information provided to outsiders (Roberts, 2000, p.451). For example, Nichols and Street (2007) conclude that despite the requirements in IAS 14, managers combine business segments when reporting in order to protect a firm's excess returns (arguably to limit the information provided to competitors). This view is supported by the FRRP's annual activity reports. The FRRP raised concerns about inconsistencies between the information provided in the narrative reports and the audited accounts, over-aggregation of operating segments and failure to provide relevant information on products, services, geographical areas and major customers (FRRP, 2010; FRRP, 2011). Therefore, despite the additional disclosure requirements under IFRS, some segment reporting appears to have deficiencies, thus reducing the decision useful information to users. A lack of useful information explains why my results do not show the value relevance of financial information for SEG High firms improving more than that of the SEG Low firms.

In order to overcome the above mentioned deficiencies of IAS 14, the IASB issued IFRS 8 *Operating Segments* which applies for annual periods beginning on or after 1 January 2009. IFRS 8 aims to reduce the discretion of senior management in determining reporting segments by requiring the use of the internal operating structure of a firm as the basis for determining the primary basis of segmentation. In addition,

⁷⁰Appendix A provides excerpts from the annual report of one of the sample firms (Abacus Group Plc) to provide an example of segmental reporting under IAS 14 for primary and secondary segments.

IFRS 8 has more requirements for disclosure of goodwill by segments (Epstein and Jermakowicz, 2009). The introduction of IFRS 8 may result in improvements in value relevance, thereby accounting quality, however the application dates are outside the period captured in my thesis.

6.5 CHANGES IN THE REGULATORY ACTIVITIES

In this section I discuss the results for H4 where I predicted that accounting quality post IFRS adoption is better due to improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms. As discussed in Chapter 4, this hypothesis relates to changes that occurred during the IFRS period (2005-2009) in countries such as Germany and US to improve their regulations and institutional oversight systems. In order to test whether these changes have resulted in better accounting quality for UK firms, I investigate whether UK firms that have a cross listing overseas (CROSS) demonstrate greater improvements in accounting quality compared to UK firms that are not listed overseas (NONCROSS).

6.5.1 Cross listing

Of the 495 UK firms in the final sample, 246 (49.7%) have a cross listing overseas while 249 (50.3%) do not. As discussed in Chapter 5 (Section 5.4.4) the secondary listings of the CROSS firms are mainly concentrated in Germany and the US. Of the 246 CROSS firms, 245 (99.59%) are listed in Germany. Among 246 firms, 131 (53.25%) firms have a listing in the US. Of these 105 are listed on the Over the Counter (OTC) market while 24 firms are listed on NYSE, NASDAQ and AMEX markets. Table 6-14 presents the results for the pre-post IFRS adoption comparison for the 246 CROSS firms and 249 NONCROSS firms. The results for each measure of accounting quality measures are discussed below.

Table 6-14: Comparison of accounting quality between UK GAAP and IFRS, for cross listed (CROSS) and non-cross listed firms (NONCROSS)

	<i>CROSS</i> (<i>N</i> =246)				<i>NONCROSS</i> (<i>N</i> =249)			
<i>Panel A: Earnings smoothing</i>	Prediction	JK GAAP (<i>n</i> =246)	IFRS (<i>n</i> =246)	Z- score	Prediction	UK GAAP (<i>n</i> =249)	IFRS (<i>n</i> =249)	Z- score
1.1 Variance of Δ NI*	UK GAAP<IFRS	0.0012	0.0014	0.770	no difference	0.0011	0.0010	1.938 [#]
1.2 Variance of Δ NI*/ Δ OCF*	UK GAAP<IFRS	1.2069	1.2300	1.329*	no difference	1.0378	0.6993	1.712 [#]
1.3 Correlation between OCF* and ACC*	UK GAAP<IFRS	-0.4510	-0.4900	1.137	no difference	-0.5430	-0.5790	1.186
<i>Panel B: Managing towards earnings targets</i>	Prediction	Coefficient (<i>n</i> =2,099)		Wald- stat	Prediction	Coefficient (<i>n</i> =2,080)		Wald- stat
2.1 Frequency of SPOS	Negative	-0.5360		7.418***	no difference	-0.0140		0.007
<i>Panel C: Timeliness of loss recognition</i>	Prediction	Coefficient (<i>n</i> =2,099)		Wald- stat	Prediction	Coefficient (<i>n</i> =2,080)		Wald- stat
3.1 Frequency of LNEG	Positive	0.3750		1.995*	no difference	-0.3870		1.894
<i>Panel D: Value relevance</i>	Prediction	JK GAAP (<i>n</i> =1,178)	IFRS (<i>n</i> =921)	Z- score	Prediction	UK GAAP (<i>n</i> =1,178)	IFRS (<i>n</i> =902)	Z- score
R^2 for association between:								
4.1 P* and accounting numbers	UK GAAP<IFRS	0.3091	0.4710	44.861***	no difference	0.4193	0.5361	29.706 ^{###}
4.2 NIPS/P* and RET	UK GAAP<IFRS	0.0559	0.0996	12.575***	no difference	0.0619	0.1400	21.942 ^{###}
4.3 RET* and earnings	UK GAAP<IFRS	0.0609	0.1534	31.520***	no difference	0.0676	0.1786	36.846 ^{###}

This table presents results for the comparison of accounting quality between UK GAAP and IFRS, for firms which have a cross listing overseas (CROSS) and firms that do not have a cross listing overseas (NONCROSS). Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The calculation of each of the accounting quality measures are discussed in Table 6-1. In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented under UK GAAP and IFRS and the z-score for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R^2 for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score fore the Cramer's test (1987) for the differences in R^2 .

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). *significant at the $p < 0.10$ level (one-tailed). ^{###}significant at the $p < 0.01$ level (two-tailed). ^(a)significant but contrary to the prediction.

Earning smoothing

Panel A of Table 6-14 provides information on the results of the three accounting quality metrics relating to earnings smoothing. The first metric for earnings smoothing is the variability of change in net income (ΔNI) (Item 1.1). The results for CROSS firms show a non-significant increase in the variance of ΔNI^* where it is 0.0012 under UK GAAP and 0.0014 under IFRS ($p = 0.220$). However, the NONCROSS firms show a significant decrease in their variance from 0.0011 under UK GAAP to 0.0010 under IFRS ($p < 0.10$). In addition, the results of the robustness tests presented in Table 6-15 reveal that while there was no significant difference between CROSS and the NONCROSS firms under UK GAAP, the CROSS firms display a significantly higher variance in ΔNI^* of 0.0014 compared to 0.0010 for the NONCROSS firms ($p < 0.05$). Overall these results support H4 as they provide some evidence that the CROSS firms show a greater decrease in earnings smoothing, thereby improvements in accounting quality, compared to the NONCROSS firms.

The second earnings smoothing measure looks at the variance of $\Delta NI^*/\Delta OCF^*$ (Item 1.2). The results in Table 6-14 support H4 as the CROSS firms show a significantly higher variance under IFRS at 1.2300 compared to 1.2069 under UK GAAP ($p < 0.10$). Furthermore, the NONCROSS firms do not show an increase in their variance of $\Delta NI^*/\Delta OCF^*$. The results of the robustness tests presented in Table 6-15 reveal that while there was no significant difference between CROSS and the NONCROSS firms under UK GAAP, the CROSS firms display a significantly higher variance in $\Delta NI^*/\Delta OCF^*$ of 1.2300 compared to 0.6993 for the NONCROSS firms ($p < 0.01$).

The next measure of earnings smoothing investigates the correlation between accruals (ACC^*) and operating cash flows (OCF^*) (Item 1.3, Table 6-14). A more negative correlation is indicative of earning smoothing and lower accounting quality. Therefore I predicted that CROSS firms will display a less negative relationship between accruals and cash flows under IFRS compared to UK GAAP. However, the correlation coefficients for the CROSS and NONCROSS firms are not significantly different between the two time periods. One reason for CROSS firms not showing a reduction in earnings smoothing is if they had lower earnings smoothing under UK GAAP. This is confirmed by the findings in the Table 6-15 because the CROSS firms had a significantly less negative correlation compared to the NONCROSS firms under

Table 6-15: Robustness comparison of accounting quality between cross listed (CROSS) and non-cross listed firms (NONCROSS), under IFRS and UK GAAP

	<i>UK GAAP</i>			<i>IFRS</i>				
	Prediction	CROSS	NONCROSS	Prediction	CROSS	NONCROSS	z- score	
Panel A: Earnings smoothing								
		(n=246)	(n=249)		(n=246)	(n=249)	(n=246)	
1.1 Variance of Δ NI*	no difference	0.0012	0.0011	0.200	CROSS>NONCROSS	0.0014	0.0010	1.566**
1.2 Variance of Δ NI*/ Δ OCF*	no difference	1.2069	1.0378	0.871	CROSS>NONCROSS	1.2300	0.6993	3.288***
		(n=1,178)	(n=1,178)			(n=921)	(n=902)	
1.3 Correlation between OCF* and ACC*	no difference	-0.4510	-0.5430	2.968###	CROSS>NONCROSS	-0.4900	-0.5790	-2.662***
Panel B: Managing towards earnings targets								
		(n=246)	(n=249)		Prediction	Coefficient	Wald- stat	
		(n=2356)				(n=1,823)		
2.1 Frequency of SPOS	no difference	-0.1530	0.601		Negative	-0.7200	7.357***	
Panel C: Timeliness of loss recognition								
	Prediction	Coefficient	Wald- stat		Prediction	Coefficient	Wald- stat	
		(n=2,356)				(n=1,823)		
3.1 Frequency of LNEG	no difference	0.0710	0.066		Positive	1.3640	13.418***	
Panel D: Value relevance								
	Prediction	CROSS	NONCROSS	z- score	Prediction	CROSS	NONCROSS	z- score
		(n=1,178)	(n=1,178)			(n=921)	(n=902)	
R ² for association between:								
4.3 P* and accounting numbers	no difference	0.3046	0.4219	38.875###	CROSS>NONCROSS	0.4710	0.5361	14.795***
4.1 NIPS/P* and RET	no difference	0.0484	0.0613	4.283###	CROSS>NONCROSS	0.0996	0.1400	10.194***
4.2 RET* and earnings	no difference	0.0582	0.0741	6.372###	CROSS>NONCROSS	0.1534	0.1786	7.400***

This table presents results for the comparison of accounting quality between for firms which have a cross listing overseas (CROSS) to firms which do not have a cross listing overseas (NONCROSS), under IFRS and UK GAAP. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4). The calculation of each of the accounting quality measures is discussed in Table 6-1.

In Panel A, the median values for the variance of Δ NI* (Item 1.1) and Variance of Δ NI*/ Δ OCF* (Item 1.2) are presented for the CROSS and the NONCROSS firms and the z-score for the difference in medians. For Item 1.3 The correlation coefficients for the relationship between OCF* and ACC* and the z-score for the difference in the correlation coefficients are presented.

In Panel B the coefficient for the small positive net income (SPOS) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel C the coefficient for the large negative net income (LNEG) variable is presented along with Wald Statistic representing the significance of the coefficient.

In Panel D the adjusted R² for regressions used for Items 4.1, 4.2 and 4.3 are presented along with the z-score fore the Cramer's test (1987) for the differences in R².

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). ###significant at the $p < 0.01$ level (two-tailed). ^(a)significant but contrary to the prediction.

UK GAAP (-0.4510 versus -0.5430, $p < 0.01$) and continued to do so under IFRS (-0.4900 versus -0.5790, $p < 0.01$). Therefore, although the main results in Table 6-14 do not support H4, the robustness tests reveal that the CROSS firms had lower earnings smoothing (in terms of the relationship between ACC and OCF) under UK GAAP, thus their ability to further reduce earnings under IFRS may have been limited.

Managing towards earnings targets

The frequency of small positive net income (SPOS) (Item 2.1) is the next accounting quality measure and the results are presented in Panel B of Table 6-14. The results support H4 as the coefficient for SPOS for the CROSS firms is negative (-0.5360) and significant at $p < 0.01$ level. This reflects a lower frequency of SPOS under IFRS compared to UK GAAP. This is indicative of less management towards earnings targets and better accounting quality for the CROSS firms. In addition, the results for NONCROSS firms do not reveal any changes in the frequency of SPOS under UK GAAP and IFRS. The results of the robustness tests (Panel B of Table 6-15) confirm these findings as they show that while there was no significant difference in the frequency of SPOS under UK GAAP between the two categories of firms, CROSS firms have a significantly lower frequency of SPOS under IFRS.

Timeliness of loss recognition

Panel C of Table 6-14 provides the results for the UK GAAP and IFRS comparison for the timeliness of loss recognition measure, operationalised in terms of the frequency of large negative net income (LNEG) (Item 3.1). A positive coefficient for LNEG indicates that firms recognise large losses more frequently under IFRS. Consistent with the prediction, the coefficient for LNEG for CROSS firms is positive at 0.3750 and significant at the $p < 0.10$ level. This is indicative of more timely recognition of losses by the CROSS firms under IFRS compared to UK GAAP. In addition, NONCROSS firms do not show a significant difference in the frequency of LNEG between the two time periods. Therefore, the results support H4 as they reveal the CROSS firms show greater improvements in the timeliness of loss recognition, thereby accounting quality, compared to the NONCROSS firms, post IFRS adoption. The results of the robustness tests (Panel C of Table 6-15) confirm these findings, because while there was no significant difference in the frequency of LNEG under UK GAAP between CROSS and

NONCROSS firms, CROSS firms have a significantly higher frequency of LNEG under IFRS compared to NONCROSS firms.

Value relevance

The next set of accounting quality measures relate to value relevance, operationalised as the association between accounting numbers and market measures. For each of these measures I compared the adjusted R^2 of the corresponding regressions between IFRS and UK GAAP using Cramer's test (1987). A higher adjusted R^2 is indicative of a better association between earnings numbers and market measures, thereby greater value relevance and accounting quality. Therefore, for each of these measures, I predicted that CROSS firms will display greater improvements in their adjusted R^2 post IFRS adoption compared to the NONCROSS firms. Panel D of Table 6-14 presents the adjusted R^2 and the z-scores for the Cramer's test (1987).

The first value relevance metric compares the adjusted R^2 from a regression of share prices (PRICE) on book value of equity per share (BVEPS) and net income per share (NIPS) (Item 4.1, Table 6-14). The adjusted R^2 for the CROSS group is higher under IFRS at 0.4710 while it is 0.3091 under UK GAAP and the difference is significant at $p < 0.01$. However, the results for the NONCROSS firms also indicate a higher adjusted R^2 under IFRS at 0.5361 compared to 0.4193 under UK GAAP ($p < 0.01$). In addition, the results of the robustness tests (Panel D of Table 6-15) show that the CROSS firms did not have a higher level of value relevance under UK GAAP compared to the NONCROSS firms. Taken together these results do not support H4 as there is no evidence that CROSS firms had greater improvements in value relevance compared to the NONCROSS firms.

The next value relevance metric is based on the explanatory power from a regression of net income per share scaled by beginning of year price (NIPS/P) on annual stock return (RET) (Item 4.2, Table 6-14). The adjusted R^2 under IFRS is significantly higher for the CROSS firms at 0.0996 compared to 0.0559 under UK GAAP ($p < 0.01$). Similarly, results for the NONCROSS firms indicate improvements in their value relevance as the R^2 increases to 0.1400 under IFRS from 0.0619 under UK GAAP ($p < 0.01$). The results of the robustness tests (presented in Panel D of Table 6-15), show the CROSS firms did not display higher level of value relevance compared to the NONCROSS firms prior to

the adoption of IFRS. Therefore, the results for this value relevance measure do not support H4.

The final measure of value relevance looks at the association between returns (RET) with the level and changes in earnings scaled by share price (NIPS/P and Δ NIPS/P) (Item 4.3, Table 6-14). Similar to the results of the previous two measures, the results for this measure show improvements in value relevance for both the CROSS and NONCROSS firms and do not support H4. Specifically, the adjusted R^2 for the CROSS firms under UK GAAP and IFRS is 0.0609 and 0.1534 respectively and the difference is significant at $p < 0.01$. The NONCROSS firms display adjusted R^2 of 0.0676 and 0.1786 respectively under UK GAAP and IFRS ($p < 0.01$). The results of the robustness tests (presented in Panel D of Table 6-15), show that the CROSS firms do not display higher level of value relevance compared to the NONCROSS firms under UK GAAP or IFRS. Therefore, the results for this value relevance measure do not support H4.

Similar to the comparison between the SEG High and SEG Low firms, the CROSS firms persistently show lower levels of value relevance compared to the NONCROSS firms. This could be due to the CROSS firms being larger and more complex than the NONCROSS firms resulting in it being more difficult for investors to predict the firm's underlying value and future cash flows. Descriptive statistics (presented in Table 5 in Appendix B) where the mean market value for the CROSS firms is £3.082 billion while it is £0.281 billion for the NONCROSS firms ($p < 0.01$).

Summary of results for H4

For H4, I predicted that accounting quality post IFRS adoption is better due to improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms. The following table summarises the results for H4, for each of the eight measures of accounting quality. H4 is supported if CROSS firms show greater improvements in accounting quality compared to NONCROSS firms.

Table 6-16: Summary of results for H4

Accounting quality measure	H4 is supported/ not supported
<i>Earnings smoothing</i>	
1.1 Variance of ΔNI^*	Supported
1.2 Variance of $\Delta NI^*/\Delta OCF^*$	Supported
1.3 Correlation between OCF^* and ACC^*	Not supported
<i>Managing towards earnings targets</i>	
2.1 Frequency of SPOS	Supported
<i>Timeliness of loss recognition</i>	
3.1 Frequency of LNEG	Supported
<i>Value relevance</i>	
4.1 P^* and accounting numbers	Not supported
4.2 $NIPS/P^*$ and RET	Not supported
4.3 RET^* and earnings	Not supported

The variance of ΔNI^* and variance of $\Delta NI^*/\Delta OCF^*$ measures supported H4 as they showed that CROSS firms reduced their earnings smoothing more than the NONCROSS firms post IFRS adoption. Similarly, based on the frequency of SPOS measure, CROSS firms showed greater reductions in management towards earnings targets compared to the NONCROSS firms. The results of the frequency of LNEG measure supported H4 as CROSS firms showed greater improvements in their timeliness of loss recognition relative to NONCROSS firms. Therefore, the results of these four measures of accounting quality indicate that contemporaneous changes in foreign countries to improve their regulations and institutional oversight systems is a mechanism by which accounting quality of UK firms improved.

My results are consistent with the results of previous studies such as Zéghal et al. (2011) who find a positive influence of the number of listings on international financial markets on reducing earnings management (based on the level of discretionary accruals) for French firms that adopted IFRS under a mandatory setting. They attributed the findings to cross listed firms being subject to restrictions imposed by different countries and a higher litigation risk. Both Street and Bryant (2000) and Street and Gray (2001) find a positive association between compliance with IAS and having a listing or filing in the US. Similarly, Glaum and Street (2003) find that the level of compliance with IAS is higher among German firms when they are cross listed on US exchanges. Therefore, the cross listed firms in my study may show greater improvements in accounting quality (in terms of reductions in earnings smoothing, management towards earning targets and increase in the timeliness of loss recognition) because they are listed in a strong enforcement country such as the US. In addition, as discussed in Chapter 4, significant

regulatory changes were introduced in the US (such as the introduction of SOX) and Germany (such as the establishment of regulatory bodies such as DPR, BaFin and AOC), in the IFRS period.⁷¹ This may have provided greater incentive for the CROSS firms to reduce earnings management under IFRS compared to the NONCROSS firms.

The results for the correlation between the ACC and OCF measure of earning smoothing did not support H4. However, further analysis revealed that this was because the CROSS firms had significantly lower levels of earnings smoothing under UK GAAP compared to the NONCROSS firms, thus limiting their ability to further improve upon this measure.

All three value relevance measures show improvements for both CROSS and NONCROSS firms post IFRS adoption. However, the results for the value relevance measures do not support H4 as the CROSS firms do not show greater improvements in the relationship between accounting numbers and market measures (operationalised in terms of adjusted R²) compared to the NONCROSS firms. Recall, that the results for H1 (Table 6.2), where the full sample of 495 firms were analysed, all three value relevance measures showed significantly higher levels under IFRS compared to UK GAAP. Taken together the results for the value relevance measures for H4 revealed that while accounting numbers have greater relevance and therefore are more useful to investors under IFRS compared to UK GAAP, these changes do not appear to be related to additional monitoring to which cross listed firms are subjected to and improvements in the regulatory activities and institutional oversight system in foreign countries that impact on cross listed firms.

6.6 SUMMARY

In this chapter I present the results for my thesis where I investigate whether accounting quality in the UK has increased due to the mandatory adoption of IFRS (H1). In addition, I investigate whether the greater use of fair value measurement and associated more extensive disclosure requirements (H2), more extensive disclosure requirements alone (H3) or improvements in the regulatory activities and institutional oversight

⁷¹Although SOX was signed into law on 30 July 2002, foreign firms did not have to meet all the requirements of SOX until financial years ending on or after 15 July 2006.

system in foreign countries that impact on cross listed firms (H4) are mechanisms by which IFRS improved the accounting quality of UK firms.

Each of the above mentioned hypotheses (excluding H3) was examined using eight individual measures of accounting quality in the areas of earnings smoothing, management towards earnings targets, timeliness of loss recognition and value relevance. As H3 relates only to disclosure (and not changes in accounting numbers), it was investigated specifically for improvements in value relevance.

For H1, my results indicate that accounting quality of UK firms improved post IFRS adoption in terms of less management towards earnings targets and improved value relevance. However, there is no evidence that accounting quality improved with regards to displaying lower levels of earnings smoothing and improved timeliness of loss recognition.

For H2, I examined whether the greater use of fair value measurement and associated more extensive disclosure requirements imposed by IFRS is a mechanism through which accounting quality increased. This analysis was based on the proxies of financial assets, financial liabilities and intangible assets. The results for all three proxies showed that the greater use of fair value measurement and more disclosure requirements under IFRS led to a reduction in the management towards earnings targets, thereby better accounting quality. In addition, the financial assets proxy provided evidence that accounting quality improved in terms of the value relevance measure when the relationship between returns (RET) and earnings (NIPS/P and Δ NIPS/P) was examined. For the financial liabilities and intangible assets proxies, other than for the management towards earnings targets measure, the remaining seven measures of accounting quality did not provide evidence to support H2.

The second mechanism I investigated was more extensive disclosure requirements imposed by IFRS, which was proxied by segment reporting (H3). The results for all three of the value relevance measures do not support H3 as they do not suggest that greater disclosure of segment reporting is a mechanism by which value relevance, thereby accounting quality increased post IFRS adoption.

The final mechanism I investigated was contemporaneous improvements in the regulatory activities and institutional oversight system in foreign countries in the post IFRS period. I compared changes in the accounting quality of UK firms with cross listings in foreign stock exchanges (CROSS) with firms not cross listed (NONCROSS). The results of the variance of ΔNI^* , variance of $\Delta NI^*/\Delta OCF^*$ measures of earnings smoothing, managing towards earnings targets and timeliness of loss recognition measures supported H4 by revealing that cross listed firms made greater improvements in accounting quality compared to firms that were not cross listed.

Taken together, my results reveal that despite the UK being perceived to have a high level of accounting quality prior to IFRS adoption, UK firms benefited by its adoption through improvements in certain aspects of accounting quality (such as reductions in management towards earnings targets and improvements in value relevance). My investigation into specific mechanisms that may be associated with improvements in accounting quality revealed that a few of the various mechanisms under analysis provide explanations for improvements in different aspects of accounting quality of UK firms. For example, the evidence suggests that improvements in accounting quality for UK firms, in terms of reduction in management towards earnings targets, are linked to accounting under IFRS for financial assets, financial liabilities, intangible assets, segment reporting and cross listing status of the firm. In addition, interestingly, the findings suggest additional regulations and enhanced scrutiny, via changes in the regulatory regimes in foreign countries, have played a part in improving the accounting quality of UK firms that are cross listed, post IFRS adoption in terms reducing earnings smoothing, managing towards earnings targets and enhancing timeliness of loss recognition.

CHAPTER 7: CONCLUSIONS

7.1 INTRODUCTION

This chapter summarises the main conclusions of the thesis. Section 7.2 presents a summary of the findings while Section 7.3 provides the major conclusions and the implications of my findings. Section 7.4 discusses the contribution of my thesis towards the literature while Section 7.5 outlines its limitations and suggests areas for further research.

7.2 SUMMARY OF FINDINGS

This thesis addresses the following two research questions: (i) has the adoption of IFRS in the UK resulted in better accounting quality for UK firms? and (ii) what are the specific mechanisms by which accounting quality may have improved post IFRS adoption in the UK? To address the first research question, I investigate whether UK firms show better accounting quality post IFRS adoption. Accounting quality is measured in terms of earnings smoothing, management towards earnings targets, timeliness of loss recognition and value relevance as established in prior studies literature. To address the second research question, I use the following three mechanisms: (a) the greater use of fair value measurement and associated more extensive disclosure requirements imposed by IFRS compared to UK GAAP (measurement and disclosure), (b) more extensive disclosure requirements imposed by IFRS compared to UK GAAP (disclosure only) and, (c) improvements in the regulatory activities and institutional oversight systems in foreign countries that impact on cross listed firms (enforcement).

These research questions are analysed by examining firms listed on the LSE which is the largest capital market in the world where IFRS are being used as the primary accounting standards. To capture different aspects of firm financial reporting I used eight individual measures of accounting quality that included three measures for earnings smoothing, one for managing towards earnings targets, one for timely loss recognition and three measures for value relevance. These measures were adopted from prior studies such as

Lang, Raedy and Yetman (2003), Lang, Raedy and Wilson (2006), Barth, Landsman and Lang (2008) and Paananen and Lin (2009). UK firms reported under UK GAAP prior to the adoption of IFRS. I investigated whether firms display lower earnings smoothing, less managing towards earnings targets, more timely recognition of losses and improved value relevance under IFRS compared to UK GAAP.

Tests carried out based on the full sample of 495 sample firms to address the first research question revealed that the accounting quality of UK firms improved post IFRS adoption in terms of displaying less management towards earnings targets and improved value relevance. However, there was no evidence of accounting quality improvements post IFRS adoption with regards to displaying lower levels of earnings smoothing and more timely recognition of losses. My results are consistent with prior studies such as Jeanjean and Stolowy (2008) and Callao and Jarne (2010) and Ahmed, Neel and Wang (2012) who do not find reductions in earnings management post IFRS adoption.

Next I investigated the specific mechanisms by which accounting quality may have improved post IFRS adoption in the UK. Proponents of fair value measurement argue that it better reflects the economic substance of assets and liabilities compared to historical cost measurements because fair values provide more current valuation information (Barth, 1994, Barth et al. 1996; Penman, 2007). IFRS requires more fair value measurement and more comprehensive disclosure in the reporting of some items such as financial instruments (IAS 32, IAS 39) and intangible assets (IAS 36, IAS 38, IFRS 3). Therefore, the first mechanism I investigated is the greater use of fair value measurement and the associated more extensive disclosure imposed by IFRS (measurement and disclosure). The proxies I used to investigate this mechanism are financial assets, financial liabilities and intangible assets. Specifically, I examined whether firms with higher levels of financial assets, financial liabilities and intangible assets show greater improvements in accounting quality post IFRS adoption compared to firms with less.

The results using these three proxies revealed that the greater use of fair values and associated more extensive disclosure requirements imposed by IFRS contributed towards a reduction in managing towards earnings targets by UK firms. In addition, for the financial assets proxy, there was evidence that the value relevance of accounting numbers improved in terms of the relationship between returns and earnings. For the

financial liabilities and intangible assets proxies, except for the management towards earnings targets measure, the other seven measures of accounting quality did not provide evidence that the greater use of fair values and disclosure imposed by IFRS was associated with improvements in accounting quality.

IFRS imposes more extensive disclosure requirements for segment reporting (IAS 14) compared to UK GAAP. This may improve the usefulness of financial statements for investors as they gain access to detailed information on the financial position and performance of each of a firm's segments. Therefore, the second mechanism I investigated was the more extensive disclosure requirements that are imposed by IFRS compared to UK GAAP (disclosure only) and the proxy I used was the number of business and geographic segments. Specifically, I investigated whether firms with more segments show greater improvements in accounting quality post IFRS adoption, compared to firms with fewer segments. The changes imposed by IFRS for this mechanism relate to disclosure alone and are not expected to change earnings measurement practices. Therefore, I used only the value relevance measures in the testing of this mechanism. However, the results of all three value relevance measures did not provide evidence that the greater disclosure requirements imposed by IFRS for segment disclosure was associated with improved accounting quality for UK firms.

Around the time of IFRS adoption, countries such as the US and Germany implemented changes with the intent of increasing the strength of their regulations and robustness of their institutional oversight systems, and in turn improving the incentives of insiders to provide more useful information to the users of financial statements (Zingales, 2009; Hitz, Ernstberger and Stich, 2012; Ernstberger, Stich and Vogler, 2012). As UK firms that are cross listed in these foreign countries come under their regulatory regimes, the cross listed firms may have a greater incentive, over and above the effect of changes in regulation implemented in the UK, to improve their accounting quality compared to firms that are not cross listed. Therefore, the third mechanism I investigated was the improvements in the regulatory activities and institutional oversight systems in foreign countries that impact on cross listed firms (enforcement). I did so by examining whether UK firms that are cross listed on foreign stock exchanges (predominantly in Germany and the US) show greater improvements in accounting quality compared to UK firms that are not cross listed. The results for two of the earnings smoothing measures (variance of ΔNI , variance of $\Delta NI/\Delta OCF$), managing towards earnings targets and

timeliness of loss recognition revealed that cross listed firms showed greater improvements in accounting quality compared to the non cross listed firms.

7.3 CONCLUSIONS AND IMPLICATIONS

The results for the full sample of 495 firms provided evidence of less managing towards earnings targets and improved value relevance for UK firms post IFRS adoption. However, the results did not show reductions in earnings smoothing or improved timeliness of loss recognition post IFRS adoption. This implies that while there are benefits to the adoption of IFRS to UK firms, these benefits are not consistent across all aspects of accounting quality. The results for four out of eight measures of accounting quality used in my thesis may not show improvement post IFRS adoption because UK GAAP was considered to be a high quality accounting standards and the number of differences between IFRS and UK GAAP was low compared to standards from countries such as Germany and France (Horton and Serafeim, 2009; Benston et al., 2006a; Bae et al., 2008). Therefore, the scope for IFRS to improve all aspects of accounting quality of UK firms may have been limited. Prior studies such as Jeanjean and Stolowy (2008), Callao and Jarne (2010) and Ahmed et al. (2012) did not find reductions in earnings management post IFRS adoption. These studies have generally attributed their findings to the greater flexibility and managerial discretion provided by IFRS compared to domestic GAAP.

The results using the proxies of financial assets, financial liabilities and intangible assets show improvements in accounting quality in terms of reductions in managing towards earnings targets. However, most of the other measures of accounting quality do not show improvements. This may be due to UK firms not meeting the additional fair value measurement and other disclosure requirements of IFRS. Another reason could be possible flaws with fair value measurement. The GFC made certain markets less liquid resulting in it becoming more difficult to identify market prices (Laux and Leuz, 2009). Where market prices are not available, fair value measurement allows the use of models based on assumptions to estimate fair values. These models can be subjective and give considerable discretionary power to insiders when making underlying assumptions, thus increasing the potential for earnings management (Mala and Chand, 2011). Also, during times of financial crisis (such as the GFC), market prices may be severely depressed and deviate significantly from fundamental values. Therefore, the greater use of current

values under fair value measurement may not improve the value relevance of accounting numbers and in turn, accounting quality. In response to these criticisms, the IASB set up an Expert Advisory Panel in 2008 to identify best practices for estimating fair value in illiquid markets and for disclosure. Furthermore, in May 2011, the IASB issued IFRS 13: *Fair Value Measurement* which applies to accounting periods beginning on or after 1 January 2013. In IFRS 13 the IASB acknowledges issues with previous standards such as lack of clear measurement or disclosure objectives, insufficient guidance and inconsistencies in the requirements contributing to diversity in practice and lack of comparability (IN5-IN6).

The results for the financial assets and financial liabilities proxies may not have shown greater reductions in earnings smoothing or improvements in the timeliness of loss recognition measures by firms that have higher levels of financial assets or financial liabilities (compared to firms that have less) because of the use of hedging. Firms can minimise the effect on earnings of negative price movements on underlying assets or liabilities by acquiring an asset or liability whose price moves in the opposite direction (Chalmers and Godfrey, 2000; Duh, Hsu and Alves, 2012; Iatridis, 2012; Beisland, 2010). This will decrease the volatility of earnings and likelihood of financial distress. Firms often use derivatives for hedging purposes (Scott, 2009, p. 243-244; Nguyen, Faff, and Hodgson, 2010). The measures I used to determine the levels of financial assets and liabilities that a firm has in its possession were derivative assets scaled by total assets and derivative liabilities scaled by total assets. Therefore, the use of derivatives for hedging by firms that have higher levels of financial assets or financial liabilities may prevent any increases in the volatility of earnings or instances of large losses compared to firms that have less.

My results for the second mechanism (disclosure only), did not provide any evidence that more extensive disclosure requirements imposed by IFRS for segment reporting are associated with improvements in accounting quality. Firms can choose either business or geographic segments as their primary segment. While IAS 14 imposes additional disclosure requirements for primary segments compared UK GAAP (SSAP 25), it does not impose additional requirements for secondary segments. Therefore, the greater disclosure requirements imposed by IFRS for primary segments may not be enough to significantly improve financial reporting disclosure and ultimately accounting quality of UK firms. In addition, my results may not support the prediction because firms may not

be complying with the disclosure requirements of IAS 14. Concerns about the non-compliance with IAS 14 by UK firms have been highlighted by the FRRP in their annual activity reports (FRRP, 2010; FRRP, 2011). In addition, IAS 14 has been criticised for giving insiders too much discretion in choosing the reporting segments which in turn may have a detrimental effect on the amount and type of information disclosed (Roberts, 2000, p.451). In order to overcome the above mentioned deficiencies with IAS 14, the IASB has issued IFRS 8 that applies for annual periods beginning on or after 1 January 2009. The introduction of IFRS 8 may have resulted in improvements in value relevance, thereby accounting quality that is not being captured in my thesis as it is outside the sample period of my study.

The results for the third mechanism revealed that cross listed firms improved their accounting quality more than the non cross listed firms in two of the earnings smoothing measures (variance of ΔNI , variance of $\Delta NI/\Delta OCF$), managing towards earnings targets and timeliness of loss recognition measures. These findings suggest that additional regulations and enhanced scrutiny, via changes in the regulatory regimes in foreign countries (such as Germany and the US), have been effective in improving certain aspects of accounting quality of UK firms that are cross listed.

In summary, my results provide evidence that the reduction in management towards earnings targets observed for the full sample of 495 firms (when testing the first research question), may be due to the greater use of fair value measurement and more disclosure for financial assets, financial liabilities and intangible assets (measurement and disclosure) as well as contemporaneous improvements in the regulatory activities and institutional oversight systems in foreign countries that impact on cross listed firms (enforcement).

The results for the full sample revealed that despite UK GAAP being perceived to be of high quality with few differences with international standards, UK firms benefited from the adoption of IFRS through improvements in certain aspects of accounting quality, such as reductions in managing towards earnings targets and improvements in value relevance. My investigation into specific mechanisms revealed that they are associated with improvements in accounting quality albeit only in some of the eight measures used in my thesis. To a certain extent, my results are consistent with the continued efforts of the IASB to improve reporting practices by replacing or amending the IFRS that were

adopted in 2005 for financial instruments, intangible assets and segment reporting as the Board has recognised that there is scope for further improvements in the accounting standards. The results of my thesis have policy implications as they indicate that some firms may not be providing comprehensive disclosure of relevant financial information investors or fully complying with the accounting standards. My results in relation to cross listed firms support the call for policy initiatives to improve enforcement activity to facilitate the effective global application of IFRS (IFRSF, 2012).

7.4 CONTRIBUTION

Data from prior studies on mandatory IFRS adoption such as Horton and Serafeim (2009), Jeanjean and Stolowy (2008), and Iatridis (2010) are generally confined to the first one or two years (2005/2006) after the mandatory adoption of IFRS. As firms need some time to understand and implement IFRS, the number of years under analysis in the post IFRS adoption time period is important (Ernstberger et al., 2008). Therefore, this thesis makes a contribution to the literature by analysing four years of data (2005-2009) under IFRS reporting. In addition, my final sample of 495 firms is larger than in previous studies that focused on IFRS adoption in the UK such as Horton and Serafeim (2009) with 297 firms and Iatridis (2010) with 241 firms. The longer time period under analysis and the larger sample size of my thesis improves the reliability of my results.

UK GAAP were considered to be a high quality standards (Horton and Serafeim, 2009). Furthermore, the UK is perceived to be a strong enforcement country (Kaufmann et al., 2012). Therefore, my thesis contributes to the literature by examining whether the adoption of IFRS is associated with any improvements in accounting quality in a setting where there are high quality domestic accounting standards and strong enforcement. As the US is also considered to be a country with high quality accounting standards and enforcement, my results may be relevant to the SEC's deliberations in allowing US firms to prepare their financial statements using IFRS as published by the IASB.

Prior studies investigating the effects of mandatory IFRS adoption have not specifically investigated the mechanisms through which IFRS may have increased accounting quality. My thesis extends the existing literature by investigating whether three specific mechanisms (measurement and disclosure, disclosure only and enforcement) are associated with improvements in accounting quality post mandatory IFRS adoption.

The GFC has highlighted issues with fair value measurement and at the time of this thesis there is a major policy debate taking place, involving representatives from the US Congress and the European Commission as well as banking and accounting regulators around the world including the IASB (Tweedie, 2008; Laux and Leuz, 2009; Mala and Chand, 2011). It is argued that fair value measurement provides more value relevant information that represents the current market value of the underlying asset or liability compared to historical cost figures (Whittington, 2005, p.139). During the GFC, the prices of many assets decreased significantly. Therefore, critics of fair value measurement argue that it significantly contributed to the financial crisis and exacerbated its severity for financial institutions in the US and around the world by recognising assets at values which were much lower than their real values, making it more difficult for investors to predict future cash flows (ABA, 2008; Mala and Chand, 2011). IFRS has introduced greater fair value measurement in certain areas such as financial instruments and intangible assets compared to UK GAAP (Nobes, 2001; Cairns et al., 2011). Therefore, my thesis contributes to this ongoing debate by investigating whether the greater use of fair value measurement under IFRS has contributed to improvements in accounting quality.

7.5 LIMITATIONS AND FUTURE RESEARCH

The GFC commenced in 2007 and the sample period for my study under IFRS is 2005 to 2009. Therefore, my results may be affected by the GFC, especially for the second mechanism where I analysed whether accounting quality post IFRS adoption improved due to the greater use of fair values and more extensive disclosure requirements. This is because the GFC caused participation in financial markets to decrease. This in turn reduced the liquidity of financial instruments and the ability to assess their market prices (Crotty, 2009). In addition, during times of crisis, market prices are distressed and can significantly deviate from fundamental values. Therefore, during the GFC, the relevance and reliability of market prices and in turn fair values may have been lower than in general. Thus, the greater use of fair values may not increase the usefulness of financial information to investors during a financial crisis (Laux and Leuz, 2009). Therefore, although the IASB may have introduced sound standards in 2005, this may not have translated to better accounting quality in my results due to the confounding effects of the GFC. It must be noted that my research design attempts to take into

account general trends in the market. For example, I examine whether cross listed firms show greater improvements in accounting quality compared to non-cross listed firms (instead of focusing only on improvements in accounting quality of cross listed firms). Thus, the inferences that I make from my results should not be influenced by general trends in the market that may have affected the accounting quality of both categories of firms to a similar degree. However, an issue specific to the GFC in relation to the tests that I carried out for the second mechanism is that the GFC may have affected the financial reporting of FA High, FL High and INT High firms to a greater extent than the FA Low, FL Low and INT Low firms. Future research could contribute to the existing literature by including time periods post GFC.

The proxies that I used to investigate the three mechanisms were financial assets, financial liabilities, intangible assets, number of segments and the cross listing status of sample firms. As stated in Chapter 5, to carry out the tests, I categorised firms into two groups. For example, firms were categorised into the FA High category if they had higher than the median derivative assets scaled by total assets, and into the FA Low category if they had lower than the median. The hypotheses was supported if firms in the FA High category showed greater improvements in accounting quality post IFRS adoption, compared to firms in FA Low category. When segregating firms into categories, data for these proxies (such as derivative assets, derivative liabilities, intangible assets, number of segments and cross listing status) were collected for the third year of IFRS adoption (adoption year 3) which corresponds to 2007/2008 calendar years. This year was chosen because more comprehensive data was available for these specific proxies from the Datastream database for calendar years 2007 onwards, compared to prior years. Ideally, I would have used data from adoption year 0 or 1 (calendar years 2004 or 2005), representing the last year of UK GAAP reporting or the first year of IFRS reporting when segregating firms into categories. However, as the Datastream database did not have data on the above mentioned proxies for most of the sample firms prior to 2007, if I had chosen to use data prior to 2007 to segregate firms based on the above mentioned proxies, the final sample would have been severely depleted. In order to alleviate concerns that firms may have been categorised incorrectly, I undertook further analysis of firm characteristics in the High and Low

categories.⁷² This further analysis provided greater confidence that firms are categorised correctly. For example, all eight banks in my final sample were grouped into the FA High and FL High categories based on the derivatives data collected from Datastream for adoption year 3. In addition, there is a higher representation of life insurance firms in the FA High and FL High categories. Banks and life insurance firms are considered to be active in the derivatives market compared to other firms (Cummins et al., 2001). Goodwin and Ahmed (2006) find that Information Technology and Health Care industries to be ‘intangible intensive’. Consistent with this, firms from these sub-industries are over-represented in the INT High category in my thesis. In addition, Banks and Life Insurance firms were under represented in the INT High category which is also consistent with Goodwin and Ahmed (2006). As per the descriptive statistics provided in Table 4 in Appendix B, SEG High firms have significantly higher market values with a mean of £2.795 billion compared to SEG Low firms with a mean of £0.900 billion ($p < 0.01$). This is consistent with studies such as Salamon and Dhaliwal (1980), Bradbury (1992) and Prencipe (2004) who have shown a positive association between firm size and segment disclosure. Similarly, the descriptive statistics in Table 5 in Appendix B, show that CROSS firms have significantly higher market values with a mean of £3.082 billion compared to £0.281 billion for the NON CROSS firms ($p < 0.01$). This is consistent with Pagano, Röell and Zechner (2002) who found a positive association for European firms between firm size and cross listing. As the firms that fall into the High and Low categories in my study display the characteristics observed in prior studies, greater confidence is provided that sample firms have been correctly categorised.

In the IASB’s ongoing efforts to improve financial reporting practices, the Board has introduced several new standards and modified existing standards. For example, the IASB has issued IFRS 7 and IFRS 9 relating to financial instruments.⁷³ While IFRS 7 replaces the disclosure requirements in IAS 32, IFRS 9 is intended to replace IAS 39 for annual periods beginning on or after 1 January 2015. In addition, IFRS 8 *Operating Segments* has replaced IAS 14 on segment reporting for annual periods beginning on or after 1 January 2009. The effects of these new standards on accounting quality will not

⁷²Detailed analysis of the sample composition in each of the High and Low categories is provided in Chapter 5, Sections 5.4.2.1 – 5.4.4.

⁷³ IFRS 7 *Financial Instruments: Disclosures*; IFRS 9 *Financial Instruments*.

be included in my thesis as my sample period ends in 2009. Future research could empirically investigate whether accounting quality of IFRS adopters improved after the introduction of these new standards and firms have had enough time to understand their application.

The timeliness of loss recognition measure used in my thesis is based on prior studies such as Lang et al. (2003), Barth et al. (2006), Lang et al. (2006), Barth et al. (2008) and Paananen and Lin (2009). This measure interprets a higher frequency of large negative earnings as reflective of more timely loss recognition and in turn better accounting quality. However, large negative earnings could also indicate insiders taking a 'big bath' to increase their ability to report profits in future periods (Kirschenheiter and Melumad, 2002). This in turn could indicate lower accounting quality. Therefore, future research in accounting quality could benefit from using a measure that is able to differentiate between firms taking a 'big bath' and reporting the actual underlying losses of the firm in a timely manner.

The earnings smoothing measures that I use in my thesis are also based on prior studies such as Lang et al. (2003), Barth et al. (2006), Lang et al. (2006), Barth et al. (2008) and Paananen and Lin (2009). These measures interpret greater earnings smoothing as indicative of low accounting quality because managers may be hiding a firm's poor earnings or under-reporting greater than expected earnings. However, proponents of earnings smoothing argue that managers may be engaging in smoothing earnings to provide a true indication of a firm's future cash flows (Scott, 2009, p.416-422). In these instances, smooth earnings may in fact be more useful to investors and in turn reflect better accounting quality. However, the measures used in my thesis do not differentiate between smoothness in earnings due to managers hiding the true performance of the firm or attempting to provide a better indication of future cash flows. Future research in accounting quality would benefit by developing a more precise measure of earnings smoothing that is able to identify when managers are smoothing earnings to hide firm performance.

Accounting quality is affected by a country's institutional setting for financial reporting that not only includes accounting standards but also various enforcement mechanisms (Ball, 2006). Future research can look at whether changes in the regulations and enforcement activities that occurred in the UK (some of which are discussed in Chapter

2) caused improvements in the accounting quality of firms listed in the UK. However, undertaking such research may be difficult in the UK setting. This is because informal action such as private requests for remedial action by regulatory bodies such as the FRRP, for which there is less publicly available information, is more prevalent than more formal enforcement mechanisms such as applications to court.

One reason that motivated many non-US firms to adopt IFRS was the belief that the SEC in the US would eventually recognise IFRS as equivalent to US GAAP and would allow US firms to report under IFRS (Tweedie, 2007). In 2008, the SEC published a proposed roadmap on the adoption of IFRS for domestic US firms. This roadmap outlines milestones that if met, could lead to the required use of IFRS for US firms in 2014 (SEC, 2009). Considering the significance of this event, future research could examine whether US firms show any changes in accounting quality once they adopt IFRS.

The adoption of IFRS has been a major event in international capital markets. Many studies are investigating the outcome of its adoption and at present the results are mixed (Brown, 2011). My thesis adds to the literature by revealing that UK firms benefited by the adoption of IFRS through improvements in certain aspects of accounting quality (such as reductions in management towards earnings targets and improvements in value relevance) and by investigating specific mechanisms that may be associated with improvements in accounting quality.

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APPENDIX A – SEGMENT REPORTING

In order to provide an example of segment reporting under IAS 14 for primary and secondary segments I have presented below excerpts from the Abacus Group Plc annual report for 2007 (p.45-47). The Abacus Group reports business segments as primary segments while geographic segments as secondary.

Primary reporting format – Business segments					
The following tables present revenue and profit and certain asset and liability information regarding the Group's business segments for the years ended 30 September 2007 and 2006.					
Year ended 30 September 2007	Electronic component distribution £'m	Manufacturing £'m	Unallocated £'m	Eliminations £'m	Total £'m
Segment Revenue					
Sales to external customers	271.6	15.3	–	–	286.9
Inter-segment sales	4.2	4.6	–	(8.8)	–
Segment revenue	275.8	19.9	–	(8.8)	286.9
Segment Results					
Operating profit before amortisation of acquired intangibles and exceptionals	14.7	1.9	–	–	16.6
Exceptionals	(10.6)	–	–	–	(10.6)
Operating profit before amortisation of acquired intangibles	4.1	1.9	–	–	6.0
Amortisation of acquired intangibles	(1.4)	(0.3)	–	–	(1.7)
Operating profit	2.7	1.6	–	–	4.3
Net finance costs					(3.7)
Profit before taxation					0.6
Income tax expense					(0.4)
Net profit for the year					0.2
Assets and Liabilities					
Segment assets	166.7	14.1	4.8	–	185.6
Segment liabilities	(40.3)	(2.6)	(65.7)	–	(108.6)
Other segment information					
Capital expenditure:					
Property, plant and equipment – additions	0.8	0.1	–	–	0.9
Intangible assets – additions and internal development	2.9	0.1	–	–	3.0
Non-cash expenditure:					
Depreciation	(1.3)	(0.1)	–	–	(1.4)
Impairment loss	(10.0)	–	–	–	(10.0)
Inventory provision	0.2	–	–	–	0.2
Amortisation of intangibles	(1.8)	(0.3)	–	–	(2.1)

1 Revenue and segmental reporting (continued)					
Year ended 30 September 2006	Electronic component distribution £'m	Manufacturing £'m	Unallocated £'m	Elimination £'m	Total £'m
Segment Revenue					
Sales to external customers	244.0	13.1	–	–	257.1
Inter-segment sales	4.0	4.7	–	(8.7)	–
Segment revenue	248.0	17.8	–	(8.7)	257.1
Segment Results					
Operating profit before amortisation of acquired intangibles and exceptionals	12.6	1.9	0.2	–	14.7
Exceptionals	(9.1)	(0.3)	–	–	(9.4)
Operating profit before amortisation of acquired intangibles	3.5	1.6	0.2	–	5.3
Amortisation of acquired intangibles	(2.3)	(0.3)	–	–	(2.6)
Operating profit	1.2	1.3	0.2	–	2.7
Net finance costs					(2.8)
Loss before taxation					(0.1)
Income tax credit					0.1
Net result for the year					
Assets and Liabilities					
Segment assets	183.3	14.6	4.2	–	202.1
Segment liabilities	(44.0)	(2.7)	(75.2)	–	(121.9)
Other segment information					
Capital expenditure:					
Property, plant and equipment					
– acquisition of subsidiaries	3.5	0.4	–	–	3.9
– additions	1.5	0.1	–	–	1.6
Intangible assets					
– acquisition of subsidiaries (restated – note 12)	11.0	2.5	–	–	13.5
– additions and internal development	2.3	–	–	–	2.3
Goodwill					
– acquisition of subsidiaries (restated – note 12)	38.4	2.1	–	–	40.5
Non-cash expenditure:					
Depreciation	(1.0)	(0.1)	–	–	(1.1)
Impairment loss	(0.5)	–	–	–	(0.5)
Inventory provision	0.3	–	–	–	0.3
Amortisation of intangibles	(2.3)	(0.4)	–	–	(2.7)

Secondary reporting format – Geographical segments

The following tables present revenue, expenditure and certain asset information regarding the Group's geographical segments for the years ended 30 September 2007 and 2006.

Year ended 30 September 2007

	UK £'m	Scandinavia £'m	Italy £'m	Germany & Austria £'m	France £'m	Rest of Europe £'m	Unallocated £'m	Eliminations £'m	Total £'m
Sales to external customers	151.6	36.7	27.2	21.3	48.2	1.9	–	–	286.9
Segment assets	105.6	18.6	18.0	12.2	25.7	0.7	4.8	–	185.6
Segment liabilities	(23.0)	(2.6)	(6.5)	(3.0)	(7.5)	(0.3)	(65.7)	–	(108.6)

Other segment information

Capital expenditure:

Property, plant and equipment									
– additions	0.5	–	0.1	0.2	0.1	–	–	–	0.9
Intangible assets									
– additions and internal development	2.9	–	–	0.1	–	–	–	–	3.0

Year ended 30 September 2006

	UK £'m	Scandinavia £'m	Italy £'m	Germany & Austria £'m	France £'m	Rest of Europe £'m	Unallocated £'m	Eliminations £'m	Total £'m
Sales to external customers	150.0	31.9	27.8	17.2	26.7	3.5	–	–	257.1
Segment assets	120.5	18.6	19.8	10.6	27.8	0.6	4.2	–	202.1
Segment liabilities	(24.6)	(3.0)	(7.6)	(3.2)	(8.0)	(0.3)	(75.2)	–	(121.9)

Other segment information

Capital expenditure:

Property, plant and equipment									
– acquisition of subsidiaries	0.9	0.8	0.2	0.3	1.7	–	–	–	3.9
– additions	1.0	0.2	0.1	0.2	0.1	–	–	–	1.6
Intangible assets									
– acquisition of subsidiaries (restated – note 12)	3.7	2.0	0.3	1.1	6.4	–	–	–	13.5
– additions and internal development	2.3	–	–	–	–	–	–	–	2.3
Goodwill									
– acquisition of subsidiaries (restated – note 12)	13.0	7.7	4.5	6.2	8.8	0.3	–	–	40.5

2 Other operating expenses

Other operating expenses are analysed as follows:

	2007	2006
	£000	£000
Administrative expenses	9.4	8.6
Distribution expenses	45.5	41.4
Amortisation of intangibles arising on acquisitions (note 5)	1.7	2.6
Exceptional items (note 5)	10.6	8.6
	67.2	61.2

APPENDIX B – ADDITIONAL DESCRIPTIVE STATISTICS

Table 1: Descriptive statistics for FA Low and FA High firms over the sample period

	Means		Differences in means		Medians		Differences in medians	
	FA Low n = 2,487	FA High n = 1,692	t- statistic	p value	FA Low n = 2,487	FA High n = 1,692	Wilcoxon Z statistic	p value
Test Variables								
ΔNI	-0.005	-0.005	-0.214	0.831	0.000	-0.001	0.288	0.387
ΔOCF	0.000	-0.001	0.201	0.841	-0.001	-0.001	0.433	0.333
ACC	-0.033	-0.044	4.572	<0.001	-0.018	-0.037	8.183	<0.001
OCF	0.060	0.082	-9.263	<0.001	0.049	0.080	-10.736	<0.001
RET	-0.047	-0.026	-1.544	0.123	0.034	0.048	-1.183	0.118
NIPS/P	0.054	0.067	-3.208	0.001	0.047	0.065	-7.787	<0.001
PRICE	3.015	4.067	-9.227	<0.001	1.770	2.940	-13.229	<0.001
BVEPS	2.501	2.191	3.563	<0.001	1.247	1.484	-3.546	<0.001
NIPS	0.184	0.269	-7.270	<0.001	0.074	0.183	-12.115	<0.001
ΔNIPS/P	0.003	0.003	-0.060	0.952	0.005	0.007	-7.786	<0.001
Control Variables								
LEV	1.429	3.275	-15.265	<0.001	0.737	1.681	-27.005	<0.001
GROWTH	0.103	0.111	-1.051	0.293	0.066	0.082	-3.685	<0.001
EISSUE	0.100	0.128	-2.858	0.004	0.065	0.091	-4.414	<0.001
DISSUE	0.108	0.125	-1.514	0.130	0.040	0.076	-5.097	<0.001
TURN	0.835	0.991	-6.634	<0.001	0.652	0.937	-10.37	<0.001
SIZE	0.618	3.261	-17.179	<0.001	0.117	0.633	-19.24	<0.001
MB	2.152	2.694	-7.998	<0.001	1.358	2.048	-13.21	<0.001

This Table presents the means and medians of the continuous variables for the 297 firms which have lower than median level of derivative assets scaled by total assets at financial year end (FA Low), and the 198 firms which have higher than the median level (FA High). Observations have been pooled over the whole sample period (adoption years -4 to 4). T-statistics for the differences in means, z scores for the Wilcoxon rank sum test and p values (two tailed) are also presented in this table. All variables have been winsorised at the 2.5 and 97.5 percentiles. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. ΔNIPS/P is change in net income per share scaled by beginning of year stock price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

Table 2: Descriptive statistics for firms which have higher than median levels of derivative liabilities and firms with lower than median derivative liabilities

	Means		Differences in means		Medians		Differences in medians	
	FL Low n = 2,398	FL High n = 1,781	t- statistic	p value	FL Low n = 2,398	FL High n = 1,781	Wilcoxon Z statistic	p value
Test Variables								
ΔNI	-0.006	-0.004	-1.103	0.270	-0.001	0.000	-1.057	0.291
ΔOCF	-0.001	0.000	-0.213	0.831	-0.001	-0.001	-0.320	0.749
ACC	-0.035	-0.041	2.934	0.003	-0.020	-0.034	5.912	<0.001
OCF	0.061	0.079	-7.315	<0.001	0.051	0.075	-8.178	<0.001
RET	-0.041	-0.036	-0.345	0.730	0.046	0.039	0.014	0.989
NIPS/P	0.053	0.068	-3.787	<0.001	0.047	0.064	-7.071	<0.001
PRICE	3.069	3.942	-7.720	<0.001	1.880	2.800	-10.480	<0.001
BVEPS	2.582	2.097	5.629	<0.001	1.262	1.447	-1.743	0.081
NIPS	0.187	0.261	-6.427	<0.001	0.078	0.176	-11.032	<0.001
ΔNIPS/P	0.002	0.005	-0.891	0.373	0.004	0.008	-2.307	0.021
Control Variables								
LEV	1.343	3.298	-16.422	<0.001	0.751	1.677	-26.509	<0.001
GROWTH	0.103	0.112	-1.172	0.241	0.064	0.082	-3.112	0.002
EISSUE	0.097	0.131	-3.500	<0.001	0.063	0.092	-4.461	<0.001
DISSUE	0.110	0.122	-1.140	0.254	0.044	0.074	-4.183	<0.001
TURN	0.873	0.932	-2.537	0.011	0.703	0.849	-6.384	<0.001
SIZE	0.485	3.308	-28.593	<0.001	0.118	0.613	-26.009	<0.001
MB	2.156	2.662	-7.589	<0.001	1.355	2.032	-13.263	<0.001

This Table presents the means and medians of the continuous variables for the 209 firms which have lower than median level of derivative liabilities scaled by total assets and the 286 firms which have higher than the median level, under UK GAAP. Observations have been pooled over the whole sample period (adoption years -4 to 4). T-statistics for the differences in means, z scores for the Wilcoxon rank sum test and p values (two tailed) are also presented in this table. All variables have been winsorised at the 2.5 and 97.5 percentiles. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. ΔNIPS/P is change in net income per share scaled by beginning of year stock price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

Table 3: Descriptive statistics for firms which have higher than median levels of intangible assets and firms with lower than median intangible assets

	Means		Differences in means		Medians		Differences in medians	
	INT Low n = 2,067	INT High n = 2,112	t- statistic	p value	INT Low n = 2,067	INT High n = 2,112	Wilcoxon Z statistic	p value
Test Variables								
ΔNI	-0.006	-0.004	-0.819	0.413	0.000	-0.001	0.102	0.918
ΔOCF	-0.001	0.000	-0.681	0.496	-0.001	-0.001	-0.009	0.993
ACC	-0.024	-0.051	11.583	<0.001	-0.007	-0.042	15.137	<0.001
OCF	0.051	0.086	-14.244	<0.001	0.032	0.086	-18.117	<0.001
RET	-0.025	-0.052	1.977	0.048	0.051	0.030	1.470	0.142
NIPS/P	0.063	0.056	1.831	0.067	0.057	0.055	2.203	0.028
PRICE	3.658	3.229	3.833	<0.001	2.410	2.010	4.605	<0.001
BVEPS	3.291	1.479	20.807	<0.001	1.927	1.019	19.095	<0.001
NIPS	0.248	0.190	5.120	<0.001	0.116	0.111	2.485	0.013
ΔNIPS/P	0.003	0.004	-0.230	0.818	0.005	0.007	-0.962	0.336
Control Variables								
LEV	2.304	2.052	2.251	0.024	0.842	1.373	-14.317	<0.001
GROWTH	0.086	0.126	-5.162	<0.001	0.056	0.087	-6.044	<0.001
EISSUE	0.078	0.144	-6.911	<0.001	0.064	0.087	-5.328	<0.001
DISSUE	0.097	0.133	-3.078	0.002	0.054	0.062	-2.908	0.004
TURN	0.659	1.132	-20.815	<0.001	0.275	1.022	-26.020	<0.001
SIZE	1.714	1.663	-7.399	<0.001	0.178	0.235	-7.604	<0.001
MB	1.761	2.969	-19.077	<0.001	1.123	2.250	-24.480	<0.001

This Table presents the means and medians of the continuous variables for the 286 firms which have lower than median levels of intangible assets scaled by total assets and the 209 firms which have higher than median level. Observations have been pooled over the whole sample period (adoption years -4 to 4). T-statistics for the differences in means, z scores for the Wilcoxon rank sum test and p values (two tailed) are also presented in this table. All variables have been winsorised at the 2.5 and 97.5 percentiles. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. ΔNIPS/P is change in net income per share scaled by beginning of year stock price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

Table 4: Descriptive statistics for firms which have higher than the median number of segments and lower than the median

	Means		Differences in means		Medians		Differences in medians	
	SEG Low n = 2,442	SEG High n = 1,737	t- statistic	p value	SEG Low n = 2,442	SEG High n = 1,737	Wilcoxon Z statistic	p value
Test Variables								
ΔNI	-0.006	-0.004	-0.873	0.383	-0.001	-0.001	0.073	0.942
ΔOCF	-0.001	0.000	-0.441	0.659	-0.001	-0.001	-0.453	0.650
ACC	-0.031	-0.047	6.998	<0.001	-0.017	-0.037	9.954	<0.001
OCF	0.058	0.084	-10.638	<0.001	0.045	0.082	-12.214	<0.001
RET	-0.042	-0.033	-0.672	0.502	0.037	0.046	-0.628	0.530
NIPS/P	0.056	0.063	-1.640	0.101	0.051	0.060	-3.871	<0.001
PRICE	3.272	3.679	-3.593	<0.001	2.025	2.460	-6.277	<0.001
BVEPS	2.678	1.950	8.418	<0.001	1.468	1.264	4.435	<0.001
NIPS	0.206	0.236	-2.650	0.008	0.087	0.149	-6.229	<0.001
ΔNIPS/P	0.003	0.004	-0.318	0.751	0.004	0.007	-1.732	0.083
Control Variables								
LEV	1.577	3.019	-12.248	<0.001	0.798	1.582	-22.819	<0.001
GROWTH	0.105	0.109	-0.519	0.604	0.065	0.083	-2.999	0.003
EISSUE	0.098	0.130	-3.286	0.001	0.069	0.084	-3.511	<0.001
DISSUE	0.113	0.118	-0.431	0.666	0.054	0.064	-1.958	0.050
TURN	0.793	1.045	-10.872	<0.001	0.514	0.988	-15.105	<0.001
SIZE	0.900	2.795	-19.050	<0.001	0.137	0.380	-17.746	<0.001
MB	2.125	2.718	-8.864	<0.001	1.334	2.122	-14.575	<0.001

This Table presents the means and medians of the continuous variables for the 293 firms which have less than the median number of segments and the 202 firms which more than the median. Observations have been pooled over the whole sample period (adoption years -4 to 4). T-statistics for the differences in means, z scores for the Wilcoxon rank sum test and p values (two tailed) are also presented in this table. All variables have been winsorised at the 2.5 and 97.5 percentiles. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. ΔNIPS/P is change in net income per share scaled by beginning of year stock price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

Table 5: Descriptive statistics for firms which are cross listed and not cross listed overseas

	Means		Differences in means		Medians		Differences in medians	
	NONCROSS n = 2,080	CROSS n = 2,099	t- statistic	p value	NONCROSS n = 2,080	CROSS n = 2,099	Wilcoxon Z statistic	p value
Test Variables								
ΔNI	-0.006	-0.004	-0.763	0.445	-0.001	-0.001	-0.701	0.483
ΔOCF	0.000	-0.001	0.279	0.781	-0.001	-0.001	-0.347	0.729
ACC	-0.035	-0.040	2.047	0.041	-0.020	-0.033	4.620	<0.001
OCF	0.064	0.074	-4.314	<0.001	0.053	0.072	-5.840	<0.001
RET	-0.044	-0.033	-0.857	0.392	0.037	0.046	-1.131	0.258
NIPS/P	0.060	0.059	0.275	0.783	0.054	0.057	-0.744	0.457
PRICE	2.654	4.221	-14.331	<0.001	1.735	2.880	-14.330	<0.001
BVEPS	2.358	2.393	-0.386	0.699	1.268	1.438	-2.474	0.013
NIPS	0.163	0.273	-9.772	<0.001	0.082	0.157	-9.198	<0.001
ΔNIPS/P	0.000	0.006	-1.427	0.154	0.004	0.007	-1.935	0.053
Control Variables								
LEV	1.669	2.679	-9.170	<0.001	0.894	1.369	-13.977	<0.001
GROWTH	0.098	0.115	-2.192	0.028	0.063	0.083	-3.212	0.001
EISSUE	0.096	0.126	-3.037	0.002	0.066	0.086	-3.455	0.001
DISSUE	0.104	0.126	-1.838	0.066	0.040	0.074	-4.018	<0.001
TURN	0.916	0.881	1.464	0.143	0.804	0.774	-1.213	0.225
SIZE	0.281	3.082	-42.708	<0.001	0.081	0.649	-36.081	<0.001
MB	1.970	2.769	-12.290	<0.001	1.267	2.078	-16.814	<0.001

This Table presents the means and medians of the continuous variables for the 249 firms which do not have a cross listing overseas and the 246 firms which do. Observations have been pooled over the whole sample period (adoption years -4 to 4). T-statistics for the differences in means, z scores for the Wilcoxon rank sum test and p values (two tailed) are also presented in this table. All variables have been winsorised at the 2.5 and 97.5 percentiles. ΔNI is the change in net income available to ordinary shareholders at financial year end scaled by total assets at financial year end. ΔOCF is change in annual net cash flow from operating activities scaled by total assets at financial year end. ACC is annual net income available to ordinary shareholders at financial year end less annual cash flow from operating activities, scaled by end of year total assets. OCF is annual net cash flow from operating activities scaled by end of year total assets. RET is cumulative stock return computed over 12 months, starting from 9 months before financial year end and ending 3 months after financial year end. NIPS/P is net income available to ordinary shareholders per ordinary share at financial year end, scaled by beginning of year share price. PRICE is share price in pounds three months after financial year end. BVEPS is book value of equity in pounds per ordinary share at financial year end. NIPS is net income available to ordinary shareholders at financial year end per ordinary share. ΔNIPS/P is change in net income per share scaled by beginning of year stock price. LEV is total liabilities divided by book value of equity at financial year end. GROWTH is annual percentage change in sales. EISSUE is annual percentage change in book value of equity. DISSUE is annual percentage change in total liabilities. TURN is annual sales divided by end of year total assets. SIZE is the market value of equity in billions of pounds as of the end of the financial year. MB is end of year market value of equity scaled by end of year book value of equity.

APPENDIX C – REGRESSION COEFFICIENTS FOR BVPS AND NIPS

Table 1: Regression coefficients for BVEPS and NIPS

<i>Panel A: H1 - Overall improvements in accounting quality</i>			UKGAAP	IFRS
Coefficient of:			(n = 2,356)	(n = 1,823)
BVEPS			0.2149***	0.3997***
NIPS			4.0562***	4.9305***
<i>Panel B: H2 - proxy of financial assets</i>			FA High	
			UKGAAP	IFRS
Coefficient of:			(n=955)	(n=737)
BVEPS			0.1691***	0.2581***
NIPS			4.5201***	5.2091***
			FA Low	
			UKGAAP	IFRS
Coefficient of:			(n=1,401)	(n=1,086)
BVEPS			0.2544***	0.4422***
NIPS			3.5103***	4.6005***
<i>Panel C: H2 - proxy of financial liabilities</i>			FL High	
			UKGAAP	IFRS
Coefficient of:			(n=999)	(n=782)
BVEPS			0.0172**	0.0496***
NIPS			0.2756***	0.4348***
			FL Low	
			UKGAAP	IFRS
Coefficient of:			(n=1,357)	(n=1401)
BVEPS			0.2483***	0.4302***
NIPS			3.5913***	4.5264***
<i>Panel D: H2- proxy of intangible assets</i>			INT High	
			UKGAAP	IFRS
Coefficient of:			(n=1,192)	(n=920)
BVEPS			0.1129*	0.0750
NIPS			4.6802***	6.7672***
			INT Low	
			UKGAAP	IFRS
Coefficient of:			(n=1,164)	(n=903)
BVEPS			0.2886***	0.5093***
NIPS			3.4493***	3.8924***
<i>Panel E: H3- proxy of segment reporting</i>			SEG High	
			UKGAAP	IFRS
Coefficient of:			(n=977)	(n=760)
BVEPS			0.2472***	0.1313***
NIPS			3.2748***	5.8077***
			SEG Low	
			UKGAAP	IFRS
Coefficient of:			(n=1,379)	(n=1,063)
BVEPS			0.2237***	0.4856***
NIPS			4.2664***	4.5065***
<i>Panel F: H4- proxy of cross listing</i>			CROSS	
			UKGAAP	IFRS
Coefficient of:			(n=1,178)	(n=921)
BVEPS			0.2413***	0.3455***
NIPS			3.8830***	4.6913***
			NONCROSS	
			UKGAAP	IFRS
Coefficient of:			(n=1,178)	(n=902)
BVEPS			0.2334***	0.4251***
NIPS			3.2540***	4.2456***

***significant at the $p < 0.01$ level (one-tailed). **significant at the $p < 0.05$ level (one-tailed). *significant at the $p < 0.10$ level (one-tailed).

This table presents the coefficients for book value of equity per share (BVEPS) and net income per share (NIPS) variables based on the following pooled regression:

(Equation 7): $P_{it}^* = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 NIPS_{it} + \varepsilon_{it}$, where P^* is the residual of a regression where share price (PRICE) in pounds three months after financial year end is first regressed on industry indicator variables; BVEPS is book value of equity per share at financial year end; NIPS is net income per share available to ordinary shareholders at financial year end. Sample firms reported under UK GAAP for five years (adoption years -4 to 0) and reported under IFRS for four years (adoption years 1 to 4).

Panel A presents the coefficients for BVEPS and NIPS under UK GAAP and IFRS for all 495 firms in the final sample.

Panel B presents the coefficients for BVEPS and NIPS under UK GAAP and IFRS, for firms with higher than median financial assets scaled by total assets (FA High) and firms which have lower than median financial assets scaled by total assets (FA Low). Out of the 495 firms in the final sample, there are 198 FA High firms and 297 FA Low firms.

Panel C presents the coefficients for BVEPS and NIPS under UK GAAP and IFRS, for firms with higher than median financial liabilities scaled by total assets (FL High) and firms which have lower than median financial liabilities scaled by total assets (FL Low). Out of the 495 firms in the final sample, there are 209 FL High firms and 286 FL Low firms.

Panel D presents the coefficients for BVEPS and NIPS under UK GAAP and IFRS, for firms with higher than median intangible assets scaled by total assets (INT High) and firms which have lower than median intangible assets scaled by total assets (INT Low). Out of the 495 firms in the final sample, there are 249 INT High firms and 246 INT Low firms.

Panel E presents the coefficients for BVEPS and NIPS under UK GAAP and IFRS, for firms with higher than median number of business and geographic segments (SEG High) and firms which have lower than median number of business and geographic segments (SEG Low). Out of the 495 firms in the final sample, there are 202 SG High firms and 293 SEG Low firms.

Panel F presents the coefficients for BVEPS and NIPS under UK GAAP and IFRS, for firms which have a cross listing overseas (CROSS) and firms that do not have a cross listing overseas (NONCROSS). Out of the 495 firms in the final sample, there are 246 CROSS firms and 249 NONCROSS firms.