

Complexity of IAS 36 and Audit Fees: Empirical Analysis from Reconciliation Statements

Dr. Muhammad Shahin Miah, CPA *

***Abstract:** This study investigates the impact of reconciliation adjustments associated with International Accounting Standards (IAS) 36 Impairment of Assets (hereafter IAS 36) on audit fees. Prior studies show that this standard is highly complex. This is because lot of judgmental issues/management's discretion involved in this standard, which requires auditors' more attention. However, no study explores what are the complexities involved in this standard, and how these can affect auditors' risk level which is investigated in this study. Data relating to standard's complexity is collected from annual reports, and audit fees related data is collected from SIRCA database. Analyzing 1122 firm-year observations from Australian perspective, this study finds that IAS 36 significantly increases auditors' efforts and risks level, which results in increase in audit fees. In addition, when main base line regression is run industry sector wise, results show that IAS 36 does not affect all industry sectors and does not have equal impact on audit fees. However, there is a significant impact of IAS 36 on audit fees in Material, Retailing, Pharmaceuticals, and Energy sectors. Overall, the results suggest that auditors charge incremental audit fees for firms which are exposed to higher level of complexity due to certain accounting standards (e.g., IAS 36). This paper contributes to audit fee literature by providing a finer way of measuring complexity associated with IAS 36, and how such complexity affects auditors. This study is also useful to countries who are in the adoption process or planning to adopt IFRS in future to have well preparation for IFRS adoption.*

***Keywords:** IFRS, IAS, Accounting complexity, Audit fees, Industry Specialization, Reconciliation Adjustments.*

Introduction

A conversion from local accounting standards to International Financial Reporting Standards (hereafter IFRS) at international scale creates unprecedented opportunities for financial accounting research. There is extensive research worldwide on the impact of IFRS on financial reporting quality (e.g., Barth, Landsman, & Lang, 2008), cost of capital (e.g., Levitt, 1998), cross-country investment (e.g., DeFond, Hu, Hung, & Li, 2011), corporate decision making (e.g. Biddle, Hilary, & Verdi, 2009; Raman, Shivakumar, &

*Assistant Professor, Department of International Business, University of Dhaka, Dhaka-1000, Bangladesh.

Tamayo, 2013), stewardship and governance (e.g., Marra & Mazzola, 2014) among others. Although those studies have made significant advances in our understanding of overall IFRS effect, little is known about the benefits and challenges of individual accounting standards from information users' perspective. In addition, the increase in the amount of required disclosure due to IFRS adoption accompanied by the challenging task of communicating increasingly complex business transactions to users has led to concerns about the increasing IFRS adoption cost. In particular, informational complexity raises a concern of the ability of information intermediaries to make informed decisions based on this information. Given this increasing complexity of the firms' disclosure required by IFRS, and the related concern about IFRS adoption cost, this study examines the effect of complexity associated with IAS 36 *Impairment of Assets* on audit fees. This paper mainly uses reconciliation statements in firms' annual reports in the year of IFRS adoption that is required by Australian Accounting Standards Boards (hereafter AASB) to extract the impact on reconciliation statements due to IAS 36. AASB 1 *First-time Adoption of Australian Equivalents to International Financial Reporting Standards* (AASB, 2004) describes the procedures that firms must follow when they adopt IFRS, and the disclosures they must make.

Empirical findings of this study show that reconciliation adjustments associated with IAS 36 *Impairment of Assets* significantly increases auditors' efforts and risks level, thereby increases audit fees. When the regression analysis of audit fees on reconciliation adjustments arising from IAS 36 is repeated sector wise, results show such positive and significant association between audit fees and reconciliation adjustments in only four sectors out of 26 industry sectors (GICS sector classification available in ASX website). This may happen because firms in other sectors may not expose to greater use of IAS 36 (e.g., diversified financials, software and services etc.)

This study contributes to the literature in several important aspects. First, this study provides empirical evidence that IAS 36 is more difficult accounting standard because this standard extensively uses fair value (in valuation, impairment testing, recoverability testing and in revaluation choice), which is subject to management's judgement, or discretionary choices. More specifically, IAS 36 requires identification of impairment for intangible assets which suggests valuation of recoverable value which uses fair value or estimation of future cash flows, which are also heavily influenced by management choice or discretionary judgement (IAS 36, para 30-31).

To the best of my knowledge, this study is the first study which shows the association between the reconciliation adjustments relating to IAS 36 separately with audit fees. By documenting this association, it extends the line of literature showing the impact of changing IAS 36 on accounting information users (e.g., auditors). Second, this study extends main audit fees regression sector-wise to see the different impact of IAS 36 in different industries. Because, Australian research shows that industry specialist auditors

charge relatively higher audit fees than non-specialist auditors, based on either city level specialization or national level specialization.

Third, findings of this study can benefit standard setters, and regulatory bodies (e.g., AASB, IASB, FRC) by providing an evidence of difficulty associated with IAS 36. Finally, accounting researchers will also be benefitted by this study, because, they can extend their research by investigating the difficulty in other IASs/IFRSs (if any), and impact of such difficulty on accounting information users (e.g., auditors, financial analysts, or preparers of financial statements).

The remainder of this paper is organized as follows. In the next section, this study shows the literature review and development of hypothesis. Section 3 lays out the research design, and data collection. Section 4 shows the empirical findings including descriptive statistics, and regression results. Section 5 discusses further analysis. Section 6 summarizes and concludes the paper.

Literature Review and Hypothesis Development

A number of studies have used reconciliation statements which are prepared showing the differences of two different accounting systems¹. All of these studies can be categorized into two streams, for instance (i) U.S. GAAP vs. Local standards (Amir, Harris, & Venuti, 1993; Barth & Clinch, 1996; Chen & Sami, 2013; Kang, Krishnan, Wolfe, & Yi, 2012) and (ii) IFRS vs. Local standards/U.S. GAAP (Barth, Landsman, Lang, & Williams, 2012; Barth, Landsman, Young, & Zhuang, 2014; Christensen, Lee, & Walker, 2009; Cordazzo, 2013; Fifield, Finningham, Fox, Power, & Veneziani, 2011; Horton & Serafeim, 2010; Hung & Subramanyam, 2007; Krzywda & Schroeder, 2007; Tsalavoutas, André, & Evans, 2012; Wang & Welker, 2011).

First study, Amir et al. (1993) examine the association between accounting earnings and security returns using reconciliation statements as SEC requires firms to reconcile their reported earnings and equity into US GAAP. They have used a sample of firms from 20 non-US countries but listed on a primary U.S. stock exchange or NASDAQ. They found that reconciliation statements are value relevant in both aggregate and for some specific standards (e.g., Standard regarding Goodwill). Another study, Barth and Clinch (1996) examine the impact of difference between U.S. GAAP and domestic standards of three countries (such as, Australia, UK and Canada). They find that difference in accounting information in two accounting systems have value relevance with firms' returns and share

¹ SEC in U.S. requires all foreign firms cross-listed in U.S. primary stock exchanges to prepare reconciliation statements under U.S. GAAP. For example, an UK firm, which is cross-listed in U.S. primary stock exchange, needs to prepare reconciliation statements under U.S. GAAP although they prepare a separate set of financial statements under UK GAAP. Similarly, IFRS requires a firm to prepare a set reconciliation statements showing the difference of two accounting systems in first year of IFRS adoption. For e.g., in Europe from 2005, IFRS adopting firms are required to prepare a set of reconciliation statements showing differences between AGAAP and AIFRS for the last year the firm applied domestic standards.

prices. More specifically they find that reconciliation regarding goodwill, asset revaluations, deferred tax and pension has incremental value relevance to share prices and returns in both Australia and UK and only interest capitalization difference has significant explanatory power in Canada. Although, Kim, Li, and Li (2012a) don't find any surprising impact of not having reconciliation statements. They investigate the impact of reconciliation statement on market liquidity based on 78 U.S. cross listed firms who are preparing IFRS vs. U.S. GAAP reconciliation with 162 U.S. cross listed firms not preparing IFRS vs. U.S. GAAP reconciliation statements. However, they do not find any significant impact of eliminating Form 20-F reconciliation on market liquidity measured by zero returns, price impact, bid-ask spread and trading costs.

Second category of reconciliation statements is IFRS with either (i) local standards (such as AGAAP for Australia, HGB for Germany, etc.) or (ii) U.S. GAAP. Fifield et al. (2011) conduct a cross country (UK, Ireland and Italy) analysis based on IFRS reconciliation statements. They find that IFRS increases equity in both UK and Italy while decrease in Ireland companies. In addition, they suggest the impact of IFRS on Net Income (NI) and shareholders' equity was attributable to few core standards (such as, IFRS 2, IFRS 3, IFRS 5, IAS 10, IAS 12, IAS 16, IAS 17, IAS 19, IAS 38 and IAS 39. Hung and Subramanyam (2007) investigate the value relevance of IAS-based accounting information compared to German GAAP (HGB) based accounting information taking a sample of 80 German Industrial firms that adopted IFRS first time during 1998-2002. They find that the variability of book value of equity and income are significantly higher under IAS than under German GAAP (HGB). Horton and Serafeim (2010) investigate the value relevance of reconciliation statement of IFRS and UK GAAP for all firms listed on the London Stock Exchange. They find that negative IFRS reconciliation adjustments are responsible for negative abnormal returns at on or after the date of disclosure. More specifically, they find that adjustments relating to impairment of goodwill, share-based payments, deferred tax are incrementally value relevant while impairment of goodwill and deferred taxes reveal new information. Similarly, Christensen et al., (2009) investigate the impact of reconciliation statement information on debt contracting based on 137 firms listed on the London stock Exchange. They measure information contents as IFRS amounts minus UK GAAP amounts and new contents. Their evidence suggests that management acknowledge that this reconciliation statement has price sensitive information which motivates management in delaying disclosure to hide bad news. Recently Barth et al., (2014) examine the value relevance of reconciliation adjustment on net income and equity value due to IFRS for 1201 firms in 15 European countries. They find that aggregate adjustments on net income and equity value are value relevant both financial and non-financial firms. But they did not find any relevancy for adjustments arising from IAS 39 on non-financial group of firms. They suggest, investors of financial firms, view IAS 39 is more relevant as this standard involves the use of fair value

measurement, requires specific requirements for derivatives and hedge accounting. However, Kang et al., (2012) investigate the association of earning persistence and analyst forecast dispersions with IFRS reconciliation. They compare the results with a control group of ADR firms that report using U.S. GAAP. They did not find any changes in earning persistence among the IFRS filers. Although they find IFRS filers that are in weaker investor protection regime shows increase in earning persistence.

From single country studies, for instance, Loyeung, A. et al., (2011) document that Big 4 audit firms, audit switching and audit tenure are, in Australia, associated with IFRS adoption error, but not audit fees. Another study, Ball, Tyler, and Wells (2015) use similar methodology of Loyeung Anna et al., (2011) to investigate the impact of IFRS-AGAAP differences on audit tenure. They find a negative association between the length of tenure between the lead audit partner and client firm management (person-to-person relations) and audit quality. Recently, De George, Ferguson, and Spear (2013) show the magnitude of net IFRS adjustments to total equity. Initially they show post IFRS audit fees increase compared to the pre-IFRS period. Later, they interview professional auditors from Big 4 audit firms to rate the direct effects of IFRS on audit function and but they do not quantify the impact of accounting complexity in their investigation.

Taken together, this study extends prior research by measuring the complexity associated individual accounting standard i.e. IAS 36, and impact of such complexity on audit fees. Because, IAS36 extensively uses fair value for valuation including impairment testing, identification of cash generating units, recoverability testing etc. Considering such uncertainty in those valuations and estimations, along with prior research findings, this study also posits the following directional hypothesis:

H1: There is a positive association between reconciliation adjustments arising from IAS 36 and audit fees.

Research Methodology

Research Design

To test the hypothesis (**H1**), following audit fee model is estimated based on prior audit fees research (e.g., Simunic,1980; Francis et al. 2005; De George 2013; Kim et al. 2012).

$$\begin{aligned} \text{LnAFEE} = & \beta_0 + \beta_1 \text{IFRSADJST_36} + \beta_2 \text{LnNAS} + \beta_3 \text{Big4} + \beta_4 \text{Opinion} + \beta_5 \text{LnAssets} + \\ & \beta_6 \text{Debt} + \beta_7 \text{Rec} + \beta_8 \text{Inv} + \beta_9 \text{Acr} + \beta_{10} \text{ROA} + \beta_{11} \text{Loss} + \beta_{12} \text{Quick} + \beta_{13} \text{Sub} + \beta_{14} \text{Geosub} + \\ & \beta_{15} \text{Ye} + \text{Industry Fixed Effects} + e \dots \dots \dots [\text{Eq.1}] \end{aligned}$$

Where,

LnAFEE= is audit fees measured as the natural log of total audit fees paid to external auditors;

IFRSADJST_36= is the complexity score measured based on reconciliation required under IAS 36 (detail measurement of complexity in Section 3.2).

LnNAS = natural log of total non-audit service fees paid to external auditors;

Big4 = 1 if the firm is audited by Big4 audit firms (i.e., KPMG, PWC, Deloitte, and EY), 0 otherwise;

Opinion = 1 for modified opinion, otherwise 0;

LnAssets = natural log of total assets under AGAAP;

Rec = ratio of total receivables to ending total assets;

Inv = ratio of total inventory to ending total assets;

Acr = absolute value of accruals (computed as difference between net income and cash flow from operations) scaled by ending total assets;

Quick = ratio of current assets to current liabilities;

Debt = ratio of long-term debt to ending total assets;

ROA = ratio of net profit after tax to ending total assets;

Loss = 1 if the firm reported loss in the sample period, otherwise equal to 0;

Sub = natural log of 1 plus the number of subsidiaries

Geosub = natural log of 1 plus the number of foreign subsidiaries;

Ye = 1, if the company follows July-June as their accounting period, 0 otherwise; and

Industry Fixed Effects = Industry fixed effect is controlled.

Use of Reconciliation Adjustments

Use of reconciliation adjustments in this study is unique. There are several notable differences between existing IFRS/IAS and local GAAP which is presented in reconciliation statement. This study is based on reconciliation statements. Prior research shows that reconciliation statement is an important document to know the impact of international accounting regulations over local GAAP (Ball, 2006). However, this study focuses an important and more complex standard that is IAS 36 *Impairment of Assets*. The following steps are followed to use reconciliation adjustments arising from IAS 36. First, the accounting components are identified which are affected by IAS 36.² Second, the differences of those affected components are calculated under both IFRS and AGAAP. The difference shows the magnitude of the impact of IFRS over AGAAP. Third, the differences are then expressed as a percentage of either Total Revenue (if component is related to Income Statement items) or Total Assets (if item is related to Balance Sheet items). Fourth, the differences are then divided into four categories (i.e., ‘Material’, ‘Moderate’, ‘Small’ and ‘Zero’) based on commonly used materiality threshold (Leung, P. et al. 2015) in audit practice. Finally, the difference is considered as material if it is 1% or more of either Total Revenue or Total Assets; as moderate if it is in between 0.5% to less than 1% of Total Assets or Total Revenue; as small if less than

²This study follows Deloitte’s Model Annul report to identify line items and other accounting components affected by six and non-six IFRS standards.

0.5% but greater than 0; and zero where there is no difference as a result of the switch to IFRS. These categories are then used for scoring (i.e., 6 is assigned for material, 4 is assigned for moderate, 2 is assigned for small and 0 for no adjustments).

Sample

The sample consists of Australian Securities Exchange (ASX) listed firms with available data for 2006. This study is based on only one-year data as IFRS 1 requires firms to report reconciliation statements in the first year of IFRS adoption (i.e. 2006 for Australia). The initial sample consists of 1587 firm. Firms delisted or newly listed in 2006 are excluded from the sample. Firms changing their currencies over the year are also excluded. Companies with no disclosure are also excluded to derive final sample. Audit fees data are collected from SIRCA. Reconciliation adjustments for impairment (IAS 36) and financial data are hand collected from annual reports of 2006. All the procedures above leave with 1122 firm-year observations.

When main sample is segregated based on industry wise, it shows that more than 32% of sample firms are from *Material sector*, 12% of sample firms come from *Energy* and 3% sample firms come from *Semiconductors & Semiconductor Equipment sector*.

TABLE 1

Industry Categories	Number of observation	Percent
Automobiles & Components	10	0.89
Capital Goods	68	6.06
Commercial & Professional Services	7	0.62
Commercial Services & Supplies	37	3.3
Consumer Durables & Apparel	15	1.34
Consumer Services	34	3.03
Diversified Financials	36	3.21
Energy	135	12.03
Food & Staples Retailing	4	0.36
Food, Beverage & Tobacco	29	2.58
Health Care Equipment & Services	47	4.19
Household & Personal Products	5	0.45
Insurance	5	0.45
Materials	367	32.71
Media	37	3.3
Miscellaneous	3	0.27
Pharmaceuticals & Biotechnology	59	5.26
Real Estate	42	3.74
Retailing	31	2.76
Semiconductors & Semiconductor Equipment	3	0.27
Software & Services	66	5.88
Technology Hardware & Equipment	27	2.41
Telecommunication Services	17	1.52
Transportation	17	1.52
Utilities	21	1.87
Total	1,122	100

Empirical Findings

Descriptive Statistics

Table 2 Panel A, shows the descriptive statistics and Panel B shows the coefficients of correlation among the variables. In Panel A, the mean value of *IFRSADJUST_36* is 1.761 with minimum of 0.0 and maximum of 6.0. With respect to dependent variables and controls, the mean value of *LnAFEE* is 4.27 with minimum of 1.95 and maximum of 8.10, while the mean value of *LnNAS* is 2.63 with minimum of -0.36 and maximum of 7.55. All variables are winsorized at the 5% and 95% level to ensure robustness in regression analysis.

Table 2 Panel B presents the correlation matrix. It shows that the relation between *IFRSADJUST_36* and *LnAFEE* is significantly and positively correlated with audit fees (*LnAFEE*). This indicates that reconciliation adjustments arising from IAS 36 have significant associations with audit fees. Control variables such as *LnNAS*, *Rec*, *Inv*, *LnAssets*, and *Debt* also show positive and significant correlation with *LnAFEE* which is consistent with audit fees literature. Non-audit services (*LnNAS*) could be associated with audit fees (*LnAFEE*) because such services may lead to extensive changes in an organization that requires additional audit effort (Hay, Knechel, & Wong, 2006). *Acr*, *Loss* and *Quick* have negative and significant correlation with *LnAFEE*. *ROA* has positive and significant association with *LnAFEE*. *Sub* and *GeoSub* are two variables which also show the positive and significant correlation with *LnAFEE* consistent with extant audit fees literature.

Regression Results

To test H1, Equation (1) is used for analysis. The results of the regression analysis are presented in Table 3. The main regression model shows the relation between audit fees and reconciliation adjustments *IFRSADJUST_36*. The coefficient of *IFRSADJUST_36* is 0.060 (t-statistic 6.47, significant at better than 1% level). This result suggests that accounting reconciliation adjustments required under IAS 36 is positively related to audit fees due to increased audit effort, great requirement on professional judgement and/or higher audit risks associated with the uncertainties of applying IAS 36.

TABLE 2

Panel A: Descriptive Statistics								
Variable	N	Mean	Median	SD	Skewness	Kurtosis	Min	Max
<i>LnAFEE</i>	1122	4.267	4.078	1.308	0.693	3.144	1.952	8.102
<i>IFRSADJST_36</i>	1122	1.761	0	2.444	0.924	2.119	0	6
<i>LnNAS</i>	1122	2.634	2.724	2.134	0.226	2.012	-0.357	7.549
<i>Big4</i>	1122	0.489	0	0.500	0.043	1.002	0	1
<i>Opinion</i>	1122	0.137	0	0.344	2.108	5.445	0	1
<i>LnAssets</i>	1122	10.348	10.083	2.184	0.448	3.071	5.157	16.072
<i>Debt</i>	1122	0.095	0.002	0.158	2.060	7.411	0	0.785
<i>Rec</i>	1122	0.147	0.054	0.331	6.253	47.995	0	2.786
<i>Inv</i>	1122	0.063	0.002	0.112	2.146	7.111	0	0.501
<i>Acr</i>	1122	0.234	0.073	0.622	5.612	37.061	0.001	4.696
<i>ROA</i>	1122	-0.269	-0.032	0.824	-4.426	25.903	-5.629	0.394
<i>Quick</i>	1122	5.451	1.630	10.378	4.143	23.415	0	71.7
<i>Loss</i>	1122	0.543	1	0.498	-0.172	1.029	0	1
<i>Sub</i>	1122	0.936	0.693	0.364	0.662	3.030	0	1.792
<i>GeoSub</i>	1122	0.922	0.693	0.371	0.835	3.319	0	1.946

Panel B: Correlation Coefficients																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	<i>LnAFEE</i>	1.00														
2	<i>IFRSADJST_36</i>	.404**	1.00													
3	<i>LnNAS</i>	.719**	.261**	1.00												
4	<i>Big4</i>	.534**	.139**	.436**	1.00											
5	<i>Opinion</i>	-.150**	-0.04	-.187**	-.178**	1.00										
6	<i>LnAssets</i>	.794**	.262**	.686**	.449**	-.307**	1.00									
7	<i>Debt</i>	.354**	.120**	.262**	.177**	0.03	.354**	1.00								
8	<i>Rec</i>	.178**	.103**	.132**	0.02	-0.03	.156**	0.05	1.00							
9	<i>Inv</i>	.283**	.181**	.196**	.130**	0.02	.227**	-.150**	.189**	1.00						
10	<i>Acr</i>	-.170**	-0.03	-.188**	-.147**	.251**	-.375**	0.01	-0.03	-.070*	1.00					
11	<i>ROA</i>	.239**	0.06	.251**	.177**	-.338**	.477**	0.03	.073*	.113**	-.828**	1.00				
12	<i>Loss</i>	-.538**	-.305**	-.441**	-.265**	.278**	-.573**	-.233**	-.242**	-.262**	.195**	-.411**	1.00			
13	<i>Quick</i>	-.337**	-.230**	-.252**	-.131**	-.103**	-.230**	-.204**	-.140**	-.221**	-0.02	0.00	.236**	1.00		
14	<i>Sub</i>	.317**	.117**	.263**	.113**	-.066*	.228**	0.04	0.03	.083**	-0.05	.079**	-.142**	-.085**	1.00	
15	<i>GeoSub</i>	.444**	.263**	.396**	.165**	-.071*	.399**	.217**	.180**	.163**	-0.06	.103**	-.292**	-.149**	.301**	1.00

More specifically, IAS 36 require the impairment testing approach, where they use the concept of ‘recoverable amount’ which is defined as the higher of an asset’s or cash-generating unit’s fair value less costs to sell and its value in use (Para 18, AASB 136). Auditor’s difficulties, relating to IAS 36 *Impairment of Assets*, arise in two ways: (i) identification of cash-generating units, as there is the potential for considerable subjectivity in identifying the level or levels at which cash-generating units are to be recognized (Wines, Dagwell & Windsor, 2007)³, (ii) Auditing fair values of the assets or unit as firms’ application of fair values may introduce creative accounting or bias.

Taken together, it is evident that uncertainty and bias relating to fair values may introduce audit risk and requires more auditor effort. This is consistent with the notion that verifying assets fair values increases audit effort, thereby increasing audit fees (Ettredge, Yang, & Yi, 2014). In addition, Bratten et al., (2013) argue that fair value verification requires more auditor expertise in finance and economics than in accounting. Furthermore, auditors, may have issues making estimates due to a lack of objective data or due to higher levels of uncertainty involved with that estimation (Para 14, Australian Standards Auditing (ASA)). To compensate for higher levels of risk, auditors may charge higher audit fees, an argument which is supported by the analysis results presented in main regression model.

The coefficients of control variables are mostly significant with expected signs at the 1% level (except *Debt* and *Acr*). These results are consistent with the prior literature that audit fees are positively associated with firm size (*LnASSETS*), firm level complexity (*Rec*, *Inv*, *Sub* and *GeoSub*) and firm-specific risks (the inverse for *ROA*, and *Quick*). On the other hand, *Loss* is also negatively associated with audit fees, which may indicate the client’s inability to pay higher audit fees due to operating losses, which is consistent with previous Australian audit fee studies (e.g., De George et al., 2013; Ferguson, Francis, & Stokes, 2003). As expected, *LnNAS* has a positive and significant association with audit fees. The positive coefficient for *Big4* indicates that clients are charged higher audit fees if they are audited by one of the Big4 audit firms. Finally, as expected positive coefficients for *Opinion* indicate that auditors charge higher audit fees where companies are issued with qualified opinions.

³Cash-generating unit’ is defined as the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets (Para 6, AASB 136).

TABLE 3: Main Regression Analysis		
Variables	LnAFEE	t-statistic
<i>Constant</i>	0.553**	[2.07]
<i>IFRSADJST_36</i>	0.060***	[6.47]
<i>LnNAS</i>	0.111***	[8.48]
<i>Big4</i>	0.461***	[11.52]
<i>Opinion</i>	0.217***	[3.73]
<i>LnAssets</i>	0.304***	[16.49]
<i>Debt</i>	0.199	[1.37]
<i>Rec</i>	0.101*	[1.88]
<i>Inv</i>	0.453**	[2.03]
<i>Acr</i>	0.003	[0.05]
<i>Roa</i>	-0.181***	[-3.99]
<i>Loss</i>	-0.210***	[-3.60]
<i>Quick</i>	-0.006***	[-3.21]
<i>Sub</i>	0.310***	[5.75]
<i>Geosub</i>	0.145**	[2.47]
<i>Ye</i>	0.022	[0.40]
Observations	1,122	
R-squared	0.8	
Adj. R-squared	0.79	
***, **, and * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively		

Additional Analysis

Eq. (1) is used in audit fees regression on test variable (i.e. *IFRSADJST_36*), firm-specific controls, and industry fixed effects. Next, industry-wise sub sample analysis is conducted to explore further whether the impact of IAS 36 differs from industry to industry. There are twenty-six industry categories as per GICS (ASX website). This study uses the main regression model excluding industry fixed effects to investigate the impact of IAS 36 on audit fees. Results of empirical analysis are presented in Table 4. Regressions models are estimated for all industries but got desired results in only 5 industry sectors. Other industry sectors' results are not tabulated in this table as the results show insignificant and inconsistent sign with main test variable. Table 4 Column 1 shows the regression results for Material sector, Column 3 for Capital Goods, Column 5 for Software and Services, Column 7 for Pharmaceuticals Technology, and Column 9 for Retailing sector. Coefficient of *IFRSADJST_36* shows a positive and significant

association with audit fees in Materials, Capital Goods, Pharmaceuticals Technology and Retailing Sectors only. Control variables are showing consistent signs and significance as with main analysis in Table 3. Adjusted R² shows the strong fitness among the variables in all cases which ensure the selection of appropriate variables for regression model in Table 4.

TABLE 4: Industry-wise Regression Analysis

VARIABLES	Materials		Capital Goods		Software and Services		Pharmaceuticals Technology		Retailing	
	LnAFEE	t-statistic	LnAFEE	t-statistic	LnAFEE	t-statistic	LnAFEE	t-statistic	LnAFEE	t-statistic
<i>Constant</i>	0.145	[0.40]	-1.624**	[-2.37]	-0.56	[-0.95]	-3.193**	[-2.55]	0.79	[1.16]
<i>IFRSADJST_36</i>	0.046*	[1.89]	0.065*	[1.89]	-0.011	[-0.40]	0.092**	[2.16]	0.081**	[2.45]
<i>LnNAS</i>	0.067***	[2.75]	0.041	[0.73]	0.080*	[1.95]	0.073	[0.97]	0.007	[0.11]
<i>Big4</i>	0.527***	[7.13]	0.484**	[2.35]	0.336**	[2.40]	0.532**	[2.47]	0.649***	[4.02]
<i>Opinion</i>	0.201**	[1.99]	0.283	[1.05]	0.061	[0.25]	0.569	[1.64]	-0.594*	[-1.88]
<i>LnAssets</i>	0.297***	[9.09]	0.469***	[8.01]	0.460***	[8.21]	0.476***	[4.89]	0.370***	[4.50]
<i>Debt</i>	0.626*	[1.65]	0.897	[1.20]	-0.127	[-0.32]	-0.253	[-0.64]	-0.255	[-0.48]
<i>Rec</i>	0.099	[0.81]	1.266**	[2.49]	-0.058	[-0.36]	-0.116	[-0.15]	1.303**	[2.22]
<i>Inv</i>	0.492	[0.79]	1.088**	[2.04]	0.445	[0.29]	-0.317	[-0.19]	-1.144**	[-2.71]
<i>Acr</i>	0.041	[0.33]	-0.976	[-1.57]	0	[-0.00]	-0.092	[-0.27]	-1.238**	[-2.48]
<i>Roa</i>	-0.203**	[-1.99]	-1.081***	[-3.59]	-0.154	[-1.40]	-0.37	[-1.23]	-0.711*	[-2.01]
<i>Loss</i>	-0.380***	[-3.68]	-0.383*	[-1.76]	-0.047	[-0.27]	-0.266	[-0.80]	0.187	[0.81]
<i>Quick</i>	-0.003	[-1.49]	0.086***	[4.46]	-0.037*	[-1.69]	-0.022	[-1.46]	-0.042***	[-7.38]
<i>Sub</i>	0.371***	[2.72]	0.246	[1.15]	0.289*	[1.80]	0.395	[1.61]	-0.438*	[-1.99]
<i>Geosub</i>	0.156	[1.06]	-0.02	[-0.09]	0.078	[0.38]	0.339	[0.94]	0.212	[0.82]
<i>Ye</i>	-0.072	[-0.79]	-0.203	[-0.71]	-0.082	[-0.49]	1.593***	[4.88]	0.115	[0.85]
<i>Observations</i>	367		68		66		59		31	
<i>R-squared</i>	0.76		0.85		0.87		0.68		0.94	
<i>Adj. R-squared</i>	0.75		0.8		0.83		0.57		0.89	

Conclusion

The main objective of this paper to test the impact of reconciliation adjustments required under IAS 36 on audit fees. This is because prior research shows that this standard is relatively complex as it heavily involves fair value which is subject to management judgement or discretionary choice (e.g., De George et al. 2013; Miah, 2017). For instance, identification of impairment for intangible assets requires valuation of recoverable value which uses fair value or estimation of future cash flows (IAS 36, para 30-31). Using a sample of Australian Stock Exchange (ASX) listed firms, this study finds evidence consistent with the hypothesis that auditors charge higher audit fees because of additional efforts required under IAS 36. More specifically, the results suggest that

auditors use additional audit hours, efforts and expertise to provide appropriate opinion, to compensate these auditors charge higher audit fees. This is also consistent with prior audit fees literature that audit firm charges greater audit fees for greater audit complexity and firm's level complexity (e.g., Simunic, 1980; Kim et al., 2012). To have better insights about the impact of complexity arising from IAS 36, this study runs industry-wise regression analyses. Results show that auditors do not charge equal fees for audit clients in all industries as firms don't expose to same level of reconciliation adjustments related to IAS 36. For instance, complexity arising from IAS 36 is significantly and positively associated with audit fees in Pharmaceuticals industry, Materials, Capital, and Retailing industry but not in Software industry.

Although the results are based on a sample of Australian listed companies, but they should be interpreted with caution, as different countries may have different level of IFRS implementation. For example, in Bangladesh, all IFRS standards are not adopted at the same time with the UK or Australia. Thus, readers should consider this limitation in using the findings of this study. Future research can extend this study by considering the impact of adjustments or complexity arising from other IFRS standards on audit fees. Secondly, future research can also investigate the trade-off between the benefits of some IFRS standards, and complexity of some IFRS standards, and how auditors determine their fees level. Finally, researchers can also use similar methodology but in developing countries or underdeveloped countries to see their IFRS experience.

References

- Amir, E., Harris, T. S. and Venuti, E. K. (1993). A Comparison of the Value-Relevance of U.S. Versus Non-U.S. GAAP Accounting Measures Using Form 20-F Reconciliations. *Journal of Accounting Research*, 31, 230-264.
- Ball, F., Tyler, J. and Wells, P. (2015). Is audit quality impacted by auditor relationships? *Journal of Contemporary Accounting & Economics*, 11(2), 166-181.
- Ball, R. (2006). International Financial Reporting Standards (IFRS): pros and cons for investors. *Accounting and Business Research*, 36(sup1), 5-27.
- Barth, M. E. and Clinch, G. (1996). International Accounting Differences and Their Relation to Share Prices: Evidence from UK., Australian, and Canadian Firms. *Contemporary Accounting Research*, 13(1), 135-170.
- Barth, M. E., Landsman, W. R., Lang, M. and Williams, C. (2012). Are IFRS-based and US GAAP-based accounting amounts comparable? *Journal of Accounting and Economics*, 54(1), 68-93.

- Barth, M. E., Landsman, W. R. and Lang, M. H. (2008). International Accounting Standards and Accounting Quality. *Journal of Accounting Research*, 46(3), 467-498.
- Barth, M. E., Landsman, W. R., Young, D. and Zhuang, Z. (2014). Relevance of Differences between Net Income based on IFRS and Domestic Standards for European Firms. *Journal of Business Finance & Accounting*, 41(3-4), 297-327.
- Biddle, G. C., Hilary, G. and Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics*, 48(2-3), 112-131.
- Bratten, B., Gaynor, L. M., McDaniel, L., Montague, N. R. and Sierra, G. E. (2013). The Audit of Fair Values and Other Estimates: The Effects of Underlying Environmental, Task, and Auditor-Specific Factors. *Auditing: A Journal of Practice & Theory*, 32 (Supplement 1), 7-44.
- Chen, L. H. and Sami, H. (2013). The Impact of Firm Characteristics on Trading Volume Reaction to the Earnings Reconciliation from IFRS to U.S. GAAP. *Contemporary Accounting Research*, 30(2), 697-718.
- Christensen, H. B., Lee, E. and Walker, M. (2009). Do IFRS Reconciliations Convey Information? The Effect of Debt Contracting. *Journal of Accounting Research*, 47(5), 1167-1199.
- Cordazzo, M. (2013). The impact of IFRS on net income and equity: evidence from Italian listed companies. *Journal of Applied Accounting Research*, 14(1), 54-73.
- De George, E. T., Ferguson, C. B. and Spear, N. A. (2013). How Much Does IFRS Cost? IFRS Adoption and Audit Fees. *The Accounting Review*, 88(2), 429-462. doi:10.2308/accr-50317
- DeFond, M. L., Hu, X., Hung, M. and Li, S. (2011). The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability. *Journal of Accounting and Economics*, 51(3), 240-258.
- Ettredge, M. L., Yang, X. and Yi, H. S. (2014). Fair Value Measurements and Audit Fees: Evidence from the Banking Industry. *Auditing: A Journal of Practice & Theory*, 33(3), 33-58.
- Ferguson, A., Francis, J. R. and Stokes, D. J. (2003). The Effects of Firm-Wide and Office-Level Industry Expertise on Audit Pricing. *The Accounting Review*, 78(2), 429-448.
- Fifield, S., Finningham, G., Fox, A., Power, D. and Veneziani, M. (2011). A cross-country analysis of IFRS reconciliation statements. *Journal of Applied Accounting Research*, 12(1), 26-42.
- Francis, J. R., Kenneth, R. and Wang, D. (2005). The Pricing of National and City-Specific Reputations for Industry Expertise in the U.S. Audit Market. *The Accounting Review*, 80(1), 113-136.
- Hay, D., Knechel, W. R. and Wong, N. (2006). Audit Fees: A Meta-analysis of the Effect of Supply and Demand Attributes. *Contemporary Accounting Research*, 23(1), 141-191.
- Horton, J. and Serafeim, G. (2010). Market reaction to and valuation of IFRS reconciliation adjustments: first evidence from the UK. *Review of Accounting Studies*, 15(4), 725-751.
- Hung, M. and Subramanyam, K. (2007). Financial statement effects of adopting international accounting standards: the case of Germany. *Review of Accounting Studies*, 12(4), 623-657.

- Jermakowicz, E. K. and Gornik-Tomaszewski, S. (2006). Implementing IFRS from the perspective of EU publicly traded companies. *Journal of International Accounting, Auditing and Taxation*, 15(2), 170-196.
- Jubb, C. (2005). Transition to IFRS: Listed companies' expected accounting policy impacts as revealed by AASB 1047 disclosures. *Report prepared on behalf of The Institute of Chartered Accountants in Australia*.
- Kang, T., Krishnan, G. V., Wolfe, M. C. and Yi, H. S. (2012). The Impact of Eliminating the 20-F Reconciliation Requirement for IFRS Filers on Earnings Persistence and Information Uncertainty. *Accounting Horizons*, 26(4), 741-765.
- Kim, J.-B., Liu, X. and Zheng, L. (2012). The impact of mandatory IFRS adoption on audit fees: Theory and evidence. *The Accounting Review*, 87(6), 2061-2094.
- Kim, Y., Li, H. and Li, S. (2012a). Does eliminating the Form 20-F reconciliation from IFRS to U.S. GAAP have capital market consequences? *Journal of Accounting and Economics*, 53(1-2), 249-270.
- Krzywda, D. and Schroeder, M. (2007). An Analysis of the Differences between IFRS and Polish Accounting Regulations: Evidence from the Financial Statements of Listed Entities on the Warsaw Stock Exchange for the Calendar Years Ending 2001, 2003 and 2004. *Accounting in Europe*, 4(1), 79-107.
- Leung, P., Coram, P., Cooper, B. J. and Richardson, P. (2015). *Modern auditing & assurance services* (6th ed.). Australia.
- Levitt, A. (1998). The importance of high quality accounting standards. *Accounting Horizons*, 12(1), 79.
- Loyeung Anna, Matolcsy Zoltan, Weber Joseph and Peter, W. (2011). An Analysis of the Accounting Errors that Arise During the Transition to IFRS, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1752485.
- Marra, A. and Mazzola, P. (2014). Is Corporate Board More Effective Under IFRS or "It's Just an Illusion"? *Journal of Accounting, Auditing & Finance*, 29(1), 31-60.
- Miah, M. S. (2017). *Accounting standards complexity, audit fees and financial analyst forecasts in Australia : a thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Accounting at Massey University, Albany, New Zealand*. (Doctor of Philosophy (PhD) Doctoral), Massey University. Retrieved from <http://hdl.handle.net/10179/12504>
- Raman, K., Shivakumar, L. and Tamayo, A. (2013). Target's earnings quality and bidders' takeover decisions. *Review of Accounting Studies*, 18(4), 1050-1087.
- Tsalavoutas, I., André, P. and Evans, L. (2012). The transition to IFRS and the value relevance of financial statements in Greece. *The British Accounting Review*, 44(4), 262-277.
- Simunic, D. A. (1980). The Pricing of Audit Services: Theory and Evidence. *Journal of Accounting Research*, 18(1), 161-190. doi:10.2307/2490397.

- Wang, S. & Welker, M. (2011). Timing Equity Issuance in Response to Information Asymmetry Arising from IFRS Adoption in Australia and Europe. *Journal of Accounting Research*, 49(1), 257-307.
- Wines, G., Dagwell, R. & Windsor, C. (2007). Implications of the IFRS goodwill accounting treatment. *Managerial Auditing Journal*, 22(9), 862-880.