EARNINGS MANAGEMENT MOTIVES AND FIRM VALUE FOLLOWING MANDATORY IFRS ADOPTION – EVIDENCE FROM CANADIAN COMPANIES

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Abstract

When Canada already has a set of well- established legal enforcement and investor protection mechanism to control earnings management; and the quality of Canadian GAAP is high, I examine if the accounting quality for Canada can still be improved since its adoption of IFRS mandatorily in 2011. The extant literature argues that IFRS adoption benefits firms domiciled in countries with strong legal and financial institutions. However, when the quality of IFRS is as good as the local standards for many Anglo-Saxon countries such as Canada, it is questionable for these countries to receive substantial economic consequences. Following the literature, I estimate a set of comprehensive measurements of earnings management as the proxies of accounting quality. Empirically, I document evidence that even though the results are mixed, there are still certain significant improvements in accounting quality. However, I find that firms issuing more equities are motivated to associate with lower earnings quality. Also, firms engaging in two distinct strategic directions (prospector vs. defender) have systemically dissimilar effects on earnings quality in IFRS adoption. Finally, I document evidence that firm value following IFRS adoption has been increased, but at the expense of lower accounting quality. Overall, my study shed some lights into the literature that accounting standards per se is not sufficient to ensure a uniform-level of accounting quality because firm-level earnings management motives are important factors too.

Keywords: Earnings Management, Firm Value, IFRS

1. BACKGROUND

The main objective of financial reporting is to fulfill the stewardship functions of managers by conveying the full picture of the enterprise's operating performance and financial position. In doing so, managers are obligated to minimize the gap of information asymmetry between them and parties contracting with the firm such as shareholders, lenders suppliers, customers, etc. (Watts, 1977; Ball, 2001).

1.1. The measure of accounting quality by earnings management

Ball (2006) argues that although relevance and reliability represent the key areas of accounting quality, they are not clearly and well defined, therefore, these concepts are not very useful. Instead, Ball (2006) conjectures that high quality of accounting requires an accurate depiction of economic reality and low capacity for managerial manipulation. In reality, there have been waves from the mass media, the general public, regulators and politicians blame earnings management as the mastermind of those corporate scandals which were highly related to crafted opportunistic self-interests of managers. Nevertheless, Jiraporn, Miller, Yoon and Kim (2008) point out that there are distinguishing differences between the opportunistic and beneficial uses of earnings management. For instance, motives for managers to manipulate earnings for maximizing their compensation such as bonuses (Holthausen, Larker and Sloan, 1995); and manage earnings to meet capital market expectations, especially in the IPO process (Teoh, Welch and Wong, 998). On the contrary, there are situations that managers exercise professional knowledge to discretionarily use discretionary accruals to convey more information content of future cash flows, earnings and dividends so that share price can be reflective of the current economic values (Subramanyam, 1996). Even though there may be some good sides on earnings management, the literature in generally contend that higher level of earnings management practices is interpreted as lower quality of accounting for the reported earnings (e.g. Barth et al., 2008).

Prior studies point out that given that IFRS is a set of accounting standards with one-size-fit-all adopted by most countries, there are still variations of firm-specific factors such as size, leverage and profitability between companies. Such factors are related to managers' reporting incentives which are associated with dissimilar accounting quality (e.g.

Ahmed, Neel and Wang, 2009). Nevertheless, it is still an empirical question to confirm if the accounting quality has been improved, because the extant studies have been producing mixed results (Christensen, Lee and Walker, 2008).

Besides firm-specific factors, the literature also emphasizes the importance of institutional factors that could be affecting accounting quality.

1.2. Institutional Factors and Accounting Quality

There are ample amount of research studies on the link between institutions and accounting quality. This is possible that because countries' institutional structures play an important role in determining accounting quality through the countries' legal and political systems (Burghstahler et al. 2006; Soderstrom and Sun 2007; Holthausen 2009). Instead of by accounting standards per sec, in general, the literature supports the notion that strong legal structures, enforcement of laws, investor protections and established financial and capital market systems are positively associated with the level of accounting quality. Specifically, Daske et al. (2008) argue that the incremental economic benefits following the mandatory IFRS adoption only occur on countries where firms have incentives to be transparent and where legal enforcement is strong. In particular, Leuz, Nanda and Wysocki (2002) document empirical evidences that since the quality of financial reporting is exogenous, systematic differences in earnings management across different clusters of countries are significantly and positively related to relatively dispersed ownership structure, high disclosure requirements, strong investor protection and legal enforcement, and large stock markets system because such institutional characteristics can mitigate insiders' (mainly controlling shareholders and managers) incentives and ability to acquire private control benefits.

If institutional structures such as legal and capital market systems are able to deter managers' incentives in managing earnings opportunistically, it also implies that emerging economies with "less-developed" institutions may have higher issues in earnings management, unless there are concurrent improvements of institutions and high quality of accounting standards in place. For instance, Jeanjean and Stolowy (2008) document strong evidence that in a coded law country such as France, earnings management is not reduced after IFRS adoption but actually increased. It is because a mere adoption of accounting rules is not a sufficient condition to create a common business language, and that management incentives and national institutional factors play an important role in framing financial reporting characteristics. In addition, Germany is another code-law country (La Porta et al., 1998) with limited investor protection and an insider orientation (Leuz and Wustemann, 2004), and German accounting standards – HGB is generally regarded as lower quality than IFRS (e.g. Leuz and Verrecchia, 2000). Christensen, Lee and Walker (2008) argue that earnings management practice in Germany is not reduced after IFRS is introduced. However, for firms that are not connected with close connection with banks and outside shareholders and have strong incentives for adoption, they are associated with lower earnings management. On the other hand, studies on U.K. and other common law countries have different findings. For instance, Latridlis (2010) finds that IFRS adoption decreases the earnings management in the U.K., because it has a strong institutions.

Latridis and Rouvolis (2010) investigate the effects of the transition from Greek GAAP to IFRS by examining any changes of earnings management. The findings support their hypotheses that there are volatility in key income statement and balance sheet measures of Greek public firms during in the first year of adoption, i.e. the transition period. However, the authors document evidence of reduced earnings management in the subsequence period, especially for those companies with larger firm size and needs for debt and equity financing. In addition, Rudra and Bhattacharjee (2012) study India sample to prove that adoption of IFRS in an emerging market cannot be associated with reduced earnings management, unless such high quality accounting standards are supported by the on-going developments of security laws, legal enforcement and investor protection. Due to the lack of liquidity in capital markets for emerging markets and appropriate institutional infrastructures to reinforce IFRS reporting rules, IFRS per sec cannot control earnings management in India. However, I found two issues in this study. First, Rudra and Bhattacharjee (2012) merely takes the sample from 2010 and sample size from BSE 100 companies which 67 belong to private sectors; and second, without examining a set of comprehensive proxies of earnings management, Rudra and Bhattacharjee (2012) and other prior studies only measure discretionary accruals from modified Jones model (1995) and Jones model (1991).

Therefore, it is evidenced that the impacts of IFRS adoption (e.g. higher quality of reported earnings) are complementary to the countries' institutional background, even it is prior to the implementation of IFRS (Chua, Cheong and Gould, 2012). On the other hand, it is also possible that for countries with lower institutional infrastructures, firms can still receive the greater effects of economic consequences from IFRS adoption (such as lower implied cost of equity capital) as long as firms have strong incentives. For instance, Kim, Shi and Zhou (2013) document evidence for greater cost of capital-reducing effect of IFRS adoption from countries with weak institutional infrastructures than they are from countries with strong institutions.

1.3. IFRS adoption, institutions and accounting quality

It is expected that IFRS adoption limits the options available for managers (Christensen, Lee and Walker, 2008). It requires more and better disclosures and fair value measurements; which requires more transparencies from managers to carry out their financial reporting duties. If the country is supported by a set of well-established financial systems, investor protections, legal and litigation structures, mandatory IFRS adoption should bring more close monitoring to managers' Earnings Management Motives (EMM). Burgstahler, Hall and Leuz (2006) focus on the level of earnings management as one key dimension of accounting quality that is particularly responsive to firms'

reporting incentives and document evidence from E.U. public and private firms from 1997 to 2001 that the need to raising capital in public markets (market forces) and the level of institutional structures (especially legal enforcement) are negatively associated with public companies' earnings management, rather than private companies. Therefore, legal institutions and capital market forces often appear to reinforce each other in reducing the level of earnings management for public companies. Therefore, level of earnings management should be lowered in the post-adoption period. In addition, more disclosures about the entity's financial condition, performance and risk-factors may enhance transparency of financial reporting (Chiapello, 2005). IFRS aims at promoting such full disclosure, which will facilitate decision usefulness for investors who use all available disclosed information from reports and notes. Also, as discussed, when the literature supports the notion that strong institutions help confine, limit and deter managers' opportunistic discretion in managing earnings, accounting quality should be enhanced along with IFRS adoption.

On the contrary, IFRS is a set of principles-based accounting standards, which may give rooms for managers to opportunistically manipulate their professional judgement at the expense of shareholders. Thus, such larger extent of flexibility as using fair value accounting possibly allow managers of IFRS adopting companies to actually increase their earnings management motives. Recently, Capkun, Collins & Jeanjean (2012) examine the earnings quality in the Europe following mandatory IFRS adoption and posit that the greater flexibility in IFRS than that of the local GAAP may lead to greater earnings management (smoothing).

Given that there are inconsistent empirical results from the streams of research studies in incentives vs. standards that related to accounting quality and/or capital market consequences, it is still an open question to argue if IFRS adoption have an incremental or complimentary effects on accounting quality when there have been other changes implemented simultaneously by the adopting firms (Barth et al., 2010).

1.4. Accounting quality and strategies

Some prior studies advocate that business strategy systematically differs in accounting quality. Recent literature examines the how business strategies related to level of accounting quality (e.g. Houqe, Kerr and Monem, 2013). Taking U.S. public companies as the sample, the authors collect evidence to show that firms taking defender-strategy (prospector-strategy) are negatively (positively) related to the level of earnings management.

In addition, there are prior studies trying to link the accounting quality with firms' strategies. Cormier, Houle & Ledoux (2013) argue that the positive relationship between earnings management and information asymmetry is weakened for diversified firms, those intensively investing in R&D. It is possible that since innovative strategy will signify that the firm is growing and expanding aggressively for maximizing shareholders' values in the future, the company is being closely monitored by shareholders, analysts and other stakeholders in the capital markets. In this situation, it motivates managers to mitigate any opportunistic

manipulation of earnings. As a result, R&D spending should be negatively associated with EM.

On the contrary, cost control strategy tightens discretion for managers to innovate and grow the business. It will not add value to the prospect of the firm. As a result, this kind of conservative and cautious attitude will not encourage any positive association with firm valuation.

1.5. IFRS adoption and firm value

If accounting quality is enhanced by the IFRS adoption, will the firm value also be increased due to the reduction of information asymmetry from full disclosure and transparency? When IFRS is regarded as a more rigorous set of high quality accounting standards, accounting and earnings information should be more valuable to capital markets. Provided managers fully comply with IFRS adoption, on average, firm value should be increased from investors' perspectives. However, the literature suggests there are some differential effects from firm characteristics.

Fernandes and Ferreira (2007) argue that firm characteristics become relatively more important to influence the extent of variations in earnings management. The scholars find the extent of negative relation between firm value (proxied by Tobin's Q) and earnings management is more pronounced for firms with more growth opportunities and need for external finance.

2. RESEARCH HYPOTHESES DEVELOPMENT

2.1. Accounting Quality and Mandatory IFRS adoption in Canada

Blanchette (2011) suggests that since both Canadian GAAP and IFRS are principles-based standards, it does not require substantial changes for Canadian firms. Even though Canadian managers can avoid detail guidelines and extensive guidance in IFRS, it definitely depends on the judgement in applying various principles (such as fair value of accounting). As a result, it still opens door to earnings management and income smoothing.

Leuz, Nanda & Wysocki (2002) classify countries into cluster to study the relationship between earnings management and institutional factors. In particular, Canada, Singapore, UK, Hong Kong, and USA belongs to cluster 1 which have large stock market capitalization, dispersed ownership, established judicial system with anti-director rights and rule of law and high requirements of disclosure. Such institutions are negatively related to earnings management.

In the following, I extract the selected descriptive and rationale of Leuz, Nanda & Wysocki (2002) to review that Canada is already in a low earnings-management jurisdiction, even prior to the mandatory IFRS adoption. TABLE 1 shows that Canada not only has a set of strong institutions in legal systems and disclosure requirements (being ranked in the top level of outside investor rights, legal enforcement scores and 7th highest disclosure index), but also have been enjoying a relatively very low ranking of earnings management (i.e. out of 31 countries, EM1: 4th, EM2: 3rd, EM3: 7th and EM4: 4th).

Table 1. Canada's Ranking (out of 31 countries) from Country Scores for
Earnings Management Measures & Institutional Characteristics

Earnings Smoothing Measures (EM1 & EM2)				*Earnings Discretion Measures (EM3 & EM4)*					
EM1		*EM2*		*EM3*		*EM4*		*Earnings*	
C(OpInc)/c(CFO)	Rank Out of 31 countries	p(Acc, CFO)	Rank Out of 31 countries	|Acc| / |CFO|	Rank Out of 31 countries	#SmProfit / #SmLoss	Rank Out of 31 countries	Management	Rank Out of 31 countries
(-)		(-)		(+)		(+)		Score	
0.649	4	-0.759	3	0.478	7	2.338	7	5.3	4
EM1 is the country's median ratio of the firm-level standard deviations of operating income and operating cash flow (both scaled by lagged total assets). EM2 is the country's Spearman correlation of the change in accruals and the change in cash flow from operations (both scaled by lagged total assets). EM3 is the country's median ratio of the absolute value of accruals and the absolute value of the cash flow from operations. EM4 is the number of "small profits" divided by the number of "small losses" for each country.									

Legal Origin	*Legal Tradition*	*Outside Investor Rights (Ranking 1 to 5, 5 being the highest)*	*Legal Enforcement Scores (1 to 10, 10 being the highest)*	*Importance of Equity Market*	*Rank Out of 31 countries*	*Ownership Concentrat-ion*	*Rank Out of 31 countries*	*Disclosure Index*	*Rank Out of 31 countries*
English	CM	5	9.8	23.3	7	0.24	6	74	7
CM means Common Law Country									

Source: Extracted from Leuz, Nanda & Wysocki (2002)

Even though a set of principles-based accounting standards may be vulnerable to earnings management and income smoothing, is it also theoretically sound that such strong institutions can deter managers and controlling shareholders incentives to manage reported earnings in order to conceal their private control benefits (Leuz, Nanda & Wysocki, 2002)? Prior to adopting IFRS, Canada already has a low level of earnings management. Assuming the institutions in Canada continues to be strong following its mandatory adoption of IFRS (in order to discourage managers and controller shareholders incentives to manage earnings), can the quality of reported earnings be better following IFRS adoption period (i.e. since January 1st 2011)?. On the contrary, as discussed, there are no huge differences between IFRS and Canadian GAAP, it is still doubtful for Canada to receive any incremental benefits (such as higher accounting quality) from IFRS adoption? Is it possible that firms' high reporting quality of accounting information within the strong institutions will get higher following the mandatory IFRS adoption?

Since Canada just adopted IFRS since January 1st 2011, the extant literature regarding effects of IFRS adoption on Canadian compares is rare. Recently, Liu and Sun (2014) study if IFRS affect earnings quality of 461 Canadian firms (1,844 firm-year observations) from 2009 to 2010 being the pre- and 2011 to 2013 being the post-IFRS periods. Specifically, these authors document that accounting quality has been improved when income-increasing discretionary accruals for the sample of are reduced, small positive earnings, earnings persistence and earnings response coefficient have been improved from the pre- to post-IFRS period. There are substantial differences for my study comparing to Liu and Sun (2014), First, I apply extensive periods of pre- (2005 to 2010) and post-IFRS adoption (2011 to 2014) and larger sample size (6620 firm-year observations) in order to make the comparisons more meaningful. Second, I think that it is not sufficient to conclude the level of accounting quality by discretionary accruals. Thus, I follow prior studies (e.g. Ahmed, Neel and Wang, 2010) to comprehensively compute and evaluate different proxies of accounting quality by individually and overall earnings management scores (Leuz, Nanda & Wysocki, 2002). In fact, empirical results that relying on one specific measure of discretionary accruals may not entirely capture the underlying phenomenon in accounting quality (Cormier, Houle & Ledoux, 2013). Third, I extend the study of association between effects of mandatory IFRS adoption and earnings management to any link with firm values and strategic directions.

Besides discretional accruals, the extant literature also measures if following IFRS adoption, managers continue to manipulate earnings towards targets (e.g. small positive earnings) and recognize loss less timely since these principles-based standards allow so much flexibility for managers to have preference in smoothing reported earnings in accordance to their hidden agenda. Even though there are well established institutions, IFRS and auditors will be less effective in limiting such potential self-interested managerial discretion (Ahmed, Neel and Wang, 2009).

To advance my study, the following research hypotheses are developed to include both earnings management and income smoothing as the proxies of accounting quality.

H1: Accounting quality is higher when earnings management is reduced following IFRS adoption

Where earnings management is measured by a: (i) Discretionary Accruals, (ii) Discretionary Accruals – ROA, (iii) Managed Earnings Towards Targets (METT); and (iv) Time Loss Recognition (TLR)

2.2. Earnings management motives: equity issues and strategic focus

Prior studies also argue that earnings-management practices detected in each country is expected to be affected by specific socio-economic features such as the Anglo-American and the Euro- Continental environments. Othmanl and Zeghal (2006) study 2475 Canadian firm-year observations over the period 1996-2000 on what factors motivate firms to engage earnings management in Anglo-Saxon and Euro-Continental models and find that for Canadian firms, issuing equity is a strong motive for earnings

management as they show specific incentives matched with a dynamic capital market. Fernandes and Ferreira (2007) argue that there is a negative relation between earnings management and firm valuation, especially for firms with strong investment opportunities and need of external finance. It suggests that firms with great need for growth and expansion may have incentives to manipulate their earnings reports. Therefore, I conduct my test with recent Canadian sample extending longer sampling period and hypothesize to have similar effects from the literature even though IFRS is adopted.

H2a: Accounting quality is lowered when equity issuance is higher following IFRS adoption

In addition, Houqe, Kerr and Monem (2013) take a large sample of U.S. public companies from 1999 to 2009 and document strong evidence that defender- (prospector-) strategy firms are associated with higher (lower) levels of earnings management practice. However, in periods of high and low economic growth, the results are very different. In times of high economic growth, defender- (prospector-) strategy firms experience low (high) earnings management; but during the low economic growth periods, defender- (prospector-) strategy firms are associated with higher (lower) earnings management practices.

Thus, prior studies' findings postulate certain direct evidence of the link between business strategy and earnings quality. Another recent and similar study by Pak, Selatan and Ehsan (2014) have identical results that due to competitors-oriented behavior and short term focus on financial performance, defender firms are likely to manage earnings within the boundary of accounting standards. On the other hand, prospector firms who are committed to product development and innovation will be likely to increase accounting conservatism (i.e. higher accounting quality). That is, an assessment of earnings quality may be incomplete and potentially misleading without understanding business strategy of the firms in question. Moreover, investors and other users of financial statements can develop insights into firms' earnings quality by trying to identify their business strategy in the first place.

To study if accounting quality is also contingent to firm-level strategic focus, I conjecture that firms with high growth, innovation-oriented (defensive, cost-control) strategy may become the possible incentive for firms to engage with less (more) earnings management, I take this view to develop the following hypothesis:

H2b: Firms engaging with innovative (cost control) strategy following the mandatory IFRS adoption are associated with lower (higher) levels of earnings management

2.3. Earnings management and firm value following IFRS adoption

Most prior studies posit that earnings management has been detrimental to the firm, especially those lessons learnt from Enron and Worldcom. Since earnings management practice will jeopardize the quality of earnings, it will exhibit that managers manipulate the accounting numbers to show good results to the capital markets. Thus, it is expected that the more earnings management, the lower the firm valuation. Hence, if IFRS is mandated in Canada, and earnings management is lowered, then, it is possible that earnings management is negatively associated with firm value following the mandatory IFRS adoption.

In this study, I examine if the firm value for a market-based economy higher with the improved accounting quality following the mandatory IFRS adoption? I investigate that following the mandatory IFRS adoption if such high quality of accounting standards will associate with any significant changes in firm value and earnings management.

H3: Firm value is increased with lower level of earnings management following the mandatory IFRS adoption

3. DATA COLLECTION

3.1. Data collection

Since the E.U. is a very diverse economic union with ample of data when it adopted IFRS mandatorily since 2005, prior studies between accounting quality and IFRS adoption mainly focus on the E.U. (Ahmed, Neel and Wang, 2010, Christensen, Lee and Walker, 2008, Zeghal, Chtourou and Fourati 2012). However, empirical results in such diversity in the union of economic systems may not be able to generalize in other jurisdictions. In this study, I focus on a single-country research examining if a country with strong institutions may have accounting quality improved following IFRS adoption.

As such, I collect financial statement and fiscal year-end share prices and financial statement information from CompuStat North America database for the period 2005 to 2014, covering sufficient period of time before and after the mandatory IFRS adoption as well as economic cycles for Canada. These data are used to calculate various accounting quality measures and relevant control variables. Due to special regulations, disclosure requirements and concerned controversies on IFRS and consistent to prior studies (e.g. Hung 2001: Leuz et al. 2003), I exclude sample data from financial institutions (i.e. banks, real estate, personal credits, investments that belong to Standard Industrial Classification (SIC) codes from 6000 to 6999). In addition, to maintain data integrity and control for potential outlier effects, I winsorize all continuous variables (except for indicator/dummy variables) at the 1st and 99th percentiles.

Initially, I collect more than 19,758 firm-year observations from CompuStat North America database. After removing financial industry-related data, and only include companies if they consist of all required financial statement data for calculations of various continuous variables and proxies of Earnings Management. Also, I only include companies with more than 1 year data in my sample, because it is required to capture the data for calculating the variables of change in sales and change in accounts receivable for Modified Jones Model. After cleaning up the database for financial and EM variables calculations, as well as calculating the variables of changes in financial statement items, I have trimmed my sample size to 6,616 firm-year observations as my final sample data for further models buildup and data analysis.

Table 2 illustrates that Canadian sample break down by industry (using North America Industry Classification Codes). As shown, the total sample size has been mostly occupied by mining, quarrying, oil and gas extraction; and manufacturing industry (more than 65% of the total sample); which also represents that Canada relies on resources and industrial sectors in growing the economy.

Table 2. Industry Breakdown of Sample Size

North American Industry Classification Code	NAIC code	# of firm-year observations	% of Total
Agriculture, forestry, fishing and hunting	11	32	0.48%
Mining, quarrying, and oil and gas extraction	21	2284	34.52%
Utilities	22	171	2.58%
Construction	23	119	1.80%
Manufacturing	31-33	2062	31.17%
Wholesale trade	42	199	3.01%
Retail trade	44-45	274	4.14%
Transportation and warehousing	48-49	203	3.07%
Information and cultural industries	51	569	8.60%
Real estate and rental and leasing	53	56	0.85%
Professional, scientific and technical services	54	308	4.66%
Administrative and support, waste management and remediation services	56	126	1.90%
Educational services	61	15	0.23%
Health care and social assistance	62	44	0.67%
Arts, entertainment and recreation	71	56	0.85%
Accommodation and food services	72	63	0.95%
Other services	81	35	0.53%
Total		*6616*	*100.00%*

3.2. Benchmark-sample

Since it is a single-country study, I follow the extant literature (e.g. Liang and Shan, 2013) that it is possible to measure any significant dissimilar effects of earnings quality and firm value between the pre- and post-IFRS adoption periods. Instead of using a matched-sample that used by the prior studies on voluntary adoption of IFRS (e.g. Barth et al., 2008), I follow the approach used by Christensen, Lee and Walker (2008) to use all firm-year observations in the pre-adopting period as the benchmark for the firms prior to their mandatorily adopting IFRS to compare the effects in the same firms in the post-adopting period in my single-country setting.

4. RESEARCH MODELS FOR ACCOUNTING QUALITY

4.1. Discretionary Accruals

The literature always quote the measurement of accruals quality as the metric of earnings quality (e.g. Liu and Sun, 2014, Choi, Lee and Park, 2013, Ahmed, Neel and Wang, 2010, Niu, 2005). In accounting-based earnings management, managers basically choose to manipulate accruals in order to manage the reported income (Dechow et al., 2010, Liu and Sun, 2013). While accruals are used by managers in normal accounting, the role of accruals can also be applied to overcome problems in measuring firm performance by cash flows (Dechow and Dichev, 2002).

Absolute value of Discretionary Accruals (DA) have been widely used in the literature to measure the general usage of earnings management practice by firms. Hence, the very first measurement for gauging the level of earnings quality is discretionary accruals calculated by the modified Jones model (Dechow, Sloan & Sweeney, 1995). After controlling for factors that influence firm performance (for instance, changes in revenue, value of property, plant and equipment, and cash flow from operations), the absolute discretionary accruals are estimated as a proxy for the extent of earnings management (Frankel, Johnson & Nelson, 2002, Haw, Hu, Hwang & Wu, 2004, Kim & Yi, 2006).

The modified Jones model, suggested by Dechow et al. (1995), is used to calculate the extent of earnings management. In the estimation period, the regression parameters, a0, a1, and a2, are estimated from the model below:

$$\frac{Accruals}{TA_{t-1}} = \frac{\alpha 0}{TA_t} + \alpha 1 \frac{(\Delta Sales - \Delta AR)}{TA_{t-1}} + \alpha 2 \frac{(PP\&E)}{TA_{t-1}} + \varepsilon \qquad (1)$$

Where the total accruals (Accruals) = difference between net income and cash flow from operations; Δ Sales = the change in net sales, scaled by total assets (TA) in the year t-1; Δ AR = the change in net accounts receivables, scaled by total assets (TA) in the year t-1; PP&E = the value of property, plant and equipment, scaled by total assets (TA) in the year t-1

Then, each firm-year observation is regressed to estimate the respective coefficients ($\alpha 0$, $\alpha 1$ & $\alpha 2$). From the estimated coefficients of alphas, the discretionary accruals (DA) are calculated as:

$$DA = \frac{Accruals}{TA_{t-1}} = \frac{\alpha 0}{TA_t} + \alpha 1 \frac{(\Delta Sales - \Delta AR)}{TA_{t-1}} + \alpha 2 \frac{(PP\&E)}{TA_{t-1}} + \varepsilon \qquad (2)$$

4.1.1. Discretionary Accruals adjusted by ROA (DA-ROA)

Kothari, et al. (2005) suggests using the modified Jones model after introducing an additional independent variable, the current ROA, to control for the impact of firm performance on discretionary accruals. Under this model, total accruals are defined as follows:

$$Accruals_- = \frac{\alpha 0}{TA_t} + \alpha 1 \frac{(\Delta Sales - \Delta AR)}{TA_{t-1}} + \alpha 2 \frac{(PP\&E)}{TA_{t-1}} + \alpha 3 \frac{ROA}{TA_{t-1}} + \varepsilon \qquad (3)$$

Where ROA = net income scaled by total assets in year t-1; other variables are identical to those for the modified Jones model described above.

When Canada adopts IFRS mandatorily since January 1, 2011, I examine if it has any effects on discretionary accruals used by managers. In my study, I intend to capture the impact of the

mandatory adoption of IFRS on absolute discretionary accruals. If the adoption of IFRS led to less accrual-based earnings management or better earnings quality, then, there should be a negative and significant coefficient.

4.1.2. Positive & Negative Discretionary Accruals

In addition to "absolute" value of discretionary accruals, I follow some prior studies (e.g. Liu and Sun, 2014) to study the direction of accruals. Specifically, I estimate if firms following IFRS will have significant effect on income-increasing discretionary accruals (i.e., positive discretionary accruals) and income-decreasing discretionary accruals (i.e., negative discretionary accruals) as the dependent variable separately. If the IFRS adoption can constrain income-increasing (income-decreasing) earnings management, such coefficient is expected to be negative (positive) and significant.

4.2. Managing Earnings Towards Targets (METT)

Prior studies document empirical evidence that managers with opportunistic behavior are likely to engage in managing reported earnings toward small positive level in order to avoid negative earnings but most of them study for voluntary adoption of IFRS (Burgstahler & Dichev, 1997; Leuz et al., 2003; Tang et al., 2008). In this study, I examine Canada as the country requiring to mandatorily adopt IFRS effective January 1, 2011, therefore, different from the prior studies I directly measure the two proxies of earnings management towards a target by running the following logistic regression model:

$$TowardTargets\ (SPOS) = \alpha + \beta 1POST + \beta 2Growth + \beta 3Eissue + \beta 4Leverage + \beta 5Dissue + \beta 6Turnover + \beta 7Size + \beta 8OCF + \beta 9Auditor + \beta 10Int'lExposure + \epsilon \quad (4)$$

Where SPOS is an indicator variable equals to one if firms have annual net incomes scaled by total assets between 0 and 0.01 in any year. POST is the dummy variable equals one for the adoption period (i.e. from 2011 to 2014) or zero otherwise.

For empirical results with significant positive coefficient on POST, it suggest that firms manage earnings toward small positive level "more" likely and frequently in the post-adoption period that what they did in the pre-adoption period. It implies that the accounting quality is lower following the IFRS adoption in Canada.

4.3. Timely Loss Recognition (TLR)

The extent document has abundant research documenting evidence that the timely recognition of larges losses is an attitude of firms exercising higher accounting quality (Ball et al., 2000; Lang et al., 2006; Ball & Shivkumar 2005, 2006; Barth et al., 2007, 2008). In the era of voluntary IFRS adoption, Ball et al. (2007, 2008), controlling for certain incentives factors, argue that those adopting firms demonstrate a significant level of timely recognition of losses. Even though Chen, Tang, Jiang and Lin (2009) study on mandatory IFRS adoption in the E.U. becomes a regulation to follow without the potential incentives to voluntarily do so, this study intends to investigate that if firms seriously adopt IFRS with more transparency, and better and more disclosures, the accounting quality should be improved. Thus, to

measure the reporting incentives of adopting IFRS completely or not, I run the logistic regression to examine if firms in Canada have a more timely recognition of large losses in the post-IFRS period:

$$TimelyLosses\ (LENG) = \alpha 0 + \alpha 1POST + \alpha 2EMV + \alpha 3Size + \alpha 4SalesGrowth + \alpha 5EISSUE + \alpha 6Leverage + \alpha 7DISSUE + \alpha 8ROA + \alpha 9SalesTurnover + \alpha 10Auditor + \alpha 11Int'lExp + \alpha 12Industry + \varepsilon \quad (5)$$

Where TimelyLosses = a dummy dichotomous variable to be 1 if a firm-year observation has net income scaled by total assets (i.e. ROA) less than -0.20, and 0 otherwise. The definitions of other variables are the same as for previously above-discussed equations. The more significant and negative coefficient in the POST will be interpreted as the lower likelihood of reporting large negative net income in the post-adoption period relative to the pre-adoption period.

4.4. Research Model for Firm value

The extant literature argue that given that there is a higher perceived quality of accounting standards than many local Canadian GAAP. On one hand, transparency and more and better disclosures on financial reports may greatly reduce the information asymmetry between managers and investors. On the other hand, IFRS principles may allow lots of rooms for managers to apply their professional judgements in financial reporting, which may also end up with a higher degree of asymmetric information. It makes it more difficult for shareholders to monitor managers. Managers who understand this advantage may be better able to abuse their discretion in IFRS financial reporting by managing the earnings numbers opportunistically.

Prior studies examine the relations between the extent of earnings management and firm value to further investigate whether earnings management is opportunistic or beneficial (Jiraporn, Miller, Yoon and Kim, 2006). The underlying theoretical argument is that if managers manage earnings for self-serving purposes, and not for the purpose of maximizing shareholders' wealth, we should find an inverse relation between the degree of earnings management and firm value. In other words, firms where earnings management occurs to a greater (lesser) extent are expected to have lower (higher) firm value. On the other hand, if earnings management is, by and large, intended to improve earnings information, thereby, facilitating communication between management, on one side, and stockholders and the public, on the other side, we should observe a positive relation between the extent of earnings management and firm value. In this study, I use TOBIN-Q is as the measure of firm value, which is defined as the ratio of the market value to replacement values of a firm's assets (Lang & Stulz, 1994; Morck, Shleifer & Vishny, 1988; Yermack, 1996):

$$Tobin\text{-}Q = (BV\ of\ TA - BV\ of\ CE + MV\ of\ CE)/BV\ of\ TA \quad (6)$$

Where BV of TA = Book values of total assets, BV of CE = Book values of common equity & MV of CE = Market value of common equity

Table 3. Absolute value of Discretionary Accruals adjusted by ROA (DA-ROA)

Total Period N=6618 Variables	Pre-Adoption N=3636 Mean	Median	Std. Dev.	Post-Adoption N=2982 Mean	Median	Std. Dev.	Mean Diff.	Sig.
Δ NI	-0.02395	0.0033	0.3981	-0.00085	-0.0006	0.4171	0.0231	**
Δ CFO	0.004606	0.0003	0.3891	0.002608	0.0032	0.19969	-0.001998	
CFO	0.0368	0.0721	0.4481	0.03145	0.0705	0.2386	-0.00535	***
ACC	-0.10635	-0.06366	0.584377	-0.09615	-0.06614	0.261045	0.0102	***
Size	1249.52	173.54	3526.19	1709.65	237.05	4294.24	460.13	***
NI	-0.0705	0.02	0.4136	-0.0657	0.0158	0.3707	0.0048	
Δ Sales	46.898	4.227	462.06	65.543	5.532	377.454	18.645	*
Δ Rec.	5.6481	0.29	82.263	8.5373	0.541	63.293	2.8892	
PPE	9.0224	0.8965	88.429	10.3533	0.9752	124.264	1.3309	
M/P	2.7768	1.6189	6.3975	2.7581	1.5224	7.7831	-0.0187	***
SPOS	0.15421	0	0.3612	0.1375	0	0.3444	-0.01671	*
LENG	0.0398	0	0.1957	0.03857	0	0.1926	-0.00123	
Tobin-Q	1.7424	1.3044	1.8799	1.712	1.2475	1.9834	-0.0304	
DA|	0.1115	0.0599	0.2111	0.10603	0.057	0.2127	-0.00547	
DA-Positive	0.0564	0.0094	0.1368	0.0571	0.0099	0.1613	0.0007	
DA-Negative	-0.05632	0	0.1904	-0.0488	0	0.1406	0.00752	*
DA -ROA|	1.0828	1.0535	0.2469	1.0709	1.0521	0.2105	-0.0119	**
DA-ROA-Positive	0.000963	0	0.03343	0.00208	0	0.06137	0.001117	
DA-ROA-Negative	-1.0819	-1.0534	0.2489	-1.0689	-1.0519	0.2121	0.013	**
Leverage	0.4224	0.418	0.2111	0.4306	0.4289	0.2175	0.0082	***
Equity	5.207	5.156	2.033	5.4495	5.4682	2.181	0.2425	***
Eissue	0.41	0	3.0196	0.3259	0.0535	2.7442	-0.0841	
Dissue	0.7017	0.0689	8.6343	0.5154	0.0706	4.2413	-0.1863	
Sales Turnover	0.8509	0.5988	1.2265	0.7608	0.5616	0.7017	-0.0901	***
Unqualified Auditor Opinion	1.2069	1	0.7599	1.4388	0	1.0606	0.2319	***
Big Auditor	0.829	1	0.377	0.828	1	0.377	-0.001	
CAPX	0.1039	0.0498	0.623	0.0906	0.0499	0.1089	-0.0133	*
R&D Strategy	0.5581	0	7.4463	0.3107	0	5.0537	-0.2474	
Cost Control Strategy	0.8509	0.5987	1.2265	0.7608	0.5616	0.7017	-0.0901	***

Size: natural logarithm of total assets
ΔNI = Change in net income amount in 2 years, scaled by total assets
ΔCFO = Change in cash flow from operation in 2 years, scaled by total assets
CFO = Cash flow from operation scaled by total assets
ACC = Amount of accruals, which is equal to net income subtract cash flow from operating, scaled by total assets for the year
Size = Log amount of total assets for the year
Δ Sales = Change in sales amount in 2 years
Δ Rec. = Change in accounts receivable amount in 2 years
PPE = Amount of PPE book value scaled by sales
M/P = Ratio of market price to book value of price
SPOS = Managed Earnings towards Targets, where SPOS is an indicator variable equals to one if firms have annual net incomes scaled by total assets between 0 and 0.01 in any year.
LENG = Timely Losses = a dummy dichotomous variable to be 1 if a firm-year observation has net income scaled by total assets (i.e. ROA) less than -0.20, and 0 otherwise.
Tobin-Q = Construct for the proxy of firm value = (BV of TA – BV of CE + MV of CE)/BV of TA
DA| = Absolute value of discretionary accruals
DA-Positive = Discretionary accruals with income increasing effect
DA-Negative = Discretionary accruals with income reducing effect
DA-ROA| = Discretionary accruals adjusted by ROA in absolute value
DA-ROA-Positive = Discretionary accruals adjusted by ROA with income increasing effect
DA-ROA-Negative = Discretionary accruals adjusted by ROA with income reducing effect
Leverage = ratio of total debts divided by total assets
Equity Size = log of market value of equity as of year-end
Eissue = equals 1 if new issue of equities for the year
Dissue = equals 1 if new issue of debts for the year
Turn. = Sales turnover amount for the year
Use of big auditors: equals 1 if any firm-year observation uses big 4 auditors, otherwise 0
Auditor opinion: equals 1 if an unqualified audit opinion is given, otherwise 0
CAPX = Amount of capital expenditure for the year scaled by total assets
R&D Strategy = R & D Intensity = Amount of R&D expenses for the year scaled by total sales
Cost Control Strategy = Ratio of Asset Utilization = Total Sales scaled by Total Assets for the year

*Note: ***, ** and * denote significance of p-value at the level of 1%, 5% and 10% respectively (two-tailed tests)*

5. EMPIRICAL RESULTS

5.1. Univariate Comparisons – Comprehensive Analysis

Table 3 presents a set of comprehensive comparison between the pre- and post IFRS adoption for many variables used in research models. As presented, there are significant increases in discretionary accruals – negative effect (DA-negative) and absolute value of discretionary accruals adjusted by ROA - negative (DA-ROA-negative) for the post-IFRS period relative to the pre-IFRS period, signifying that reported earnings following IFRS adoption for Canadian firms have been more conservative to have more income-reducing effects; which represents improvement in accounting quality in an univariate way. On the other hand, the average of Managed

Earnings towards Targets (measure of SPOS) is reduced and such magnitude is still measured as significant (at p-level of 1% significance), which may shed the direction for firms managing earnings toward small positive level become less likely and less frequently in the post-adoption period relative to the pre-adoption period. However, there has been no significant decrease for the Time Loss Recognition (measure of LENG). For the firm-specific characteristics, Table 3 shows that there are significant increases in firm size, leverage, equity value, unqualified auditor opinion, capital expenditures, growth of sales and income; but also significant decreases in total sales turnover (but higher net income even it is insignificant) and asset utilization ratio.

In sum, these initial descriptive statistics results show that after the IFRS adoption, earnings management components appear to have mixed effects. However, the good news is that Canadian firms seem to report more conservatively with using more discretionary accruals – negative effects between the pre- and post-period. When the ratio of market-price-to-book-price is lowered substantially, firm value (proxied by Tobin-Q) has been reduced, but not significantly.

5.2. Multiple Regression Analysis

The previous descriptive statistics present inconclusive bivariate results if there are improvements in earnings management and income smoothing after IFRS adoption is mandated in Canada. In order to test all hypotheses, it is essential to run regression models so that more insights about the magnitude of relationship between earnings management variables and IFRS adoption period, along with different firm-specific factors can be measured.

5.2.1. Discretionary Accruals

Absolute value of Discretionary Accruals (DA) have been widely used in the literature to measure the general usage of earnings management practice by firms. TABLE 4 model A shows that IFRS adoption effect has a negative coefficient with absolute value of DA, even though it is not significant. I further such test by following Liu and Sun (2013) to partition DA into positive (income-increasing effect) and negative (income-reducing effect), model B exhibits that IFRS adopting firms in the adoption period are positively associated with positive DA (coefficient = 0.14 at P=0.05 level of significance). It implies that IFRS adoption is able to limit such DA effect but not significantly (model A). Instead, when IFRS becomes mandatory in Canada, such a set of high quality standards does not constrain firms to use discretionary accruals in reported earnings upwardly. Also, firms with profitability are highly related to income-increasing accruals, followed by capital expenditure, leverage and new issues of both equity and debt. These results can be interpreted that distortion on earnings by income-increasing accruals has not been improved since the IFRS adoption period.

Regarding income-decreasing effects of accruals, model C of TABLE 4 displays that IFRS adoption has a similar but larger coefficient that that of model B. It suggest that IFRS adoption has a strong positive impact on negative DA (coefficient = 0.022 at p=1% level), suggesting that firms are using discretionary accruals to reduce reported earnings following the IFRS adoption. Compared to model B, however, Panel C shows that auditors' unqualified opinion is effectively increasing the income-reducing effects from accruals, suggesting that after IFRS adoption, auditors are more conservative to disallow use of accruals for increasing earnings; but possibly relaxed with more income-reducing discretionary accruals used in the reported earnings. In terms of firm characteristics that related to discretionary accruals, Table 4 models A & B exhibit that large-sized firms, probably due to political cost issue, are less likely to use discretionary accruals.

These initial results highlight that overall after mandatory IFRS adoption period, in general, Canadian firms are engaged with more positive DA and at the same time more negative DA with IFRS adoption. Thus, more discretionary accruals are being manipulated to result in higher and lower amounts of reported earnings; and it means that the respective accounting quality is lower. *Therefore, based upon the measure of DA, hypothesis H1 is not supported.*

To measure if firms with equity and debt financing following the mandatory IFRS adoption period have any association with discretionary accruals, models B1 and C1 present some interesting results. Specifically, models B1 and C1 show in the whole sample period, effect from firms issuing both equity and debt is mainly attributable to both income-increasing and decreasing discretionary accruals. However, following the IFRS adoption period, firms issuing both equity and debt have significant increase in using discretionary accruals income-increasing effects (model B1). In addition, it also shows that the coefficient of equity-issuing effect is much larger than the debt-issuing effect (i.e. 0.022 vs. 0.001, at 1% p-level significance). It infers that even though IFRS adoption is mandated, the needs for equity financing is possibly the major motive for firms in using more discretionary accruals to enhance reported earnings in the capital markets. *Thus, this initial result is consistent with hypothesis 2a.*

5.2.2. Discretionary Accruals adjusted by ROA (DA-ROA)

In order to control for performance factors, I follow some prior studies (e.g. Choi, Lee & Park, 2013) to construct the ROA-adjusted discretionary accruals (DA-ROA) and to test if mandatory IFRS adoption associates with firm-specific factors have significant impacts.

When IFRS adoption in Table 4 model A is negatively related with DA insignificantly, Table 5 model A shows that it has a negative but statistically significant coefficient with DA-ROA. Similar to Table 4, firms with more operating cash flows in the post IFRS period in Table 5 model A express significant and positive coefficients with DA-ROA, and it is mainly come from substantially less negative DA-ROA.

Table 4. Estimate the effects of Earnings Management from
IFRS adoption & other firm characteristics using Discretionary Accruals

Variables	Model A: |DA|		Model B: Positive DA		Model C: Negative DA	
	Coefficients	*t-statistics*	*Coefficients*	*t-statistics*	*Coefficients*	*t-statistics*
(Constant)	0.238***	20.301	0.151***	18.241	-0.087***	-9.915
Size	-.017***	-12.601	-0.016***	-16.832	0.001	.984
Leverage	0.013	1.016	0.019**	2.180	0.007	.693
ROA	-.123***	-15.926	0.114***	20.977	0.236***	40.893
CAPX	-.021***	-3.608	0.029***	7.176	0.049***	11.538
CFO * POST	.046***	2.574	-0.231***	-18.494	-0.276***	-20.783
Price-to-Book * POST	0.000	-.319	-0.001**	-2.222	-0.001*	-1.661
IFRS Adopters	0.002	0.204	-0.003***	2.696	-0.004	-0.776
Post-IFRS	-0.008	-1.146	0.014***	2.696	0.022***	4.056
% Change in CE	0.008***	8.979	0.003***	4.787	-0.005***	-7.464
% Change in TL	0.003***	9.990	-.002***	7.881	-0.002***	-5.907
Unqualified Audit Opinion	-0.048***	-5.857	-0.010*	-1.769	0.038***	6.140
Industry effects	Included		Included		Included	
# of Observations	6618		3630		2988	
R²	0.115		0.135		0.251	
Durbin Watson	1.797		1.677		1.806	
ANOVA F-Test	35.704***		38.005***		81.558***	
Tolerance for each variable	More than 0.1		More than 0.1		More than 0.1	
VIF for each variable	Less than 10		Less than 10		Less than 10	
Means of residual	0		0		0	
Variables	Model B1: Positive DA			Model C1: Negative DA		
	Coefficients		*t-statistics*	*Coefficients*		*t-statistics*
(Constant)	0.132***		14.836	-0.053***		-5.504
Size	-0.017***		-16.998	0.000		-0.342
Leverage	0.019***		2.092	-0.003		-0.299
ROA	0.072***		14.022	-0.195***		-35.193
CAPX	0.015***		3.716	0.036***		8.264
Big Auditor	0.002***		3.478	0.001		1.462
Int'l Business						
IFRS Adoption	-0.013***		-2.397	-0.011*		-1.874
Post-IFRS	0.009*		1.729	0.014**		2.446
% Change in TL	0.002***		6.497	-0.002***		-5.293
% Change in CE	0.002***		2.822	-0.005***		-7.083
% Change in CE*POST	0.022***		7.921	0.004		1.383
% Change in TL*POST	0.001**		1.697	0.000		0.557
Industry effects						
# of Observations	3630			2988		
R²	0.098			0.201		
Durbin Watson	1.702			1.774		
ANOVA F-Test	25.272***			58.675***		
Tolerance for each variable	More than 0.10			More than 0.10		
VIF for each variable	Less than 10			Less than 10		
Means of residual	0			0		

*Note: ***, ** and * denote significance of p-value at the level of 1%, 5% and 10% respectively (two-tailed tests)*

Table 5 models B and C differ from Table 4 with insignificant result with DA-ROA positive and significant positive effect on income-reducing DA-ROA (p=1% level significance). In addition, the increase in issuing equities and debts have shown significant effects on DA-ROA, which is originated from less income-reducing DA-ROA. It is consistent with the results from Table 5 that profitability and equity/debt financing are the major motives for Canadian firms to exercise discretionary accruals, even after IFRS has been adopted mandatorily. *Hence, when DA-ROA is measured, it is consistent with hypothesis 1 that DA-ROA is negatively associated with IFRS adoption.*

Taken the results of DA and DA-ROA together, there are mixed results relating to IFRS adoption. DA is increased but DA-ROA is reduced. However, an increase in using discretionary accruals is not associated with reduced earnings management.

In addition, model B shows that when firm value (proxied by Tobin-Q) in the post-period is controlled, it have significant negative coefficient on positive DA-ROA and negative coefficient effect on negative DA-ROA. It can be interpreted that firms with high values are well aware of the monitoring functions performed by strong legal enforcement and capital market regulations in Canada, along with the IFRS adoption. As a result, these firms are not associated with significant increase in both income-increasing and -reducing DA-ROA effects.

Overall, Table 5 is contradicted with Table 4 that IFRS adoption brings higher accounting quality when it presents significant effect on using less DA-ROA and mainly belongs to income-reducing DA-ROA measure. Similar with Table 4 results, firms with issuing both equity and debt continue to be highly related with DA-ROA, but such effect comes from less income-reducing DA-ROA. *As a result, it further reinforces that hypothesis 2a is highly supported.*

Table 5. Estimate the effects of Earnings Management from
IFRS adoption & other firm characteristics using Discretionary Accruals-ROA

Variables	Model A: |DA-ROA|		Model B: Positive DA-ROA		Model C: Negative DA-ROA	
	Coefficients	t-statistics	Coefficients	t-statistics	Coefficients	t-statistics
(Constant)	1.128***	96.539	0.009***	3.057	-1.117***	-90.939
Size	.001**	2.247	-0.001***	-3.752	-0.002	-1.508
Leverage	0.033***	2.627	0.003	.971	-0.033***	-2.650
ROA	-0.326***	-42.456	0.016***	8.140	0.340***	43.531
CAPX	-0.069***	-12.186	0.005***	3.377	0.074***	12.996
CFO * POST	0.397***	22.505	-0.043***	-9.391	-0.454***	-24.323
Price-to-Book * POST	0.001***	2.587	0.000	-.197	-0.001	-1.269
Post-IFRS	-0.041***	-.5.639	0.003	1.409	0.052***	.112
% Change in CE, t	0.007***	8.063	0.000	1.119	-0.006***	-7.560
% Change in TL, t	0.005***	14.538	0.000	.933	-0.005***	-14.362
Unqualified Audit Opinion	-0.047***	-5.703	-0.004*	-1.817	0.044***	5.302
Tobin-Q*POST			-0.002**	-2.456	-0.007**	2.424
Industry effects	Included		Included		Included	
# of Observations	6618		3630		2988	
R²	.290		.024		0.304	
Durbin Watson	1.848		1.990		1.828	
ANOVA F-Test	99.438***		5.642***		99.183***	
Tolerance for each variable	More than 0.1		More than 0.1		More than 0.1	
VIF for each variable	Less than 10		Less than 10		Less than 10	
Means of residual	0		0		0	

*Note: ***, ** and * denote significance of p-value at the level of 1%, 5% and 10% respectively (two-tailed tests)*

Besides equity and debt issuance, following some prior studies, I test hypothesis H2b to examine if firms' strategic directions can be the motive to associate with different level of Earnings Management following IFRS adoption. In the following Table 6, the findings document that firms conducting R & D (cost control) strategy has significant negative (positive) effect on employing more absolute value of discretionary accruals – ROA.

It suggests that innovation-strategy firms experience higher accounting quality relative to their counterparts using cost-control-strategy. Meanwhile, IFRS adoption has significant and negative impact. *Thus, hypothesis 2b is highly supported.*

Taken together, it is evident that both equity-issuance and different strategic directions of firms have systematically variation effects on earnings quality along with IFRS adoption.

Table 6. To examine if strategic direction is related with earnings management following IFRS adoption

Variables	Model A: |DA|		Model B: |DA-ROA|	
	Coefficients	t-statistics	Coefficients	t-statistics
(Constant)	0.210***	21.724	1.070***	107.245
Size	-0.016***	-10.677	0.003	1.702
Leverage	0.022**	1.690	0.052***	3.956
ROA	-0.125***	-16.234	-0.286***	-35.990
ROE	0.002***	3.912	0.005***	11.178
Big auditor	-0.023***	-3.157	0.011	1.491
IFRS adopters	-0.001	-3.157	0.016*	1.95
Post-IFRS	-0.009	-1.102	-0.038***	-4.406
Int'l exposure	0.004	0.378	-0.011	-1.057
R & D	-0.001	-1.503	-0.003***	-3.478
Cost control	0.007	1.274	0.018***	2.925
Industry effects	Included		Included	
# of Observations	6618		6618	
R²	0.116		0.207	
Durbin Watson	1.797		1.843	
ANOVA F-Test	33.128***		67.535***	
Tolerance for each variable	More than 0.1		More than 0.1	
VIF for each variable	Less than 10		Less than 10	
Means of residual	0		0	

*Note: ***, ** and * denote significance of p-value at the level of 1%, 5% and 10% respectively (two-tailed tests)*

5.3. Managing Earnings Towards Targets - METT (Logistic regression results)

Crafted managers may also adopt another type of earnings management practice to engage in managing reported earnings toward small positive level in order to avoid negative earnings. Table 8 Panel A reveals that IFRS adoption (with a negative coefficient) reduces the likelihood of firms in managing their earnings toward targets. Apparently, *this result is also in agreement with hypothesis 1b.*

Table 7 shows that even though Canada requires CEO and CFO to certify the financial statements and it helps reducing the tendency of managing earnings toward targets, it is not a significant factor. Moreover, consistent to the literature that managers facing large leverage have debt covenants to comply will be very likely motivated to managing the earnings toward targets to avoid any potential non-compliance issues (coefficient = 1.224 at p=0.1% level). Also, large cash

flows from operations will motivate firms to use such accruals in managing targets.

When Tobin-Q is involved with managing earnings toward targets in the model, panel B of Table 7 shows that IFRS adoption period following 2011 January becomes a major and positively effect for managers to manage earnings, unless firms with large valuation in the capital market (with Tobin-Q's significant and positive coefficient). The results suggest that the efficacy of mandatorily adopting a set of high quality of accounting standards in minimizing managers' opportunistic behavior to manage earnings to targets is conditional to those firms with large growth valuation only. IFRS adoption (Tobin-Q in the post-adoption period) continues to add (reduce) the likelihood of managing earnings toward targets. In addition, for firms to engage in different strategic directions, panel C of Table 7 show that firms engaging in cost control strategy are associated with more likelihood that managers will manage the earnings to their targets (significant at p=5% level). On the other hand, the more innovative strategy (i.e. higher R&D intensity) the firms are, the less likely in managing earnings toward targets, even though not in significant level. *As a result, hypothesis 2b is supported when cost control (innovative) strategic oriented firms are associated with more (less) earnings management along with IFRS adoption.*

The results suggest that the outcome of accounting quality is also contingent to IFRS adoption, firm valuation and different strategic directions.

Table 7. Estimate the effects of Income Smoothing from IFRS adoption & other firm characteristics using Managed Earnings Towards (Small Profit) Target (Logistic regression models)

Variables	Model A:		Model B:		Model C:	
	Coefficients	Wald-statistics	Coefficients	Wald-statistics	Coefficients	Wald-statistics
(Constant)	-3.284***	11.961	-3.328***	12.197	-3.018***	9.973
Equity size	-0.021	0.323	0.018	0.229	0.001	0.001
Leverage	1.224***	13.910	1.205***	12.922	1.157***	11.602
CEO Certified	-0.358	0.572	-0.329	0.481	-0.367	0.595
Sales Growth	0.000	0.03	0.000	0.021	0.000	0.023
Sales Turnover	-0.477***	11.433	-0.451***	10.154	-0.722***	15.703
CFO	0.615***	10.329	0.576***	8.497	0.743**	3.283
Big Audit firm	-0.137	0.534	-0.230	1.504	-0.230	1.478
Post-IFRS	-0.113	0.696	1.121***	16.178	0.665**	4.412
Post*Tobin-Q			-0.784***	14.244	-0.732***	12.077
Cost Control Strategy					0.492**	5.712
R&D Strategy					-1.578*	3.428
% Change in CE, t	-0.035	0.497	-0.013	0.121	-0.018	0.187
% Change in TL, t	0.004	0.384	0.003	0.272	0.003	0.638
Unqualified Audit Opinion	0.663***	6.154	0.622**	5.454	0.605**	5.131
Cdn Exchange	0.656***	15.481	0.665***	15.972	0.621***	13.849
Industry effects	Included		Included		Included	
# of Observations	6618		6618		6618	
Nagelkerke R²	0.041		0.053		0.062	
Cox & Snell R²	0.012		0.015		0.017	

*Note: This table presents Logistic regressions where the dependent variable is Reported Small Positive Income (SPOS) which equals 1 if NI (scaled by total assets) is between 0.0 and 0.01, and 0 otherwise. Post equals 1 if the firm-year observations fall into mandatory IFRS adoption period (i.e. 2011 and after) and 0 otherwise. All other variables are defined as per Table 3. I include industry fixed effects and Wald statistics in parentheses. ***, ** and * denote significance of p-value at the level of 1%, 5% and 10% respectively (two-tailed tests)*

5.4. Timely Loss Recognition (Logistic regression results)

When timely recognition of larges losses is an attitude of firms exercising higher accounting quality (Ball et al., 2000; Lang et al., 2006; Ball & Shivkumar 2005, 2006; Barth et al., 2007, 2008) I follow prior studies to adopt the dummy dichotomous variable to be 1 if a firm-year observation has net income scaled by total assets less than -0.20, and 0 otherwise. Using logistic regression models, Table 9 exhibits multivariate data analysis in different perspectives. Table 8 Model A shows that IFRS adopters have negative and significant effects on large loss recognition (coefficient = -0.310 at p=0.05 level) on timely large loss recognition. It suggests that the even though there are strong institution to enforcing a set of new accounting standards that requires more transparency, it operates complementarily with IFRS adoption that results in firms are less likely to recognize their large losses on a timely basis relative to the pre-adoption period. *Hence, hypothesis 1b is not supported.*

Overall, these results suggest that, on average, mandatory IFRS adoption does NOT result in a higher accounting quality for firms to recognize their losses in a timely basis. However, model B and model C of Table 8 illustrate that under certain conditions, some firms demonstrate significant effects on loss recognition following IFRS adoption.

Specifically, when firm-value variable (proxied by Tobin-Q) is included in model B of Table 8, it shows a significant positive relation with large loss recognition. When managers, on one hand, strive very hard to increase firm values in the capital markets, on the other hand, managers are associated with more likelihood to recognize large losses more frequently in the post-adopting period they do in the pre-adopting period. However, for all models A, B and C, I find that issuing equities have strong and negative effects (at p=1% level significance) to reduce the likelihood for managers to recognize the losses at a timely basis. It suggests that the more equities firms issue, the more unwilling firms to recognize

their losses without delay. It signals that the accounting quality is reduced. Accordingly, *hypothesis 2a is in agreement again.*

Also, to continue testing on hypothesis 2b for firms engaging in cost control strategy vs. innovative strategy, Table 8 model C shows that these two distinct strategies behave differently in large loss recognition relative to managed earnings toward target. With its significant and negative coefficient in the model, cost control strategy seems to discourage managers from timely recognizing large losses in their earnings reports. It results in lower accounting quality. It is probably because managers are trying to reduce the total operating expenses and improve the losses outcomes; which may lead to temptations of not recognizing large losses timely. On the other hand, with a significant positive coefficient, innovative strategy, it is possible that accounting standards require R&D to expense in income statements unless firms can fulfill several conditions, then it is justified to be capitalized. Therefore, managers have to incur large losses when they happen, which lead to higher accounting quality. *As a result, innovative firms recognize losses at a more timely fashion which results in higher quality. Thus, hypothesis 2b is supported.*

Table 8. Estimate the effects of Income Smoothing from IFRS adoption & other firm characteristics using Timely Loss Recognition (Logistic regression models)

Variables	Model A:		Model B:		Model C:	
	Coefficients	*Wald-statistics*	*Coefficients*	*Wald-statistics*	*Coefficients*	*Wald-statistics*
(Constant)	1.150*	4.576	1.195**	4.981	-1.531**	5.113
Equity size	-0.476***	245.825	-0.502***	261.092	-0515***	266.233
Leverage	0.398*	3.786	0.428**	4.368	0.512**	6.068
Sales Growth	0.000	0.017	0.000	0.021	0.000	0.018
Sales Turnover	-0.116**	6.069	-0.116***	6.268	-0.048	0.636
CFO	-6.527***	469.056	-6.280***	430.828	-5.812***	332.308
Big Audit firm	0.315***	7.829	0.394***	11.908	0.385***	11.218
Post-IFRS	-0.310**	5.157	-0.761***	21.660	-0.509***	10.994
IFRS Adopters	-0.066	0.196	0.016	0.011		
Post*Tobin-Q			0.239***	26.849	-0.232***	25.350
Cost Control Strategy					-0.303***	5.723
R&D Strategy					0.196***	8.977
% Change in CE, t	-0.079**	4.719	-0.111***	7.665	-0.120***	8.118
% Change in TL, t	-0.034*	2.756	-0.032	2.440	-0.031	2.250
Unqualified Audit Opinion	-0.734***	35.189	-0.746***	35.656	-0.736***	34.323
Cdn Exchange	-0.551***	16.500	-0.568***	17.391	-0.558***	16.669
Industry effects	Included		Included		Included	
# of Observations	6618		6618		6618	
Nagelkerke R²	0.568		0.492		0.499	
Cox & Snell R²	0.321		0.279		0.282	

Taken together the results from Table 7 and 8, I document mixed evidence between use of strategy and level of income smoothing:

Summary of Table 7 and 8

Strategic-focus	Managed Earnings Towards Target (METT)	Timely Loss Recognition (TLR)	Significance
R & D strategy	Less	More	Yes
Cost control strategy	More	Less	Yes

5.5. Effects of IFRS Adoption and Accounting Quality on Firm Value

Before running the regression models to test if IFRS adoption and accounting quality have association with firm value, I partition all firm-year observations by higher (lower) than median of Tobin-Q value as high (low) level of firm value, and examine their levels on earnings quality. As indicated in Table 9A, firms with high value tend to have more accruals and discretionary accruals, but less discretionary accruals-ROA. In addition, high-valued firms appear to be smaller in size, less levered, less profitable but with more capital spending. Also, higher equity value with much higher market price-to-book ratio are important but sales growth and use of big audit firms are not their major concerns.

Table 9A. Average accounting quality by partitioning high- and low-firm value

	High TOBIN-Q	*Low TOBIN-Q*
Tobin-Q	3.0095	0.9590
Size	4.9697	5.3586
Leverage	0.4014	0.4367
ROA	-0.1161	-0.0529
|Accruals|	100.552	78.664
|Discretionary Accruals|	0.0938	0.0903
|Discretionary Accruals, ROA|	0.8348	0.9270
Equity Value	5.5460	4.4938
Big Auditor	0.7903	0.8315
Sales Growth	1.2432	2.7285
Price-Book/share	5.3356	1.0422

In order to understand if firm value have been influenced by IFRS adoption and their respective accounting quality, Table 9B reveals that IFRS adopters have significant negative effects on firm value when both discretionary accruals and discretionary accruals-ROA included in models A and B. However, following IFRS adoption period, firm value has been enhanced significantly. It suggest that IFRS adoption to Canadian firms probably creates uncertainties about the firm value; until that capital markets appreciate IFRS adoption when it was actually implemented after January 1, 2011. On the other hand, both uses of accruals and discretionary accruals have a highly positive coefficient (p=1% level significance) that relates with Tobin-Q in model A, but discretionary accruals –

ROA have an insignificant negative association in model B. It can be inferred that firms striving for high value may be involved with lower earnings quality. In sum, it is documented that even though firms with high value are associated with the positive effect following IFRS adoption, such higher firm value is also related to a significant increase in earnings management. It implies that since IFRS adoption begins, firms striving to achieve higher values are also involved with using discretionary accruals to manipulate their reported earnings.

In sum, even though IFRS adoption is positively related to firm value, accounting quality is lower (when DA is also positively related with Tobin-Q). *As a result, it is not consistent to fully endorse hypothesis 3.*

Table 9B. To examine the effects of IFRS adoption and accounting quality on firm value

Variables	Model A: Tobin-Q|		Model B: Tobin-Q	
	Coefficients	t-statistics	Coefficients	t-statistics
(Constant)	2.164***	13.240	2.407***	9.276
Size	-0.093***	-7.703	-0.099***	-7.396
Leverage	-0.523***	-4.549	-0.516***	-4.485
ROA	-1.480***	-18.848	-1.508***	-19.144
ROE			0.040***	3.198
CAPX	0.116	0.768	0.116	0.765
% Change in CE	0.085***	10.968	0.088***	11.309
% Change in TL	-0.004	-1.234	-0.003	-0.965
Big audit	-0.039	-0.600	-0.050	-0.765
IFRS adopters	-0.249***	-3.573	-0.248***	-3.546
POST	0.180***	2.808	0.180***	2.794
|DA|	0.349***	3.032		
|DA-ROA|			-0.175	0.469
Accruals	0.255***	2.381	0.035	0.154
Industry effects	Included		Included	
# of Observations	6618		6618	
R²	0.143		0.146	
Durbin Watson	1.999		1.990	
ANOVA F-Test	39.133***		38.783***	
Tolerance for each variable	More than 0.1		More than 0.1	
VIF for each variable	Less than 10		Less than 10	
Means of residual	0		0	

In sum, the regression test results indicate that in general, mandatory IFRS adoption in Canada per se provides a set of mixed results for accounting quality. While discretionary accruals are still high, discretionary accruals-ROA presents significant improvements. Also, the good news is that Canadian managers appear to have lower tendency to manipulate earnings towards target. However, accounting conservatism is not enhanced by IFRS adoption since managers also don't show any improvement in recognizing losses timely. On the other hand, earnings management motives (EMM) seem to be a major factor to systematically differ in earnings quality, even after IFRS is adopted. Parallel to the literature, issuing equities continue to motivate managers to use more discretionary accruals and discretionary accruals-ROA; and this definitely lead to reduced accounting quality. In addition to issuing equities, I document consistent evidence from various regression models that different strategic focus also associates with firms' variation in accounting quality. Specifically, defender (cost-control) vs. prospector (innovation) strategies are highly related with lower (higher) earnings quality. Finally, firm values have been increased with IFRS adoption, but at the expense of lower accounting quality.

Table 10. Summary of Test Results on Hypotheses 1 to 3 following IFRS Adoption

Hypotheses	Table 4: DA	Table 5: DA-ROA	Table 6: Strategies on DA-ROA	Table 7: METT	Table 8: TLR	Table 9B
H1: DA is lowered	Not supported					
H1: DA-ROA is lowered		Supported				
H1: METT is lowered				Supported		
H1: TLR is lowered					Not supported	
H2a: Eissue has lower acctg. quality	Supported	Supported			Supported	
H2b: Innovation has higher acctg. quality		Supported	Supported	Supported	Supported	
H2b: Cost control has lower acctg. quality		Supported	Supported	Supported	Supported	
H3: Firm value is higher when accounting quality is higher						Not supported

6. CONCLUSIONS, CAVEATS AND SUGGESTED FUTURE RESEARCH

In this study, I conjecture that accounting quality has been improved by mandatory IFRS adoption in a market-based economy such as Canada where there are strong and well-established legal enforcement, capital markets and investor protections. In addition to such solid macro-institutions and principles-based Canadian GAAP that are proved to deter managers from crafting and manipulating reported

earnings, can IFRS adoption, that perceived to be of high quality, add values to reducing earnings management for Canada is still an open question.

By using more measures of accounting quality proxies, discretionary accruals (absolute, modified with ROA and positive-and-negative signed). Also, managing-earnings-toward-target, and small loss recognition have been calculated into separate research models in order to capture the overall evaluation of accounting quality change. These metrics have been estimated and compared between the pre- and post-adopting period

Empirical results show that there are positive even mixed initial results. Although discretionary accruals (DA) do not have an improvement, discretionary-accruals adjusted by ROA (DA-ROA) is reduced, implying a better accounting quality. Also, managers are more conservative to reduce their practice to managing earnings towards targets, but not timely enough to recognize losses.

In addition to the earnings quality in relation to accounting standards, I also study if firms issuing new equities and strategic difference following IFRS adoption are also associated with earnings quality in different level. As expected, all regression models present consistent results that prospector firms with innovation strategy tend to have higher accounting quality than those of defender firms with cost control strategy.

In addition to accounting quality, I also compare if firm value differs systematically with changes in accounting quality following IFRS adoption. Specifically, I document evidence that firm value has been increased after IFRS adoption. However, it is possible that this association comes at the expense of lower accounting quality.

Overall, those empirical results support my conjectures that in strong institutions where legal enforcement and investor protection are well established, accounting quality is high. With IFRS adoption, accounting quality has been partly improved. However, we should not ignore that firms are still subject to their underlying motives to manage their earnings, especially for issuing equities and engaging with innovation strategy.

My study sheds some lights into the extant literature that IFRS adoption per se is not necessarily the major player to enhance accounting quality. Firm-specific motivation for the equity-financing and strategic directions cannot be ignored. Further research is highly encouraged to examine this direction in more diverse measurement metrics with cross country sample so that more insight can be explored systematically.

In terms of caveats, there are a few shortcomings for this research study. First, as mentioned, while IFRS adoption requires more detail disclosures than that of Canadian GAAP, especially on financial risks (IFRS 7). However, due to the controversial and complex issues in IFRS applications, the scope of sample size excludes financial, investments and real estate industries. As a result, such differential effects cannot be captured in my multivariate analysis. Future studies maybe worth including financial sectors in an attempt to investigate the potential impacts of IFRS adoption. In addition, one of the major shifts from Canadian GAAP to IFRS adoption is the relatively more extensive use of fair value accounting, instead of

historical cost accounting principle (Deloitte, 2009). Such requirement necessitates even more professional judgements from managers who apply fair values in reporting economic realities in such areas as capital lease accounting, hedge accounting and revenue recognition criteria (Blancheete, 2011). Thus, future research may need to focus on the link between fair value accounting and earnings management practice.

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