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A Comprehensive Examination of IFRS 1: An Exploratory Study of Canadian Early Adopters

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Abstract

In the context of the Canadian transition to IFRS, this study provides evidence that the decomposition of equity permits a more comprehensive examination of the financial reporting impact of the GAAP-to-GAAP standard differences, the extent to which IFRS is being implemented, and equity reclassifications which potentially transfer unrealized capital to earned capital. The evidence provided in this study suggests that IFRS adoption is not a monolithic research question. It is an endeavor which requires a thorough examination of its parts before addressing the objectives of the GAAP changeover as a whole. In the five regression models which tested firm attributes as a function of the components of equity, four of the models demonstrated predictive power. Employing a repeated-measures general linear model to compare model results of the dependent variables: the adjustment to retained earnings as reported and the adjustment to RE without the reclassification effect, the study provides evidence that suggests that the equity reclassification effect is significant in explaining the financial effects of the IFRS implementation.

Keywords: accounting choices, IFRS 1, mandatory equity adjustments, Canada

1. Introduction

The Canadian transition to International Financial Reporting Standards (IFRS) is arguably one of the most critical implementations of IFRS to date. With the 9th largest economy based on gross domestic product (GDP) (Note 1), Canada is a formidable economic force and presents an opportunity to examine the transition of IFRS in a large market-oriented economy. Canada implemented long-term convergence efforts as a precursor to the transition. Most prior studies focus on countries which are divergent with IFRS (Cormier, Lapointe-Antunes, & Teller, 2009; Hung & Subramanyam, 2007; Lantto & Sahlstrom, 2009). The Canadian transition to IFRS is current (Note 2) and subsequent to numerous standard changes which took place after the European Union transition. Finally, prior to the decision to adopt IFRS, Canadian Accounting Standards paralleled U.S. GAAP (Note 3). This is the first opportunity to examine the effect of IFRS on standards developed in North America.

The objective of this study is to identify firm attributes which explain adjustments to the decomposed equity components and test the collective predictive power of these firm attributes on the decomposed components of equity. Specifically, the change in various equity components will be modeled as a function of firm-specific attributes identified by an analysis of IFRS literature. A comparison of the predictive models on two measures of the cumulative effect on retained earnings (*ΔRE*)–as reported and without equity reclassification offer preliminary evidence on the importance of decomposing equity components.

The net difference between assets and liabilities as measured under the "old" and "new" standards are reported in the change in stockholders' equity (net assets (Note 4)). In a GAAP system changeover, the change in net assets (*ΔNA*) represents the aggregate of differences between the GAAP systems, choices made under first time adoption, equity component reclassifications, and the retrospective application of the new GAAP system on the earnings history of an entity. This study will demonstrate that many of the financial effects of IFRS adoption are lost at the aggregate level. Only by decomposing equity can the true effects of IFRS implementation be measured and observed.

The *ΔRE* is a particularly important measure of the differences between the GAAP systems. Transitioning firms are required to restate all elements reported in the financial statements in accordance with IFRS. The difference

between the pre-and post-IFRS adoption impact would be revealed on its statement of financial position (Note 5), specifically through retained earnings. The retained earnings account represents the aggregate earnings history of an entity less distributions to shareholders and reports the earned capital component of equity. When a firm transitions to IFRS, all assets and liabilities are restated under the new standard. IFRS 1 requires all adoption adjustments to be retrospectively applied as an adjustment to retained earnings. Therefore, the need for an examination of the cumulative changes to retained earnings, particularly at the time of transition to IFRS, is necessary (Whittington, 2008). Furthermore, studies of retained earnings also demonstrate a firm's choice regarding application of the new standard(s) for future reporting years (Horton & Serafeim 2010; Christensen, Lee, & Walker, 2009).

The decomposition of equity and the interrelation of equity components is crucial to understanding the complete phenomena of IFRS adjustments to equity. Although few, the previous studies which have examined equity components adjusted for IFRS adoption have provided valuable evidence pertaining to the influence of management incentives on IFRS implementation (Cormier et al., 2009). When comparing national GAAPs to IFRS, net book value or stockholders' equity differences have been found to be statistically significant (Hung & Subramanyam, 2007; Haller, Ernstberger, & Froschhammer, 2009). Further, studies which have examined GAAP changes have provided evidence of discretionary opportunities to bypass the income statement through the application of a standard(s) to shift amounts from accumulated other comprehensive income to retained earnings (Henry, 2009; Lapointe et al., 2009).

This study examines Canadian publicly accountable enterprises (PAE) that were granted exemptive relief for early adoption. The sample consists of 69 PAEs which sought early adoption of IFRS and were considered "pure" early adopters. "Pure" early adopters in this study are defined as those companies which meet the following criterion: reported financial statements in accordance with IFRS, cited compliance and conversion to IFRS as issued by IASB in the basis of presentation, and the note disclosures contained reconciliations from Canadian GAAP (CA GAAP) to IFRS. All data was hand-collected from the previously mentioned disclosures. The sample size from this study permits an extensive exploratory process with which to reveal specific firm attributes which are statistically significantly associated with the magnitude adjustment of the cumulative effect on retained earnings.

In the five models which tested firm attributes as a function of the components of equity, four of the models demonstrated predictive power. Further when comparing model results of the dependent variables: the adjustment to retained earnings as reported and the adjustment to retained earnings without the reclassification effect, the study provides evidence that suggests that the equity reclassification effect is significant in explaining the financial effects of the IFRS implementation. In other words, the results point to the importance of decomposing equity as a methodological consideration in examining the implementation effects of IFRS.

This study complements IFRS research by examining the financial statement effects of firm attributes on the components of equity. Evidence from this study demonstrates examination of the interrelation of equity components is crucial to understanding the complete phenomena of the IFRS transition. Examining the transition to IFRS complements existing research that examines the effect of the IFRS event before and after transition (Harris & Muller, 1999; Leuz & Verrecchia, 2000; Barth, Landsman, & Lang, 2008). This study also alerts IFRS researchers as to the potentially important methodological considerations of equity component reclassifications, GAAP-to-GAAP differences, and the financial reporting impact of optional exemption choices permitted by IFRS 1. Lastly, evidence from this study demonstrates that our ability evaluate the financial reporting impact of the IFRS transition is limited at the aggregate level. Only by decomposing the equity components and disentangling the GAAP-to-GAAP differences from the choices permitted under IFRS 1 can financial statement stakeholders fully understand and measure the impact of the GAAP system changeover from CA GAAP to IFRS.

The remainder of the study is organized as follows. Section two presents the research methodology, design, models and discusses the variables of interest, sample attributes, and data collection. Section three presents the findings. Section four concludes the study with a comprehensive discussion.

2. Research Methodology and Design

This section presents the variables of interest (Note 6) as well as the five regression models.

2.1 Variables of Interest

Equity is a key determinant in firm value. Retained earnings is a component of equity with particular importance, as this balance represents the aggregated reinvested capital of an entity. IFRS 1 requires all remeasurements of assets and liabilities, as well as mandatory exceptions and optional exemption choices upon adoption, be applied

to retained earnings through a cumulative effect adjustment. The *ΔRE* at the transition date represents the change in aggregated income from one GAAP system to another, here CA GAAP to IFRS. This complex adjustment represents the recasting of all prior earnings reports to the new GAAP regime, management choices which determine accounting policies for future reporting, and elections which set the precedent for performance assessments. All of these factors have a significant bearing on the net book value of an entity.

Table 1 presents a summary of the dependent variables of interest.

Table 1. Summary of variables of interest

Variable	Defined
$y_{1_{\Delta RE_{tdi}}}$	Cumulative effect on RE at the transition date as reported
$y_{2_{\Delta RE\_NET_{td}}}$	Cumulative effect on RE at the transition date without reclassification effect
$y_{3_{\Delta AOCI_{td}}}$	Change in accumulated other comprehensive income at the transition date as reported
$y_{4_{\Delta AOCI\_NET_{tdi}}}$	Change in accumulated other comprehensive income at the transition date without reclassification effect
$y_{5_{\Delta SE_{td}}}$	Change in stockholders 'equity

Table 2 presents the independent variables. The independent variables were selected based on their use in previous studies (Jeanjean et al., 2008; Capkun et al., 2011; Lantto & Sahlstrom, 2009; Henry, 2009; Ali, 2005; Iatridis et al., 2010) with the intention of identifying firm attributes that may be associated with equity adjustments.

The study will also include two control variables: industry (IND_i) and size by total assets ($MKTCAP_i$). Industry is measured by the North American Industry Classification System two digit code (NAICS). Company size is measured by market capitalization. Market capitalization is computed by the number of outstanding shares at the transition date multiplied by the share price at the transition date.

Table 2. Summary of independent variables

Independent Variables	Defined
$STDEVNI5_{\mathrm{CG}i}$	The standard deviation of the earnings history of the entity under Canadian GAAP.
$\overline{QROA}_{CG_i}$	The average return on assets under Canadian GAAP over eight quarters for every entity.
$QOCI_{CG_i}$	Other comprehensive income average under Canadian GAAP over eight quarters for every entity.
INTL	A count of the stock exchanges in which the firm trades representing internationality.
$DebttoEquity_{CG_{td_i}}$	Debt-to-equity ratio under Canadian GAAP at the transition date for every company.
IND	Control variable – industry as measured by NAICS code
MKTCAP	Control variable – market capitalization

This section presents firm attributes grounded in the IFRS literature which will be tested collectively for explanatory power. Specifically, the following firm attributes, selected based on prior literature, are examined for their ability to explain the magnitude adjustments to the components of equity.

2.1.1 Standard Deviation of Net Income for a 5-Year Period under Canadian GAAP

Earnings (loss) patterns over a period of time have provided evidence of earnings management or smoothing (Jeanjean & Stolowy, 2008). For example, managers can reduce or exacerbate earnings by deferring discretionary expenses (such as research and development). This brings into question the overall quality of earnings being reported (Barth et al., 2008; Schipper & Vincent, 2003; Christensen, Lee, & Walker, 2008). If IFRS improves earnings quality as demonstrated in previous studies (Barth et al., 2008; Daske, Hail, Leuz, & Verdi, 2006) then the *ΔRE* may represent an upgrade adjustment to the earnings history of an entity. Studies have examined volatility in earnings post-IFRS adoption (Capkun, Cazavan-Jeny, Jeanjean, & Weiss, 2011; Iatridis & Rouvolis, 2010; Haller et al., 2009; Lantto & Sahlstrom 2009), but have neglected to study earnings history ex-ante to the retrospective application of IFRS.

2.1.2 Quarterly Return on Assets under Canadian GAAP

Another potential explanatory factor may be the quarterly financial health of an entity. Capkun et al. (2011) posited and found that firms with negative (positive) local GAAP earnings were more likely to report positive (negative) local GAAP-to-IFRS earnings reconciliation adjustments. Building on this study, quarterly positive or negative financial results leading up to the transition of IFRS may provide predictive value of the ΔRE. Further, results of a Finnish study by Lantto and Sahlstrom (2009) indicated a significant increase in profitability ratios after adopting IFRS. Iatridis and Rouvolis (2010) study of Greek firms identified a decrease in profitability particularly related to firms with higher debt leverage. Profitability ratios were also tested by Blanchette and Desfleurs (2011) in their study of Canadian firms. Although the study noted higher volatility of the profitability ratio, the mean and median differences were not statistically significant overall. Again, these conflicting studies examined the post-adoption effects of IFRS rather than the income trends which may explain adjustments upon adoption of IFRS.

2.1.3 Quarterly Other Comprehensive Income under Canadian GAAP

In a similar line of analysis as quarterly return on assets, the pattern of reported other comprehensive income leading up to the adoption of IFRS also becomes a variable of interest. In Henry's 2009 study of SFAS 159, *The Fair Value Option of Financial Assets and Liabilities*, firms avoided recognition of realized security losses on the income statement by using the adoption of the pronouncement to report the remeasurement to fair value as an adjustment to the opening balance of RE. Employing this finding analogously for the transition to IFRS, IFRS adoption may become an opportunity for accounting information to bypass the income statement by reshuffling equity components: accumulated other comprehensive income to retained earnings. This demonstrates the need to examine the pattern of other comprehensive income as a potential explanatory variable of the adjustment to retained earnings.

2.1.4 Internationality

One of the motivating factors of IFRS adoption for Canada was access to global capital markets (AcSB, 2005). If a company trades stock in an international market, the company may be reporting operating results using the provisions of IFRS. The variable internationality (Ali, 2005) has been employed in other studies of IFRS to test for harmonization, compliance, and accounting quality (Gassen & Sellhorn, 2006).

2.1.5 Debt-to-Equity Ratio at the Transition Date

The debt-to-equity ratio is a measurement of a company's degree of leverage. The higher the degree of leverage, the more vulnerable a company is to volatile earnings reports and downturns in the economy due to the obligation to service the debt and incur interest expense. Studies have demonstrated an increase in leverage ratios subsequent to adoption of IFRS. For example, Iatridis and Rouvolis (2010) found an increase in leverage post-IFRS adoption which they attributed to enhanced credibility of reported financial numbers under IFRS. The higher leverage resulted in a negative impact on profitability. Lantto and Sahlstrom (2009) also identified an increase in the gearing ratio which is another measurement of leverage. They attributed the increase the ratio specifically to the adoption of IAS 11 and 18 *Construction Contracts*, IAS 17 *Leases*, IAS 19 *Employee Benefits*, and IAS 32 and 39 *Financial Instruments*.

2.2 Equity Component Models

The models examine the components of equity as a function of firm attributes to evaluate their explanatory and predictive powers. Results are also compared across models to evaluate the effect of equity reclassifications. Material equity component reclassification adjustments are concealed at the aggregate level due to the netting effect. For example, *IFRS 1 Cumulative Translation Differences* permits an optional exemption choice to eliminate any unamortized balance of actuarial gains and losses in defined benefit plans at the transition date. The adjustment to eliminate the unamortized balance of actuarial gains and losses requires a reclassification from accumulated other comprehensive income to retained earnings which zeroes out actuarial adjustments to accumulated other comprehensive income. This reclassification adjustment would be concealed at the aggregate level of the adjustment to stockholders' equity because the reclassification adjustment would increase (decrease) accumulated other comprehensive income and decrease (increase) retained earnings. The research models are designed to test two variations of the each of the dependent variables of interest ΔRE and $\Delta AOCI$ as reported and without reclassification effect. Employing a Repeated Measures General Linear Model (Cohen, Cohen, West, & Aiken, 2013), this study also examines the statistical significance among the *ΔRE as reported* and *ΔRE without reclassification* models. All of the models' parameters will be estimated using ordinary least squares regression with standard model assumptions (Note 7). The models will be tested for their overall significance.

To assess the association of the firm attributes with the components of equity, the following regression models (Note 8) are employed:

$$y_{1_{\Delta RE_{tdi}}} = \alpha + \beta_1 STDEVNI5_{\mathrm{CG}i} + \beta_2\overline{QROA_{CG_i}} + \beta_3\overline{QOCI_{CG_i}} + \beta_4 INTL_i + \beta_5 DebttoEquity_{CG_{td_i}} + \beta_6 \mathrm{IND}_i + \beta_7 MKTCAP_i + \in_i \quad (1)$$

where:

$y_{1_{\Delta RE_{td}}}$: Cumulative effect on RE at the transition date as reported.

$$y_{2_{\Delta RE\_NET_{tdi}}} = \alpha + \beta_1 STDEVNI5_{\mathrm{CG}i} + \beta_2\overline{QROA_{CG_i}} + \beta_3\overline{QOCI_{CG_i}} + \beta_4 INTL_i + \beta_5 DebttoEquity_{CG_{td_i}} + \beta_6 \mathrm{IND}_i + \beta_7 MKTCAP_i + \in_i \quad (2)$$

where:

$y_{2_{\Delta RE\_NET_{td}}}$: Cumulative effect on retained earnings at the transition date without equity component reclassification.

$$y_{3_{\Delta AOCI_{tdi}}} = \alpha + \beta_1 STDEVNI5_{\mathrm{CG}i} + \beta_2\overline{QROA_{CG_i}} + \beta_3\overline{QOCI_{CG_i}} + \beta_4 INTL_i + \beta_5 DebttoEquity_{CG_{td_i}} + \beta_6 \mathrm{IND}_i + \beta_7 MKTCAP_i + \in_i \quad (3)$$

where:

$y_{3_{\Delta AOCI_{td}}}$: Change in accumulated other comprehensive income at the transition date as reported.

$$y_{4_{\Delta AOCI\_NET_{tdi}}} = \alpha + \beta_1 STDEVNI5_{\mathrm{CG}i} + \beta_2\overline{QROA_{CG_i}} + \beta_3\overline{QOCI_{CG_i}} + \beta_4 INTL_i + \beta_5 DebttoEquity_{CG_{td_i}} + \beta_6 \mathrm{IND}_i + \beta_7 MKTCAP_i + \in_i \quad (4)$$

where:

$y_{4_{\Delta AOCI\_NET_{td}}}$: Change in accumulated other comprehensive income at the transition date without equity component reclassification.

$$y_{5_{\Delta SE_{tdi}}} = \alpha + \beta_1 STDEVNI5_{\mathrm{CG}i} + \beta_2\overline{QROA_{CG_i}} + \beta_3\overline{QOCI_{CG_i}} + \beta_4 INTL_i + \beta_5 DebttoEquity_{CG_{td_i}} + \beta_6 \mathrm{IND}_i + \beta_7 MKTCAP_i + \in_i \quad (5)$$

where:

$y_{5_{\Delta SE_{td}}}$: Change in stockholders 'equity.

The scope of this study is limited to Canadian early adopters, although it must be noted that the study is not about early adoption per se. Canadian early adopters were selected due to the availability of recent financial reports which consists of quarterly and annual reports as well as forward-looking statements which are all necessary for a thorough examination of IFRS adoption. Further, all of these companies are domiciled in Canada which is a common law, market-oriented country. Using firms representing one country for analysis overcomes problems associated with cross-country institutional differences (Hung & Subramanyam, 2007). As explained in the section that discusses sample and data collection, only entities which met certain criteria such as explicit language regarding IFRS adoption in the report letter and accounting policies as well as a complete IFRS 1 disclosure were considered for the final sample.

2.3 Sample

IFRS was mandated effective January 1, 2011. However, early adoption was permitted subject to approval of the Canadian Securities Administrators (CSA). The sample consists of 69 Canadian PAEs which sought early adoption of IFRS. Early adopters were required to file National Instrument 52-107, Acceptable Accounting Principles, Auditing Standards, and Reporting Currency with their respective Provincial Canadian Security Commission. Early adoption was granted through Provincial exemptive decisions and rulings which are public information and can be obtained at the Canadian Legal Information Institute website.

There was no formal list of early adopter firms made available to the public. At the direction of the Ontario Securities Commission, early adopter firms were identified for this study by accessing the Canadian Legal Information Institute website and respective Provincial security commission websites. A key word search was performed using NI 52-107, IFRS Early Adopters, PAEs early adopter of IFRS. Company submission of NI 52-107 and security commission exemptive decisions and rulings for early adoption were obtained.

Implementation of early adoption was corroborated by reviewing the financial statements on SEDAR, EDGAR, company websites, and the TMX website. The audit opinion letter, accounting policy disclosure, and required IFRS 1 disclosure were reviewed for explicit language regarding early adoption.

The sample consists of 69 PAEs that were granted exemptive relief and deemed "pure" early adopters. "Pure"

early adopters are defined as those companies which met the following criteria:

- Audit opinion letter stated presentation, "in accordance with International Financial Reporting Standards."
- Financial statement note on "Basis of presentation" cited compliance and conversion to International Financial Reporting Standards as issued by International Accounting Standards Board as well as the entity's transition date.
- Financial statement note disclosure on adoption of International Financial Reporting Standards contained a reconciliation from CA GAAP to IFRS of the statement of financial position at the transition date.

Although PAEs which opted for early adoption were required to seek CSA permission, there were no additional reporting requirements for early adopter firms. The process and reporting requirements, for example adherence to IFRS 1, were the same for early adopter and compulsory complaints.

As presented in Table 3, the firms presented in this study are regulated by five Provincial regulators: Alberta, British Columbia, Ontario, Quebec, and Saskatchewan.

Table 3. Provincial affiliation by firm count

Province	Principal Regulator	Incorporated	Head Office
Alberta	10	10	8
British Columbia	29	29	27
Manitoba	0	2	2
Ontario	26	18	20
Quebec	2	2	2
Saskatchewan	2	2	2
Yukon	0	4	2
Outside of Canada	0	2	6
	69	69	69

42 of the firms trade on the Toronto Stock Exchange, 24 of the firms trade on the Toronto Venture Exchange and 3 firms trade on the New York Stock Exchange.

As presented in Table 4, 59 of the firms were audited by "Big Four" public accounting firms. Examination of the audit opinion letter revealed that 19 firms received an emphasis of matter paragraph which stated the existence of a material uncertainty which cast significant doubt as the firms' ability to continue as a going concern.

Table 4. Auditor and going concern emphasis of matter by firm count

Auditor	Firm Count	Going Concern
PWC	21	6
Deloitte	19	2
KPMG	17	7
E&Y	2	0
Davidson & Company LLP	4	2
BDO	2	0
MSCM, LLP	2	2
DeVisser Gray LLP	2	0
	69	19

Sample firms were overwhelmingly represented by the mining industry which is consistent with prior literature on Canadian early adopters (Blanchette, Racicot, & Girard 2011). The industry classifications represented in the sample were: Mining (n=50), Utilities (n=4), Manufacturing (n=7), Information (n=2), Real Estate, Rental, and Leasing (n=4), and Professional, Scientific, and Technical Services (n=2). The next section discusses collection of the data.

2.4 Data Collection

As previously mentioned, the IFRS 1 disclosure is of particular interest. AcSB mandated release of the IFRS 1 disclosure which reconciles equity under CA GAAP to equity under IFRS at the transition date to be reported in the first quarter report of the adoption year. For example, if a calendar year entity was going to early adopt IFRS for the fiscal year commencing January 1, 2010, the equity reconciliation would be reported in the quarterly report for March 31, 2010. The transition date would be January 1, 2009, at least one year prior. This quarterly statement would be accompanied by the forward looking statement, management discussion and analysis. In summary, three key reports were required for data collection: interim first quarter financial report in the year of adoption, IFRS 1 reconciliation schedule at the transition date, and the annual report for the year of adoption.

For this study, quarterly financial statements, management discussion and analysis reports, and annual financial statements were obtained from company websites and SEDAR. Data for this study was primarily hand-collected from the financial statement disclosures.

3. Results

3.1 Descriptive Statistics–Components of Equity

Table 5 presents the descriptive statistics for the reconciliation of the components of equity at the transition date to IFRS. The mean and median display similar trends for all equity components as measured under CA GAAP and IFRS. The mean, median, standard error and standard deviations are similar under both measurement systems which would suggest that, overall, a GAAP system change to IFRS has marginal effects on the net worth of a company. However, after transitioning to IFRS, those companies with an accumulated deficit (negative retained earnings) under CA GAAP displayed an additional 95 percent downward adjustment after transitioning to IFRS, whereas companies with a substantial positive aggregated earnings retained a similar economic position after transitioning to IFRS. This trend emphasizes the need to disaggregate equity components to reveal the GAAP-to-GAAP differences which are associated with these adjustments.

Table 5. Descriptive statistics on components of equity as reported (in M)

n=69			
Panel A: CC	CC - CA GAAP	Adjustment to CC	CC - IFRS
Mean	407.1	1.3	408.3
Median	62	0	61.7
Standard Deviation	757.2	28.5	755.4
Panel B: RE	RE - CA GAAP	Adjustment to RE	RE - IFRS
Mean	564.9	85.3	650.3
Median	-17.4	0	-18.2
Standard Deviation	2,079.80	547.3	2,224.90
Panel C: AOCI	AOCI - CA GAAP	Adjustment to AOCI	AOCI - IFRS
Mean	33	410.1	443.1
Median	0	0	0
Standard Deviation	351.6	1,676.30	1,562.10
Panel D: TOTAL SE	SE - CA GAAP	Adjustment to SE	SE- IFRS
Mean	1,005.00	496.7	1,501.70
Median	24.9	0	32.6
Standard Deviation	2,793.90	1,732.30	3,627.60

Note. All amounts presented in millions (in M). CC contributed capital; RE retained earnings; AOCI accumulated other comprehensive income; SE total stockholders' equity.

Overall, the descriptive statistics demonstrate variability in the sample. There is a notable difference between the mean and median in the adjustments to the components of equity. The standard error and standard deviation are indicative of the dispersion of companies in terms of size and earnings history. For example, Thomson Reuters, one of the sample firms, reported $1.9 million as a five-year average net income. At the other extreme, Alacer Gold, another firm from the sample, reported $18 million as a five-year average net loss.

3.2 Descriptive Statistic–Firm Attributes

As discussed in the literature review section, the selection of independent variables as candidates for the

regression models was based on prior literature. Table 6 presents the descriptive statistics for the independent variables.

Table 6. Descriptive statistics of independent variables

n=69	Standard Deviation of Net Income for a 5-Year Period (in M)	Quarterly Return on Assets (8 quarters)	Quarterly Return on Other Comprehensive Income (8 quarters)	Debt-to-equity Ratio	Exchange Count	Market Capitalization (in M)
Mean	124.595	-0.226	-0.007	1.042	3.939	4.096
Median	9.062	-0.031	0	0.135	4	75.255
Standard Error	55.266	0.174	0.007	0.41	0.334	3,145.44
Standard Deviation	317.481	0.997	0.045	2.355	1.919	18,069.20

Note. Amounts presented in millions (in M).

The standard deviation of net income (*STDDEVNI5*) for a 5-year period represents fluctuations in income. The sample mean suggests that there are large differences in reported net income for the companies represented. Quarterly return on assets (*QROA)* and quarterly other comprehensive income (*QOCI)* suggest that these companies on average have consistently incurred financial losses and may be indicative of troubled firms. The debt-to-equity ratio mean of 104 percent indicates substantial financing to support firm growth. This leverage measurement could explain the volatility in earnings and the quarterly history of financial losses which may be symptomatic of additional interest expense. The market capitalization variable exhibits the range of company size within the sample firms.

3.3 Optional Exemption Choices Selected Under IFRS 1

As previously mentioned, firms that adopt IFRS must comply with IFRS 1, *First Time Adoption of IFRS*. IFRS 1 permits the election of exemption choices (Appendix 1) in specific areas where the cost of complying with IFRS 1 may exceed the benefit to financial reporting or where retrospective application is impractical. For example, IFRS 1 *Fair Value or Revaluation as Deemed Cost* is a choice made by management which permits a one-time revaluation of property, plant, and equipment on an item-by-item basis to fair value. This deviates from IAS 16 *Property, Plant, and Equipment* which requires application of the standard to an entire class of assets rather than item-by-item as permitted by IFRS 1.

Table 7 presents optional exemption choices by firm count. The optional exemption choices which were exercised by the most number of firms were business combinations, share-based payments, and cumulative translation differences. On average, firms exercised approximately three optional exemptions.

Table 7. Optional exemption choices

Optional Exemptions	Firm Count
Business combinations	44
Share-based payment transactions	44
Fair value or revaluation as deemed cost	13
Deemed cost of oil and gas assets	4
Leases	2
Employee Benefits	10
Cumulative translation differences	34
Investment in subsidiaries, jointly controlled entities, and associates	2
Compound financial instruments	2
Designation of previously recognized financial instruments	2
Decommissioning liabilities	8
Service concession arrangements	2
Borrowing costs	21
Total Number of Optional Exemption Choices made by Sample Firms	188

3.4 Summarizing the Effect of Equity Reclassifications

Table 8 summarizes the reclassification effect. The largest reclassification effect was within the adjustment to retained earnings at $13,582 billion. Of this amount, $13,428 billion related to cumulative translation differences which is an optional exemption choice under IFRS 1. This exemption permits firms to eliminate accumulated foreign currency gains and losses arising from the translation of foreign operations at the transition date. Under CA GAAP, these unrealized translation gains and losses are recorded in an equity reserve account–accumulated other comprehensive income. Upon transitioning to IFRS, the majority of the firms (n=35), in sample, elected to reclassify aggregated unrealized gains and losses to retained earnings, an earned capital account. In other words, for the firms represented in the population of early adopters, $13,428 billion of translation differences bypassed the income statement and were reclassified to retained earnings with a mean downward adjustment of $384 million per firm. This potentially material decrease to retained earnings is only observable by decomposing the equity effect and disaggregating standard-to-standard differences from IFRS 1 implementation elections.

Table 8. Variations of adjustment to equity components and reclassification effect

	As reported (in M)	Without reclassification effect (in M)	Reclassification effect (in M)
Adjustment to CC	41.129	-2.409	-43.538
Adjustment to RE	2,816.40	16,399.25	13,582.86
Adjustment to AOCI	13,532.10	-7.219	-13,539.32
Change in Net Assets (SE)	16,389.62	16,389.62	0

Note. All amounts presented in millions (in M). CC contributed capital; RE retained earnings; AOCI accumulated other comprehensive income; SE total stockholders' equity.

3.5 Summary of Standard Effects on all Components of Equity as Reported

Table 9 presents a summary of the equity component adjustments as reported with the adjustments disaggregated by the IFRS standard effect. IAS 16 *Property, Plant, and Equipment* demonstrated the largest percentage of change in net assets at 119 percent of the overall change in stockholders' equity. IAS 16 permits the revaluation of property, plant, and equipment to fair value which explains the remeasurement of net assets by $19,580 billion.

As discussed in preceding section, the IFRS 1 election for cumulative translation differences increases accumulated other comprehensive income by $13,426 billion and decreases retained earnings by $13,428 billion. However, if assessing the effect of this standard on the adjustment to total stockholders' equity, the remeasurement effect is relatively minimal at a decrease of $1.7 million and an overall effect on net assets of a decrease of .01056 percent. In other words, the real effect of transition is obscured at the stockholder's equity level of analysis.

The preceding descriptive statistics suggest methodological considerations for researchers when studying the effect of adopting IFRS. The decomposition of equity components permits an opportunity to observe effects of adoption which are concealed when analyzing stockholders' equity as a whole. Magnitude adjustments disaggregated by pronouncement differences permits a more comprehensive understanding of the particular standards which are associated with the adjustments to equity components. Further, only when equity components are decomposed can reclassifications among the components be observed. Component reclassification reveals the effect of IFRS implementation within equity. However, it also provides the researcher an opportunity to remove the effect and generate a remeasured equity component for analysis which isolates the effect of standard-to-standard differences.

For auditors, investors, standard setters, and regulators, the preceding discussion and examples presented demonstrate potentially material adjustments which are only revealed through the decomposition of the equity components and a disaggregation of IFRS 1 implementation choices and standard-to-standard differences.

Analyzing the optional exemptions which have been exercised brings into question the extent to which IFRS is adopted, not only at the firm level, but at the standard level. The extent to which IFRS is adopted is crucial to the larger assessment of the standards ability to reduce information asymmetries and increase accounting quality. Consideration of the modifications and limitations of the implementation of IFRS has great bearing on our ability to measure any improvement IFRS may have on financial reporting.

Table 9. Summary of standard effect on adjustments to equity components

	Adjustment to Equity Components as Reported (in M)				
	Contributed Capital	Retained Earnings	Accumulated Other Comprehensive Income	Total Stockholders' Equity	Percentage of Change in Total Stockholders' Equity by Standard
IFRS 2 Share-based Payment	41.129	-41.464	-	-0.336	0.00%
IFRS 6 Exploration for and Evaluation of Mineral Assets	-	32.427	-	32.427	0.20%
IAS 11 Construction Contracts	-	-150.809	-	-150.809	-0.92%
IAS 12 Income Taxes	-	-6,898.00	156.755	-6,741.25	-41.13%
IAS 16 Property, Plant, and Equipment	-	19,580.47	-	19,580.47	119.47%
IAS 17 Leases	-	-263.282	-	-263.282	-1.61%
IAS 18 Revenue Recognition	-	-793.503	-	-793.503	-4.84%
IAS 19 Employee Benefits	-	-834.64	-	-834.64	-5.09%
IAS 21 Foreign Exchange Rates	-	-36.161	-13.618	-49.779	-0.30%
IAS 23 Borrowing Costs	-	-14.729	-	-14.729	-0.09%
IAS 36 Impairment of Assets	-	-29.345	-	-29.345	-0.18%
IAS 37 Provisions, Contingent Assets and Liabilities	-	-307.746	-	-307.746	-1.88%
IAS 38 Intangible Assets	-	7.318	-	7.318	0.04%
IAS 39 Financial Instruments	-	234.533	-29.816	204.716	1.25%
IAS 40 Investment Property	-	4,930.44	-	4,930.44	30.08%
IAS 41 Agriculture	-	288.879	-	288.879	1.76%
IFRS 1 Deemed Cost	-	507.884	-	507.884	3.10%
IFRS 1 Decommissioning Liabilities	-	-0.003	-	-0.003	0.00%
IFRS 1 Cumulative Translation Differences	-	-13,428.06	13,426.33	-1.73	-0.01%
IFRS 1 Business Combinations	-	32.194	-7.554	24.64	0.15%
Total Adjustments to Equity Components	41.129	2,816.40	13,532.10	16,389.62	100.00%

Note. Amounts presented in millions (in M).

3.6 Regression Results

Table 10 presents the model results in Panel A. Multiple regression analysis was employed to determine if firm attributes were associated with the components of equity and the variations thereof which remove the reclassification effect. As presented in Panel A of Table 15, the prediction model for the adjustment to retained earnings as reported was statistically significant, F (7,62) = 10.593, p<.0001 and accounted for approximately 76.7 percent of the variance of the adjustment to retained earnings (R^2 = .847, Adjusted R^2 = .767). The prediction model for the adjustment to retained earnings without component reclassification was also statistically significant, F (7,62) = 14.589, p<.0001 and accounted for approximately 82.4 percent of the variance of the adjustment to retained earnings (R^2 = .884, Adjusted R^2 = .824). The second model which removed the component reclassification effect (Note 9) yielded incrementally increased explanatory results. This finding may suggest that analysis of the IFRS transition may be more insightful if equity components were decomposed and the reclassification effect taken into account.

Further tests were conducted to statistically compare the difference in the adjustment to retained earnings model as reported with the adjustment to retained earnings without component reclassification model. A repeated-measures general linear model was estimated and the result presented in Panel B of Table 15 indicates a statistically significant difference between the retained earnings measures: Wilks' Lambda = .7552, F (1,63) = 6.81, p=.0164. This preliminary evidence suggests that the way in which retained earnings is measured has bearing on models analyzing attributes associated with IFRS adjustments.

Also presented in Panel A of Table 10, the prediction model for the adjustment to accumulated other comprehensive income as reported was statistically significant, F (7,62) = 8.01, p<.0001 and accounted for approximately 70.7% of the variance of the adjustment to retained earnings (R^2 = .808, Adjusted R^2 = .707). The prediction model for the adjustment to accumulated other comprehensive income without component reclassification was not statistically significant, F (7,62) = 1.42, p=.235. Again, these conflicting results point to

the need to examine equity components and consider the effect of equity reclassifications when measuring the impact of the IFRS transition.

Again, in examining Panel A of Table 10, the prediction model for the adjustment to stockholders' equity was statistically significant, F (7,62) = 14.576, p<.0001 and accounted for approximately 82.4% of the variance of the adjustment to retained earnings (R^2 = .884, Adjusted R^2 = .824).

Panel C of Table 10 presents the standardized coefficients of the predictors with a p-value < .05. *STDEVNI5* and *MKTCAP* demonstrated a linear relationship with all variations of the dependent variable. *DEBTTOEQ* demonstrated a linear relationship in three of the model variations. This study does not make claims with respect to the independent variables, the evidence does suggest that only by testing the variations of adjustments to equity components is the sign switching for the standardized beta coefficients revealed as observed for *STDEVNI5* and *MKTCAP*. Given the small sample size, the overall goodness of fit is encouraging in the exploration of firm attributes associated with the dependent variables.

Table 10. Model summary

Panel A: Regression Results n=69

$$y = \alpha + \beta_1 STDEVNI5_{CGi} + \beta_2 \overline{QROA_{CG_i}} + \beta_3 \overline{QOCI_{CG_i}} + \beta_4 INTL_i + \beta_5 DebttoEquity_{CG_{t-1_i}} + \beta_6 \mathrm{IND}_i + \beta_7 MKTCAP_i + \epsilon_i$$

Dependent Variables	F	R^2	Adj R^2
Adjustment to RE as reported	10.593	0.847	0.767*
Adjustment to RE without reclassification	14.589	0.884	0.824*
Adjustment to AOCI as reported	8.01	0.808	0.707*
Adjustment to AOCI without reclassification	1.42	0.427	0.126
Adjustment to SE	14.576	0.884	0.824*
Panel B: Repeated Measures General Linear Model		Wilks' Lambda	F
Adjustment to RE as reported vs. Adjustment to RE without reclassification		0.755	6.81*
Panel C: Standardized Beta Coefficients	Standardized Beta coefficient		p <.05
Dependent Variables	STDEVNI5	MKTCAP	DEBTTOEQ
Adjustment to RE as reported	-2.15	1.238	-
Adjustment to RE without reclassification	1.511	-0.972	0.317
Adjustment to AOCI as reported	2.264	-1.423	0.375
Adjustment to AOCI without reclassification	1.511	-0.972	0.317

Note. * Significance denoted at 1 percent.

4. Discussion

The current body of IFRS literature tends to examine equity changes associated with the transition to IFRS only through an analysis of total stockholders' equity (Haller et al., 2009; Cormier et al., 2009; Hung & Subramanyam, 2007). While this aids in our understanding of the aggregate effect of IFRS on the change in net assets, research is limited as to our ability to comprehensively understand the complexity of the GAAP regime changeover. In the context of the Canadian transition to IFRS, this study provides evidence that the decomposition of equity permits a more comprehensive examination of the financial reporting impact of the GAAP-to-GAAP standard differences, the application and extent to which IFRS is being implemented, and equity reclassifications which potentially transfer unrealized capital to earned capital. The evidence provided in this study suggests that IFRS adoption is not a monolithic research question. It is an endeavor which requires a thorough examination of its parts before addressing the objectives of the GAAP changeover as a whole. This study presents evidence which questions how can we measure the accounting quality of IFRS without first considering how IFRS was implemented.

Results from this study must be interpreted with caution as there are a number of limitations to the research. First, the study is limited due to a small sample size. Although the small sample size permits a more extensive study of IFRS implementation, it limits generalizability and the power of empirical tests. Second, the analysis is restricted

to Canadian firms and as such results from this study may not be applicable to other country contexts. Third, although the scope of the study was not motivated by early adoption, early adopters were used for the sample. Use of firms which opted for early adoption of IFRS may create a self-selection bias and may not reflect the effects of mandatory adoption or compulsory compliants. Lastly, all studies of IFRS share a limitation regarding the ongoing development of IFRS. This study is not unique in this regard and is limited to examining the implementation of IFRS standards mandated during a specific time period.

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Notes

Note 1. http://www.economywatch.com/worldeconomy/canada

Note 2. Effective January 1, 2011, the Canadian Accounting Standards Board (AcSB) required all Canadian publicly accountable enterprises (PAE) to adopt IFRS for financial reporting. Canadian Securities Administrators (CSA) permission was required for early adoption (CSA Staff Notice 52-321).

Note 3. Prior to 2005, the development of Canadian accounting standards was highly influenced by the United States (Colapinto, 2005; Milburn et al., 2001). The Canadian Standards Board (AcSB) initiative was to harmonize Canadian standards with U.S. GAAP (Colapinto, 2005) prior to the decision to adopt IFRS.

Note 4. The change in net assets (ΔNA) not only represents the difference of assets and liabilities under two sets of standards. It also represents firm choices as to the application of IFRS for future reporting. The change in net assets can also be decomposed as the sum of changes in contributed capital (ΔCC), accumulated other comprehensive income (ΔAOCI), and the ΔRE. For this study, the ΔRE and ΔAOCI are of particular interest. Change in net assets are defined as Change in Net Assets = Change in Assets – Change in Liabilities. Change in Net assets can also be stated as Change in Net Assets = Change in Retained Earnings + Change in Accumulated Other Comprehensive Income + Change in Contributed Capital.

Note 5. Statement of Financial Position financial elements include assets, liabilities, and equity. Income statement elements include revenue, expenses, gains, and losses.

Note 6. Normality tests were conducted on all variables of interest.

Note 7. Where $\in_i \sim iid\ N(o, \sigma_\epsilon^2)$.

Note 8. All of the models presented employ the same independent variables which are defined in Table 2.

Note 9. The component reclassification effect are equity reclassifications resulting from optional exemption choices.

Appendix

Mandatory exceptions and optional exemptions financial reporting in Canada under IFRS

Mandatory Exceptions	Optional Exemptions
• Estimates • Derecognition of financial assets and financial liabilities • Hedge accounting • Non-controlling interests	• Business combinations • Share-based payment transactions • Insurance contracts • Fair value or revaluation as deemed cost • Deemed cost of oil and gas assets • Deemed cost for operations subject to rate regulation • Leases • Employee benefits • Cumulative translation differences • Investments in subsidiaries, jointly controlled entities and associates • Assets and liabilities of subsidiaries, associates and joint ventures • Compound financial instruments • Designation of previously recognized financial instruments • Fair value measurement of financial assets or financial liabilities at initial recognition • Decommissioning liabilities included in the cost of property, plant and equipment • Financial assets or intangible assets from service concession arrangements • Borrowing costs • Transfers of assets from customers • Extinguishing financial liabilities with equity instruments

Source: CICA, 2011.