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The Effects of Adopting IFRS: The Canadian Experience

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THE EFFECTS OF ADOPTING IFRS: THE CANADIAN EXPERIENCE

BY

THERESA DIPONIO HILLIARD

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Executive Doctorate in Business

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY

ROBINSON COLLEGE OF BUSINESS

2013

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ACCEPTANCE

This dissertation was prepared under the direction of the Theresa Hilliard Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Executive Doctorate in Business in the J. Mack Robinson College of Business of Georgia State University.

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I dedicate my dissertation to my mother, Nancy Watt. I only wish she had been here to celebrate with me.

Terri Hilliard
March 2013

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ABSTRACT

THE EFFECTS OF ADOPTING IFRS: THE CANADIAN EXPERIENCE

BY

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MARCH 18, 2013

Committee Chair: Ram Sriram, Ph.D.

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This dissertation examines the financial statement effects of firm attributes on the components of equity, the market reaction effects on key events in the adoption of IFRS, and the cumulative earnings response coefficient effect in the context of IFRS adoption in Canada. Firm attributes were tested for association with the adjustment to retained earnings at the transition date when first adopting International Financial Reporting Standards (IFRS.) Evidence from the analyses of the adjustment to retained earnings model revealed a statistically significant association between the adjustment to retained earnings and the firm attributes of volatility of income, internationality, and firm industry. Market reaction was measured for two key events of IFRS adoption: early adoption announcement and the release of first quarter financial results under IFRS. A negative mean for Cumulative Average Return (CAR) resulted from tests of both events. However, only the negative mean CAR from market's reaction to the release of first quarter financial results under IFRS demonstrated statistical significance. The adjustment to retained earnings model used in this study developed a benchmark for tests of value relevance. In the test of value relevance, the benchmark or unexpected adjustment to retained earnings was tested against the actual adjustment to retained earnings for market reaction. The results from the tests of value relevance were not statistically significant.

This study contributes to the literature by identifying firm factors: volatility of income, internationality, and industry as firm factors associated with the adjustment to retained earnings upon adoption of IFRS. Further, evidence from the event study demonstrates that the market reacts negatively to the adoption of IFRS and suggests that the Canadian market may not perceive IFRS as an improvement in financial reporting or a reduction in information asymmetry.

Keywords: accounting choices; IFRS 1; mandatory equity adjustments; optional exemptions; value relevance, event study.

INTRODUCTION

Financial reporting is undergoing a global transformation toward a single set of accounting standards – International Financial Reporting Standards (IFRS). Financial reporting with some variation of IFRS is required by 120 nations and jurisdictions including 90 countries which require IFRS as promulgated by the International Accounting Standards Board (IASB). The IASB has designed standards intended to reduce information asymmetries amongst countries (Barth et al., 2008) and users of the financial statements, primarily investors (Haller et al., 2009). Studies of IFRS adoption have demonstrated an increase in accounting quality (Ball et al., 2003; Capkun et al., 2008; Gassen et al. 2006). High quality financial reporting has demonstrated a reduction in information asymmetries for investors (Street et al. 2000; Tarca, 2004; Ashbaugh et al., 2001; Gordon et al., 2010).

It could be argued that studies which examine the implementation of the standard at the time of transition¹ are particularly important. The implementation of IFRS provides an opportunity to understand how the standards are being applied and whether the required disclosures are useful to investors for equity decisions. Companies adopting IFRS for the first time must comply with IFRS 1 provisions. One of the important provisions of IFRS 1 is the requirement to retrospectively apply IFRS standards. IFRS 1 disclosures also require reconciliations from the “old” GAAP to IFRS. This provides an opportunity for researchers to examine the same set of economic activities under two different GAAP regimes. For example, researchers can examine how the recasting of financial reports following IFRS implementation sets the stage for future financial reporting (Christensen et al, 2009). Similarly, the implementation could provide valuable insight into to management’s choice of accounting

¹ Transition date – the beginning of the earliest period for which an entity presents full comparative information under IFRS in its first IFRS financial statements. Canada required this disclosure in the first interim statements.

Adoption date – The latest reporting period covered by an entity’s first IFRS financial statements that contains explicit and unreserved statement of compliance with IFRS. (Mackenzie et al., 2012)

policies, both before and after IFRS adoption (Cormier, 2009). Since IFRS 1 reconciliations indicate an association between accounting measures and market value, the value relevance of IFRS adoption to market participants is another important issue that could be examined (Horton & Serafeim, 2010; Schadewitz & Vieru, 2007).

Currently, the limited empirical research in the context of first-time adoption (IFRS 1) have mostly focused on the value relevance of disclosures rather than on the factors that lead to GAAP adjustments. The purpose of this study, therefore, is first, to gain greater understanding of the factors which explain the adjustment to retained earnings; second, to create a model that predicts the cumulative effect on retained earnings due to a GAAP change; and lastly, to determine whether or not the market reacts to the unexpected cumulative effect at this crucial turning point in an entity's history. These issues will be examined in the context of Canadian firms that transitioned to IFRS.

The cumulative effect on retained earnings is particularly an 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 position², specifically through its retained earnings. The retained earnings account represents the aggregate earnings history of an entity less distributions to shareholders and reflects the earned capital component of equity. When a firm transitions to IFRS, all assets and liabilities are restated under the new standard. The net difference between assets and liabilities valued under the "old" and "new" standards are reported in the change in net assets³. The adoption of IFRS only affects two components of equity (net assets): retained earnings and accumulated other comprehensive income. IFRS 1 requires all adoption adjustments to be recorded as an

² Statement of Financial Position financial elements include assets, liabilities, and equity. Income statement elements include revenue, expenses, gains, and losses.

³ 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.

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 would also demonstrate a firm's choice regarding application of the new standard for future reporting years (Horton et al., 2010; Christensen et al., 2009.)

The primary objective of this study is to construct a model of IFRS adoption that explains and, predicts the cumulative effect on retained earnings resulting from a GAAP system change. The model will be constructed through an exploratory process and in the context of Canadian firms' transition to IFRS. The cumulative income effect will be modeled as a function of firm-specific attributes which will be identified through an in-depth analysis of the Canadian early adoption of IFRS.

Canada provides an interesting platform for the study. Effective January 1, 2011, the Canadian Accounting Standards Board (AcSB) required all Canadian publicly accountable enterprises to adopt IFRS for financial reporting. With the 9th largest economy based on gross domestic product (GDP)⁴, Canada is a global player. Canada's transition to IFRS provides an opportunity to examine a country with long-term convergence efforts as an antecedent to the transition. Furthermore, Canada is a member of the North American Free Trade Agreement (NAFTA) with the United States and Mexico. This is the first opportunity to study the IFRS transition of a NAFTA partner.

As a corollary to the construction of the model, two events will be tested for market reaction: the announcement of early adoption and the release of IFRS 1 transition results. In addition, the prediction error of the model⁵ will be compared with actual cumulative effects to create a market relevant measure of unexpected cumulative income effects (Lantto et al., 2009; Ashbaugh et.al, 2001; Landsman, 1986; Barth et al., 1992; Ball & Brown, 1968). The

⁴ <http://www.economywatch.com/world/economy/canada>

⁵ Difference between the model's expected magnitude adjustment of the cumulative effect on retained earnings and the firm's actual magnitude adjustment of the cumulative effect on retained earnings.

unexpected and actual cumulative effects will be tested for value relevance (Barth et al., 2001; Amir et al., 1993) by measuring market reaction (unexpected risk-adjusted market returns) at the release of the first quarter periodic statements prepared under IFRS. Both of these tests will control for simultaneous announcements as well as any quarterly earnings surprise. This in turn is analogous to earnings response coefficient (ERC) research (Scott, 2012; Collins & Kothari, 1989).

This study complements IFRS research by examining the explanatory factors of the adjustment to net assets with a more narrow focus on the cumulative effect on retained earnings at the time of transition. Examining the transition date complements existing research that examines financial reports before and after transition (Harris & Muller, 1999; Leuz & Verrecchia, 2000; Barth et al., 2008). Although a single line-item adjustment, the cumulative effect on retained earnings represents the aggregate of all prior earnings restated under IFRS, accounting choices which set the stage for the first fiscal period earnings under IFRS, and the precedent for future earnings.

This study specifically examines Canadian publicly accountable enterprises (PAE) that were granted exemptive relief for early adoption. The population of early adopters for IFRS in Canada consists of 69 PAEs which sought early adoption of IFRS. Of the population granted exemptive relief, 39 PAEs were deemed “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 CA GAAP to IFRS. 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. An additional contribution of this study is to establish a proper benchmark to test the value relevance. Proper benchmarks

need to be constructed for tests of value relevance so that only financial reporting effects are captured and tested (Gjerde et al., 2008).

This study has implications for standard-setters and regulators to evaluate how the standards are being implemented. In addition, standard-setters and regulators may be able to use the model to project the effect of future GAAP transitions. Further, the model could provide a benchmark for determining value relevance of IFRS transition disclosure information. Financial analysts, firms, and practitioners may be interested in the model to forecast the effect of the IFRS transition on future earnings or net assets.

The remainder of the study is organized as follows. Chapter 2 provides background information for the study, including the global development of IFRS, a detailed explanation of IFRS 1, *First Time Adoption of IFRS*, the definition and accounting mechanics, the significance of the cumulative effect of retained earnings, and the Canadian Institutional Framework. Chapter 3 provides an extensive literature review and presents the theoretical framework. Chapter 4 presents the research design. Chapter 5 discusses the data collection and provides a description of the sample. Chapter 6 reports the results from the study. Finally, Chapter 7 discusses the research findings, contributions, limitations, and future research.

BACKGROUND FOR THE STUDY

2.1 IFRS

Accounting standards (GAAP systems) attempt to reduce information asymmetry by regulating financial reporting. The financial reporting system is a mechanism designed to reduce information asymmetries between market participants (Gassen & Sellhorn, 2006.) An important goal of the IASB is to develop a single set of high quality global accounting standards that are understandable and that improve transparency in financial reporting on the various capital markets of the world (IASB, 2010). IASB developed IFRS with the intention of meeting the objective of the fundamental theory of financial reporting - to measure economic activity. IFRS was developed from a balance sheet-oriented conceptual framework. This commences with defining assets and liabilities using a non-biased fair value measurement approach. Fair value as defined by IFRS is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction. Equity is a residual measurement of the difference between assets and liabilities. Net income is the equivalent of the net change in fair values.

However, in practice IFRS is a mixture of the measurement approaches⁶ due to the practicality of obtaining fair value of all assets and liabilities at each reporting period. The decision-useful objective of IFRS meets the fundamental conflict regarding accounting information: Present the financial statements with reliable accounting information which may not represent relevant information for decision making.

⁶ ⁶ The six underlying measurements systems available to regulators are pure historical cost, adjusted historical cost, the present value of future cash flows discounted at the historical rate, exit value, replacement cost, and the present value of future cash flows discounted at the appropriate discount rate.

2.2 IFRS 1

Financial transparency culminates with first-time adoption of IFRS through compliance with the explicit guidance set forth in IFRS 1 *First Time Adoption of International Financial Reporting Standards*. IFRS 1 sets the precedent for financial reporting under IFRS, overrides transitional provisions included in other IFRS, and prescribes detailed disclosures. The IFRS 1 disclosure explains how the transition from CA GAAP to IFRS affected the entity's financial position.

IFRS 1 requires entities to apply, retrospectively, all IFRS standards effective at the end of their first IFRS reporting period. The standard requires the opening presentation of IFRS statement of financial position and the comparative financial statements be prepared in accordance with the recognition, measurement, presentation and disclosure requirements of these standards. Therefore, Canadian firms adopting IFRS for the first time must prepare their financial statements in accordance with the timeline presented in Figure 1 in Appendix A. The Canadian Securities Administrators require the presentation of an opening IFRS statement of financial position in the first IFRS interim financial report. In the opening statement of financial position, a Canadian company must:

- Recognize all assets and liabilities required by IFRS
- Derecognize all assets and liabilities not permitted by IFRS
- Classify all assets, liabilities and components of equity in accordance with IFRS; and
- Measure all assets and liabilities in accordance with IFRS

All adjustments, when applicable, should be recognized through retained earnings, or other equity items, at the transition date (CICA, 2011).

IFRS 1 also establishes two categories of exceptions to the retrospective rule: mandatory and optional exemptions. Mandatory exemptions prohibit retrospective application of IFRS due to insufficient measurement reliability. Optional exemptions grant relief from IFRS

requirements in which the costs of compliance exceed the benefits to the users of the financial statements. Table 1 in Appendix A provides a summary of the mandatory exceptions and optional exemptions.

IFRS 1.39 requires the first IFRS financial statements to include a reconciliation of the equity reported under national GAAP to the equity under IFRS at the date of transition to IFRS and at the end of the latest period for comparative information presented in the first IFRS financial statements. For this study the reconciliation of equity is of particular interest. According to IFRS 1.40, the reconciliations have to be sufficiently detailed in order to enable users to understand the material adjustments to the balance sheet and income statement. As prior research has demonstrated, the market valuation of the earnings and book value reconciliations are observable only in the year of transition when financial statements are prepared both under local GAAP and IFRS and these differences are reported in aggregate in the change in net assets (Hung et al., 2007).

2.3 Net Assets and the Cumulative Effect on Retained Earnings

In a GAAP system changeover, the change in net assets represents the aggregate of differences between the GAAP systems, choices made under first time adoption, and the retrospective application of the new GAAP system on the earnings history of an entity. The IFRS 1 reconciliation requirement provides a rare opportunity to observe the reconciliation of two GAAP regimes – Canadian GAAP and IFRS. The change in net assets 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 defined as the sum of changes in contributed capital, accumulated other comprehensive income, and the cumulative effect on retained earnings. The transition to IFRS has no financial effect on contributed capital. Therefore, the change in net assets due to adoption of IFRS is

represented by the sum of changes in accumulated other comprehensive income and the cumulative effect on retained earnings.

The cumulative effect on retained earnings at the transition date becomes a particularly important financial element as it represents the revaluation of the accumulated earnings of an entity under IFRS. The retrospective application required in IFRS 1 restates the aggregate income measurement – retained earnings as if it had always been reported under IFRS. The reconciliation requirement in the IFRS 1 disclosure provides an opportunity to identify the differences in the measurement systems of asset and liabilities between Canadian GAAP and IFRS. This is a unique opportunity to compare the accounting orientations of the two standards: fair-value for IFRS and historical cost for CA GAAP. Furthermore, reclassification adjustments from accumulated other comprehensive income to retained earnings are also disclosed. These reclassification adjustments represent gains or losses which may have essentially bypassed the income statement under Canadian GAAP and upon adoption of IFRS are reported as aggregate earnings in retained earnings.

2.4 Canadian Institutional Framework

Prior to 2005, the development of Canadian accounting standards was highly influenced by the United States (Colapinto, 2005; Milburn et al., 2001). In fact, the AcSB initiative was to harmonize Canadian standards with U.S. GAAP (Colapinto, 2005.) This is not surprising as, historically, Canada's economic progress has been tied closely to the U.S. Canada has a market oriented system and represents the number one country of foreign companies traded in U.S. markets. Canada is a member of the North American Free Trade Agreement with the U.S. and Mexico. Canada and the U.S. are mutually important trade partners with 75% of Canadian exports directed to the U.S. and 51% of the goods imported to Canada are from the U.S. However, Canada is a formidable economic force in its own right. Canada is a net exporter of

commodities while the U.S. is a net importer. Canada has the largest proven reserves of oil in the world. In 2011, Canada was the 13th largest economy in the world. Canada provides the optimal context to study the IFRS transition of a large economy with standards that were originally developed to parallel U.S. GAAP. Canada's transition may provide a valuable blueprint to the U.S. convergence initiatives and the Securities Exchange Commission (SEC) Work Plan (SEC, 2010).

After seven years of pursuing U.S. GAAP as a model for financial reporting, the AcSB reassessed the strategic direction for standards development. The strategic direction was prompted by the majority of Canadian publicly traded companies without ties to U.S. GAAP or the U.S. stock market which were being mired down in U.S. GAAP tedious reporting rules without any benefit to financial reporting. In 2005, the AcSB issued a strategic plan to fully converge with IFRS for publicly accountable enterprises (PAE) (AcSB, 2005). Although Canada underwent a significant convergence process over six years prior to mandating adoption of IFRS, differences still remain. The overarching difference between the GAAP systems is the approach to accounting measurement. IFRS takes a fair value orientation to financial reporting whereas Canadian GAAP is historical cost based. Specific differences at the mandatory adoption date are highlighted in Table 2 in the Appendix A. Canada provides an opportunity to study a country with long-term convergence efforts as a precursor to the transition. Most prior studies focus on countries which are divergent with IFRS (Cormier et al., 2009; Hung et al., 2007; Lantto et al., 2009).

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

3.1 Agency Theory and Information Asymmetry

One of the important issues in accounting is designing and implementing standards that improve investor decision-making and, also, serve as an evaluation tool for management

performance. Since management is entrusted with the stewardship of an organization, performance-based financial reporting becomes a necessity. Investors demand that the financial reporting provide useful information to enable better investment decisions (Scott, 2012). Financial reporting is caught between delivering reports which represent management's stewardship of resources and reports which fulfill the primary role of useful information to investors. The reporting conflict is explained by the agency theory (Jensen & Meckling, 1976). This study is developed within the theoretical framework of the agency theory.

According to the agency theory, whenever one individual (agent) agrees to perform certain services on behalf of another (principal), a principal-agent relationship is created. In a corporate environment, an agency relationship is signaled when the principals fund the organization by purchasing shares of stock. The principals, then contract with a set of agents to efficiently and effectively manage the organization. Under the agency theory, the principals of financial reporting are the investors and creditors and the agents are management (particularly upper management). As part of this arrangement, the investors receive the residual claims or profits that remain after payment to claimants without any other involvement to the company. An expectation of upper management is to produce true and fair view reports of the entity's financial conditions and operating results to the investors.

The principal-agent conflict gives rise to information asymmetry (Scott, 2012.) Information asymmetry is the imbalance of accounting information between internal (management) and external (investors) users (Scott, 2012). Upper management produce reports and have access to more information than do the investors and creditors to whom they report. Accounting standards regulate financial reporting to reduce information asymmetry. Information asymmetry in the form of adverse selection is the disadvantage of accounting information for external users to the advantage of the internal users due to control and access. In other words, it is the notion that principals are making investment decisions and they may make the wrong decisions if they are not given the proper information. Adverse selection

occurs because management has superior knowledge regarding the financial prospects of an entity. If this information advantage is successfully exploited by management in preparing its reports, the principals (investors and creditors) make suboptimal investment choices. As illustrated in Figure 2 in the Appendix B, this imbalance of power or agency cost creates a disadvantage for outside investors and provides management with opportunities for information exploitation. On a small scale, the consequences of adverse selection can be firm subperformance and losses. On a larger scale, the effects of adverse selection leads to a misallocation of scarce financial resources and a distrust of the financial reporting system. Markets in turn have their own mechanisms for penalizing and deterring harmful agency and information symmetry conflicts (Ball, 2009.), resulting in higher than necessary discount rates or, in the extreme, a collapse of the market itself.

Based on the contractual relationship between the investor and upper management, upper management has a reporting obligation to investors. As illustrated in Figure 2 in Appendix B in order to enhance the credibility of the financial reporting function, the attestation function is introduced and a third party – the external auditor. The external auditor audits management prepared financial reports and issues a formal opinion as to the preparation of the reports in accordance with the rules of financial reporting or accounting standards. Accounting standards are necessary for the fulfillment of this monitoring role. Accounting standards are intended to mitigate information asymmetry and auditors test management prepared financial reports for compliance with the standards.

The global movement of IFRS toward a single set of accounting standards with the objective of financial reporting targeted to serve equity investors parallels the work of Berle and Means (1932) with the same intention of reducing agency costs. The *Conceptual Framework for Financial Reporting 2010* articulates IASB's objectives which guide its standard setting decisions. Two primary concepts which motivate standard development under IFRS are relevance and faithful representation. Relevance refers to purposeful information which is

intended to assist users (investors) make informed economic decisions. IFRS standards developed in the context of relevance tend to be measured using fair-value. Faithful representation refers to information presented completely, with neutrality, and free from error. Accounting standards representing the concept of faithful representation tend to be measured in terms of historical cost. Financial reporting often requires trading off one attribute or measurement for another. The tradeoffs vary across balance sheet and earnings components alike. GAAP systems attempt to balance relevance and faithful representation as well as correct the imbalances of information asymmetry.

3.2 Value Relevance

Tests of value relevance measure the market's reaction to accounting events or accounting information. Accounting information is deemed value relevant if it influences market reaction (Barth et al., 2001; Amir et al., 1993) because the accounting information is providing insight or information that the market did not anticipate. If IFRS improves accounting quality and represents an upgrade in financial reporting, one would anticipate that the market would react favorably to financial reports transitioned to IFRS. IFRS was designed with the objective of reducing information asymmetry between management and equity investors. If IASB has met its goal of reducing information asymmetry, the market should react favorably to IFRS accounting information. The market's reaction could provide evidence as to the standards ability to reduce agency costs.

Empirical tests of value relevance provide a means of operationalizing IASB's criteria of relevance and reliability (faithful representation) (Barth et al., 2001.) Accounting information is deemed value relevant if the information bears relevance to the investors in valuing the firm. For example, if the release of financial reporting has a statistically significant predicted relationship with the market through share prices, then the accounting amounts reflect information relevant to investors in valuing the firm (Barth et al., 2001).

Empirical tests of value relevance compare market reaction to release of accounting information. However, the market already has an anticipation of the entity's financial information, therefore predictive models of value relevance must create a proxy for accounting information that the market did not expect (Scott, 2012.) One objective of this study is to develop a proxy for the unexpected cumulative effect on retained earnings which aligns with IASB's definition of the qualitative characteristic of relevant accounting information. Financial information that is capable of making a difference in decision making through predictive and/or confirmatory values. Given this definition, predictive ability is linked to decision making and decision usefulness is the intent of financial reporting. Empirically, predictive ability has been defined as the ability of past earnings to predict future earnings (Lipe, 1990.) Empirical studies which construct predictive models of firm attributes associated with the cumulative effect on retained could provide valuable insight into future firm performance.

3.3 Literature Review

Although empirical research on the adoption or implementation of IFRS is primarily examined in tests of value relevance, the extant literature that is relevant to this study will be organized into three major categories: studies which examine the implications of IFRS adoption, "hybrid" studies which examine the implications of adoption and test for value relevance, and studies of value relevance.

3.3.1 Studies on the Implications of IFRS adoption

Research published by Haller et al. (2009) analyzed differences between German GAAP and IFRS by quantifying the effects of first time adoption at the time of transition including measurements of the impact on equity and net income. Indices of comparability found that on average there was a significant increase in stockholders' equity and net income. The increase in equity was associated with the implementation of IAS 11, 16, 37, 38, and IFRS 3. The

increase in net income was mainly attributed to IFRS 3. This study did not investigate optional exemption choices or factors which may contribute to the magnitude adjustment on stockholders' equity.

Lantto and Sahlström (2009) conducted a study of Finnish firms with an objective of measuring the impact of IFRS adoption on key financial ratios. The results of the study found adoption of IFRS was associated with magnitude changes of key financial ratios, specifically increasing profitability and gear ratio, decreasing PE ratio, and increasing income statement profits. A similar study conducted by Blanchette and Girard (2011), also focused on the impact of IFRS adoption on key financial ratios for Canadian early adopters. Overall, the ratios demonstrated significantly higher volatility under IFRS when compared to CA GAAP. The differences of the means and medians were not statistically significant. However, at the time the study was conducted, only nine firms had issued public reports which put significant limitations on the research.

3.3.2 Hybrid Studies

Hung and Subramanyam (2007) studied German industrial firms with the objective of examining "shareholder-oriented" standards in a "stakeholder-oriented" regime. Major accounting differences between HGB and IAS (IFRS) were analyzed using book value and net income. Book value, net income, and IAS adjustments were then tested for value relevance. Three main findings resulted from the study: (1) total assets, book value of equity and variations in book value and net income are significantly higher under IAS; (2) book value (net income) plays a more (less) important role valuation role under IAS; (3) IAS adjustments to book value are value relevant while adjustments to net income are value irrelevant. This study calls for future research which examines IFRS adjustments related to equity components (book value.)

Callao and Lainez (2007) examined Spanish firms to establish comparability of IFRS and SAS (Spanish accounting standards) as both standards were permitted in the same financial

reporting system. Key financial figures and ratios were tested for statistical significance. This study also tested for the value relevance of IFRS adoption on financial reporting. Evidence from the study demonstrated that comparability is adversely affected by permitting both standards for financial reporting. Further, there was no evidence of improved value relevance.

In a study conducted by Iatridis and Rouvolis (2010) of Greek listed firms, again financial ratios such as profitability, growth, and leverage were used to determine statistically significant differences between financial reports prepared under IFRS and Greek GAAP. These accounting measurements were then tested for value relevance. In addition, this study explored financial attributes of firms that voluntarily provided IFRS disclosures prior to the mandated adoption date. This should not be confused with studies which examine early adopters of IFRS as Greece did not permit early adoption. These were firms which merely provided additional disclosures as required by IFRS. This study also included an examination of earnings management upon the adoption of IFRS. Results from the study indicated unfavorable effects in the year of implementation in terms of profitability and liquidity. However, tests of the subsequent reporting year demonstrated improved financial performance under IFRS. Firm attributes which were associated with voluntary IFRS disclosure included company size, debt, and equity financing needs. Earnings management was evident in the year of adoption, but diminished in the subsequent year. Finally, the implementation of IFRS provides more value relevant accounting measures in the year subsequent to adoption compared to the year of adoption.

While the aforementioned studies provide evidence of IFRS impact on accounting measures, these studies do not analyze the contributing factors of the adjustments made upon adoption of IFRS, nor do these studies examine the items which reconcile national GAAPs to IFRS which may provide valuable insight.

Cormier et al. (2009) investigates whether and how managerial incentives influence the choices of optional exemptions permitted under IFRS 1 by examining the net positive/negative

impact on equity of French firms. Value relevance tests were conducted on various optional exemptions such as actuarial gains/losses, translation differences, revaluations, and retrospective application. Three major findings resulted from the study: (1) managerial incentives influence the decision to strategically elect optional exemption choices at transition date; (2) mandatory equity adjustments are more valued than French GAAP; (3) the value-relevance of optional equity adjustments are dependent upon the release of new information to the market.

In a similar study conducted by Capkun et al. (2011), IFRS 1 reconciliations are examined to determine how management discretion establishes the level of first IFRS earnings as well as benchmarks for future earnings. The study concluded that negative local GAAP earnings were more likely to report positive local GAAP –to- IFRS earnings reconciliations. Firms with high positive earnings under local GAAP were more likely to report negative local GAAP – to -IFRS reconciliations. In tests of subsequent reporting periods following IFRS adoption, firms that reported positive (negative) reconciliations were more likely to show a decrease (increase) in earnings. There was no evidence of market reaction to earnings management during IFRS transition. There was however strong evidence of CEOs managing earnings reconciliations to increase compensation.

While both of the preceding empirical studies examine IFRS 1 reconciling items and provide valuable insight, the scope is limited to management incentives and discretion rather than firm attributes which may help to explain a more comprehensive view of the IFRS transition. Further, if transitional earnings and IFRS reconciliations have predictive values on IFRS reconciliations and subsequent earnings respectively as evidenced in the Capkun et al., (2011), then there is the potential that earnings history and other firm attributes may be associated with the adjustment to retained earnings upon implementation of IFRS.

3.3.3 Studies of Value Relevance

In Horton and Serafeim's (2010) study of UK companies, the most prevalent reconciling differences between UK GAAP and IFRS periodic earnings were examined for value relevance. Evidence from this study suggests that significant negative abnormal returns are associated with negative earnings reconciliations. This event study revealed that information content is value-relevant for positive earnings adjustments before disclosure while information content is value-relevant for negative earnings only after disclosure. Christensen et al. (2009) published a similar study which also examined earnings reconciliations from UK GAAP to IFRS with particular attention paid to the debt contracting effects of IFRS adoption. The study found significant market reactions to IFRS earnings reconciliations announcements with more pronounced effects associated with firms facing greater likelihood and costs of debt covenant violations. These studies limited examination of the IFRS 1 reconciliation to periodic earnings in the year of adoption rather than the transition date. Further, the periodic earnings adjustments were examined only for market reaction and not for factors which are associated with the adjustments.

In a Finnish event study conducted by Schadewitz and Vieru (2007), IFRS 1 reconciliations pertaining to post-IFRS adoption periodic earnings and shareholders' equity were tested for value relevance. Findings from the study exhibited marginal incremental value relevance for earnings reconciliations and impaired value relevance for shareholders' equity reconciliations. These tests were conducted on aggregate reconciliations and did not test components of the reconciliations. Gjerde et al. (2008) performed a value relevance test comparing the market reaction to financial statements prepared under Norwegian accounting standards (NGAAP) and IFRS. Little evidence of increased value relevance was found. However, when decomposing the adjustments that reconcile NGAAP to IFRS, marginal value-

relevance was reported, due to increased relevance of the balance sheet. Further testing revealed that increased value relevance was due to the different reporting schematic of intangible assets under IFRS. Neither of these studies examined the cumulative effect on retained earnings at transition date and both were limited to tests of value relevance.

The present study builds on and complements the current body of literature by providing research which takes a comprehensive approach to the IFRS transition. The research objective is to examine explanatory factors of the cumulative effect on retained earnings at transition such as financial ratios and other firm specific attributes in combination to construct a predictive model (adjustment to retained earnings model.) The adjustment to retained earnings model is intended to produce a benchmark for tests of value relevance related to equity components.

RESEARCH DESIGN

4.1 Theoretical Constructs of a GAAP System Changeover

The selection of a GAAP system determines how financial elements will be measured. IFRS has a balance sheet, fair value approach to the accounting measurement system (Blanchette et al., 2011; Gjerde et al., 2008; Lantto and Sahlstrom, 2009; Hung and Subramanyam, 2007), but with the implication that income measurement will be more in line with the objectives of equity investors (IASB, 2010). The overarching goal for equity investors of the financial reporting system is to be able to assess the amount, timing, and uncertainty of future cash flows. Appendix D lays out formulaically the framework of theoretical constructs of a GAAP system changeover that guide and inform this study. The following paragraph provides a summary explanation of the key formulaic theoretical constructs presented in Appendix C.

At the transition date, the economic position reflecting the cumulative to-date activities of an entity is measured and reported under two different GAAP systems – Canadian GAAP and IFRS. The differences between these GAAP systems results in the change in equity (net

assets) which are the differences between the changes in assets less the change in liabilities. The change in net assets is the sum of the change in accumulated other comprehensive income and the cumulative effect on retained earnings. The transition to IFRS has no effect on contributed capital. As presented in and under the assumptions of Appendix C:

$$(1) \quad RE_{IFRS} - RE_{CG} = \Delta NA_{GAAP\Delta} - \Delta AOCI_{GAAP\Delta}$$

In equation (1), $RE_{IFRS} - RE_{CG}$ or *Cumulative Effect* expresses the fundamental model of the dependent variable examined in this study. Retained earnings as measured by IFRS less retained earnings as measured by CA GAAP equals the change in net assets less changes in accumulated other comprehensive income due to the GAAP system changeover. Again as demonstrated in Appendix C:

$$(2) \quad \begin{array}{l} \text{Balance Sheet} \\ (\Delta A_{GAAP\Delta} - \Delta L_{GAAP\Delta}) - \Delta AOCI_{GAAP\Delta} \end{array} = \begin{array}{l} \text{Income Statement} \\ \sum_{t=0}^{t-1} (NI_{IFRS_t} - NI_{CG_t}) \end{array}$$

In equation (2), changes in assets ($\Delta A_{GAAP\Delta}$) less changes in liabilities ($\Delta L_{GAAP\Delta}$) results in changes in net assets including accumulated other comprehensive income. Changes in accumulated other comprehensive income which represent unrealized transactions are then subtracted from the change in net assets to align with the notion of “clean surplus” accounting (Ohlson, 1988.) By subtracting changes in accumulated other comprehensive income, net assets or book value equates to accounting income. The resulting equation represents the summation of measurement system differences since the firm’s inception. As theorized by Edwards and Bell (1961), this formulaic equation illustrates the articulation of the balance sheet with the income statement in a wholesale GAAP regime changeover. This summary formula motivates and informs the research design of this study.

Tests in this study consist of univariate, bivariate, and multivariate analyses. Each analysis builds on the preceding tests to develop the adjustment to retained earnings model. The results from the event study (cumulative abnormal returns) and the adjustment to retained earnings model (residuals which are the difference between the model's prediction and the actual adjustment to retained earnings) are developed for the final model to test the market's reaction to the unexpected adjustment to retained earnings in tests of value relevance. The next section explains the univariate analyses.

4.2 Univariate Analyses

This section provides a detailed description of the variables of interest for the univariate analyses, an overview of event study methodology, and the event hypotheses being tested. Descriptive statistics and normality tests were conducted on all variables of interest. Although the focus of the study is on a detailed examination of the cumulative effect on retained earnings and its predictors, this study will also analyze the effects of transition on accumulated other comprehensive income and stockholders' equity (aggregate common equity).

All hypotheses are stated in their alternative form. Because of the exploratory nature of this study and as there is no precedent in the literature regarding Canadian adoption of IFRS, two tail tests are employed throughout.

4.2.1 Variables of Interest

Equity is a key determinant in firm value. Equity represents the net worth of an entity. Retained earnings is a component of equity with particular importance as this account represents the aggregated earned capital of an entity. IFRS 1 requires all remeasurements of assets and liabilities as well as mandatory and optional exemption choices upon adoption be applied to retained earnings through a cumulative effect adjustment. The cumulative effect on retained earnings at the transition date represents the change in aggregated income from one

GAAP system to another (Appendix C.) Although one line item on the balance sheet, the adjustment to this amount has significant financial and strategic implications. 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 worth of an entity. For this study, the cumulative effect on retained earnings will become the dependent variable in the development of the multivariate model.

Although limited, previous studies which have examined equity components adjusted for IFRS adoption have provided valuable evidence pertaining to management incentives for standard implementation (Cormier et al., 2009), statistically significant adjustments to book value when compared to national GAAPs (Hung and Subramanyam, 2007; Haller et al., 2009), and statistically significant adjustments which reclassify accumulated other comprehensive income amounts to retained earnings (Henry, 2009; Lapointe et al., 2009.) Although the cumulative effect on retained earnings is of particular interest as the dependent variable, the interrelation of equity components is crucial to understanding the complete phenomena of IFRS adjustments to equity. Therefore, the change in retained earnings and change in accumulated other comprehensive income as well as the changes in common stockholders' equity are key variables of interest measuring the effects of IFRS adoption. Table 3 presents a summary of the variables of interest.

Table 3: Summary of variables of interest

<u>Variable</u>	<u>Defined</u>
$y_{1\Delta RE_{td}}$	Cumulative effect on retained earnings at the transition date
$y_{2\Delta AOCI_{td}}$	Change in accumulated other comprehensive income at the transition date
$y_{3\Delta SE_{td}}$	Change in stockholders' equity
$y_{4CAR_{E1}}$	Event 1 – Early adoption announcement
$y_{5CAR_{E2}}$	Event 2 – First quarter financial report after adoption of IFRS

As presented in Table 3, two additional variables of interest will be tested in the univariate analysis. These variables relate to firm events surrounding IFRS adoption. The first event is the announcement of early adoption by the firm. The early adoption announcement merely delivers information that a firm has been granted early adoption by the Canadian Security Regulator. There is no financial information or impact of adoption disclosed at this time. The second event is the release of quarterly financial statements. The first quarterly financial statements under IFRS per AcSB are required to disclose the implementation effect of IFRS on retained earnings at the transition date. These events and event study methodology are explained in detail in section 4.4.1.

The next section discusses the development of the adjustment to retained earnings model which is presented in section 4.4.

4.3 Bivariate Analyses

In this section, the dependent variable is revisited, the analysis process is discussed, a summary of the variables is presented, and the candidate independent variables including control variables are introduced and discussed in detail.

4.3.1 Dependent Variable

The dependent variable which is examined in the adjustment to retained earnings model is the change in retained earnings at the transition date. This adjustment is of particular interest in a GAAP system change as it represents the regime differences, market valuations which are only available during the transition and optional exemption choices which are all influenced by firm factors. The dependent variable is defined as: $y_1 \Delta RE_{td}$

4.3.2 Candidate Independent Variables

Table 4 presents candidate independent variables. The independent variables are referred to as “candidates” for the model. The construction of the model requires an extensive exploration of each candidate variable prior to the final model. Given the exploratory nature of this study and limitations of the sample size, use of the following candidate independent variables in the adjustment to retained earnings model are subject to data availability. Descriptive statistics are presented for all variables in Chapter 6 - Results. A bivariate Spearman correlation analysis of each candidate independent variable and the dependent variable were computed to determine individual statistical significance. Candidate independent variables were tested for multicollinearity. Candidate independent variables which demonstrate the strongest association to the dependent variable without high correlation to one another will be selected for the multivariate model. The following defines each candidate independent variable under consideration for the construction of the adjustment to retained earnings model.

Candidate Variables	Defined
$y\Delta RE_{td}$	Cumulative effect on retained earnings at the transition date
$STDEVNI5_{CGi}$	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.
\overline{QOCI}_{CG_i}	Other comprehensive income average under Canadian GAAP over eight quarters for every entity.
$INTL_i$	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_i	Control variable – industry as measured by NAICS code
$MKTCAP_i$	Control variable – market capitalization

Standard Deviation of Net Income for a 5-Year Period

It goes without saying that earnings history and retained earnings are highly related. Periodic swings in earnings accumulate permanently in retained earnings. It could be argued that these same fluctuations in earnings could be associated with the adjustment to retained earnings at the time of transition to a new GAAP system. The Canadian reporting emphasis of the income statement is being replaced with the balance sheet orientation of IFRS. Variability in periodic earnings leading up to the adoption of IFRS may be an explanatory attribute of the magnitude of the cumulative effect on retained earnings.

Earnings (loss) patterns over a period of time have provided evidence of earnings management or smoothing (Jeanjean and 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 and Vincent, 2003; Christensen et al., 2008). If IFRS improves earnings quality as demonstrated in previous studies (Barth et al., 2008; Daske et al., 2006) then the cumulative effect on retained earnings may represent an upgrade adjustment to the earnings history of an entity. Studies have examined volatility in earnings post-IFRS adoption (Capkun et al., 2011; Iatridis and Rouvolis, 2010; Haller et al., 2009; Lantto and Sahlstrom, 2009), but have neglected to study earnings history ex-ante to the retrospective application of IFRS. The variable is defined as:

STDEVNI5_{CGi}

Where ***STDEVNI5_{CGi}***, represents the standard deviation of earnings (loss) over a 5-year period of time for all firms.

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 cumulative effect on retained earnings. This variable provides a more cumulative measure of earning differences scaled by size leading up to adoption. Appendix D illustrates the aggregate of earnings since inception less dividends which defines retained earnings regardless of the GAAP system employed.

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 et al. (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. The variable is defined as: \overline{QROA}_{CG_t}

Where $\overline{QROA}_{CG_t} = (\sum_{t_q-8_t}^0 ROA_t) / 8$, the average return on assets under Canadian GAAP for every company is computed by dividing quarterly net income by total assets for each company for 8 quarters.

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. Other comprehensive income (OCI) relates to unrealized gains and losses caused primarily by

fair value adjustments. The concept of OCI is fairly new to Canada. Section 1530, *Comprehensive Income* was adopted in 2005 by the AcSB as part of the IFRS convergence initiatives. Adjustments to OCI are presented in the Statement of Comprehensive Income which combines the income statement and other comprehensive income items. These adjustments temporarily bypass the income statement until realized and are aggregated in accumulated other comprehensive income. When realized, these items are reported on the income statement, reclassified out of accumulated other comprehensive income, and ultimately captured in retained earnings.

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 provision to report the remeasurement to fair value as an adjustment to the opening balance of retained earnings. 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. The variable is defined as: \overline{QOCI}_{CG_t}

Where $\overline{QOCI}_{CG_t} = (\sum_{t_q-8_t}^0 OCI_t) / 8$, other comprehensive income will be measured in a similar method to the return on assets variable. Quarterly OCI will be divided by total assets for each company for 8 quarters. Then the average over eight quarters will be computed for every company.

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 adjustment to retained earnings at the time of transition to IFRS by the Canadian domiciled parent company may be influenced by the number of international stock exchanges the firm trades stock.

The variable internationality (Ali, 2005) has been employed in other studies of IFRS to test for harmonization, compliance, and accounting quality (Gassen and Sellhorn, 2006; Ali, 2005.) Further referencing Appendix A Table 2, IAS 21 requires that non-monetary items use fair value measurement at the date that the fair value was determined rather than the balance sheet date. This valuation timing difference may have a significant impact on retained earnings at adoption of IFRS for companies with large volumes of foreign currency transactions. A company which has a greater international presence would more than likely have foreign currency translation adjustments affected by IFRS adoption. The variable is defined as: *INTL*,

A count of stock exchanges outside of the Canadian Market at the transition date are tabulated for this variable.

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. The debt to equity ratio at the transition date under Canadian GAAP may be a contributing factor to the cumulative effect on retained earnings. 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. Blanchette et al. (2011) noted a major difference between IFRS and Canadian GAAP is the presentation of minority interest. Minority interest is presented in shareholders' equity under IFRS and typically included in liabilities under Canadian GAAP. Although the authors anticipated a decrease in the leverage ratios under IFRS, the study was inconclusive primarily due to the limitation of their sample size of 13.

Again these studies examine leverage ratios ex-post which prompts the question of the effect of ex-ante examination of ratios and any related affect on transition to IFRS. There are noted significant differences between Canadian GAAP and IFRS, as highlighted in Appendix A Table 2, which directly affect leverage ratios such as the IAS 1 requirement for current classification of breached long-term liabilities at the statement of position date unless rectified. Canadian GAAP also anticipates a similar transitional effect of IAS 11, 18, 19, 32, and 39 as experienced in the Lantto and Sahlstrom (2009) study. This variable is defined as:

DebttoEquity_{CG_{tdi}}

Where ***DebttoEquity***_{CG_{tdi}} = $\frac{\text{Total Debt}_{CG_{tdi}}}{\text{Total Equity}_{CG_{tdi}}}$ debt to equity valued by

Canadian GAAP at the transition date for every company is computed by dividing total debt at the transition date for every company by total equity at the transition date for every company.

Control Variables

The study will include three control variables: industry (***IND***_{*i*}), size by total assets (***MKTCAP***_{*i*}), and earnings surprise ($Q_1NI_{IFRS_{AY}} - Q_4NI_{IFRS_{TY}}$). Industry is measured by the North American Industry Classification System six 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. Earnings surprise or the unexpected quarterly earnings is applied in the final value relevance model as a control variable for market reaction. Earnings surprise is measured as the difference between IFRS earnings for the first quarter of the adoption year and the fourth quarter of the transition year.

The scope of this study is limited to Canadian early adopters, although it must be noted that the study is not about early adoption. Canadian early adopters were selected due to the availability of recent financial reporting 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 and Subramanyam, 2007.) As explained in the sample and data collection chapter, 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.

4.4 Multivariate Analyses

4.4.1 Event Abnormal Returns

To test the effect of IFRS, two events are investigated for market reaction. The first event is the announcement of early adoption which only provides interested users the information that the firm has been granted early adoption by the Canadian Security Regulator. In other words, the financial impact of IFRS is unknown at this point in time. The second event is the release of the first quarterly financial reports prepared under IFRS. These quarterly statements provide users of the financial statements the first information regarding the financial effect of IFRS.

Commencing with Ball and Brown (1968), event studies have been used to measure market reaction to a specific event (Scott, 2012.) If the market is efficient, it should reflect the influence of the event in the compounding stock prices (abnormal returns) (Armstrong et al., 2010; Cuthbertson and Nitzsche, 2005.) The abnormal return is the unexpected risk adjusted return. For this study, market reaction will be measured by computing the daily abnormal returns (DAR) and the cumulative abnormal returns (CAR). DARs represent the difference between actual stock performance and the expected stock performance on a daily basis. CARs represent the cumulative or sum of abnormal returns over a window of time.

Similar to Horton and Serafeim (2010), the research design for this event study will use an eleven day window that is 5 days before and 5 days after the announcement. An eleven day window is used to capture any event leaks or contamination (Cuthbertson et al., 2010.) A thorough search was conducted to reveal all other announcements during the window which may provide plausible explanations of market reaction.

For each event, Day 0 represents the day each firm publicly announces early adoption and the impact of IFRS on firm value, respectively. Market reaction is measured by computing the daily abnormal returns (DARs) and the cumulative abnormal returns (CAR) for the eleven day window. However, in this study the risk adjusted returns are computed for every firm rather than using a market adjusted model as in Horton and Serafeim (2010.) The expected risk adjusted returns equation is derived from the Sharpe-Linter capital asset pricing model (Sharpe, 1964; Linter, 1965):

$$(3) \quad E(R_{it}) = \alpha + \beta_1 E(R_{mt})$$

In equation (3), the expected risk adjusted return for every company in period t , is the R_{it} , expected market return for every company in period t . The alpha and beta of each firm are

prepared using a time series regression which collects historical data over a trading year which represents the current company structure to project future performance.

H₁ Firm announcements of early adoption of IFRS are associated with abnormal stock returns.

$$\overline{y}_{4CAR_{E1}} \neq 0$$

Where $\overline{y}_{4CAR_{E1}} = \frac{1}{n} \sum_{i=1}^n \sum_{t=-5}^5 Rit - E(Rit)$. The average cumulative abnormal stock returns for the early adoption announcement event represent the summation of the daily $Rit - E(Rit)$, unexpected risk adjusted returns for every firm, averaged over the firms in the sample.

H₂ Firm release of the first quarter financial report after IFRS transition are associated with abnormal stock returns surrounding the report release.

$$\overline{y}_{5CAR_{E2}} \neq 0$$

Where $\overline{y}_{5CAR_{E2}} = \frac{1}{n} \sum_{i=1}^n \sum_{t=-5}^5 Rit - E(Rit)$. The average cumulative abnormal stock returns for the first quarter financial report after IFRS transition event represent the summation of the daily $Rit - E(Rit)$, unexpected risk adjusted returns for every firm, averaged over the firms in the sample.

4.4.2 Adjustment to Retained Earnings Model

The adjustment to retained earnings model tests firm attributes which are associated with the cumulative effect on retained earnings at the transition to IFRS. The model presented below assumes that all candidate variables meet the criteria discussed in section 4.3.3. The

model's parameters will be estimated using ordinary least squares regression with standard model assumptions⁷. The model will be tested for overall significance.

$$(4) \quad y_{\Delta RE_{tdi}} = \alpha + \beta_1 STDEVNI5_{CGi} + \beta_2 \overline{QROA_{CGi}} + \beta_3 \overline{QOCI_{CGi}} + \beta_4 INTL_i + \beta_5 DebttoEquity_{CGtdi} + \beta_6 IND_i + \beta_7 MKTCAP_i + \epsilon_i$$

The adjustment to retained earnings model (Equation (4)) tests the cumulative effect on retained earnings at the transition date as a function of firm attributes for every company. Table 5 provides a definition of each variable:

Table 5: Variable definitions

$y_{\Delta RE_{tdi}}$	The dependent variable, the cumulative effect on retained earnings at the transition date for every company.
$STDEVNI5_{CGi}$	The standard deviation of the earnings history of the entity under Canadian GAAP.
$\overline{QROA_{CGi}}$	The average return on assets under Canadian GAAP over eight quarters for every entity.
$\overline{QOCI_{CGi}}$	Other comprehensive income average under Canadian GAAP over eight quarters for every entity.
$INTL_i$	A count of the stock exchanges in which the firm trades representing internationality.
$DebttoEquity_{CGtdi}$	Debt to equity ratio under Canadian GAAP at the transition date for every company.
IND_i	Control variable – industry
$MKTCAP_i$	Control variable – market capitalization

The model will predict an adjustment to retained earnings. The actual adjustment to retained earnings less the model's prediction equates to the residual which will be applied in the test of value relevance as the unexpected adjustment to retained earnings. The next section discusses the design for the value relevance model of the study.

⁷ Where $\epsilon_i \sim iid N(0, \sigma_{\epsilon}^2)$

4.4.3 Value Relevance Model

Tests of value relevance examine the association between accounting amounts or information and the relationship with equity market values (Barth et al., 2001.) Valuation models which are the basis for these tests are developed either in terms of the level of firm value (Miller and Modigliani, 1966; Ohlson, 1995) or examining changes in share prices or returns (Scott, 2012; Ohlson, 1995.) The later is the model of choice for this study as the objective is to determine market reaction to accounting information.

Although most studies focus on the market's reaction to periodic earnings under IFRS (Horton et al., 2010; Christensen et al., 2009; Iatridis et al., 2010; Callao et al., 2007; Capkun et al., 2011; Barth et al., 2008), evidence from LaPointe-Antunes et al. (2009) indicates mandatory changes in accounting principles accounted for using retrospective application can be value relevant. Results of value relevant tests on equity adjustments are limited and conflicted in the current body of literature. Results range from statistically significant market reaction to book value adjustments (Hung et al., 2007) to marginal market reaction to equity adjustments (Gjerde et al., 2008) to impairing value relevance when comparing IFRS 1 earnings reconciliations to IFRS equity reconciliations at the adoption date (Schadewitz and Vieru, 2007.) The differing results may be due to the lack of a proper benchmark (Gjerde et al., 2008) to measure the market's reaction to the unexpected cumulative effect on retained earnings. The current study develops the benchmark using the model's error (unexpected) to test value relevance. Two tests of value relevance will be conducted. Using the dependent variable, cumulative abnormal returns for the quarterly earnings report tested in H₂ and described in section 4.2.1 the first linear model tests the market reaction to the adjustment to retained earnings at the transition date while controlling for the first quarter earnings surprise.

$$(5) \quad y_{5CAR_{E2}} = \alpha + \beta_1 \Delta RE_{tdi} + \beta_2 (Q_1 NI_{IFRS_{AY}} - Q_4 NI_{IFRS_{TY}}) + \epsilon_i$$

Where y_5CAR_{E2} represents the cumulative abnormal return over the eleven day window of the release of the first quarter financial reports as a function of ΔRE_{tdi} which represents the adjustment to retained earnings at the transition date for every company controlled for $(Q_1NI_{IFRS_{AY}} - Q_4NI_{IFRS_{TY}})$ which represents first quarter earnings surprise (Horton and Serafeim, 2010.)

H₃ There is a linear relationship between the cumulative abnormal returns for the first quarter financial reports and the change in retained earnings at the transition date.

$$\hat{b}_{1\Delta RE} \neq 0$$

The second linear model tests the market reaction to the unexpected adjustment to retained earnings at the transition date while controlling for the first quarter earnings surprise. The unexpected adjustment to retained earnings is the difference between the actual adjustment to retained earnings and the expected adjustment to retained earnings. The expected adjustment to retained earnings is the benchmark which is derived from the adjustment to retained earnings model referred to in section 4.4.2.

$$(6) \quad y_5CAR_{E2} = \alpha + \hat{b}_1(\Delta RE_{tdi} - E(\Delta RE_{tdi})) + \hat{b}_2(Q_1NI_{IFRS_{AY}} - Q_4NI_{IFRS_{TY}}) + \epsilon_i$$

Where y_5CAR_{E2} represents the cumulative abnormal return over the eleven day window of the release of the first quarter financial reports as a function of $(\Delta RE_{tdi} - E\Delta RE_{tdi})$ which represents the unexpected adjustment to retained earnings at the transition date for every company controlled for $(Q_1NI_{IFRS_{AY}} - Q_4NI_{IFRS_{TY}})$ which represents first quarter earnings surprise (Horton and Serafeim, 2010.)

H₄ There is a linear relationship between the cumulative abnormal returns for the first quarter financial reports and the unexpected change in retained earnings at the transition date.

$$\hat{b}_{1U\Delta RE} \neq 0$$

SAMPLE AND DATA COLLECTION

5.1 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 Canadian publicly accountable enterprises 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 is no formal list of early adopter firms which is 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.

The population of early adopters for IFRS in Canada consists of 69 PAEs which sought early adoption of IFRS. 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. In addition, Compustat and Audit Analytics were searched for Canadian companies which prepare financial statements under IFRS.

Of the population of those granted exemptive relief, 39 PAEs were 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 Canadian GAAP to IFRS of the statement of financial position at the transition date.

Table 6 summarizes a breakdown of the early adoption population:

Table 6: Breakdown of Early Adopters

Total number of companies which filed NI 52-107 for early adoption of IFRS	69
IFRS modified for national GAAP other than Canada	2
Never early adopted	3
Delisted	1
Reverse takeover – IFRS reporting takeover company	8
IFRS since inception – IPOs, recently incorporated	<u>16</u>
Early adopters with IFRS 1 disclosure	39

Although publicly accountable enterprises 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.

5.2 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, there are three significant dates for data collection: early adoption announcement, interim first quarter reporting, IFRS 1 reconciliation with the transition date, and annual statements for the year of adoption.⁸

For this study, quarterly financial statements, management discussion and analysis reports, and annual financial statements were obtained from company websites, SEDAR, EDGAR, and the TMX website. Data from the IFRS 1 disclosure was hand mined. Research assistants (accounting students) were given financial statements with highlighted data to extract. Key financial data was extracted from the reports into an Excel template. In order to confirm interrater reliability, two different groups of assistants were simultaneously assigned the same company. In other words, data was extracted twice for each company and detail reviewed by a third team of researchers. Additional data regarding firm attributes (independent variables) such as NAICS code, concentration of ownership, or earnings history under CA GAAP was obtained from Compustat.

⁸ Transition date – the beginning of the earliest period for which an entity presents full comparative information under IFRS in its first IFRS financial statements. Canada required this disclosure in the first interim statements.
Adoption date – The latest reporting period covered by an entity's first IFRS financial statements that contains explicit and unreserved statement of compliance with IFRS. (Mackenzie et al., 2012)

For tests of relevance, two critical dates were obtained for each company: date of early adoption announcement and the date of the first release of the equity reconciliation. Early adoption announcement dates were obtained from the NI 52-107 decision rulings posted on the Canadian Security Administrator websites. The first quarter earnings report date is the first date of the release of the equity reconciliation. Financial reports and news releases between the early adoption announcement and the first quarter earnings report were reviewed to determine any early release of financial data or noise which would affect the testing windows. There were no confounding events identified to this researcher's knowledge which could be considered as a contamination of the eleven day window. Market return and share price data was obtained from Yahoo! Finance, Stockwatch, Research Insight, Compustat, and TSX Historical Stock Data.

RESULTS

6.1 Univariate Analyses

6.1.1 Descriptive Statistics: Dependent Variables

The adjustment to retained earnings at the transition date to IFRS is the dependent variable of interest. Of 39 early adopters which met the criteria for the study, 13 companies reported a negative adjustment to retained earnings, 11 companies reported no cumulative effect on retained earnings and 15 companies reported a positive adjustment to retained earnings.

Table 7 presents the descriptive statistics for the reconciliation of retained earnings at the transition date to IFRS for the original sample. The mean and median display similar trends for retained earnings as measured under Canadian GAAP and IFRS. Under both measurement systems, there is a large positive mean and large negative median. 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 incremental effects on the net worth of a company. However, after transitioning to IFRS, those companies with an accumulated deficit (negative retained earnings) under Canadian GAAP displayed an additional 95% downward adjustment after transitioning to IFRS whereas companies with a substantial positive aggregated earnings retained a similar economic position after transitioning to IFRS.

Table 7: Descriptive Statistics on Retained Earnings			
n=39	Retained Earnings - Canadian GAAP (in M)	Adjustment to Retained Earnings (in M)	Retained Earnings - IFRS (in M)
Mean	491.6	102.3	593.9
Median	(9.7)	0	(11.0)
Standard Error	307.1	85.4	329.7
Standard Deviation	1,918	533.3	2,059.2
Minimum	(653.3)	(617.9)	(1,271.3)
Maximum	10,331.2	2,992.4	10,451.9

Overall, the descriptive statistics demonstrate variability in the sample. There is a notable difference between the mean and median. The mean takes into account all observations which make this statistic sensitive to extreme values. However, the median is not affected by extreme values and, for this sample set, is a better representation of the central tendency. 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 billion 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. Further, the mean is greater than the median which indicates a positive skewness in the distribution of the data.

In the preliminary tests of normality, the dependent variable was positively skewed at 4.553. The data is also highly kurtotic at 24. Positive kurtosis is indicative of peakedness. The Shapiro-Wilk test was statistically significant at .392, $p < .001$. The Shapiro-Wilk tests that the population being sampled has a normal distribution. Evidence from the Shapiro-Wilk test indicates that the variable data is not normally distributed. This is not unusual for a small sample size (Miles and Shevlin, 2010) and is a consistent challenge incurred in prior IFRS research (Blanchette et. al, 2011; Lantto and Sahlstrom, 2009.) To address the distribution of dependent variable, a 5% trimmed mean was computed to determine the influence of outliers on the mean (Osborne et al, 2004.) A 5% trimmed mean removes the top 5 and bottom 5 percent of cases and recalculates a mean. Comparing the mean (102,306,238) to the 5% trimmed mean (25,588,892), the mean is significantly influenced by the outliers. The sample was initially reduced to $n=33$ based on data availability for the construction of the adjustment to retained earnings model and further reduced to $n=27$ to trim the 3 highest and 3 lowest outliers in the data. The decision to trim three data points at the highest and lowest ends of the spectrum was intended to improve the distribution while at the same time retaining sufficient data points to perform the tests. Although there are numerous heuristics regarding the level of observations for each independent variable, the general rule is that the ratio should never fall below 5:1, meaning 5 observations are made for each independent variable in the model (Hair et al., 2010.)

Skewness (3.698) and kurtosis (15.35) improved in subsequent tests of normality conducted after trimming the sample. Although these statistics demonstrate an improvement in the distribution of the sample, the parameter estimates may still be affected. However, with the limitations of the original sample size (39) in the population of early adopters (69), departures from normality are anticipated (Miles, 2010) and consistent with other studies conducted on early adopters in Canada (Blanchette et. al, 2011.)

Descriptive statistics of the surviving sample for all equity component adjustments are presented in Table 8.

Table 8: Descriptive Statistics on Components of Equity			
n=27	Adjustment to Retained Earnings (in M)	Adjustment to Accumulated Other Comprehensive Income (in M)	Adjustment to Equity (in M)
Mean	4.66	(2.33)	2.32
Median	0.00	0.00	0.00
Standard Error	2.37	1.59	1.78
Standard Deviation	12.10	8.11	9.11
Minimum	(3.99)	(34.42)	(3.99)
Maximum	44.27	2.61	38.32

6.2 Bivariate Analyses

6.2.1 Descriptive Statistics – Candidate Independent Variables

As discussed in the research design section, the selection of independent variables as candidates for the construction of the adjustment to retained earnings model was based on prior literature and logic. The independent variables are referred to as candidates as selection of the variables was determined by Pearson correlation. Table 5 presents the descriptive statistics of the trimmed sample (n=27). The NAICS industry code was collected for all firms. Sample firms were overwhelmingly represented by the mining industry which is consistent with prior literature on Canadian early adopters (Blanchette, 2011.) The industry classifications represented in the sample were: Mining (n=23), Utilities (n=1), Manufacturing (n=1), Information (n=1), and Professional, Scientific, and Technical Services (n=1.)

The standard deviation of net income over a 5-year period (STDEVNI5) represents fluctuations in income. The sample mean suggests that there are large differences in reported net income for the companies represented. The difference between the mean and median

indicate that the mean is again being influenced by outliers in the data. After visually inspecting data plots, there was one outlying firm which influenced the mean of this variable.

Transformations of the data were considered, but require non-negative data which is not the case with this sample. In the univariate analyses, robust estimation methods were applied to the sample through use of a trimmed mean (Anscombe, 1960). The outlier was retained as it is a legitimate part of the data as the sample was derived from the population of early adopters (N=69) through model criteria rather than random sampling (Osborne et al., 2004.) The quarterly return statistics (QROA and 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 42.9% 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. However, again, the difference between the mean and median indicate the influence of outliers in distorting the mean which is common in small samples (Osborne et al., 2004.) The market capitalization variable exhibits the range of company size within the sample firms.

Table 9: Descriptive Statistics of Candidate Independent Variables

n=27	Standard Deviation of Net Income for a 5-Year Period (in M) STDEVN15	Quarterly Return on Assets (8 quarters) QROA	Quarterly Return on Other Comprehensive Income (8 quarters) QOCI	Debt to Equity Ratio DebttoEquity	Exchange Count INTL	Market Capitalization (in M) MKTCAP
Mean	18.140	-.291	-.009	.429	4.038	256.220
Median	3.960	-.061	.000	.071	4.000	35.133
Standard Error	8.924	.219	.009	.303	.374	96.930
Standard Deviation	45.510	1.120	.051	1.550	1.910	494.240

6.2.2 Selection of Independent Variables

As explained in the bivariate research design, the candidate independent variables were selected through Pearson Correlation. The strength of an association between variables in Pearson Correlation is highly influenced by the sample size. In a small sample, moderate correlations do not reach statistical significance at the traditional $p < .05$ level (Pallant, 2007.) It is important to point out that the probability value for a correlation only indicates that the correlation is greater or less than zero (Miles & Shevlin, 2001.) Using guidelines provided by Cohen (1988), the strength of the correlation will be interpreted using small $r = .10$ to $.29$, medium $r = .30$ to $.49$, and large $r = .50$ to 1.0 as well as p values of $.01$ and $.05$. Table 10 presents the results of the Pearson Correlation. The following candidate independent variables demonstrated the strongest association with the dependent variable in pair-wise testing: standard deviation of net income for a 5-year period (STDEVNI5), count of exchanges in which a firm trades (INTL), market capitalization (MKTCAP), and industry code (IND).

n=27		Adj to RE	STDEVNI5	xQROA	xQOCI	Debt to Equity Ratio	INTL	MKTCAP	IND
Adjustment to RE $Y_{\Delta RE_{tdi}}$	Pearson Correlation	1.000	.882**	.092	.021	.086	.375*	.882**	.523**
	Sig. (2-tailed)		.000	.647	.917	.670	.050	.000	.005
** Correlation is significant at the 0.01 level (2-tailed).									
* Correlation is significant at the .05 level (2-tailed).									

Table 11 presents a correlation matrix of the independent variables. The results of the correlation matrix do not suggest that the independent variables are highly correlated to one another.

n=27	STDEVNI5	INTL	MKTCAP	IND
STDEVNI5	1.000			
INTL	-0.305	1.000		
MKTCAP	-0.151	-0.105	1.000	
IND	-0.037	-0.033	-0.082	1.000

To further test multicollinearity, collinearity statistics were prepared to observe the variables covariance within the model. Table 12 presents the results of the collinearity statistics of the coefficients. The tolerance of an independent variable is the extent to which that independent variable cannot be predicted by the other independent variables. Tolerance measurements vary between 0 (highly predictable) and 1 (completely uncorrelated) (Miles & Shevlin, 2001.) The tolerance measurement suggests that the independent variables are not correlated to one another. The variance inflation factor (VIF) provides a measurement of the amount that the standard error of the variable has been increased due to collinearity. A VIF measurement >3 suggests the possibility of multicollinearity among variables (Miles & Shevlin, 2001.) From these tests, standard deviation of net income for a 5-year period (STDEVNI5) and market capitalization (MKTCAP) are highly correlated to one another. Based on preliminary analyses, STDEVNI5 was selected as an independent variable for the adjustment to retained earnings model as this variable yielded stronger results in the adjustment to retained earnings model when in combination with the other predictors, but also demonstrated statistical significance as a coefficient. Section 6.3 discusses these results in greater detail.

Table 12: Multicollinearity Tests of the Coefficients

$y_{\Delta RE_{tdi}} = \alpha + \beta_1 STDEVNI5_{CGi} + \beta_2 INTL_i + \beta_3 IND_i + \beta_4 MKTCAP_i + \epsilon_i$ n=27	Collinearity Statistics	
	Tolerance	VIF
STDEVNI5	.052	19.277
INTL	.918	1.090
IND	.612	1.633
MKTCAP	.052	19.275

6.3 Multivariate Analyses

6.3.1 Event Studies

Table 13 presents the results of the event studies. Market reaction is measured by computing the daily abnormal returns (DARs) and the cumulative abnormal returns (CARs) for the eleven day window. Risk adjusted returns were computed for every firm. If a company traded on multiple exchanges, the primary exchange was determined by the largest Canadian exchange in which the company traded. If a company did not trade on a Canadian exchange, a U.S. exchange was selected. Of the entire sample of early adopters (n=69) which met the criteria for the adjustment to retained earnings model with share price data available (n=35), 14 companies traded on the Toronto Stock Exchange, 14 companies traded on the TSX Venture Exchange, and 7 companies traded on the NYSE. The difference in the sample size for the results of the event study relate to all early adopters with share price data available (n=45 for announcement of early adoption and n=53 for first quarter report release) and early adopters which met the criteria for the construction of the adjustment to retained earnings model (n=35.)

For Event₁, the announcement of early adoption, the mean CAR is negative for both samples, but not statistically significant. The evidence does not support the alternative hypothesis H₁: Firm announcements of early adoption of IFRS are associated with abnormal stock returns.

For Event₂, the release of the first quarter financial report, the mean CAR is negative for both samples and are statistically significant at 5%. The evidence does provide support for the alternative hypothesis H₂: Firm release of the first quarter financial reports after IFRS transition are associated with abnormal stock returns surrounding the report release.

Table 13: Market reaction to accounting events regarding adoption of IFRS				
	Mean CAR	Median CAR	Positive:Negative	StdCsectZ
PANEL A				
Event₁: Announcement of early adoption				
n = 35	-2.21%	-2.12%	13:22	-.041
n = 45	-4.71%	-2.25%	17:28	-.893
PANEL B				
Event₂: First Quarter Report Release Date				
n = 35	-3.98%	-3.93%	14:21	-2.269*
n = 53	-16.89%	-3.76%	21:32	-2.063*
The symbol * denotes statistical significance at the 0.05 level using a two-tail test. Risk adjusted returns for the event window, Day -5+5				

In an efficient market economy, the influence of an event should be reflected in compounding stock prices (abnormal returns) (Cuthbertson and Nitzsche, 2005.) The findings from Event₂ suggest that the Canadian market does not react favorably to the transition to IFRS. Prior event study research in European contexts have demonstrated an incrementally positive market reaction to IFRS which has been interpreted as the public's perception that IFRS increases the quality of reported accounting information and reduces information asymmetry (Armstrong et al., 2010.) It is plausible that the Canadian market could still perceive IFRS as an upgrade in financial reporting, but negatively react to the results of the transition such as the unexpected adjustment to retained earnings. This is explored further in the section on value relevance and discussed in detail in the discussion on research findings.

6.3.2 Adjustment to Retained Earnings Model

As determined by the process of bivariate analysis, the regression model to predict the adjustment to retained earnings is:

$$(7) \quad y_{\Delta RE_{t di}} = \alpha + \beta_1 STDEVN15_{CGi} + \beta_2 INTL_i + \beta_3 IND_i + \epsilon_i^9$$

⁹ Where $\epsilon_i \sim iid N(0, \sigma_{\epsilon}^2)$

Where $\beta_1 STDEVNI5_{CGi}$ represents the standard deviation of net income over 5 years, $\beta_2 INTL_i$ represents a count of exchanges in which the firm trades, and $\beta_3 IND_i$ represents the NAICS industry code. The model results are presented in Panel A of Table 14.

Multiple regression analysis was employed to determine if the set of firm attributes as selected by pair-wise testing may be associated with the adjustment to retained earnings. As presented in Panel A of Table 14, the prediction model was statistically significant, $F(4,22) = 32.205$, $p = .0001$ and accounted for approximately 78% of the variance of the adjustment to retained earnings ($R^2 = .808$, Adjusted $R^2 = .783$.) While a linear relationship is evidenced by the model results, the standard error of the estimate is large (11,791,495.) The standard error of the estimate represents the variability of the data points around the regression line (Ha & Ha, 2012.) The large standard error is representative of the small, dispersive sample size which is representative of the larger population of early adopters which is also small ($N=69$) and dispersive.

Table 14: Adjustment to Retained Earnings Predictive Model Summary							
$y_{\Delta RE_{tdi}} = \alpha + \beta_1 STDEVNI5_{CGi} + \beta_2 INTL_i + \beta_3 IND_i + \epsilon_i$							
n=27							
PANEL A							
R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.		
.899	.808	.783	11791494.665	32.205	.000		
PANEL B							
Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-3094780.945	9379879.994		-.330	.744		
STDEVNI5	.085	.012	.867	7.313	.000	.594	1.682
INTL	2277994.825	1217524.286	.176	1.871	.074	.944	1.060
IND	-129795.828	345136.823	-.044	-3.76	.710	.613	1.630

Panel B of Table 14 presents the raw and standardized coefficients of the predictors along with collinearity statistics. The standard deviation of net income over 5 years (STDEVNI5)

demonstrated a positive linear relationship with the adjustment to retained earnings ($\beta = .867$, $p=.0001$.) The exchange count (INTL), a measure of internationality, also demonstrated an association with the adjustment to retained earnings ($\beta = .176$, $p=.074$.) The individual coefficient for industry (IND) was not statistically significant ($\beta = -.044$, $p=.710$.) This may suggest that industry in combination with volatility of earnings and level of internationality demonstrates predictive power. When independent variables are statistically significantly correlated to the dependent variable in pair-wise testing, but the individual coefficient does not display statistical significance in the model, this contradictory result can more likely be attributed to small sample size rather than predictive power (Miles & Shevlin, 2010.) Given the small sample size, the overall goodness of fit is encouraging in the exploration of firm attributes associated with the dependent variable.

The results of the regression model are only reliable if the model meets certain assumptions: linearity, normality, homoscedasticity, and independence. Using standard testing methodology as detailed in Appendix D, there was no evidence of model misspecification.

The next section presents the results of the tests of value relevance.

6.3.3 Value Relevance Model

Tests of value relevance in accounting research examine market reaction to accounting events or financial information. In section 6.1.2, market reaction was examined for two key events in the adoption and implementation of IFRS. This section presents the results of market reaction to the unexpected and actual cumulative effect on retained earnings as a result of the transition to IFRS. Multiple regression tests were used.

The following models bring together variables from the event study as well as results from the adjustment to retained earnings model. Both models employ the standardized

cumulative abnormal returns ($y_{5CAR_{E2}}$) from the event study as the dependent variable. The standardized cumulative abnormal returns ($y_{5CAR_{E2}}$) represents the average cumulative abnormal stock returns for the first quarter financial report after IFRS transition. The dependent variable from the adjustment to retained earnings model, the cumulative effect on retained earnings ($y_{\Delta RE_{tdi}}$) is used as the independent variable. A new independent variable, the unexpected adjustment to retained earnings ($\Delta RE_{tdi} - E\Delta RE_{tdi}$) is introduced. The unexpected adjustment to retained earnings ($\Delta RE_{tdi} - E\Delta RE_{tdi}$) represents the residual or error from the adjustment to retained earnings model which is the difference between the actual adjustment to retained earnings and model's prediction.

The first regression model (Equation (8)) tests market reaction to the actual adjustment to retained earnings at the transition date while controlling for first quarter earnings surprise.

$$(8) \quad y_{5CAR_{E2}} = \alpha + \beta_1 \Delta RE_{tdi} + \beta_2 (Q_1 NI_{IFRS_{AY}} - Q_4 NI_{IFRS_{TY}}) + \epsilon_i$$

Where $y_{5CAR_{E2}}$ represents the cumulative abnormal return over the eleven day window of the release of the first quarter financial reports as a function of ΔRE_{tdi} which represents the adjustment to retained earnings at the transition date for every company controlled for $(Q_1 NI_{IFRS_{AY}} - Q_4 NI_{IFRS_{TY}})$ which represents first quarter earnings surprise. Results of the regression are presented in Tables 11 and 12. As presented in Table 15 Panel A, the model results were not statistically significant, $F(2,24) = 1.278$, $p = .297$. The evidence does not support the alternative hypothesis H_3 : There is a linear relationship between the cumulative abnormal returns for the first quarter financial reports and the change in retained earnings at the transition date.

Table 15: Test of Value Relevance ₁ Model Summary							
$y_{5CAR_{E2}} = \alpha + \beta_1 \Delta RE_{tdi} + \beta_2 (Q_1 NI_{IFRS_{AY}} - Q_4 NI_{IFRS_{TY}}) + \epsilon_i$							
N=27							
PANEL A							
R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.		
.310	.096	.021	0.626519	1.278	.297		
PANEL B							
Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.157	.128		-1.225	.232		
Adjustment to RE	-0.000	.000	-.166	-.602	.553	.496	2.016
First Quarter Earnings Surprise	-0.000	.000	-.405	-1.471	.154	.496	2.016

The second regression model tests market reaction to the unexpected adjustment to retained earnings at the transition date while controlling for first quarter earnings surprise.

$$(9) \quad y_{5CAR_{E2}} = \alpha + \hat{\beta}_1 (\Delta RE_{tdi} - E(\Delta RE_{tdi})) + \hat{\beta}_2 (Q_1 NI_{IFRS_{AY}} - Q_4 NI_{IFRS_{TY}}) + \epsilon_i$$

Where $y_{5CAR_{E2}}$ represents the cumulative abnormal return over the eleven day window of the release of the first quarter financial reports as a function of $(\Delta RE_{tdi} - E\Delta RE_{tdi})$ which represents the unexpected adjustment to retained earnings at the transition date for every company controlled for $(Q_1 NI_{IFRS_{AY}} - Q_4 NI_{IFRS_{TY}})$ which represents first quarter earnings surprise. Results of the regression are presented in Tables 13 and 14. As presented in Table 16 Panel A, the model results were not statistically significant, $F(2,24) = 1.132$, $p = .339$. The evidence does not support the alternative hypothesis H_4 : There is a linear relationship between the cumulative abnormal returns for the first quarter financial reports and the unexpected change in retained earnings at the transition date.

Table 16: Test of Value Relevance ₂ Model Summary							
$y_{5CAR_{E2}} = \alpha + \hat{b}_1(\Delta RE_{tdi} - E(\Delta RE_{tdi})) + \hat{b}_2(Q_1NI_{IFRS_{AY}} - Q_4NI_{IFRS_{TY}}) + \epsilon_i$							
N=27							
PANEL A							
R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.		
.294	.086	.010	0.62999431	1.132	.339		
PANEL B							
Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.175	.126		-1.387	.178		
Standardized Residual_3IV_Std Dev	.041	.132	.061	.308	.761	.983	1.017
First Quarter Earnings Surprise	-0.000	.000	-.295	-1.500	.147	.983	1.017

The next section discusses the findings.

CONCLUSION

7.1 Discussion on Research Findings

Accounting standards are paramount to any financial reporting system. Accounting standards provide rules for financial reporting which management adheres to and with which auditors confirm compliance. The value of accounting standards can be measured by the ability of the standard or GAAP system to reliably reduce information asymmetry between management and external users of the financial statements. If a new set of accounting rules for financial reporting demonstrates the ability to narrow the information gap between internal and external users of the financial statements thereby reducing agency costs, the new GAAP system may be deemed more transparent. An improvement in a GAAP system from the external users' perspective can be measured by examining the effects of the financial statements on the market. This dissertation investigated firm attributes and their association with the cumulative effect on retained earnings as a result of the transition to IFRS. This

dissertation also examined market reaction to the event of adopting IFRS as well as market reaction to the initial accounting information delivered by an IFRS reporting system.

Research for this dissertation was conducted in a staged analysis. The descriptive statistics from the univariate analyses demonstrated variability in the data. This is not uncommon in a small samples (Miles & Shevlin, 2010) or prior IFRS research (Blanchette et al., 2011; Lantto et al., 2009.)

The decomposition of equity permitted an opportunity to not only examine the IFRS effect on equity as a whole, but also the nuances of the IFRS transition within the components of equity through the descriptive statistics. For example, the mean of retained earnings for the sample as measured by Canadian GAAP and IFRS were both large positive numbers 491.6 M and 593.9 M, respectively. Yet, the median under both GAAP regimes were large negative numbers (9.7) M and (11.0) M, respectively. The median cumulative effect on retained earnings was zero. The results from these descriptive statistics for this sample would suggest that, at best, there are incremental differences between the two GAAP regimes. However, the negative retained earnings or accumulated deficit median which is the central tendency of these firms is the first indication that this sample of early adopters may be financially troubled.

Examination of the descriptive statistics of the candidate independent variables provides additional evidence as to the financial health of these firms. For example, the mean quarterly return on assets suggests that on average these firms have consistently incurred financial losses for eight quarters. The mean debt-to-equity ratio of 42.9% demonstrates highly financially leveraged firms.

In the bivariate stage of analysis, candidate independent variables were tested against the dependent variable for statistical significance. Using Pearson Correlation, the standard deviation of net income for a 5-year period, internationality, market capitalization, and industry

demonstrated the strongest association to the dependent variable. Selected independent variables were then tested among one another for covariance. Collinearity statistics revealed a significant co-relationship between the standard deviation of net income for a 5-year period and market capitalization. Based on preliminary model based testing, the standard deviation of net income for a 5-year period was selected over market capitalization for the final predictive model.

The first effect examined in the model based stage of analysis was the market's reaction to two key events in the IFRS transition. The first event was the announcement of early adoption. The findings for this event were not statistically significant. Lack of statistical significance could be interpreted as no market reaction to the announcement of early adoption. The lack of market reaction counters evidence from prior IFRS literature which demonstrated investors react positively to events which increase the likelihood of IFRS adoption (Armstrong et al., 2010.)

The second event tested was the release of first quarter financial reports. Evidence from this study suggests, in sample, the market reacted negatively to the release of the first quarter financial report under IFRS. While the negative mean CAR cannot be attributed solely to the adoption of IFRS, the IFRS transition may provide some possible explanations for these results. First, Canadian GAAP paralleled U.S. GAAP until 2005 (Colapinto, 2005.) The strategic decision to move from a system similar to U.S. GAAP to IFRS was motivated by the desire to access global capital markets and enhances the Canadian financial reporting system (AcSB, 2005.) Upon reviewing the first quarter financial reports released under IFRS, the negative mean CAR could indicate that Canadian investors do not view IFRS as an improvement over Canadian GAAP. It may be that investors perceive the adoption of IFRS as a deterioration in financial reporting or an inferior set of standards. As previous studies have demonstrated in other country contexts, it is possible that the negative market reaction is attributed to the belief that the transition to IFRS decreased the quality of financial reporting (Ball, 2009; Daske et al.,

2008.) Second, investors could still perceive the transition to IFRS as an improvement to financial reporting as evidenced by previous studies (Armstrong et al., 2010; Barth et al., 2008; Leuz et al., 2000.) However, the market's reaction could be to the unanticipated negative results conveyed by a more reliable financial reporting vehicle – IFRS (Horton et al., 2010.) In other words, IFRS is an enhanced financial reporting mechanism which is delivering poor financial results. Lastly, many of the companies in the sample could be termed financially troubled as evidenced by the descriptive statistics. Seven of the companies in the sample had a going concern opinion in their audit report. 26 of the 27 companies in the sample reported an accumulated deficit under Canadian GAAP and under IFRS. The negative mean CAR could suggest that the market is reacting negatively to troubled companies opting for early adoption of IFRS. The costs of adopting IFRS may exceed the financial reporting benefits for these companies. Examining firm attributes which are associated with the cumulative effect on retained earnings at the time of transition may provide additional insight into the market's reaction to IFRS adoption which was the next model tested.

The application of GAAP system provides a unique opportunity to explore the regime differences (Blanchette, 2011). The details of IFRS implementation and market valuations are only available during the transition period (Hung and Subramanyam, 2007) in the IFRS 1 reconciliation from Canadian GAAP to IFRS. This wholesale GAAP transition provides an opportunity to explore the implementation and adoption of IFRS and firm attributes which may predict the cumulative effect on retained earnings as a result of this GAAP changeover. This study explored firm attributes as potential predictors of the adjustment to retained earnings. The adjustment to retained earnings predictive model, interpreted with caution due to the small sample size in a dispersive population of early adopters, was statistically significant and accounted for 78.3% of the variance to the adjustment to retained earnings. Results from this study provide evidence of three firm attributes: the standard deviation of net income over a five-

year period, internationality, and industry which demonstrated the collective ability to explain the cumulative effect on retained earnings.

Standard deviation of net income or volatility of earnings leading up to the transition to IFRS provided a statistically significant positive association with the adjustment to retained earnings. This result may suggest that volatility in earnings under a previous GAAP system is adjusted or corrected through the transition to IFRS. In previous studies, the application of IFRS has demonstrated an association with higher accounting quality (Barth et al., 2008.) However, a study examining the transition to IFRS in Australia and the United Kingdom, similar common law countries to Canada, did not demonstrate an improvement to accounting quality when examining volatility of earnings (Jeanjean et al., 2008.) Either way, the present study provides further evidence of a statistically significant relationship between fluctuations in earnings under the former GAAP system and the adjustment to IFRS in the predictive model which warrants further investigation.

The variable, internationality, represented by the count of stock exchanges in which a company participates also demonstrated a statistically significant association with the adjustment to retained earnings. Firms which trade in international markets are more likely to have experience reporting under IFRS. These firms may adapt certain reporting components of the financial statements to IFRS before the official transition (Iatridis et al., 2010.) International exposure has been identified as an important driver of voluntary IFRS adoption (Gassen, 2006.) Consistent with the aforementioned studies, the population of Canadian early adopters demonstrates internationality as a predictor of the cumulative effect on retained earnings.

The industry in which a firm operates may explain the magnitude of the adjustment to retained earnings. In this study, industry was identified as a firm attribute which demonstrated predictive power of the adjustment to retained earnings. Canadian early adopters were primarily represented by the mining industry. This is consistent with prior literature (Blanchette,

2011.) This finding prompts future research which examines the mining industry as a predictor of the adjustment to retained earnings in the population of compulsory compliants. Future research could shed light on whether industry as a predictor is contained to early adopters or compulsory compliants. Further, future studies could reveal the industry specific impact of IFRS.

The tests of value relevance did not demonstrate the market's reaction to IFRS accounting information, specifically the actual adjustment to retained earnings, nor the unexpected adjustment to retained earnings. Given the small sample size and exploratory nature of the study, these results do not necessarily rule out an association, but prompt future research with compulsory compliants which would provide more power to test these hypotheses.

7.2 Contributions

This study complements the current body of IFRS research on the economic consequences of IFRS adoption (Lantto et al., 2009; Daske et al., 2006; Barth et al., 2008) by constructing a model of the explanatory factors of the cumulative effect on retained earnings as antecedents of the transition. The variables which were identified as being associated with the cumulative effect on retained earnings were standard deviation of net income, internationality, and industry. Previous studies have examined these variables as an impact measurement of IFRS adoption (Blanchette et al., 2011; Callao et al., 2007; Daske et al., 2006; Barth et al., 2008) on periodic earnings. However, this study provides insight as to firm factors that may be associated with the magnitude of the adjustment to retained earnings at the transition date to IFRS. Examining the transition date or period contrasts with numerous studies which examine financial reports before and after transition (Harris & Muller, 1999; Leuz & Verrecchia, 2000; Barth et al., 2008). Further, this data can only be obtained in the IFRS 1 reconciliations and requires expertise in data extraction and constructs a comprehensive database.

This study also extends event study research on IFRS. Evidence from this study suggests that the market in the Canadian context exhibits a negative reaction to the adoption of IFRS. This finding is contrary to previous studies which demonstrate a favorable market reaction to the IFRS transition (Ball et al., 2003; Capkun et al., 2008; Gassen et al. 2006.) Canadian standard setters may be particularly interested in this finding as a preliminary measurement of investor reaction to the GAAP system changeover and the objective of enhancing financial reporting by reducing information asymmetry.

7.3 Limitations

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. Third, bivariate testing prior to the construction of the main multivariate model is necessary due to the lack of theory or empirical studies regarding firm factors which influence the adjustment to retained earnings. However, using bivariate analysis to select independent variables for the main multivariate model creates bias for the magnitude adjustment to retained earnings model. Fourth, there are numerous choices which are made upon the implementation of IFRS (See Appendix A.) Management choices can have significant bearing on the cumulative effect on retained earnings at the transition date and the extent to which the company has adopted IFRS. 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.

7.4 Future Research

The depth of this study has led to a breadth of future research opportunities. First, to augment the event study in the Canadian context, market reaction of first quarter report release of compulsory complaints may be beneficial to examine if the negative market reaction phenomena is limited to the early adopters tested in this study or extends to all Canadian adopters of IFRS. Second, the adjustment to retained earnings model could also be tested in a sample of compulsory complaints. The larger population of compulsory complaints may reveal additional firm attributes which are associated with the cumulative effect on retained earnings. The population of early adopters is a unique set of companies. Third, further research is necessary to examine why these financially troubled companies opted for early adoption. Because the sample size is small, an in-depth study of every company profile, possibly in a multiple case study, may be beneficial in gaining a better understanding of these firms. Lastly and most importantly, there is very limited research as to the extent to which a firm adopts IFRS. This data is not readily available and must be hand-mined from IFRS 1 reconciliations from transition date reports. Future research is necessary to develop a monetary measurement of the adoption of IFRS to distinguish between “pure” IFRS adoption and hybrid transitions to IFRS. If IFRS is intended to be a global set of standards, our ability to measure the extent to which the standards are being adopted is a valuable tool in assessing the universal application of IFRS as intended by the standard setters.

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APPENDICES

Appendix A

Figure 1 Canadian Reporting Timeline

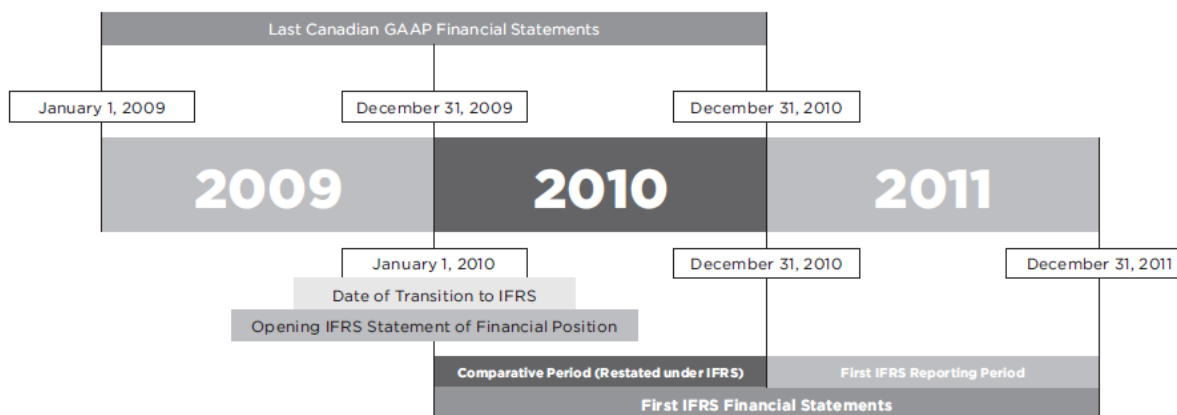


Table 1 Mandatory Exceptions and Optional Exemptions Financial Reporting in Canada under IFRS

Mandatory Exceptions	Optional Exemptions
<ul style="list-style-type: none"> • Estimates • Derecognition of financial assets and financial liabilities • Hedge accounting • Non-controlling interests 	<ul style="list-style-type: none"> • 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

Table 2 Summary of Selected Significant Accounting Standard differences between Canadian GAAP and IFRS

Standard	Comparison of accounting treatments
Business Combinations CA GAAP 1581 / IFRS 3	<p>IFRS 3</p> <ul style="list-style-type: none"> • accounts for business combinations using the acquisition method, which may result in transactions being recognized as a business combination under IFRS 3 that would not be recognized under Section 1581; • requires the acquisition date to be the date on which the acquirer obtains control over the acquired entity or business; • requires that shares issued as consideration be measured based on their fair value at the acquisition date; • does not require outputs to be part of an integrated set of activities or assets to qualify as a business; • requires that contingent consideration be recognized when it can be reliably measured; • requires acquisition-related costs, such as finders' fees and legal fees, be expensed; • requires that any gain on a bargain purchase or negative goodwill be recognized immediately in net income; and • requires the acquirer to recognize the acquiree's identifiable assets acquired, liabilities assumed and contingent liabilities, at their fair values at the acquisition date (rather than the acquirer's share only) Any non-controlling interest in the acquiree is measured at the non-controlling interest's portion of the net fair values of those items or of the fair value of the business.
Consolidated Financial Statements CA GAAP 1600 / IFRS 3	<p>IFRS 3:</p> <ul style="list-style-type: none"> • requires shares owned prior to a change in control on a step acquisition to be valued at their fair value on the date of acquisition and recognizes any gain or loss on those shares in income; • requires the net income and each component of other comprehensive income to be attributed to the owners of the parent and to the non-controlling interests, even if this results in the non-controlling interest having a deficit balance; and • requires non-controlling interests to be stated at their proportion of the net fair value of the acquired net assets, or the fair value of the business, rather than at the subsidiary's carrying amount.
Foreign Currency Translation	IAS 21 requires that non-monetary items measured at fair

CA GAAP 1651 / IAS 21	value be translated at the date when the fair value was determined rather than the balance sheet date.
Financial Instruments: Recognition and Measurement CA GAAP 3025 / IAS 39	IAS 39 is more stringent regarding general loan loss allowances. Significant for entities with large loan portfolios.
Inventories CA GAAP 3031 / IAS 2	Section 3031: <ul style="list-style-type: none"> • has different scope exemptions than IAS 2 because of the guidance in IAS 11, Construction Contracts, and IAS 41, Agriculture, that are not addressed in Canadian GAAP • requires disclosure of the carrying amount of the inventories of producers of agricultural and forest products, of agricultural produce after harvest, and of minerals and mineral products, to the extent that they are measured at net realizable value in accordance with well-established practices in those industries.
Investments CA GAAP 3051 / IAS 28 & 36	IAS 28 & 36: <ul style="list-style-type: none"> • require an impairment to be recognized when the recoverable amount of an asset is less than the carrying amount, rather than when there is a significant or prolonged decline in value below the carrying amount; • determine the impairment loss as being the excess of the carrying amount above the recoverable amount (the higher of fair value less costs to sell and value in use, calculated as the present value of future cash flows from the asset), rather than the excess of the carrying amount above the undiscounted future cash flows of the asset; and • require the reversal of an impairment loss when the recoverable amount changes.
Property, Plant, and Equipment CA GAAP 3061, AcG 16,& EIC 126 / IAS 16, 40 & IFRS 6	<ul style="list-style-type: none"> • IAS 16 permits the revaluation of property, plant and equipment to fair value • IAS 16 requires the depreciable amount to be the asset cost less its residual value, rather than using the greater of the asset cost less its residual value or asset cost less its salvage value; • IAS 40 allows investment property to be accounted for using a fair value or a cost-based model; and • IFRS 6 provides limited guidance on the financial reporting for exploration for, and evaluation of, mineral resources. • Some portions of Section 3061 and all of AcG-16 and EIC-126 are more comprehensive than IAS 16 with respect to mineral resources. Section 3061

	<p>does not contain an exemption from applying the GAAP hierarchy to develop accounting policies for exploration and evaluation activities.</p> <ul style="list-style-type: none"> • Some portions of Section 3061 and all of AcG-16 and EIC-126 are more comprehensive than IFRS 6, as IFRS 6 only provides guidance during the exploration and the evaluation of mineral resources up to the point that technical feasibility and commercial viability of extracting is demonstrated. IFRS 6 would permit a form of full cost accounting only during the exploration and evaluation phases, but the full cost accounting model cannot be extended to development and production phases. Accounting during these phases will generally be by analogy to IAS 16.
<p>Impairment of Long-lived Assets CA GAAP 3063 / IAS 36</p>	<p>IAS 36:</p> <ul style="list-style-type: none"> • does not include a separate trigger for recognizing impairment losses based on an assessment of undiscounted cash flows • determines an impairment loss as the excess of the carrying amount of an asset or group of assets above the recoverable amount (the higher of fair value less costs to sell and value in use), rather than the difference between carrying amount and fair value; requires the reversal of an impairment loss when there has been a change in estimates used to determine the recoverable amount.
<p>Goodwill and Intangible Assets CA GAAP 3064 / IAS 36 & 38</p>	<p>IAS 38 permits revaluation at fair value for intangible assets that have an active market.</p> <p>IAS 36:</p> <ul style="list-style-type: none"> • includes identifiable indefinite life intangible assets in the cash-generating unit to which it relates. • might require goodwill impairment assessments to be made below the level of the reporting unit, at the cash generating unit. • determines an impairment loss as the excess of the carrying amount above the recoverable amount of the cash generating unit to which the goodwill is allocated to, rather than the difference between carrying amount and fair value of the reporting unit's goodwill.
<p>Asset Retirement Obligations CA GAAP 3110, EIC 159/ IAS 16, 37, IFRIC 1</p>	<p>Section 3110 and EIC 159 are more comprehensive than the corresponding requirements of IAS 16, IAS 37 and IFRIC-1. Also, IAS 37 requires the use of management's best estimate of the enterprise's cash outflows rather than fair value measurement on initial recognition, and requires the use of current interest rates in each subsequent measurement.</p>
<p>Provisions, Contingent Liabilities and Contingent Assets</p>	<p>IAS 37:</p> <ul style="list-style-type: none"> • a contingent liability is recognized, as a provision

<p>CA GAAP 3290 / IAS 37</p>	<p>when the outflow of economic benefits is more likely than not to be required to settle the obligation</p> <ul style="list-style-type: none"> • a debit balance is recognized as an asset when realization of income is virtually certain.
<p>Revenue Recognition CA GAAP 3400, EIC 141 / IAS 11, 18, SIC 31, IFRIC 12</p>	<p>IAS 11 does not allow the completed contract method. IAS 11 provides more guidance on work in process. IAS 18 includes measurement standards requiring fair value for consideration received or receivable. SIC-31 deals with barter transactions involving advertising services specifically. IFRIC-12 provides guidance on recognition and measurement of the obligations and related rights in service concession arrangements. IFRSs do not provide specific guidance regarding goods with right of return, like EIC 141. Both sets of standards have application guidance in various other related standards.</p>
<p>Employee Benefits CA GAAP 3461 / IAS 19</p>	<p>IAS 19:</p> <ul style="list-style-type: none"> • requires plan assets to be measured at fair value for all purposes at all reporting dates • requires past service costs to be recognized on a straight-line basis over the average period until the amended benefits become vested • requires multi-employer plans with defined benefit characteristics to be accounted for as defined benefit plans • permits a choice of recognizing actuarial gains and losses directly in equity in the period in which they occur, without subsequent recycling to net income.
<p>Income Taxes CA GAAP 3465 / IAS 12, SIC 25</p>	<p>IAS 12:</p> <ul style="list-style-type: none"> • continues to allocate to equity any current-year deferred taxes on items that are related to an item charged to equity in a prior year (—backward tracing)). • prohibits recognition of a deferred tax liability if it arises from the initial recognition of specified assets or liabilities in a transaction that is not a business combination and does not affect accounting or taxable income at the time; • requires recognition of a deferred tax liability or asset for temporary differences that arise on translation of non-monetary assets that are measured from the local currency to the functional currency using historical rates and result from changes in exchange rates and indexing for tax purposes. • requires recognition of an income tax asset or liability when there is a temporary difference on

	<p>intercompany transfers of assets.</p> <ul style="list-style-type: none"> addresses the consequences of a change in tax status of the entity. SIC-25 requires that the effects of such a change be allocated based on its origin requires an estimate of the tax deduction authorities will permit on share-based payment transactions in future years.
<p>Non-current Assets Held for Sale and Discontinued Operations CA GAAP 3475 / IFRS 5</p>	<p>IFRS 5:</p> <ul style="list-style-type: none"> contains a more restrictive definition of a discontinued operation; does not allow assets held for distribution to owners to be depreciated; and requires assets held for distribution to be recorded at the lower of fair value less costs to distribute or carrying amount.
<p>Extraordinary Items CA GAAP 3480 / IAS 1</p>	<p>IAS 1 does not allow separate presentation of extraordinary items.</p>
<p>Borrowing Costs CA GAAP 3850 / IAS 23</p>	<p>IAS 23 does not allow the expensing of borrowing costs to the extent they are directly attributable to acquisition, production and construction of a qualifying asset. IAS 23 also includes guidance on how to determine the amount of borrowing costs eligible for capitalization.</p>
<p>Financial Instruments — Recognition and Measurement CA GAAP 3855 / IAS 39, IRS 9</p>	<p>IAS 39:</p> <ul style="list-style-type: none"> restricts the circumstances in which the option to measure a financial instrument at fair value through profit or loss is available; requires all available-for-sale financial assets to be measured at fair value unless fair value is not reliably determinable, whereas Section 3855 requires non-quoted equity instruments classified as available for sale to be measured at cost; requires foreign exchange gains and losses on available-for-sale monetary financial assets to be recognized immediately in net income; does not allow a choice of accounting policy for transaction costs; does not address financial instruments exchanged or issued in related party transactions; requires reversal of impairment losses in some circumstances; and has no scope exceptions for non-publicly accountable enterprises and not-for-profit organizations. <p>IFRS 9:</p> <ul style="list-style-type: none"> requires fair value measurement for all financial assets except when the cash flows represent

	<p>principal and interest to compensate for credit risk and time value of money when managed in a business unit to collect contractual cash flows</p> <ul style="list-style-type: none"> • gains and losses on equities not held-for-trading may be recognized in other comprehensive income without subsequent recycling to net income.
<p>Financial Instruments — Disclosure and Presentation</p> <p>CA GAAP 3861 / IAS 32, IFRS 7</p>	<p>IAS 32:</p> <ul style="list-style-type: none"> • does not apply to insurance contracts (however, IFRS 4 requires disclosures similar to those specified in IAS 32); • addresses the presentation of derivatives on an entity's own equity • does not allow for initial measurement of a compound financial instrument using the relative fair value method • has no scope exceptions for non-publicly accountable enterprises and not-for-profit organizations. <p>The disclosure requirements of IFRS 7 are generally more comprehensive than Section 3861 as IFRS 7:</p> <ul style="list-style-type: none"> • requires only that entities disclose information that enables users of their financial statements to evaluate the significance of financial instruments, rather than specific contractual terms and conditions of financial instruments; • requires disclosures about financial instruments classified into (as well as out of) a fair value classification. • requires more specific disclosures about collateral. • requires disclosure of the existence of multiple embedded derivatives whose values are interdependent, when these are contained in an instrument having both a liability and an equity component. • does not encourage (or require) disclosures about average aggregate carrying amounts during the year, average aggregate principal during the year, or aggregate fair value during the year. • requires disclosure of the disposition of any inception profit that might result from the use of a valuation technique used to measure a financial instrument that has no active market price. • requires extensive disclosures about exposures to liquidity, currency and other price risks. • requires an analysis of the sensitivity of net income to possible changes in market risk factors.
<p>Share-based Payments</p>	<p>IFRS 2:</p>

<p>CA GAAP 3870 / IFRS 2</p>	<ul style="list-style-type: none"> • does not provide an exemption for the recognition of an expense when an employee share purchase plan provides a discount to employees that does not exceed the per-share amount of share issuance costs that would have been incurred to raise a significant amount of capital by a public offering and is not extended to other holders of the same class of shares. • defaults to using the fair value of the non-tradeable equity instruments granted if the value of received goods or non-employee service is not reliably measurable. • requires that share-based payments to non-employees be measured at the date the entity obtains the goods or the counterparty renders service. • requires cash-settled share-based payments are measured at the fair value of the liability not intrinsic value. • requires the transaction to be accounted for as a cash-settled transaction if the entity has incurred a liability to settle in cash or other assets or as an equity-settled transaction if no such liability has been incurred. • is more detailed about how to deal with a modification of an award.
<p>Financial Instruments: Recognition and Measurement CA GAAP AcG 12 / IAS 39</p>	<p>IAS 39:</p> <ul style="list-style-type: none"> • addresses the derecognition of other financial instruments, such as securities lending transactions or sale and repurchase agreements. • does not focus on legal isolation, but on risks and rewards of ownership.
<p>Oil and Gas Accounting CA GAAP AcG 16, EIC 126 / IAS 16, 36, IFRS 6</p>	<p>All of AcG-16, EIC-126 and certain portions of Section 3061 are more comprehensive than IFRS 6 as IFRS 6 only provides guidance during the exploration and the evaluation of mineral resources up to the point that technical feasibility and commercial viability of extracting is demonstrated. IFRS 6 would permit a form of full cost accounting only during the exploration and evaluation phases, but the full cost accounting model cannot be extended to the development and production phases. Accounting during these phases will generally be by analogy to IAS 16 and IAS 36.</p>

AcSB, 2009

Appendix B

Figure 2 Agency Theory and Information Asymmetry

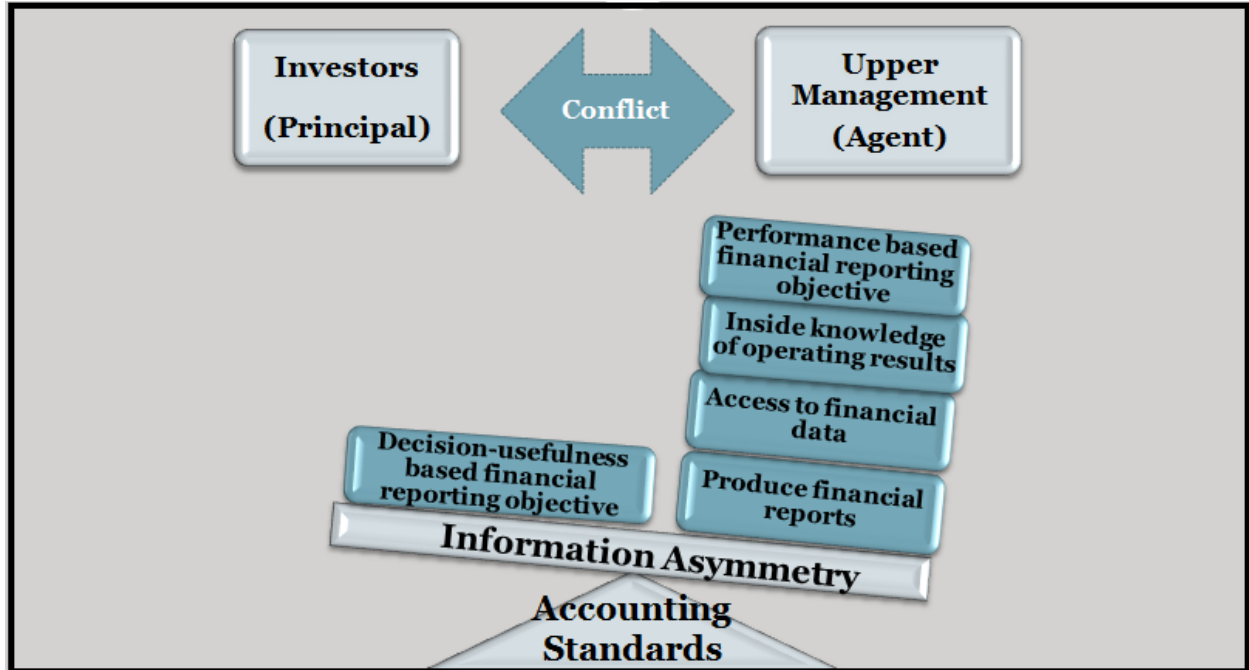
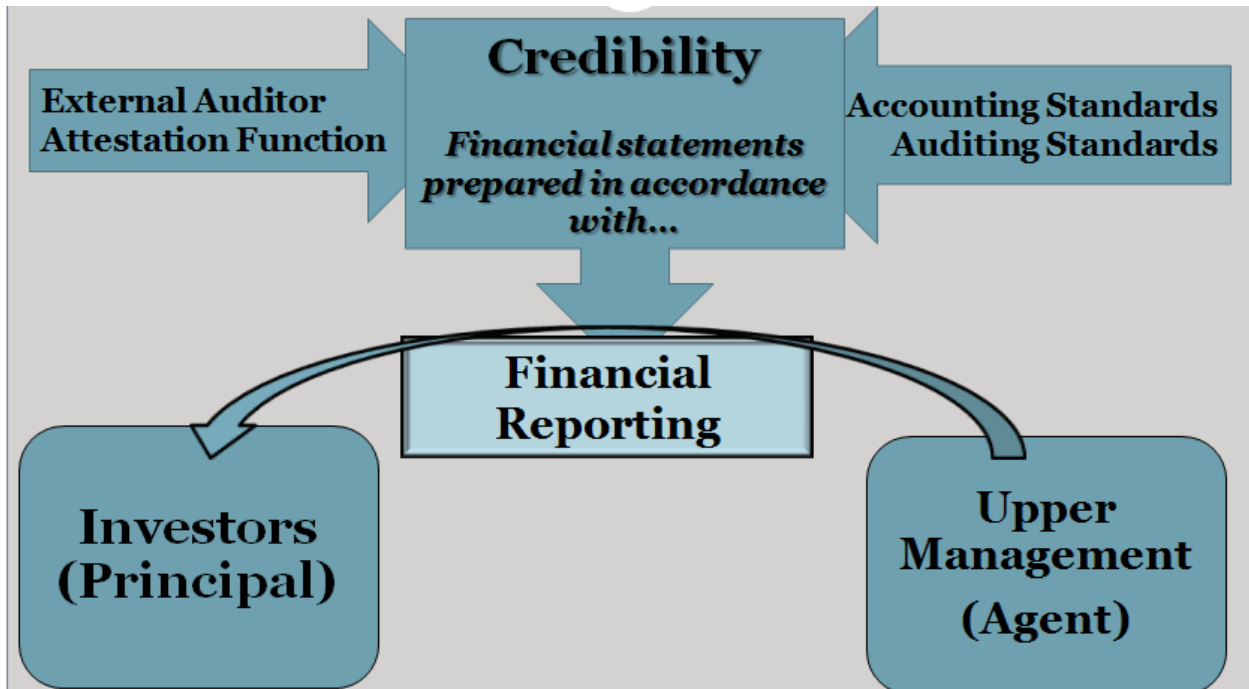


Figure 3 Agency Theory, Information Asymmetry & GAAP



Appendix C: Framework for Decomposing Cumulative Effects on Stockholders' Equity resulting from GAAP Regime Change¹⁰

The following specifies the effects on accounting constructs of a wholesale GAAP system changeover which helps explain the research design of this study.

Throughout, change is denoted as Δ .

At the transition date¹¹, **Balance Sheet Approach**:

Equation set 1 sets forth the fundamental identity in accounting under two GAAP systems: IFRS and Canadian GAAP (CG).

$$\begin{aligned} A_{IFRS} &\equiv L_{IFRS} + SE_{IFRS} \\ A_{CG} &\equiv L_{CG} + SE_{CG} \end{aligned} \quad (1)$$

Equation set 2 computes the differences in these identities which permits the computation of a derived identity expressing the balance sheet in terms of changes.

$$\begin{aligned} A_{CG} &\equiv L_{CG} + SE_{CG} \\ A_{IFRS} &\equiv L_{IFRS} + SE_{IFRS} \\ \hline \Delta A_{GAAP\Delta} &\equiv \Delta L_{GAAP\Delta} + \Delta SE_{GAAP\Delta} \end{aligned} \quad (2)$$

The derived identity can also be restated in terms of changes in net assets that are a result of changes in assets less changes in liabilities as presented in Equation 2a.

$$\Delta NA_{GAAP\Delta} \equiv \Delta A_{GAAP\Delta} - \Delta L_{GAAP\Delta} \equiv \Delta SE_{GAAP\Delta} \quad (2a)$$

Equation 3 provides further decomposition of the changes in stockholders' equity by disaggregating this amount into the equity components of changes in contributed capital, changes in accumulated other comprehensive income, and changes in retained earnings. This disaggregation permits a detailed understanding of the nature of differences that take place in

¹⁰ Callaghan, J. and Hilliard, T., *Theoretical Framework for Identifying Factors Associated with Regime GAAP Changes, Working Paper, 2012*

¹¹ Transition date refers to the opening IFRS Statement of Financial Position at the date of transition to IFRS from prior GAAP, here Canadian GAAP. This is the starting point for its accounting in accordance with IFRSs. (IFRS 1)

changes in stockholders' equity. Changes in stockholders' equity can then be defined as the sum of the changes in contributed capital, changes in accumulated other comprehensive income, and changes in retained earnings. However, as presented in **Equation 3a**, in the event of a GAAP system change all of the changes in all equity components are due to the system changeover. Since the transition from Canadian GAAP to IFRS has no effect on accounting for contributed capital, the equation can be simplified (**Equation 3b**). Changes in stockholders' equity are then the sum of changes in accumulated other comprehensive income plus changes in retained earnings.

Equation 3

$$\Delta SE = \Delta CC + \Delta AOCI + \Delta RE \quad (3)$$

Equation 3a

$$\Delta SE_{GAAP\Delta} = \Delta CC_{GAAP\Delta} + \Delta AOCI_{GAAP\Delta} + \Delta RE_{GAAP\Delta} \quad (3a)$$

Equation 3b

$$\Delta SE_{GAAP\Delta} = \Delta AOCI_{GAAP\Delta} + \Delta RE_{GAAP\Delta}, \text{ assuming } \Delta CC_{GAAP\Delta}=0 \quad (3b)$$

In **Equation 4**, we can then substitute the change in stockholders' equity with the change in net assets.

$$\Delta NA_{GAAP\Delta} = \Delta AOCI_{GAAP\Delta} + \Delta RE_{GAAP\Delta} \quad (4)$$

Equation 5 restates the equation 4 specifically for the GAAP system changeover being examined in this study as retained earnings under IFRS less retained earnings under Canadian GAAP (the cumulative effect on retained earnings) at the transition date is a function of the underlying determinants in terms of changes in net assets less changes in accumulated other comprehensive income with the assumption that there are no contributed capital changes across GAAPs. This expresses the model in fundamental accounting measures and sets up the framework for the study.

$$RE_{IFRS} - RE_{CG} = \Delta NA_{GAAP\Delta} - \Delta AOCI_{GAAP\Delta} \\ (\text{Cumulative Effect}), \text{ assuming } \Delta CC = 0, \Delta DIV = 0 \quad (5)$$

Equation 6 inserts the cumulative effect to represent the difference in retained earnings under IFRS and Canadian GAAP at the transition date. The equation is refined further by presenting the cumulative effect on retained earnings plus changes in accumulated other comprehensive income equal changes in assets less liabilities under the different GAAP measurement systems.

$$\text{Cumulative RE Effect} + \Delta AOCI_{GAAP\Delta} = \Delta A_{GAAP\Delta} - \Delta L_{GAAP\Delta} \quad (6)$$

Income Statement Approach

The following income statement approach is equivalent to the preceding Balance Sheet Approach at the point of transition. The income statement approach as presented in **Equation set 7** is defined as the aggregate of all net incomes less dividends from the beginning of time to beginning of period of the transition (BOP). This equation holds true for both GAAP systems. The GAAP system changeover from Canadian GAAP to IFRS has no bearing on dividends, therefore we can assume the change in dividends under Canadian GAAP to IFRS equals zero.

$$\begin{aligned}
 RE_{IFRS} &= \sum_{t=1}^{BOP} (NI_{t,IFRS} - DIV_{t,IFRS}) \\
 RE_{CG} &= \sum_{t=1}^{BOP} (NI_{t,CG} - DIV_{t,CG})
 \end{aligned}$$

(7)

Cumulative RE Effect = $\sum_{t=1}^{BOP} (NI_{t,IFRS} - NI_{t,CG})$,
 Assuming $DIV_{CG,t} = DIV_{IFRS,t}$ or equivalently that $\Delta DIV_{t,\Delta GAAP} = 0$
 for all t.

The disaggregation of the cumulative effect on retained earnings at the GAAP system transition date reveals the underlying elements of net income which can be defined as the sum of the differences between revenues and expenses, and between gains and losses, as measured by IFRS and Canadian GAAP since the beginning of time until transition date. The following **Equation set 8** differences represent variations of the underlying measurement systems used by IFRS and Canadian GAAP.

$$\begin{aligned}
 &= \sum_{t=1}^{BOP} (REV_{t,IFRS} - REV_{t,CG}) \\
 &- \sum_{t=1}^{BOP} (EX_{t,IFRS} - EX_{t,CG}) \\
 &+ \sum_{t=1}^{BOP} (G_{t,IFRS} - G_{t,CG}) \\
 &- \sum_{t=1}^{BOP} (L_{t,IFRS} - L_{t,CG})
 \end{aligned}$$

(8)

The measurement system for assets and liabilities lead to stockholders' equity changes which in terms of income elements can be defined as revenues, expenses, gains, and losses. The six underlying measurements systems available to regulators are:

1. Pure historical cost
2. Adjusted historical cost
3. The present value of future cash flows discounted at an historical rate
4. Exit value or Net Realizable
5. Replacement cost
6. The present value of future cash flows discounted at the appropriate risk-adjusted discount rate.

All of the fundamental accounting elements when recast under a new GAAP system are causing the cumulative effect on retained earnings at the point of transition due to variations in the measurements systems being applied by the standards.

The balance sheet and income statement interpretations can be brought together to comprehensively explain the cumulative effect of changes in retained earnings in terms of the fundamental financial statements elements.

In summary the Balance Sheet and Income Statement representations of the Cumulative RE effect of the wholesale GAAP regime switch is summarized in **Equation 9**.

Balance Sheet	Income Statement
$(\Delta A_{GAAP\Delta} - \Delta L_{GAAP\Delta}) - \Delta AOCI_{GAAP\Delta}$	$= \sum_{t=0}^{t-1} (NI_{IFRS_t} - NI_{CG_t})$
	(9)

The preceding framework maps the phenomenon of the cumulative effect on retained earnings due to a GAAP system change to the underlying accounting elements which can be measured in various ways under different GAAP systems. Variations in GAAP systems give rise to the financial element differences which in aggregate make up the cumulative effect on retained earnings. The intent of this study is not to examine the individual accounting amounts differences in assets, liabilities and stockholder equity. The construction of the model will attempt to identify firm attributes and IFRS choices which are associated with this empirical amount. The accounting constructs provide the framework with which to explore firm specific attributes which bear on the cumulative differences in GAAP systems.

Appendix D: Tests of Normality

The results of the regression model are subject to the model having met certain assumptions. These assumptions are paramount to our ability to place reliance on the regression model results. The standard assumption in linear regression is that the theoretical residuals are independent and normally distributed. Although the normality assumption is important, tests for small sample sizes may be meaningless as there may not be enough power to detect assumption violations or violations may be inaccurately assessed (Miles & Shevlin, 2010.)

Linearity

Linearity was tested in the univariate and bivariate analyses. Pearson Correlation results indicated a linear relationship of the following independent variables: STDEVNI5 ($\rho = .882$), INTL ($\rho = .375$), and IND ($\rho = .523$) with the dependent variable. Further, a scatterplot was created for each independent variable with the dependent variable to assess linearity. All independent variables displayed a linear relationship with the dependent variable.

Normality

Standardized residuals were reviewed for all observations. Standardized residuals represent the difference between the model's prediction and the observed value. The residual is then standardized for interpretation. The standardized residuals were less than 3 and greater than -3 (min -1.024, max 2.889) which fall within the range of normality (Tabachnick & Fidell, 2007.) To further test normality, a P-P plot was constructed of the expected versus observed residuals. Visual inspection of the P-P plot indicated the distribution of residuals do not cluster on the regression line; however, given the dispersive small sample size, the residuals do display a linear relationship.

Homoscedasticity

The model's assumption of equal variance also termed, homoscedasticity, refers to homogeneity of the variance. In other words, the variance of the residuals at every set of values for the independent variable is equal (Miles & Shevlin, 2010.) In a scatterplot, the residuals should symmetrically distribute around zero. A scatterplot of the standardized residuals revealed a variance in the range of +1-1 with the exception of one data point. To further test the homogeneity of the residuals, a Levene's test was performed. The Levene's Test is used to statistically test the amount of difference between variances (Starkweather, 2010.) For this study, the unstandardized residual was tested against the standard deviation of net income over 5 years using the mean as the cutoff. The null hypothesis is equal variances ($H_0 =$ equal variances.) The Levene's Test indicated the null hypothesis of equal variances could not be rejected ($F=.110$, $p=.740$.)

Independence

This assumption refers to the expectation that the correlation between the residuals is zero. Autocorrelation occurs when the variable correlates with itself. If these variables are related to one another, they violate independence (Miles & Shevlin, 2010.) A Durbin-Watson statistic was prepared to detect autocorrelation. The Durbin-Watson statistic was 2.305 which does not indicate any correlation or violation of independence. Durbin-Watson statistics close to zero may be symptomatic of positive autocorrelation (Miles & Shevlin, 2010.)