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The Impact of International Financial Reporting Standards on Key Financial Indicators of Canadian Companies

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This is to certify that the doctoral dissertation by

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Abstract

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MS, King's College, 1999

BS, Bloomsburg University, 1996

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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Abstract

Companies throughout the world use different methods for reporting their financial information to capital market investors and regulators. These different methods have caused financial reporting of statements to become less transparent, has increased adjustment errors and forecasting errors, and has reduced investor confidence. As a result, the International Accounting Standards Board created International Financial Reporting Standards (IFRS) to establish a global standard. Currently, 140 jurisdictions worldwide have implemented IFRS. The purpose of this study was to examine the effectiveness of IFRS on 248 Canadian companies and to analyze whether the 2011 implementation of IFRS affected corporate stock prices, key financial measurements of companies, and industry sectors. Arrow's social choice theory and general equilibrium analysis provided the theoretical framework for this quantitative investigation. Two 1-year time periods, 2009-2010 (the year before IFRS was implemented) and 2011-2012 (the year after IFRS was implemented), were analyzed using secondary data. A multiple regression model was used to examine the impact of IFRS implementation on price-to-earnings ratio, price-to-sales ratio, and price-to-cash flow ratio of the 248 Canadian companies. Findings indicate that IFRS led to an overall improvement in financial reporting by Canadian companies, which suggests IFRS's effectiveness. Mandating IFRS worldwide may facilitate comparisons of corporate financial information, reduce costs, reduce investor fatigue, improve adjustment errors and forecasting errors, and provide capital market participants the confidence to make valued investment decisions, leading to positive social change.

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Dedication

My dissertation work is dedicated to my family and specifically to my daughter, Rogan. She has given me the inspiration and motivation to reach for the stars and put forth the drive and determination needed to achieve great things.

The people closest to me have also given me inspiration and the confidence to follow my dreams. I wish to thank my fiancée, Heidi Mintzer, my mother, Hye Ok DeBernardi, my father, Douglas Smith, my step-father, Carlo DeBernardi, and sister, Connie Smith, for providing all the support and not giving up on me during this long and arduous process. I particularly want to thank Heidi for allowing me to work on school when it needed to be done and making many sacrifices for me to pursue my dreams.

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Chapter 1: Introduction to the Study

There has been much debate whether implementing a worldwide financial reporting standard is the most actionable, effective, and justified approach to improving financial reporting. Corporations which report comparable financial statements make it more useful, less costly, and easier to compare corporate financial statements for investors, regulators, other corporations, institutional investors, and decision makers (Hail, Leuz, & Wysocki, 2010; see also Smith, 2012). Corporate financial statements include essential information for investors to make assessments about a corporation's financial status, for example investors can evaluate key financial ratios and financial statements of a specific corporation to make decisions on its financial health. This data could be used to compare historical financial trends of the corporation and/or use this data to make comparisons against other corporations.

Corporations disclose their financial statements as required by the countries in which they operate, but at the time of writing not every country requires the application of one globally standardized financial reporting standard, for example the U.S. Securities and Exchange Commission requires all corporations, which operate in the U.S. to disclose meaningful financial and additional information to the public by using the U.S. GAAP standards (2016). This lack of standardization has caused governments, corporations, and capital market investors to make inadequate financial accounting comparisons on a global scale. Horton, Serafeim, and Serafeim (2013) stated the adaption of International Financial Reporting Standards (IFRS) has strengthened forecast accuracies that are a direct result from improved comparability of financial statements.

An accounting language that is not unified makes it difficult for investors to draw company comparisons (Durocher & Gendron, 2011); the investor ultimately has the burden of translation costs. Liu, Yao, Hu, and Liu (2011) indicated that a unified global financial reporting standard improved accounting qualities and investment decisions in China. In addition, Chua, Cheong, and Gould (2012) found that IFRS adaption has increased timeliness of loss recognition, improved earnings management, and improvements in financial statements being reported in Australia. Corporate financial statements include essential information for investors to make assessments about a company's financial status. Hail, Leuz, and Wysocki (2010) stated that companies which report comparable financial statements makes it more useful, less costly, and easier to compare corporate financial statements for investors, regulators, other corporations, institutional investors, and decision makers (see also Smith, 2012).

The International Accountings Standards Committee founded the International Accounting Standards Board (IASB) in 2001 to establish and create international accounting standards. These new standards are now referred as IFRS. IFRS are international financial accounting standards that were designed to make it easier for corporations, governments, and individual investors to analyze and compare a company's financial statements (2016).

It is one of the objectives of IFRS to make financial reporting more efficient, effective, and simple for evaluations and analysis. The globalization of corporate, economic, and political transactions has made evaluations of financial statements of corporations more difficult (Johnson and Hicks, 2012). Durocher and Gendron (2011)

stated accounting languages among all corporations that is not unified makes it difficult for company comparisons. The investor ultimately has the burden of translation costs. Durocher and Gendron (2011) asserted that IFRS would allow for open barriers to international boundaries, which would reduce the cost of capital and minimize the cost of reconciling financial statements for comparison.

A globalized accounting standard may have other benefits, as well. Ball (2006) surmised that a company's costs of equity capital might be reduced, due to the transparency of financial reporting (see also Smith, 2012). In addition, contracts made between companies would be actions that would benefit shareholders, because their investment decisions would be addressed in a timelier manner (Ball, 2006). A final advantage that Ball noted was that IFRS would enhance corporate governance. A structured financial reporting standard would allow governments to be more effective and efficient in governing accounting reporting practices.

Globalization of world economies and capital markets has made evaluations of financial statements of corporations more difficult for governments, corporations, and investors because of different financial reporting standards among countries. In addition, the increasing activity of multinational corporations in diverse markets makes this issue more apparent. The purpose of this quantitative study was to analyze whether stock valuations of Canadian companies, listed on the Standard & Poor's/Toronto Stock Exchange (S&P/TSX) Composite Index have been influenced by the recent mandate of IFRS. Research conducted on key financial indicators in Canada was nonexistent. Mandating IFRS worldwide would improve comparisons of corporate financial

information easier, reduce costs, reduce investor fatigue, improve adjustment errors and forecasting errors, and provide capital market participants the confidence to make valued investment decisions, leading to positive social change.

Background of the Study

According to many researchers, a more transparent and globally standardized method of corporate financial reporting is needed. Daske, Hail, Leuz, and Verdi (2008) stated that regulators expect IFRS implementation would improve comparability of financial statements, enhance transparency, benefit investors, and increase financial reporting qualities. According to Chen, Young, and Zhuang (2013), improved financial statements and disclosures of foreign peers would help managers and investors to more accurately compare company investments and, ultimately, make better investment decisions. Horton, Serafeim, and Serafeim (2013) noted other benefits, including cross border compatibility, improved financial transparency, a reduction in information costs, increased visibility of efficient markets, promotion of competition, and increased liquidity. Drawing from the public interest theory of regulation, Bushman and Landsman (2010) asserted that any unregulated market is destined to have serious market failures; governments have the ability to correct these market failures through regulations (see also Smith, 2012).

Many countries have recognized the importance to conforming to a single and unitary financial reporting system that allows for financial transparency and comparability for capital market investors. As of April 2015, 140 jurisdictions have instituted some form of IFRS (2015). These jurisdictions number 43 in Europe, 19 in

Africa, 9 in the Middle East, 32 in Asia and Oceania, and 37 in the Americas (2016). The number of jurisdictions in which IFRS is used continues to grow as more countries continue to accept a single set of global accounting standards (2016).

IFRS adaption has proven some positive results in countries around the world. Caban-Garcia and He (2013) studied the effects of comparability of earnings in the Scandinavian region after IFRS were instituted in the regions of Denmark, Finland, and Sweden. With the exception of Finland, all countries obtained a lower earnings/price ratio after the transition to IFRS, which may indicate a reduction in over-stating financial information. Chua, Cheong, and Gould (2012) also evaluated the impacts of IFRS in Australia. They focused on earnings management, relevancy of value, and improved recognition of data. They found that, after the mandatory IFRS adoption, Australian firms, overall, had improved accounting. It has been demonstrated by recent studies that IFRS has improved comparability of financial statements and increased recognition of data by interested participants.

Another study conducted by Liu, Yao, Hu, and Liu (2011) focused on China. They found that the implementation of IFRS improved accounting quality through accounting measures that increased value relevance and less earnings management. They concluded that improved accounting quality was a result of implementing IFRS, rather than changes in economic conditions. Aharony, Barniv, and Falk (2010) compared asset revaluations, goodwill, and development and research expenses of European Union countries mandating the use of IFRS. As it pertains to investors, they concluded that all three financial accounting measures have improved due to the implementation of IFRS.

During the economic crisis of 2001-2002 and the financial crisis of 2007-2009, the financial reporting quality did not consider the public interest. Gorgan, Gorgan, Dumitru, and Pitulice (2012) found that earnings management declined during the economic crisis of 2001-2002. They asserted that the adoption of IFRS improved users' confidence and improved earnings management practices, financial information transparency and reliability. In another study, Cengiz (2014) evaluated key financial measurements on liquidity, profitability, capital structure, and operation for firms trading on the Istanbul Stock Exchange between 1997-2003. Cengiz found that four key financial ratios showed significant decreases after the implementation of IFRS in Turkey. IFRS adaption has shown to have profound effects on corporate financial measurements and user confidence.

Although many researchers such as Gorgan, Gorgan, Dumitru, and Pitulice (2012) have found evidence of beneficial outcomes after the implementation of IFRS, other researchers have found evidence of no changes, or negative changes, after implementation of the standards. Cameran, Campa, and Pettinicchio (2014) reported that private Italian companies who used IFRS during 2005-2008 found negative financial reporting qualities. In addition, the authors discovered a decrease in the quality of financial reporting. Also, a reduction in timely loss recognition was realized.

George, Ferguson, and Spear (2013) found evidence of a 23% increase in audit fees for Australian companies within the first year of transitioning to IFRS, and 8% increase in audit fees thereafter per year. In addition, smaller firms incurred disproportionately higher audit fees after implementing IFRS. Bozkurt, Islamoglu, and

Oz (2013) asked Turkish accountants and auditors about their thoughts and perceptions about using IFRS as the national financial reporting standard. Bozkurt, Islamoglu, and Oz administered questionnaire to 430 Turkish accountants and auditors. Results from a cost-benefit analysis indicate more costs associated with IFRS application; however, in the long run, significant benefits will be observed with both the undertaking and with users of IFRS applications. The cost-benefit analysis also suggests that advances in practices would improve comprehensibility and reliability of financial and accounting statements and that fraudulent activity should decrease.

Santos, Ponte, and Mapurunga (2014) evaluated the effectiveness of overall financial disclosure compliance within the first year for 638 Brazilian firms after mandatory adoption of IFRS. Their research indicated a low level of compliance within the first year. Several reasons for the low disclosure compliance were mentioned. They mentioned the first year of required compliance could be considered to be a learning curve to comply with a new accounting system. Also, cultural differences within the Brazilian accounting system may have contributed to the low level of compliance. A final reason for the low level compliance is the lack of institutional enforcement within a country. A study conducted in Albania suggests cultural differences of foreign corporations had no effect on IFRS compliance. Binaj, Binaj, and Limaj (2012) conducted an exploratory study of 40 nonfinancial foreign and domestic firms in Albania that were required to use IFRS. Their results indicated that foreign firms had a greater compliance with IFRS guidelines. The authors believed that higher quality financial reporting from foreign corporations may have been a result from foreign investor

demands. Finally, Santos and Cavalcante (2014) conducted a study of 246 Brazilian firms to determine the effects of mandatory IFRS adoption. They indicated that accounting profits increased among IFRS firms; however, a decrease in information timeliness was recognized. The authors were puzzled to find that information timeliness declined after IFRS implementation. They suggested further research be conducted on information timeliness.

Research analyzed suggests numerous pros and cons of IFRS adaption throughout the world, however little research has been conducted in Canada. The purpose of this quantitative study is to determine what impacts, if any, the implementation of IFRS has had on Canadian companies. Research on Canadian companies that trade on the S&P/TSX Composite Index is needed as minimal research on IFRS effects has been conducted. This research would not only expose any effects the IFRS may have had on the Canadian economy and corporate financial reporting, but would demonstrate investors may have grown more confident in their investment decisions.

Problem Statement

Amid increasing globalization of world economies and capital markets (2016), evaluation of financial statements of corporations has become more difficult for governments, corporations, and investors because of different financial reporting standards among countries (Gorgan, Gorgan, Vasile, Valentin, Pitulice, & Ileana, 2012). The increasing activity of multinational corporations in diverse markets makes this issue more apparent (Gorgan, et al.). To provide multinational companies with the proper foundation to operate efficiently and effectively in foreign countries, a single global

accounting standard, which is sound, understandable, neutral, and comparable, needs to be enacted, according to Dholakia (2013). As the world globalizes more corporations are establishing themselves in multiple countries. A unified and sound financial reporting standard is critical for the multinational corporation's effectiveness and financial wellbeing. Several countries and jurisdictions have adopted IFRS. Researchers have found varying impacts if IFRS adaption. The research of Biddle, Hilary, and Verdi (2009) suggested that higher quality financial reporting signifies investment efficiencies. Hail, Leuz, and Wysocki (2010) stated that companies which report comparable financial statements makes it more useful, less costly, and easier to compare corporate financial statements for investors, regulators, other corporations, institutional investors, and decision makers

Few researchers have studied the impacts of IFRS implementation on Canadian companies. According to my review of the literature, no researchers have studied impacts on key financial indicators, price-to-earnings ratio, price-to-sales ratio, and price-to-cash flow ratio in Canada. This study is significant because it evaluates the impact of mandating IFRS in Canada and its effects on corporate stock prices, key financial indicators, and its effects on industry sectors.

Purpose of the Study

The purpose of this quantitative study was to analyze whether stock valuations of Canadian companies, listed on the S&P/TSX Composite Index have been influenced by the recent mandate of IFRS. There have been limited research conducted on the Canadian implementation of IFRS, and none found available on the key financial indicators that

will be used to measure the effects of IFRS on the companies which trade on the Toronto Stock Exchange; more specifically, the S&P/TSX Composite Index. The researcher determined that there were statistically significant differences in Canadian stock price changes by assessing key financial indicators during the period of pre IFRS (2009-2010) and post IFRS (2011-2012). This was an ANCOVA methodology which examined the relationship between the independent variables and the dependent variable of the study, using a longitudinal design. The researcher has obtained historical data from online databases, which included no participants. In hypotheses 1-7 the change in companies' stock price (post IFRS) was the dependent variable STOCKSPRICECHANGEPOSTIFRS. The pretest IFRS stock price change STOCKSPRICECHANGEPREIFRS was the covariate; while the independent variables (IV) included the price-to-earnings ratio PRICEEARNRATIOPREIFRS, price-to-sales ratio PRICESALESRATIOPREIFRS, and price-to-cash flow ratio PRICECASHFLOWRATIOPREIFRS. These IVs are considered valuation measurements and has provided a consistent means of gauging a company's valuation over time. The covariate for this study was the price change for the pre IFRS period (2009-2010). The same independent and dependent variables were used in the industry sector study; while the covariate was the PRE IFRS variable for each study; which includes PRICE EARN RATIO PRE IFRS, PRICE SALES RATIO PRE IFRS, PRICE CASH FLOW RATIO PRE IFRS, AVE PRICE PRE IFRS, AND STOCKS PRICE CHANGE PRE IFRS.

This research has provided greater insight into the feasibility of IFRS on Canadian companies' stock valuations, impacts to common key financial indicators, as well as provides another layer of investor confidence to support the use of IFRS.

Research Questions and Hypotheses

The objective of this study was to determine if there has been a change in the previously stated financial information parameters after the implementation of IFRS. The main objective of IFRS is to achieve a high quality and globally accepted financial accounting standard that is understandable and enforceable (IFRS Foundation and the IASB, 2014). The International Accounting Standards Board (IASB) is the standard-setting body for IFRS. Both IFRS and IASB promote the use and strict guidelines of the standards. In addition, they recognize the need for a globalized standard of financial reporting for emerging economies and small and medium sized companies. Finally, they promote and support the adoption of IFRS through the convergence of national accounting standards. The adoption of IFRS is not an overnight phenomenon; however, educators, auditors, investors, and accounting departments of corporations' need extensive educational training to adhere, apply, and adequately utilize IFRS policies and procedures. Aisbitt (2005) recognized this concern with her research to discover whether current textbooks available provided recent and relevant information, which pertained to recent IFRS rules and regulations (see also Smith, 2012). The author conducted a survey of available textbooks pertaining to financial and international accounting, along with the content of the textbooks. The researcher revealed there to be an increase in the number of textbooks and the depth of information available, but authors have lacked sufficient

information in the areas of enforcement and audit material, particularly in countries outside of the United States and the European Union. This is an unproven globalized endeavor, which has many challenges and obstacles, but could provide outcomes, which result in globalized accounting uniformity, transparency, and confident decision-making.

Lambert, Leuz, and Verrecchia (2007) stated that when accounting quality increases, more of a company's positive cash flow is appropriated back to the investor because managers retain or steal less (see also Smith, 2012). Their contributions to research provides a direct link to information quality and improvements to a firm's cost of capital, but lacks evidence of any affects to market liquidity. Aharony, Barniv, and Falk (2010) evaluated the convergence of IFRS amongst 14 EU countries one year prior and the year of IFRS implementation on goodwill, R & D, and asset revaluation. Overall, their research indicated an improvement in value relevance accounting for the three variables mentioned over prior domestic GAAP-based accounting practices. Chen, Young, and Zhuang (2013) compared the effects of Return on Assets of firms in 17 EU countries applying IFRS against similar firms in non-mandated countries. They discovered an improvement in the firms' investment efficiencies after IFRS adoption, when compared to their peers in foreign countries not implementing IFRS. In addition, an increase in required disclosure reporting improved the firms' investment efficiency or ROA. The authors recognized characteristics of IFRS adoption improved legal enforcement, peer, and industry competition. Researchers of many studies have identified interrelationships of financial accounting relevance of the mandated IFRS, domestically and against foreign firms not utilizing the new standards.

Recent studies conducted on IFRS, lacked to incorporate all of the mentioned variables of Canadian firms trading on the Toronto Stock Exchange. To what extent do the theories of Arrow's (1951, 1971) in the area of social choice theory and general equilibrium analysis and the research of Biddle, Hilary, and Verdi (2009) explain the relationship between the following independent variables: (a) price-to-earnings ratio, (b) price-to-sales ratio, and (c) price-to-cash flow ratio, and the change in the stock price before and after the implementation of IFRS; which is the dependent variable?

My investigation was guided by the following research questions:

RQ1: How will the implementation of IFRS significantly affect Canadian companies' stock price and key financial measurements?

RQ2: How might the implementation of IFRS affect changes in company stock prices?

RQ3: What sector specific changes may be discovered from the implementation of IFRS in Canada?

Drawing from the research questions, I made seven hypotheses:

$H_0$1: Controlling for the pretest IFRS stock price change, there is no statistically significant difference in the mean ratio of price-to-earnings ratio between pre IFRS and post IFRS.

$H_1$1: Controlling for the pretest IFRS stock price change, there is a statistically significant difference in the mean ratio of price-to-earnings ratio between pre IFRS and post IFRS.

$H_0$2: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS price to earnings ratio based on the pre IFRS price to earnings ratio.

$H_1$2: Controlling for stock price changes after IFRS, there is a statistically significant difference in the post IFRS price to earnings ratio based on the pre IFRS price to earnings ratio.

$H_0$3: Controlling for the pretest IFRS stock price change, there is no statistically significant difference in the mean ratio of price-to-sales ratio between pre IFRS and post IFRS.

$H_1$3: Controlling for the pretest IFRS stock price change, there is a statistically significant difference in the mean ratio of price-to-sales ratio between pre IFRS and post IFRS.

$H_0$4: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS price to sales ratio based on the pre IFRS price to sales ratio.

$H_1$4: Controlling for stock price changes after IFRS, there is a statistically significant difference in the post IFRS price to sales ratio based on the pre IFRS price to sales ratio.

$H_0$5: Controlling for the pretest IFRS stock price change, there is no statistically significant difference in the mean ratio of price-to-cash flow ratio between pre IFRS and post IFRS.

$H_1$5: Controlling for the pretest IFRS stock price change, there is a statistically significant difference in the mean ratio of price-to-cash flow ratio between pre IFRS and post IFRS.

$H_0$6: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS cash flow ratio based on the pre IFRS cash flow ratio.

$H_1$6: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS cash flow ratio based on the pre IFRS cash flow ratio.

$H_0$7: Controlling for the pretest IFRS stock price change, there is no statistically significant difference in the change of company stock prices between pre IFRS and post IFRS based on pre IFRS price-to-earnings ratio, pre IFRS price-to-sales ratio, and pre IFRS price-to-cash flow ratio.

$H_1$7: Controlling for the pretest IFRS stock price change, there is a statistically significant difference in the change of the company stock prices between pre IFRS and post IFRS based on pre IFRS price-to-earnings ratio, pre IFRS price-to-sales ratio, and pre IFRS price-to-cash flow ratio.

Theoretical Foundation

The theoretical framework for this study was grounded in Arrow's (1951, 1971) research in the area of social choice theory and general equilibrium analysis. His research helps to support the creation of IFRS through his theory of general equilibrium. In addition, his concept of social choice theory stated that individuals make value judgments

that will benefit them and apply the theory of rational behavior (Smith, 2012). The existence of IFRS will provide investors the opportunity to make comparisons of standardized financial reports among companies that will allow them to select the most optimum outcome or "best in class" company within a market sector. The application of Arrow's theories and support from subsequent research provides guidance and a better understanding on the impacts of the mandatory implementation of IFRS on Canadian companies, which trade on the S&P/TSX. This will provide insight into the advantages and disadvantages of mandating the use of IFRS, as recognized by Ball (2006), Bushman and Landsman (2010), and Hail, Leuz, and Wysocki (2010).

Corporate financial reporting has changed significantly over the years (Leuz, 2010). Much of the recent changes occurred due to previous corporate scandals and financial crises around the world. Leuz (2010) recognized four valid reasons for IFRS convergence; existence of externalities within financial reporting, market-wide costs savings once implemented, insufficient private sanctions, and exorbitant costs associated with fraudulent activities and agency conflicts (Smith, 2010). There is a strong need for investor protection caused by financial scandals over the years. There has been a collaborated effort of countries, corporations, the accounting community, and others alike, but differences in reporting regulations and practices remain.

IFRS improves comparability and market risks associated with a given company whom reports under IFRS. In August 2005 IFRS enhanced the disclosure requirements to include sensitivity analysis for financial instruments for which the company may invest in (Bonetti, Mattei, & Palmucci, 2012). This new enhancement requires that all firms

disclose a firms exposure risks to currencies and their management of these risks. IFRS have made financial reporting a requirement to inform investors and make comparability and transparency apparent.

IFRS have practical implications for all types of operations. Rixon and Faseruk (2009) described that implications of IFRS can benefit government business enterprises or public sector agencies through IFRS adaption. In addition, improved disclosure of financial reporting has many economic consequences as discussed by Hail, Leuz, and Wysocki (2010), (see also Smith, 2012). Information asymmetries of financial reporting among companies reduce market liquidity. Less informed investors are concerned with the information presented to them and have a tendency to trade less often. This leads to higher costs to investors because estimation risks associated with future cash flows is less predictable. Hail et al. (2010) noted that improved reporting increases corporate and investor decision-making, thereby lowering the costs of the decision-making process.

The concepts stated above provide much of the theoretical basis for the study. It has been known for years that an improved financial reporting system is needed because of corporate scandals and fraudulent reporting practices. A new and universal financial reporting standard could improve market liquidities, consumer confidence, and provide the pertinent financial information needed for a rational investor to apply Arrow's social choice theory and general equilibrium analysis. IFRS mission is to address the imperfections of financial reporting and to make investing a fair and transparent action through requiring a globally high quality, enforceable, and understandable financial reporting standards.

Nature of Study

This quantitative research study evaluated the effects of IFRS on Canadian companies before and after IFRS enactment in 2011. The objective of this study was to capture any effects on stock prices of 248 Canadian companies before and after the implementation of IFRS. This research included secondary data analysis to capture the effects of IFRS. The secondary data made available is historical public information, which is obtainable from corporations' financial statements and online databases. This non-experimental, ANCOVA methodology study was used to evaluate the effects of IFRS both before and after its implementation of Canadian firms trading on the S&P/TSX. The S&P/TSX composite index was used because it captures 70% of all Canadian firms that trade on the Toronto Stock Exchange, in terms of market capitalization. A longitudinal design was used to compare the pre (2009-2010) and post (2011-2012) time periods of the implementation of the IFRS. ANCOVA studies allow for control of variables. In this study the covariates used tested the main and interaction effects of the price changes of the selected company stock prices for both before and after IFRS implementation, while controlling for the effects of the independent variables. The dependent variables used include the change in the companies' stock price after the implementation of IFRS, price-to-earnings ratio post IFRS, price-to-sales ratio post IFRS, and price-to-cash flow ratio post IFRS. The independent variables will be compared between the pre and post time periods of IFRS to help in identifying the effectiveness of the implementation of IFRS and its effect on the dependent variable. The following independent variables for the pre IFRS period and included: (a) mean ratio of the price-

to-earnings ratio, (b) price-to-earnings ratio, (c) mean ratio of the price-to-sales ratio, (d) price-to-sales ratio, (e) mean ratio of the price-to-cash flow ratio, and (f) price-to-cash flow ratio. The dependent variables used are described above in the "Research Questions and Hypotheses" section for the post IFRS period (2011-2012). This study consisted of multiple independent variables for the pre IFRS period (2009-2010) and can be found above in the "Research Questions and Hypotheses" section. The selected independent variables did not contain any experimental randomization or manipulation. A financial analysis of key financial ratios of the total population of 248 Canadian companies was used to assess any effects of IFRS and the independent variables. The covariates for this study were the stock price change for the pre IFRS period (2009-2010) for Hypotheses 1, 3, and 5, and the stock price change for the post IFRS period (2011-2012) for Hypotheses 2, 4, and 6.

Implementation of IFRS among sector specific companies was evaluated to determine whether the adoption of IFRS were statistically significant and improved stock valuations and key financial indicators. An ANCOVA study for each industry sector and financial indicator was conducted. This supplemental study was conducted to make observations on effects of key financial indicators before and after the implementation of IFRS on the industry sectors that were observed on all 248 companies that traded on the S&P/TSX during the pre IFRS period (2009-2010) and the post IFRS period (2011-2012). Each industry sector comprised of the following percentages for the entire population: (a) Oil and Gas was 17.7%, (b) Diversified Industries was 27.4%, (c) Financial Services was 11.7%, (d) Mining was 16.5%, (e) Clean Technology was 2.4%

(f) Real Estate was 8.1%, (g) Utilities & Pipelines was 5.6%, (h) Technology was 4.4%, (i) Communication & Media was 4.0%, and (j) Other-Forest Products and Life Sciences was 2.0%. These industry sectors were selected because they represented all the companies which traded on the S&P/TSX Composite Index. A detailed explanation and description of the selected methodology and selected variables are included in Chapter 3.

Definition of Terms

International Financial Reporting Standards (IFRS): An independent standard-setting body whose mission is to establish a global international financial reporting standards that are a single set of high quality, understandable, and enforceable rules for companies to follow (IFRS Foundation 2014; IASB, 2014).

Price-to-cash flow ratio (stock price / cash flow): A financial measurement used to determine if a company is generating sufficient money. This ratio indicates how much money an investor is paying for every dollar coming into the company (Blau & Paprocki, 2011).

Price-to-earnings ratio (stock price / earnings): A financial measurement to determine how much an investor is paying per dollar for the earnings of a company (Blau & Paprocki, 2011).

Price-to-sales ratio (stock price / total sales): A financial measurement of a company's growth and profitability (New York University, 2014).

Social choice theory: Is the theory that individuals make judgments that will benefit them. They will choose the optimum outcome, which they desire (Arrow, 1971).

The International Accounting Standards Board (IASB): A standard-setting body for IFRS. Both IFRS and IASB promote the use and strict guidelines of the standards (IFRS Foundation, 2014; IASB, 2014).

Theory of general equilibrium: First view requires completeness of values among variables to determine relationships within the economic system. The second view suggests that each relationship among variables within the economic system is considered a balance of forces (Arrow, 1971).

Time series analysis: A measurement of variables and how they change over time or how a variable changes against other variables (Aczel & Sounderpandian, 2009).

Toronto Stock Exchange: An international stock exchange headquartered in Toronto, Canada. It operates multiple asset classes to include equities, fixed income, and energy. In addition, it provides data products and acts as a clearinghouse for the international capital markets community (TMX Group, 2014).

Assumptions

The following assumptions are made for this study:

1. Canadian firms that trade on the S&P/TSX Stock Exchange will be evaluated and all outcomes will be considered a representation of all Canadian companies which use IFRS.
2. The historical financial data collected is public knowledge and is assumed to represent a true and accurate depiction of results, and should eliminate validity concerns.
3. Assumptions are made that all companies, which converged to IFRS accounting practices, are accurately and justly adhering to the policies and regulations implemented.

4. The financial data from the Canadian S&P/TSX composite index represents equity markets only and does not make any assumptions on other major markets such as bonds, derivatives, commodities, and currency markets.

Limitations

The data collection in this study was limited to the periods 2009-2010 (pretest IFRS) and 2011-2012 (posttest IFRS). A causal-comparative research design was used from available existing data to determine outcome measurements. Limitations of extracting financial data on publicly traded Canadian companies, trading on the S&P/TSX may exist; however, all publicly traded Canadian companies are required to report their financial information publicly. This information was obtained from the Morningstar Canada website (2015). The research provides a complete financial analysis of all 248 Canadian companies which trade on the S&P/TSX for the pre and post IFRS periods. Limitations to the study may be presented in research being conducted over international boundaries.

Scope and Delimitations

The scope of this research was to evaluate the randomly selected, publicly traded Canadian companies, which trade on the S&P/TSX Composite Index. Available historical financial data of selected key financial indicators was used as the independent variables and as described in the Problem Statement section. They were analyzed to determine the effectiveness of the convergence of IFRS on Canadian firms after the implementation of IFRS. The historical financial data collected is public knowledge and is assumed to represent a true and accurate depiction of results, and should eliminate validity concerns.

I did not collect data from participants for the scope of this study. In addition, the data collection process included secondary data, made publicly available. The Data collected included publicly traded Canadian companies, specifically which trade on the S&P/TSX composite index. This addressed any concerns on authenticity and validity. Internal validity was minimal because the independent variables selected are historical financial data, which has already occurred. Likewise, external validity is minimal because the study focused on the implementation of IFRS in Canada only; however, the generalization that positive and effective outcomes of IFRS in Canada may be found or similar for other countries could create an external validity relevant to this study. According to the Financial Reporting & Assurance Standards Canada (2014), the Accounting Standards Board of Canada (AcSB) is the governing body responsible for ensuring IFRS compliance of publicly traded Canadian companies trading on the TSX. The scope of this study was limited to Canadian companies, which trade on the S&P/TSX from the periods of 2009-2010 (pre) and 2011-2012 (post).

Significance of the Study

The outcomes in this study benefits scholars and investors in the area of financial reporting and capital market investments. Prior to the implementation of IFRS companies used alternative financial accounting processes, that reduced the ability to make comparisons among companies on a macro and micro economic scale. This is still the case in many countries and the United States; however, much research has supported the use of IFRS. Companies required using IFRS versus non-adaptors and voluntary adaptors have significantly increased accuracies in forecasting and information measures (Horton,

Serafeim, & Serafeim, 2013). Since investing has become a global phenomenon, a more fair and accurate financial reporting standard is needed. This research signifies a positive change in corporate stock valuations. This benefits corporations utilizing IFRS and improves investor confidence.

Much research has indicated advances in financial reporting practices and outcomes, by way of IFRS. Avram, Grosanu, and Rachisan (2015) indicated that good country-level governance has a significant positive impact on effective auditing and financial reporting standards among firms. In addition, Bozcuk (2012) studied the performance effects of early, voluntary adaptors of IFRS in Turkey. Bozcuk found that the early, voluntary adaptors had significantly improved accounting measures. Bozkurt, Islamoglu, and Oz (2013) suggested that a cost-benefit analysis indicates more costs associated with IFRS application; however, in the long run, significant benefits will be observed with both the undertaking and with users of IFRS applications. The cost-benefit analysis also suggests that advances in practices would improve comprehensibility and reliability of financial and accounting statements and fraudulent activities should decrease. Finally, Santos and Cavalcante (2014) conducted a study on Brazilian firms to determine the effects of mandatory IFRS adoption. They indicated that accounting profits increased among IFRS firms; however, a decrease in information timeliness was recognized. The decrease in information timeliness suggested that information relevance for market participants was not increased. A final finding suggested no change in conditional conservatism among firms both before and after the IFRS mandate. This research has discovered that advances in financial and accounting practices through the

application of IFRS within Canada have promoted positive social change for capital market investors, corporations, and governments alike, to allow capital market investors an equal way to compare corporate financial information.

Significance to Theory

Potential findings of the study suggested an overall improvement in financial reporting by companies, which included increased stock valuations after the implementation of IFRS. In addition, improvements in the key financial indicators have been recognized between the pretests and posttests periods. Also, some of the key financial indicators showed improvement during the posttest period, which has helped to substantiate the idea that IFRS are critical in improving transparency, comprehensibility, and practicality of the implementation of IFRS. Finally, implementation of IFRS among sector specific companies has warranted the adoption of IFRS, through improved stock valuations and key financial indicators. This study should improve the understanding on the implications of requiring international financial reporting standards, specifically in Canada. Aharony, Barniv, and Falk (2010) have indicated that future research needs to be conducted to include market efficiencies, as will be the case for this study. Market efficiency can be measured in terms of the change of the profitability measurements for the sample periods for this study. The application of IFRS should have a direct impact and promote a positive social change to capital market investors, as the IFRS will provide a fair an equal way to compare corporate financial information.

Significance to Practice

This research has potential contributions to advance knowledge on IFRS adaption. Positive impacts to key financial indicators were observed. In addition, positive changes in company stock prices after IFRS were recognized. As a result, this research has demonstrated capital market investors' willingness to make investments because comparisons of corporate financial statements have been made easier. This study provides another layer to existing research in this field to improve investor confidence and demonstrates the effectiveness of IFRS implementation in Canada.

Significance to Social Change

The globalization of corporate, economic, and political transactions has made evaluations of financial statements of corporations more difficult. The objectives of IFRS are to make financial reporting of corporations more efficient, effective, and simple for evaluations and analyses by individuals, financial analysts, corporations, and government entities. This research provided new knowledge and added to existing research in the area of IFRS implications in Canada. Findings indicate that IFRS led to an overall improvement in financial reporting by Canadian companies, which suggests IFRS's effectiveness. Mandating IFRS worldwide would improve comparisons of corporate financial information easier, reduce costs, reduce investor fatigue, improve adjustment errors and forecasting errors, and provide capital market participants the confidence to make valued investment decisions, leading to positive social change.

Summary and Transition

Financial reporting standards have been criticized for decades, due to the need for a better alternative to corporate financial reporting. IFRS were established to allow for a

unified, fair, and comparable alternative of corporate financial statements for capital market investors and government agencies. Chapter 1 introduced the need for further research. Aharony, Barniv, and Falk (2010) have indicated that future research needs to be conducted to include market efficiencies. The effect of IFRS during pre IFRS and post IFRS implementation periods was examined to determine if there are significant changes in stock valuations among Canadian companies trading on the Toronto Stock Exchange.

In Chapter 2, I evaluate several theorists' views on the effects of IFRS. Topics include key financial indicators, advantages and disadvantages of IFRS, and macro and micro effects. I also analyze the effectiveness of IFRS in stock valuations of Canadian companies, trading on the Toronto Stock Exchange before and after the implementation of IFRS. Finally, I address any gaps in literature that justify the focus of my study.

Chapter 2: Literature Review

Globalization of corporate operations capital market investors' abilities to trade corporate stocks across international borders has generated the need for a unified and fair way to compare corporate financial statements. The purpose of this quantitative study is to understand the impacts of the mandatory implementation of IFRS on Canadian companies' stock valuations. Researchers have examined the feasibility, practicality, and financial aspects of enacting IFRS within single countries and across international borders. Corporations which report comparable financial statements make it more useful, less costly, and easier to compare corporate financial statements for investors, regulators, other corporations, institutional investors, and decision makers (Hail, Leuz, & Wysocki, 2010; see also Smith, 2012). Durocher and Gendron (2011) stated an accounting language that is not unified makes it difficult for investors to draw company comparisons. The globalization of corporate, economic, and political transactions has made evaluations of financial statements of corporations more difficult (Johnson and Hicks, 2012). Globalization of businesses and economies and the recent financial and economic crises have made the justification of pursuing a unified and single financial reporting standard an important undertaking in the financial world.

In Chapter 2, I provide an overview of my literature search strategy and the theoretical foundation and conceptual framework that underpinned my investigation. I then critically assess recent literature relating to the advantages and disadvantages of IFRS and its effectiveness and impact on key financial indicators. I will provide a

justification to my study by exposing gaps in Literature. Finally, I will summarize and conclude my chapter.

Literature Search Strategy

The literature used as the basis for this study included IFRS, IASB, IASB, TSX, and Morning Star Canada. These key search terms and websites provide the framework for IFRS guidelines and were used in collecting data for this study. In addition, 8 Books were evaluated for the study and were published from 1951-2012. Walden University's research policy prefers sources that were published within the past 5 years, however the theorist used for the framework of this study published his theories in 1951 and 1971. To locate peer reviewed articles and supporting documentation, I searched Google Scholar, management and business research databases (e.g., SAGE Premier, ProQuest, and ABI/INFORM Complete), and EBSCOhost database. I focused on literature published from 2006-2014. Peer reviewed articles used from later years were found to be more relevant for the key points I focused my research. I incorporated a total of 64 peer reviewed articles. Key words used include Canada and IFRS, effects on capital markets, financial ratios, International Financial Reporting Standards, price-to-earnings ratio and IFRS, price-to-sales ratio and IFRS, price-to-cash flow ratio and IFRS, Toronto Stock Exchange, S&P/TSX, and pros and cons of IFRS. The search engines were used to collect the resources include EBSCOhost database, Google scholar, management and business research databases (e.g., SAGE Premier, ProQuest, ABI/INFORM Complete), and Morning Star Canada website. These data collection sources were used to retrieve

peer reviewed articles and supporting documentation relevant to IFRS, key financial measurements, and capital markets and span dates in years from 2006-2016.

Theoretical Foundation

The theoretical foundation for this study was grounded in Arrow's (1951, 1971) research in the area of social choice theory and general equilibrium analysis. The application of Arrow's theories and support from subsequent research provides guidance and a better understanding on the impacts of the mandatory implementation of IFRS on Canadian companies, which trade on the S&P/TSX. This will provide insight into the advantages and disadvantages of mandating IFRS, as recognized by Ball (2006), Bushman and Landsman (2010), and Hail, Leuz, and Wysocki (2010). The existence of IFRS will provide investors the opportunity to make comparisons of standardized financial reports among companies that will allow them to select the most optimum outcome or "best in class" company

Arrow's (1951) social choice theory is based on the foundation that decisions tend to be made by a collective group of individuals. In addition, he stated that individuals make value judgments that will benefit them and apply the theory of rational behavior (Smith, 2012). The society around you can influence your decisions. The most reasonable selection in the decision making process is one that will reasonably benefit the group or individual. Investors will make the most optimum investment decision given the known information about the company in review. Investors can make the most fair and equal comparison of financial statements if they are transparent, accountable, and efficient. The decisions made by investors will almost always be decisions to benefit the investors and

will be the most rational decision; hence, his theory is relevant to the area of research concerning IFRS adaption.

Arrow's (1971) theory of general equilibrium has set the framework for this study. His theory considers all prices to be variable and supply and demand to be equal in all markets. In the field of economics and finance, his theory suggests investors make decisions to purchase or sell stocks by the environment or information provided about a particular company. Supply and demand for the company stock will be formed by investors' wants and this can only come to fruition by the information they are given and the considerations made of the environment. Considerations of external environmental factors also need to be considered, such as political and/or economic factors, and interest rate risks. The objective of IFRS is to provide transparency, accountability, and efficiency to investors when evaluating a company's financial statements.

Investors can make multiple decisions whether to invest in a company stock. Many external factors within their environment can influence their decision making process. In the case of IFRS implementation, investors would tend to lean towards financial decisions that provide them with the most information to make valued judgments. They would not simply role some die and pick a company because the die came up collectively on the number 5. They would want to make investment decisions that provide the most information. The most profound information would provide transparency, accountability, and efficiency among all financial statements of companies. Investors would then be able to make rational decisions. The implementation of IFRS

would provide these characteristics in the decision making process and has relevancy in the application of IFRS.

Corporate financial reporting has changed significantly over the years (Leuz, 2010). Much of the recent changes occurred due to previous corporate scandals and financial crises around the world. Leuz (2010) recognized four valid reasons for IFRS convergence; existence of externalities within financial reporting, market-wide costs savings once implemented, insufficient private sanctions, and exorbitant costs associated with fraudulent activities and agency conflicts (Smith, 2010). There is a strong need for investor protection caused by financial scandals over the years. There has been a collaborated effort of countries, corporations, the accounting community, and others alike, but differences in reporting regulations and practices remain.

IFRS improves comparability and market risks associated with a given company whom reports under IFRS. In August 2005 IFRS enhanced the disclosure requirements to include sensitivity analysis for financial instruments for which the company may invest in (Bonetti, Mattei, & Palmucci, 2012). This new enhancement requires that all firms disclose a firms exposure risks to currencies and their management of these risks. IFRS have made financial reporting a requirement to inform investors and make comparability and transparency apparent.

IFRS have practical implications for all types of operations. Rixon and Faseruk (2009) described that implications of IFRS can benefit government business enterprises or public sector agencies through IFRS adaption. In addition, improved disclosure of financial reporting has many economic consequences as discussed by Hail, Leuz, and

Wysocki (2010), (Smith, 2012). Information asymmetries of financial reporting among companies reduce market liquidity. Less informed investors are concerned with the information presented to them and have a tendency to trade less often. This leads to higher costs to investors because estimation risks associated with future cash flows is less predictable. Hail et al. (2010) noted that improved reporting increases corporate and investor decision-making, thereby lowering the costs of the decision-making process.

The concepts stated above provide much of the theoretical basis for the study. It has been known for years that an improved financial reporting system is needed because of corporate scandals and fraudulent reporting practices. A new and universal financial reporting standard could improve market liquidities, consumer confidence, and provide the pertinent financial information needed for a rational investor to apply Arrow's social choice theory and general equilibrium analysis. IFRS mission is to address the imperfections of financial reporting and to make investing a fair and transparent action through requiring a globally high quality, enforceable, and understandable financial reporting standards.

International Financial Reporting Standards

In 2001 the IASB established IFRS, which is the governing body consisting of the financial accounting guidelines and standards. IASB created IFRS and had a goal that IFRS would be the global standard for preparing financial statements to provide a unitary, fair, and comparable framework adequately to provide essential financial information for capital market investors, government agencies, and corporations (IFRS Foundation &

IASB, 2014). Today, there are approximately 120 countries and jurisdictions, which allow or require IFRS for domestically listed companies.

IFRS stated one of the benefits in creating IFRS is to allow an easier method to compare financial statements among domestic and foreign companies (AICPA & IFRS Resources, 2014). In addition, companies that adopt IFRS will benefit from raising capital abroad, because capital market investors will be able to make a better comparison within the industry, thereby feeling more comfortable with making investment decisions. Lambert, Leuz, and Verrecchia (2007) stated that the higher quality disclosure of financial statements has a positive direct and indirect influence over a company's cost of capital. More and better information provides more certainty and more opportunities for raising capital for company investments. Another study conducted by Daske, Hail, Leuz, and Verdi (2008) concurred and found that a company's cost of capital is decreased, while improving stock valuations, after the implementation of IFRS. A final benefit expressed by IFRS was that companies could reduce its financial statement preparation costs, through applying IFRS regulations company-wide, through economies of scale.

One of the primary reasons for a new and better financial reporting standard came about because of financial corporate scandals and the recent financial crisis. Ball and Shivakumar (2008) suggested that improved financial reporting requirements were a response from sandals and/or the enactment of the Sarbanes-Oxley Act of 2002. During the 1990's companies increased engaged in accounting irregularities, possibly due to mounting market pressures (Arthaud-Day, Certo, Dalton, & Dalton, 2006), (see also Smith, 2012). This presented an outcry from the public to change and improve the way

corporations report their financial statements. Cross-borders operations have made scandals less predictable and identifiable, which has led many countries to pursue a higher quality financial reporting standard (Kleinman, Lin, & Palmon, 2014). The financial crisis during 2007-2009 has also brought about a demand for financial reporting changes (Bushman & Landsman, 2010), (see also Smith, 2012). Finally, a loss of self-governance by the auditing community has enabled scandals to occur more frequently and a need for stricter financial reporting by corporations is needed (Johnson & Hicks, 2012). Change can be good; however, governments' need to enforce and regulate the new financial reporting practices.

It is debatable whether change can be good given the scenario; however, change will never succeed unless a sound educational system is put into place. Transitioning financial reporting standards will influence many and a proper and effective education system needs to be developed early and with precision; otherwise, it will create negative psychological effects and costs will continue to increase. Pfeffer, Jacobs, DeLong, and Tang (2012) stated that only 8% of investors understand IFRS guidelines and are well educated. Hilton and Johnstone (2013) believed that collaboration between educators and students on the accounting curriculum was needed to better prepare the education field on how to properly train and educate on IFRS in the classroom. The United States is preparing to adopt IFRS in 2016 and has done little to begin preparation. Singer (2012) supports the idea that IFRS should be taught throughout the accounting curricula in the education setting. This includes exposure to non-accounting students that are required to have general knowledge of IFRS.

Advantages of Converging to International Financial Reporting Standards

IFRS presents an opportunity for companies to disclose fully its financial information in a way to make comparisons easier. IFRS website stated that an easier comparison of financial statements would be created between domestic and foreign companies (AICPA, IFRS Resources, 2014). In addition, companies that comply with IFRS may benefit from raising capital abroad. A final advantage that IFRS website mentioned was that companies that have subsidiary companies in a country which requires IFRS, may have the opportunity to implement IFRS company-wide; reducing financial statement preparation costs. There are many advantages for a country/company to enforce IFRS and will be further evaluated next.

It has been demonstrated that improved financial disclosures contributes to several benefits. Capital market investors can reduce adverse selections and market liquidity can be increased, if provided higher quality financial disclosures (Hail, Leuz, & Wysocki, 2010), (see also Smith, 2012). Investors are able to view financial disclosures, as maintained by IFRS, on an equal playing field and make fair and equal comparisons. In addition, market liquidity is improved because investors begin to trade more confidently and efficiently and supply and demand becomes more fluent. Biddle, Hilary, and Verdi (2009) found that moral hazards and adverse selections made by investors could be improved by limiting information differences through higher financial reporting qualities. Overall, the information environment had improved by IFRS adopters (Horton, Serafeim, and Serafeim, 2013).

Comparability of financial statements allows for better usefulness and ease for capital market investors to make comparisons of corporations. Hail et al. (2010) stated that the comparison of financial statements between companies becomes easier and less costly for capital market investors, if the quality of reporting is held constant (see also Smith, 2012). Comparability reduces estimation risks and information asymmetries among investors.

Comparability is possibly the single most important concept and general theme for implementing IFRS. Comparability of financial statements has a psychological impact on investors' confidence (Franco, Kothari, & Verdi, 2011). Rational investment decisions cannot be possible without comparable financial statements. Further research conducted by Caban-Garcia and He (2013) determined that comparability is significantly higher for Scandinavian countries which enacted IFRS.

Comparability of financial statements improves analysts' reviews and forecasting. Franco, Kothari, and Verdi (2011) suggested greater comparability of financial statements leads to more evaluations being completed by analysts. In addition, accuracies in forecasting are improved and costs are lowered when acquiring information. Byard, Li, and Yu (2011) found that a reduction in analyst's forecasted errors and decreased forecasted dispersion occurred when IFRS are followed. Bushman and Landsman (2010) mentioned that the existence of alternative financial standards would sacrifice the benefits of comparability. Differences in financial reporting standards also have internal and external affects to comparability of financial statement reporting (Chen, Young, &

Zhuang, 2013). Comparability improves capital market investors' decision-making and reduces the overall investment risk level for companies.

Accounting measures are directly influenced and affected by the type of financial reporting standard that is used. Aharony, Barniv, and Falk (2010) found that IFRS had a positive correlation with the accounting measurements on research and development, goodwill, and asset revaluation. Additional research by Liu, Yao, Hu, and Liu (2011) suggested similar results. Chen, Young, and Zhuang (2013) stated value relevance of financial disclosures increased after IFRS adoption. Elias (2012) found that improved accounting quality through IFRS adoption in Australia increased value relevance and improved earnings management. Cameran, Campa, and Pettinicchio (2014) determined that earnings management had increased among private Italian companies, but a deterioration of timely loss recognition was observed. A more complex financial reporting standard was recognized to have caused a delay in management recognition of financial changes.

Other accounting measures that are positively influenced by the implementation of IFRS are earnings management, loss recognition, and income smoothing. Foreign companies' return on assets (ROA) plays an important role in a company under/over investing after the adoption of IFRS, as stated by Chen, Young, and Zhuang (2013). They found that the peer companies' ROA added more value relevance after IFRS because companies were able to make investment decision changes accordingly. This suggests an improvement in investment efficiencies after IFRS adoption. In addition, they found that value relevance improved, while fluctuations in earnings management decreased.

Earnings management is synonymous with earnings smoothing. Chua, Cheong, and Gould (2012) demonstrated that improved accounting qualities, improved timely loss recognition. The consensus of the adoption of IFRS portrays an improvement in timely loss recognition, value relevance, and an improvement in the earnings management.

Institutional investors play an essential role in capital market equilibrium and would benefit tremendously from the adoption of IFRS. Institutional investors increased their holdings of company stocks when IFRS were adopted (Florou & Pope, 2012). This suggests that institutional investors are more inclined to invest in companies with higher quality financial reporting standards. It has been found that companies that implement IFRS have a higher quality of financial statements before IFRS were implemented (Armstrong, Barth, Jagolinzer, & Riedl, 2010). Likewise, individual investors were found to have more confidence with their investment decisions with companies that adopted IFRS.

Costs associated with adopting a new financial reporting standard can come with significant costs to the company switching standards. Morris, Gray, Pickering, and Aisbitt (2014) indicated a negative tone among financial accountant preparers because there were issues to transition and minimal benefits were noticed. Further, the costs involved were thought to outweigh the benefits with minimal benefits to capital markets. Audit costs were found to increase for companies by 23% during the transition year and higher costs were recognized for smaller companies (George, Ferguson, & Spear, 2013). Leuz (2010) stated that costs were considerably higher, but came from political forces that have been known to have many shortcomings and limitations. Cameran, Campa, and

Pettinicchio (2014) stated that private Italian companies, which IFRS, had no financial reporting improvements; in fact, had a decrease in reporting qualities.

Reduce adverse selections and increase market liquidity. Quality financial statement disclosures have several positive effects on capital markets. Hail, Leuz, and Wysocki (2010) stated that quality financial disclosures could reduce adverse selections, while increasing market liquidity (see also Smith, 2012). This idea suggests that a more transparent and comparable financial reporting standard; as established by IFRS, reduces unstable judgments or adverse decisions made by capital market investors because they viewed to be on an equal playing field among all other investors. This improves market liquidity because investors begin to trade more efficiently and the supply and demand of the investment product becomes more fluent. This concept is rooted in Arrow's theoretical framework of social choice theory and general equilibrium analysis.

Prior studies have suggested that moral hazards and adverse selections made by investors can be improved by limiting information differences through higher financial reporting quality (Biddle, Hilary, & Verdi, 2009). This concept suggests that higher quality financial reporting signifies investment efficiencies. Their findings indicate that a high standard of financial reporting can mitigate the effects of information asymmetries in investment efficiencies.

Investment asymmetries have shown to become synonymous with IFRS adopters. This coincides with improved qualities of information for IFRS adopters (Horton, Serafeim, & Serafeim, 2013). This cannot be said for non-adaptors and voluntary adaptors. In addition, the authors revealed an improvement in forecast accuracies on

investments. In general, the overall information environment was improved with IFRS adopters.

Comparability. Changes in financial reporting among companies have shown to have internal and external affects to comparability of financial statement reporting. The outcomes to these changes have been influenced by the strength of legal enforcement, peer, and industry standards (Chen, Young, & Zhuang, 2013). The authors suggested a change in the return on assets (ROA) of a firm against its peers and discovered that the ROA increased; demonstrating investment efficiencies. In addition, value relevance of financial disclosures increased after IFRS adoption. Again, the authors indicated a positive effect on a company's investment efficiencies after IFRS adoption.

Comparability of financial statements has a psychological impact on investors' confidence (Franco, Kothari, & Verdi, 2011). A rational comparison among alternative investments is not possible without the ability to make fair comparisons. They determined that comparability among companies has increased. They suggested that greater comparability of financial statements leads to more evaluations being completed by analysts. In addition, greater comparability increases forecast accuracies, as well as lowers costs associated with acquiring information. The overall quantity and quality of information available is increased, which allows analysts to make better evaluations of companies. Byard, Li, and Yu (2011) reinforced the findings of Franco, Kothari, and Verdi by stating that companies that implement IFRS reduce analysts' forecasted errors and decreases forecasted dispersion. These results indicate that a stronger transparency and comparability of financial reporting of companies decreases analysts' forecasted

errors and forecasted dispersion. The application of a single, enforceable financial reporting system not only would benefit capital market investors, but investment analysts, government agencies, and corporations alike.

A general theme of the recent studies evaluated, suggests an increased comparability of financial statements within firms implementing IFRS. Further research conducted by Caban-Garcia and He (2013) determined that comparability is significantly higher for Scandinavian countries which enacted IFRS. In addition, the authors discovered a lower mean-centered earnings/price ratio for the post IFRS period from 2005-2008. This suggests a lower overall investment risk level for companies, which apply IFRS standards.

Value relevance. The adoption of IFRS has a significant impact on accounting measures. It is these changes to accounting measures, which affects all of the other benefits described above. Aharony, Barniv, and Falk's (2010) study suggested that IFRS increased the value relevance on goodwill, asset revaluation, and research and development. They concluded that accounting standards in other countries that were similar to IFRS, improved value relevance of the three accounting measures. Their findings support other similar studies. This enhances an investor's abilities to make comparisons between companies and suggests that accounting practices similar to IFRS positively influence these accounting measures.

Earnings management, timely loss recognition, and value relevance. IFRS have been demonstrated to have positive affects in countries of varying institutional, economic, and political environments. China has adapted IFRS in 2007, which has

provided investors with confidence to make investment decisions in regulated markets, such as China (Liu, Yao, Hu, & Liu, 2011). The authors determined that accounting quality has improved, while value relevance of accounting measures increased. These improvements were attributed to the changes in accounting standards more so, than to improved economic conditions. They analyzed earnings management, or the changes in fluctuating accounting measures before and after the adoption of IFRS, with a decreased fluctuation in earnings management. A similar study was conducted in Australia by Chua, Cheong, and Gould (2012) with similar results. An additional variable was tested, timely loss recognition, and it was shown to improve. These studies provide the groundwork for further evaluations to be conducted in other countries to support the use of IFRS.

Institutional investors. Institutional investors are an essential component to the capital market equilibrium. They comprise of a large portion of the daily buy and sell transactions of stocks on stock exchanges. Florou and Pope (2012) concluded that institutional investors increased their holdings of corporations that adopted IFRS. They determined all types of institutional investors such as; active, value, and growth investors were more inclined to invest in corporations that were believed to have a higher quality of financial statement.

The information environment and investor expectations of IFRS adoptions are an integral part to the success of IFRS on a global scale. Armstrong, Barth, Jagolinzer, and Riedl (2010) found that corporations that had low or high quality financial information before IFRS adoptions had a positive reaction after IFRS adoptions. This idea was more pronounced for banking institutions. Likewise, investors' expectations were satisfied; as

they expected an improvement in the information quality after IFRS were implemented. Conversely, an incrementally negative reaction was found for corporations that were conducting business in European countries that had restricted codes and laws.

Disadvantages of converging to International Financial Reporting Standards

For years, there has been a dispute whether a global standard should be adopted for financial reporting of companies. Some believe the gold standard to financial reporting is the U.S. GAAP and any change in financial reporting will be too costly and outweigh the benefits. The previous section assessed the advantages to enacting IFRS, while this section will now focus on the negative effects of administering IFRS.

Several researchers have indicated the application of IFRS may not be justified, due to several negative factors. Maggina and Tsaklanganos (2011) cited the positive effects on IFRS implementation throughout the world have not been recognized in the Athens Stock Exchange. Positive stock price valuations and returns had not been realized, nor was value-relevant accounting information been improved in the Athens Stock Exchange. The determination made was that prior financial reporting standards already provided value-relevant accounting information and the enforcement of IFRS resulted in no significant improvements within the capital markets. IFRS did provide useful financial accounting information for capital market authorities and policy makers.

It has been known that there are costs associated with implementing IFRS. Would the increased costs negate the benefits of a new accounting reporting system? Morris, Gray, Pickering, and Aisbitt (2014) conducted a survey-based study of 305 Australian companies and found a very negative tone among financial accountant preparers. Many

of the responses indicated concerns with the problems of IFRS implementation and minimum benefits received. They mentioned concerns associated with specific accounting issues, the ongoing monetary costs to maintain IFRS standards, and the perceived limited impacts made to capital markets. A survey-based study provided more insightful information on accounting specific concerns, that otherwise would not have been recognized.

A major drawback of converting to IFRS is the cost associated with re-organizing the accounting functions and guidelines of the company to comply with IFRS regulations. George, Ferguson, and Spear (2013) conducted a study of Australian companies during the time of transitioning to IFRS. They concluded that a significant cost was incurred by companies during the transition period to IFRS. Audit costs increased by 23 percent during the first year of transitioning. Also, disproportionately higher costs were observed with smaller companies who adopted IFRS. Leuz (2010) mentioned numerous advantages to implementing financial reporting regulations, but enforcement costs could become quite exuberant and could face many problems with regulating financial disclosure requirements (see also Smith, 2012). Much of the cost is generated by the political processes, which are known to have many limitations and shortcomings. Leuz (2010) stated that market failure alone, may not be a justification towards new financial reporting regulations.

The essence of IFRS is to provide a higher quality of financial reporting. Cameran, Campa, and Pettinicchio (2014) completed a study of Italian private companies during the period from 2005-2008, which was the post IFRS period. They found no

improvement in the reporting quality; but in fact, realized a decrease reporting quality of financial statements. Earnings management has increased, but a deterioration of timely loss recognition was observed. This was caused from the more complex financial reporting standard of IFRS, which caused a delay in management recognizing financial changes. Ultimately, many believe the convergence to a globally accepted single set of high quality financial accounting standards provides many benefits to the public and the rewards outweigh the costs.

Demand for stricter financial reporting

Scandals have propelled the need for cultural identity by acknowledging concerns in the area of financial statement reporting. Recent corporate scandals have justified the need for a unified, global, and single set of financial reporting standards to enforce standards on companies. In addition, the economy has become a global phenomenon that has catapulted the need for stricter financial reporting and corporate governance. Globalization of businesses has spearheaded an effort to enforce and adhere to a common standard; IFRS.

It is common for companies to operate in one country, construct facilities, and operate in another country. This practice of cross-borders operations has made corporate scandals less predictable and identifiable. To combat this concern, the requirement to adhere to a stricter financial reporting standard has been sought after by many countries. This would assure higher quality standards be met at all corporate locations (Kleinman, Lin, & Palmon, 2014). The recent high profile corporate accounting scandals forced

many countries to tighten regulatory oversight for public companies and to amend or pass laws to strengthen financial reporting systems.

Recent scandals and globalization of business are relevant reasons for the implementation of IFRS; however, a third element is of utmost concern, the recent financial crisis. The recent financial crisis during 2007-2009 has brought into focus that a stricter financial reporting system is just a fraction of a larger regulatory framework (Bushman & Landsman, 2010), (see also Smith, 2012). Policymakers were asked to improve financial accounting standards through complex political processes to restructure the world financial markets' regulations. The authors made the comment that countries differ in many respects and that there may be no "one size fits all" financial reporting system. There are too many differences in political and legal regimes, financial regulations, institutional developments, and culture. The authors raised the question, could a true harmonization of a single and unified financial reporting be achievable?

Loss of self-governance by auditing professionals has occurred from the recent scandals in the early 2000's and the financial crisis during 2008 (Johnson & Hicks, 2012). A primary principal has resulted from these outcomes; the need to accelerate the acceptance of IFRS. If government officials require the implementation of IFRS worldwide, allocation of financial resources will become more efficient and resourceful than ever before. However, if countries adapt IFRS and have loose oversight and enforcement, then the distribution of financial resources will become inefficient. The implementation of IFRS requires interaction with various government bodies, professional associations, and businesses encompassing a various degree of

socioeconomic, religious, and political backgrounds. This will require cooperation from many, devoted time, and monetary resources. The authors determined that small negative effects in enforcing IFRS are magnified by weak authoritarian governments, differences in cultural ethics, and economic powers.

Purpose of financial statements

Financial statements are used in compliance with regulatory guidelines to represent the financial status of a company's quarterly and annual operations. Financial statements are used as an internal control for performance evaluation, measured against other internal divisions, and the evaluation of company projects (Ross, Westerfield, & Jordan, 1993). In addition, external uses include evaluations made by creditors and investors to determine the financial strengths and actions taken by a company. Likewise, competitors in the industry use financial statements to make comparisons and future decisions on how to improve their operations. Financial statements are essential in identifying potential targets or the acquisition of a company.

Financial reporting within the last 30 years has seen some changes. These changes occurred to strengthen regulations, extend the use of fair values over historical costs, due to recurring accounting scandals, financial crises, market bubbles, and a harmonization of financial reporting (Hail, 2013). Hail examined the balance sheet and income statement over the past 30 years to determine if financial relevance has improved. The author has discovered a loss in relevance of the income statement in recent years, particularly in large international companies. This appeared to be more prevalent in countries with stronger financial institutions. The relevance in the balance sheet appeared to remain

stable. Despite the stable balance sheet relevance, a downward trend was noticed for the first half of the sample, but an increased relevance in the second half of the sample. Overall, the company valuations made by outside stakeholders; as it pertains to accounting information, was affected by changes in the economy, how companies operate, and the institutional environment. The author suggested that company valuations are not affected simply by alternations made to the financial reporting requirements, and is more pronounced by other variables relevant to a given company and country.

Recently, the global economy has grown in importance and optimal efficiency in these financial markets is dependent on the investment selections made by capital market investors. Financial analysis of financial statements is an integral process for comparison and the selection of investing in companies (Malikova & Brabec, 2012). The results of financial ratios are determined by how the financial statements are prepared. The authors determined a significant improved difference when IFRS were applied versus the Czech standards for the return on capital employed and the financial integrity of companies. The asset turnover and debt ratios showed no significant improvement with the adoption of IFRS. The differences are mainly due to how financial accounting is reported under the Czech legislation and IFRS and not so much in corporations improving its financial status.

Financial statement comparability has been argued by researchers, regulators, and investors to be an important measurement when comparing companies. Franco, Kothari, and Verdi (2011) determined that a comparability construct is typically specified and

minimal support is found on the effects on the benefits of comparability of financial statements for users. This comparability measurement has a positive effect to analysts following company trends and forecasting accuracies. Byard, Li, and Yu (2011) also noted that a decrease in analysts' absolute forecast errors and forecast dispersion were found after the implementation of IFRS. This was evident in countries that had a strong commitment to upholding IFRS and vastly differing previous accounting standards then to IFRS. Conversely, Franco et al. (2011) revealed a negative effect was recognized for analysts' in earnings forecasts. A positive outcome of financial statements comparability was the cost of acquiring information by analysts and capital market investors was lower and the overall quantity and quality of information available was increased.

Corporate reporting and regulatory choices varies across countries and are impacted by the country's economy, how firms operate, and the institutional/political environments. In addition, the regulatory body and enforcement capabilities play a significant role in these countries that do not support new financial reporting regulations. Trade-offs exists for choices made between various regulatory reporting actions selected. The harmonization of one unified reporting standard, such as; IFRS are impacted by all of these variables and will prove difficult if these variables are not addressed correctly.

Leuz (2010) expressed four main reasons to justify financial reporting regulations and financial reporting disclosures of companies, which have been supported by other scholars. It has been documented that financial disclosure creates financial information externalities, which are abnormalities or unintended consequences (see also Smith, 2012). If these externalities are positive, it can be a benefit to capital market investors,

regulators, and others affected; however, negative consequences, make determining the right level of financial disclosures difficult for regulators to select. The second argument for justifying financial reporting regulations is the proper regulations can provide a cost savings to the entire economy. The proper regulations would provide ease in comparability of financial statements across companies and time savings to process information. Next, financial reporting transparency, if enforced, can become a financial burden on companies that do not commit towards credibility standards. This is a benefit to all involved because the monetary penalties would promote corporate reporting transparency. The final argument for justifying financial reporting regulations is closely connected to transparency issues. Regulations created and enforced will deter controlling insiders from making private benefits and reduce entries to barriers for other companies due to any foregone opportunities passed on by other companies.

High quality financial statement reporting is essential to economic development (Dholakia, 2013). Likewise, capital market investors' confidence would be likely improved from a high quality financial reporting standard; thus, contribute to a country's economic development. Dholakia believed a single and unified financial reporting standard is in the best interest of the public, while contributing to efficient capital flows in and out of international borders. The challenges are great, but the rewards of imposing a single and unified reporting system could be greater.

Some of the purposes of a single set of financial reporting standards are to provide regulation authority over companies to provide transparency, comparability, and cost savings to investors. Recent scandals have prompted action for more stringent regulations

for corporate governance, more accurate audits, and the creation of audit oversight committees (Kleinman, Lin, & Palmon, 2014). The authors were not able to provide evidence that intra-national audit inspections improved audit qualities. Also, their analysis suggested that audits were no more rigorous than with prior practices. Audits have not challenged company's internal reporting departments sufficiently in areas of professional judgment and corporate ethics. The authors suggested an improved measure for controlling and evaluating audit failures.

International Financial Reporting Standards Education

Like all new practices being implemented, education is crucial in the ultimate success of any such undertaking. Adopting changes can be a daunting and terrifying reality for all involved; however, the benefits are believed to outweigh the challenges. Transitioning financial reporting standards will affect many and a proper and effective education system needs to be instilled early and with precision. Pfeffer, Jacobs, DeLong, and Tang (2012) reported that according to the Canadian Investor Relations Institute, only 50% of the investment community is prepared to transition to IFRS and approximately 8% of all investors are able to interpret financial statements using IFRS and are well educated. Sufficient resources need to be allocated to properly educate the investment community to allow for the success of IFRS in Canada.

The transition and adoption of a new system can be overwhelming. A smooth transition starts with proper education and mitigating risks of potential content overload and endurable strategies to avoid content overload. Hilton and Johnstone (2013) evaluated Canadian investor education on IFRS and found that IFRS transition were

limited in obstacles and provided a collaborated dialogue between students and educators on the accounting curriculum and in the professional field. A concern of the education field is how to teach the professional skills to accounting students. Likewise, accounting professionals need to learn the new regulations and the differences between IFRS and the "old" Canadian GAAP standards.

It is imperative that the accounting community becomes better informed and educated on renewing existing skills and developing new skills consistent with the new IFRS regulations. Hilton and Johnstone (2013) expressed an importance in the following skill sets and attributes; critical thinking, ethical behavior, communication, research, problem-solving, professionalism, and the desire to pursue continuing education. These skills and attributes have been at the forefront of accounting education reform. Most of these skills have been common skills that have been intertwined into the accounting education system, although professionalism has only recently been incorporated into the education learning programs. Even though most of these skills and attributes are not directly related to IFRS transition, they were all constant topics of discussion before and after IFRS adoption. Hilton and Johnstone believe during this new time of the Canadian accounting system transitioning to IFRS are an optimum time to address these skills and attributes.

Gap in Literature

There is an array of scholarly articles addressing IFRS adoption, challenges and benefits, effects on financial ratios, and evaluations completed for numerous countries. There have been 90 countries that have fully conformed to IFRS regulations to date

(AICPA, IFRS Resources, 2014). While there has been much research conducted on IFRS, there are limited studies completed in Canada. The dissertation research focused on the differences in stock valuations and effects on key financial indicators before and after the implementation of IFRS in the Canadian market; as well as impacts to industry sectors.

Canadian studies conducted on IFRS are limited. Rixon and Faseruk (2009) studied the impact of IFRS on public sector agency valuations, specific to the Canadian Workers Compensation Boards. Pfeffer, Jacobs, DeLong, and Tang (2012) focused on the area of the education system of the Canadian accounting community. While only a few studies have included the Canadian market, many other studies have included other countries and issues regarding IFRS. Bushman and Landsman (2010) discussed the pros and cons of regulating financial disclosures of corporations. These challenges and benefits have been argued in a number of peer-reviewed articles. One area for future research mentioned by Bushman and Landsman was a deeper understanding for alternative regulatory mechanisms for financial institutions. Hail, Leuz, and Wysocki (2010) stated that quality financial disclosures could reduce adverse selections, while increasing market liquidity (see also Smith, 2012). They sighted future areas of research are measuring comparisons between IFRS and alternative standards and regulations. In addition, other suggested research included observations of regulatory scenarios for alternative accounting standards for the European Union countries. A final relevant recommendation made by Hail et al. (2010) was to capture the effects of a company's information environment on reporting and economic outcomes.

The dissertation research was indirectly guided through the efforts of Biddle, Hilary, and Verdi (2009). Their research suggested that higher quality financial reporting signifies investment efficiencies. Their findings indicated that a high standard of financial reporting can mitigate the effects of information asymmetries in investment efficiencies. They recommended future research on whether the negative relationship between reporting quality and under-investment has an impact on companies' debt and/or equity ratios. In addition, they recommended research on a company's risk levels on investment activities.

The study conducted by Chen, Young, and Zhuang (2013) used the change in the return on assets (ROA) of a firm against its peers and discovered that the ROA increased, demonstrating investment efficiencies. In addition, value relevance of financial disclosures increased after IFRS adoption. Again, the authors indicated a positive effect on a company's investment efficiencies after IFRS adoption. The dissertation research will expand on all the above-mentioned research concerning the price-to-earnings ratio, price-to-sales ratio, and price-to-cash flow ratio for Canadian companies before and after the implementation of IFRS.

The dissertation research attempted to promote social change for all capital market investors through the portrayal of the following studies. Franco, Kothari, and Verdi, (2011) stated that rational comparisons among alternative investments is not possible without the ability to make fair comparisons. They determined that comparability among companies has increased. They suggested that greater comparability of financial statements leads to more evaluations being completed by analysts. In

addition, greater comparability increases forecast accuracies, as well as lowers costs associated with acquiring information. The overall quantity and quality of information available is increased, which allows analysts to make better evaluations of companies. Byard, Li, and Yu (2011) reinforced the findings of Franco, Kothari, & Verdi by stating that companies that implement IFRS reduce analysts' forecasted errors and decreases forecasted dispersion. These results indicate that a stronger transparency and comparability of financial reporting of companies decreases analysts' forecasted errors and forecasted dispersion. The application of a single, enforceable financial reporting system not only would benefit capital market investors, but investment analysts, government agencies, and corporations alike.

Further research conducted by Caban-Garcia and He (2013) determined that comparability is significantly higher for Scandinavian countries which enacted IFRS. In addition, the authors discovered a lower mean-centered earnings/price ratio for the post IFRS period from 2005-2008. This suggests a lower overall investment risk level for companies, which apply IFRS standards. The information environment and investor expectations of IFRS adoption are an integral part to the success of IFRS on a global scale. Armstrong, Barth, Jagolinzer, and Riedl (2010) found that corporations that had low or high quality financial information before IFRS adoption had a positive reaction after IFRS adoption. This idea was more pronounced for banking institutions. Likewise, investors' expectations were satisfied; as they expected an improvement in the information quality after IFRS were implemented. Conversely, an incrementally negative reaction was found for corporations that were conducting business in European countries

that had restricted codes and laws. These studies demonstrate that transparency, comparability, and investor confidence is improved with the use of IFRS. My research incorporates the price-to-earnings ratio, price-to-sales ratio, and price-to-cash flow ratio to account for profitability measures to expand on prior research. It will support the above mentioned ideas to help stress the importance of a single and unified financial reporting system for all countries. Finally, the findings will benefit capital market investors and the investment community alike in hopes to demonstrate that IFRS provides benefits that outweighs the challenges.

Summary and Conclusion

The literature provides the foundation and framework for the evaluation of IFRS. Much of the research critiqued and expressed valid points for and against the adoption of IFRS; however, very little research focuses on the Canadian market. The dissertation research focused on the differences in stock valuations and key financial indicators before and after the implementation of IFRS in the Canadian market and has extended knowledge in this area. IFRS were created to provide a regulatory body to apply a single and unified financial statement for all countries willing to adopt and enforce this new accounting standard.

Chapter 3 builds on the literature of the adaption of IFRS, pre IFRS and post IFRS by using a quantitative research design and the use of the total population of all 248 Canadian companies, trading on the S&P/TSX Stock Exchange. This study was designed to determine if stock valuations of Canadian companies are affected by the

implementation of IFRS through evaluations of key financial indicators and the effects on industry sectors.

Chapter 3: Research Method

Globalization of world economies and capital markets, economic and financial crises, and corporate scandals has generated a concern for improving financial reporting standards. This study included the analysis of key financial indicators to determine the validity of stock valuations of Canadian companies trading on the S&P/TSX during the pre IFRS and post IFRS periods. Chapter 3 provides an overview and justification of the research design used for this study. I also explain my procedures for the data collection and sampling. I then discuss my measures, instrumentation, and issues of validity and reliability. Finally, I address any concerns with human subjects, and summarize the chapter.

Research Design and Rationale

I used a quantitative research design and statistically analyzed secondary data for this study. In this study, covariates were used to test the main and interaction effects of the price changes of selected company stock prices for both before and after IFRS implementation while controlling for the effects of the independent variables. The covariates for this study will be the stock price change for the pre IFRS period (2009-2010) for Hypotheses 1, 3, and 5, and the stock price change for the post IFRS period (2011-2012) for Hypotheses 2, 4, and 6. The dependent variables used include the change in the company's stock price after the implementation of IFRS, price-to-earnings ratio post IFRS, price-to-sales ratio post IFRS, and price-to-cash flow ratio post IFRS. The independent variables were compared between the pre and post time periods of IFRS to help in identifying the effectiveness of the implementation of IFRS and its effect on the

dependent variable. Independent variables included mean ratio of the price-to-earnings ratio, price-to-earnings ratio, mean ratio of the price-to-sales ratio, price-to-sales ratio, mean ratio of the price-to-cash flow ratio, and price-to-cash flow ratio.

The research design selected for this study is a quantitative, inferential statistical analysis method, which used secondary data to capture the effects of IFRS. Often quantitative studies include secondary data and statistical analysis. The research design used for this study would be an adequate design choice. I considered using other kinds of research designs for this study, but I opted not to because these designs did not satisfy the needs of my research study and objectives. In addition to quantitative designs, scholarly researchers also conduct qualitative, mixed methods, and time-series designs (Creswell, 2007). This study did not meet the basic framework of a qualitative research method because the existing data that will be used include numerical data that will be statistically tested. Generally, qualitative studies attempt to answer questions that do not include numerical data and the scientific method is more exploratory in nature. Typically, qualitative studies apply one of the five research strategies below to explore and address their qualitative study: narrative, case study, ethnography, grounded theory, and phenomenological approaches (Creswell, 2007). As Creswell reported, each has a purpose that is specific for the kind of research being studied. The data collection process for qualitative studies typically includes open-ended responses, field notes, observations of participants, documents, and/or interviews; while, quantitative studies are conducted by using a particular statistical test.

Another research design conducted is called mixed methods research. Typically, this is the most complex and difficult type of research to conduct because it includes both qualitative and quantitative research methods (Creswell, 2007). The process includes data collection and analyzing data to better understand the research questions. I opted not to use a mixed-method design.

In recent years, the use of various time-series designs in research has become more popular in the social sciences (Kratchwill, 1978). Kratchwill (1978) stated time-series designs can include single case studies or include group paradigms to make comparisons within or between groups. Time-series designs may include single subjects, groups of subjects, or entire social systems. This type of study is also referred to as a longitudinal time-series design. Time-series designs are best applied while using historical data. In addition, it presents a repeated measurement concept to the study. Also, it alerts researchers on a larger range of internal and external validity threats and concerns. Finally, Kratchwill (1978) stated time-series designs offers the process of between group comparisons.

Methodology

There are three different methodologies of research, qualitative, quantitative, and mixed methods (Creswell, 2007). Each has a purpose that is specific for the kind of research being studied. The research design selected for this study is a quantitative, inferential statistical analysis method with ANCOVA statistical tests. The data collection relied on secondary data analysis. The research design would be an adequate design choice for this study which involves secondary data. Often quantitative studies include

secondary data. Hypotheses 1 through 6 are synthesized by the following regression model:

$$\Delta CSPjt = 1-\beta 0j+\beta 1jX1jt + \beta 2jX2jt + \beta 3jX3jt+\varepsilon j$$

$\Delta CSPjt$ = Change in the Company Stock Price for company j, at time t

X1jt = Price-to-earnings ratio X1, for company j at t point in time.

X2jt = Price-to-sales ratio X2, for company j at t point in time.

X3jt = Price-to-cash flow ratio X3, for company j at t point in time.

εj= is the error term for company j.

Objective: To determine if Hypothesis 7 suggests that a statistically significant difference in the change of company stock price before and after IFRS is a function of the three independent variables mentioned in Hypotheses 1 through 6. It is expected that post IFRS coefficients will be improved when compared to the pre IFRS. A pretest, posttest covariate design was used to guide the study. The independent variables include price-to-earnings ratio PRICEEARNRATIOPREIFRS, price-to-sales ratio PRICESALESRATIOPREIFRS, and price-to-cash flow ratio PRICECASHFLOWRATIOPREIFRS. The change in companies' stock price (post IFRS) is the dependent variable STOCKSPRICECHANGEPOSTIFRS. The pretest IFRS stock price change STOCKSPRICECHANGEPREIFRS is the covariate. An *F* test was used to determine any statistically significant difference in the means of price to earnings ratio. An ANCOVA methodology was used to test the hypothesis and to draw conclusions.

Setting and Sample

The purpose of IFRS is to promote and develop a single set of accounting standards that is high quality, understandable, globally accepted, and enforceable to protect the publics' interests. Gorgan, Gorgan, Dumitru, and Pitulice (2012) believed the foundation to building a global economy was to have high quality of financial reporting. The expansion of the financial markets and business practices of multinational companies has made it evident that a well-defined and uniform accounting standard is necessary. An attempt has been made to have financial accounting practices apply and adhere to a common standard, due to the resurrection of globalization of business (Kleinman, Lin, & Palmon, 2014). The essence of IFRS is to provide a higher quality of financial reporting (Cameran, Campa, & Pettinicchio, 2014). The creation of IFRS is a solution to the concerns of global and financial market expansions and increased complexities of business development and financial accounting standards.

The data for this study was collected as secondary data that was extracted from the Morning Star Canada website for Canadian companies, which trade on the S&P/TSX Composite Index (2015). In addition, the Morning Star Canada website is a free, public website that is accessible by the general public. The researcher compared the implementation of IFRS for the years 2009-2010 (pre IFRS) and 2011-2012 (post IFRS). Canada required that all companies begin using IFRS as of January 1, 2011. The population consists of 248 companies, which trade on the S&P/TSX Composite Index. The S&P/TSX Composite Index was used because the companies listed on the index represent approximately 70% of all Canadian companies that trade on the TSX, in terms of market capitalization. The intent is to represent most of the companies that trade on the

TSX. In addition, 10 sectors listed on the S&P/TSX were evaluated to make additional observations. As mentioned previously the evaluation of these groups will help to draw conclusions on the effectiveness of IFRS among defined sectors within the S&P/TSX composite index. The available data for this study has avoided limitations due to the use of secondary data being collected. Finally, a random sample was not collected, but rather an analysis of the entire population was evaluated to observe an accurate measurement of the true population.

My objective was to determine if there is a statistically significant difference in company stock prices before and after the implementation of IFRS, which was enacted on January 1, 2011. A challenge of the data gathering process is the ability to find raw data of Canadian companies. This was overcome by manually retrieving data from the Morning Star Canada website for companies, which trade on the S&P/TSX Composite Index.

Instrumentation and Materials

This study was comprised of 248 Canadian companies, which were analyzed to determine if there is a change in corporate stock prices and key financial indicators, which trade on the S&P/TSX Composite Index. The timeline of this study included the 2009-2010 (pre IFRS) and 2011-2012 (post IFRS) periods. Three financial ratios were used to support Hypothesis 1-7, which were collected from existing data found on the Morning Star Canada website for the pre IFRS and post IFRS periods. This website is appropriate for the current study because it is a public database made available to all and possesses the data relevant and sufficient for the study. In addition, the access to the

database is free and will substantially reduce or eliminate any research costs that are the responsibility of the researcher. Also, all information necessary for retrieval to complete the study is made available on the Morning Star Canada website, which will reduce time involved during the data collection process. Permission from the website is not required to use the data because it is a public website and considered secondary data for the study. The published financial data should be considered to be reliable and valid values that are relevant to the study.

The data that was collected from the Morning Star Canada website is all historical data and should minimize or eliminate any validity concerns for the study. The data that was collected from the Morning Star Canada website is not only free to access, but other fee for service websites where difficult to find with the exact raw data necessary for the study. The financial ratios that were selected include: (a) price-to-earnings ratio, (b) price-to-sales ratio, and (c) price-to-cash flow ratio. The concepts behind using the S&P/TSX Composite Index and key financial ratios of the Canadian financial markets mentioned are based on several factors. Previous researches on IFRS that include financial ratios are very limited to Canadian companies. However, studies done in other parts of the world provide numerous studies on a magnitude of financial ratios, studies completed on many different countries, and studies which analyze stock exchanges as a whole, indices, and industries. Studies are not available that provide data for those companies specific to the S&P/TSX index or all financial ratios. This would be a new idea for research and hopefully this research would benefit future research in the area of measuring companies found on individual indexes, specifically to Canada.

Data Collection Procedures

The use of existing data allows the researcher to analyze past events relevant to the study. The use of existing data in research is also known as secondary data. Secondary data analysis has become increasingly popular in overall research; however, availability of this data needs to be made readily available from likes of governments, funding agencies, researchers, and private companies (Cheng & Phillips, 2014). Existing data analysis provides an opportunity to evaluate larger data sets while representing the overall population mean. In addition, obtaining secondary data allows researchers to focus more on testing hypotheses rather than spending time collecting data. The large amount of existing data made available also encourages the researcher to spend more time cross-linking the information from various sources and to develop creative ideas to cross-link existing data. A final application of secondary data analysis is the cost savings found in eliminating other data collection methods. The internet has provided this low cost savings opportunity to online researchers who choose to obtain data from databases via the internet. The data is already present and available and avoids data collection processes found in other types of data collection methods.

Using existing data to conduct research studies does provide some noticeable benefits, but is not without its disadvantages. One inherent flaw is that the data collected is generally intended for an original study or other research questions (Cheng & Phillips, 2014). Sometimes not all data for intended variables is available for the analysis. In addition, the dataset(s) may not include the specific sample or population group for the intended study. Some identifying variables that may be needed in the study may be

deleted from the datasets for confidentiality purposes. A final limitation of using existing data is that the researcher(s) for the existing study may not be the same researchers for the new study which presents concerns for glitches or study-specific nuances that are unknown.

Much confusion is made between the phrases, primary data and secondary data. Primary data is data that is collected by the primary researchers that are conducting the research to answer the original hypothesis within the study (Cheng & Phillips, 2014). Secondary data is all data collected for a specific research study where the existing data was previously collected, hence the phrase "secondary data". The secondary data may have been collected for another study or simple raw datasets made available to the public.

Often research is conducted using existing or secondary data. Government documents and other media records should not be manipulated and only be used for the purpose of research (Singleton & Straits, 2010). Existing data from various types of studies can be used to address research questions that were not intended to answer (Doolan & Froelicher, 2009). Secondary data analysis can reduce time, cost, and avoid any risk or harm to subjects. However, a drawback of using secondary data is that the data may inevitably differ in methods and measurements from the original study to the current study and the researcher needs to take caution in determining its relevance for the study that the data will be used. This will be avoided since the data that was collected is raw data that was obtained from public online databases not correlated to any specific research. This was a secondary data collection process, which relied on various databases to retrieve data. The online databases and resources that were used included, IFRS.com,

IFRS.org, Morning Star Canada, and TMX.com. The companies consisting of the population included 248 Canadian companies, which trade of the S&P/TSX Composite Index.

This research has successfully adhered to Trochim & Donnelly's recommendations. The total population will be applied to eliminate nonbiased selection. Singleton and Straits (2010) stated that random assignment is a procedure used that allows equal chance by which subjects are selected. Using existing data prevents changes to nonreactive measurements, such as changes in reactions and behaviors (Singleton & Straits, 2010). In addition, secondary data analysis applied within a qualitative method needs to address concerns with properties and changes in social structures, such as attitudes and behavior. A random sample was not collected for this study, but rather an analysis of the entire population was evaluated to observe an accurate measurement of the true population. In addition, 10 sectors were evaluated, which included; (a) Oil and gas, (b) Diversified Industries, (c) Financial Services, (d) Mining, (e) Clean Technology, (f) Real Estate, (g) Utilities & Pipelines, (h) Technology, (i) Communication & Media, and (j) Other-Forest Products and Life Sciences This was conducted to make additional observations specific to a given sector of the S&P/TSX. These 10 groups should be a sufficient number of companies per group to measure and draw further conclusions on the effects of IFRS within certain market sectors. The evaluation of these groups will help to draw conclusions on the effectiveness of IFRS among defined sectors within the S&P/TSX composite index.

The initial data collection was drawn from the above mentioned resources and entered into the Microsoft Excel spreadsheet program for organizational purposes. The raw data that was collected and entered into columns and rows included financial data of all 248 companies which traded on the S&P/TSX composite index for the periods 2009-2010 (pre IFRS) and 2011-2012 (post IFRS). This represents approximately 70% of all company stocks based on market capitalization, which trade on the Toronto stock exchange. In addition, I obtained end-of-year company stock closing prices for periods 2008-2012. This captured the proposed observed year's pre (2009-2010) and post (2011-2012) IFRS implementation in Canada. I used the end-of –year stock closing prices of all 248 companies and the average the prices for the pre and post IFRS periods. This will allow for a smoothening of stock prices to account for extraneous variables. Also, all key financial ratios were obtained for each company and each year from previously mentioned data sources and entered into the Excel program. The statistical software used for this study was SPSS.

After this was completed the data was then entered into SPSS to complete a multiple regression to determine if any statistically significant differences were observed between the variables. The software utilized will need to avoid respondent contact, manipulation, and harm of data and respondents (Trochim & Donnelly, 2007). As an additional observation 10 sector specific categories were measured to determine if any statistically significant differences apply to specific sectors. These industry sectors comprised of all 248 companies. These 10 groups selected should be a sufficient number of companies per group to measure and draw further conclusions on the effects of IFRS

within certain market sectors. The evaluation of these groups will help to draw conclusions on the effectiveness of IFRS among defined sectors within the S&P/TSX composite index.

Data Analysis Plan

For this study all statistical tests were considered and narrowed down to two statistical tests, the ANOVA and ANCOVA tests. An ANOVA study was explored; however, was disregarded and deemed unacceptable for the proposed study. ANOVA studies are similar in design to ANCOVA studies in that they test for significant differences between two or more groups. In addition, the independent variables used have two or more categories, but ANOVA studies do not use control variables or covariates. Also, ANCOVA studies are known to increase statistical power and lead to a higher probability of rejecting the null hypothesis (Horn, 2008). The significance of having a higher likelihood of rejecting the null hypothesis is whether detection of any effect actually exists. A covariate is used in an ANCOVA study to reduce the probability of a Type II error.

The quantitative research design included an *F* test to analyze and compare the statistical hypotheses to compare two population means. In addition, an ANCOVA methodology was used to test the hypotheses for publicly traded Canadian companies, which trade on the TSX for the pre IFRS and post IFRS periods. More specifically, the companies selected were derived from the Canadian S&P/TSX Composite Index, which represents about 70% of all Canadian companies that are listed on the TSX, in terms of market capitalization. Historical data that was used in the research design is a critical

component found in experimental research. The availability of existing data justifies the use of an experimental design to compare financial data between the two noted periods.

The research design has identified and controlled the independent variables which will help to explain any variations that are observed against the dependent variable. This is done before the study begins. This study is considered to be an inferential statistical test because it has applied the Analysis of Covariance (ANCOVA) statistical test. This form of statistical test uses a *F* test to determine if there is any statistically significance differences between the independent variables and covariate. In the Analysis of Covariance test the researcher is attempting to control and explain any variations in the dependent variable. Covariates are considered to be extraneous variables or the variable that one is trying to control (Horn, 2008). ANCOVA studies allow for such control of variables by using statistical analysis.

The statistical analysis in Chapter 4 has helped to determine if there were any statistically significant differences in price changes after its implementation. The Canadian companies selected were companies, which traded on the S&P/TSX Composite Index within the specified periods. Morning Star Canada's website was used to extract the financial data of the selected Canadian companies that trade on the S&P/TSX Composite Index for the pre IFRS (2009-2010) and the post IFRS (2011-2012) periods. Financial data that was collected and represent the independent variables for the pre IFRS period include (a) mean ratio of the price-to-earnings ratio, (b) price-to-earnings ratio, (c) mean ratio of the price-to-sales ratio, (d) price-to-sales ratio, (e) mean ratio of the price-to-cash flow ratio, and (f) price-to-cash flow ratio. The independent variables are

considered valuation measurements and will provide a consistent means of gauging a company's valuation over time. The dependent variables include the change in the companies' stock price after the implementation of IFRS, price-to-earnings ratio post IFRS, price-to-sales ratio post IFRS, and price-to-cash flow ratio post IFRS. The ratios, along with the stock prices, were extracted from the Morning Star Canada's website (2015). I used the end-of-year stock closing prices of all 248 companies and average the prices for the pre and post IFRS periods. This will allow for a smoothening of stock prices to account for extraneous variables. The covariates for this study will be the stock price change for the pre IFRS period (2009-2010) for Hypotheses 1, 3, and 5, and the stock price change for the post IFRS period (2011-2012) for Hypotheses 2, 4, and 6.

All companies selected included a numeric representation only of their identity to control for confidentiality. An *F* test was conducted on an ANCOVA study. Hypotheses 1-7 used in this study will help to conclude a statistically significant differences in price changes of Canadian companies during the pre and post IFRS periods. Thereby, concluding that IFRS reporting standards had a significant positive effect on corporate stock prices. The independent variables used for Hypotheses 1-7 include (a) mean ratio of the price-to-earnings ratio, (b) price-to-earnings ratio, (c) mean ratio of the price-to-sales ratio, (d) price-to-sales ratio, (e) mean ratio of the price-to-cash flow ratio, and (f) price-to-cash flow ratio. Hypothesis 7 was used to establish a regression model estimation sufficient for the study. The regression model that was used is $\Delta CSP_{jt} = 1\text{-}\beta_{0j}+\beta_{1j}X_{1jt} + \beta_{2j}X_{2jt} + \beta_{3j}X_{3jt}+\varepsilon_{j.}$ This regression model was used to determine if any statistically significant difference in the change of company stock prices before and after IFRS is a

function of the 6 independent variables mentioned in Hypotheses 1 through 6. The expectation of the study was to observe that post IFRS coefficients were improved when compared to the pre IFRS. Hypothesis 7 provided the outcome necessary to address the question whether there is a difference in the change of company stock prices and key financial indicators before and after the implementation of IFRS and IFRS.

Hypothesis 1 and 2

The price-to-earnings (price/earnings) ratio is a valuation measurement used to determine how much investors are willing to pay per dollar of earnings and is based on a company's expected future growth. Hypothesis 1 was used to determine if there is a statistically significant difference for the mean ratios between the pre IFRS (2009-2010) and post IFRS (2011-2012). Hypothesis 2 was used to determine if there is a statistically significant difference for the ratios between the pre IFRS (2009-2010) and post IFRS (2011-2012). The ratio of price-to-earnings represents the independent variable. The change in companies' stock price (post IFRS) is the dependent variable. The pretest IFRS stock price change is the covariate.

$H_0$1: There is no statistically significant difference in the mean ratio of price-to-earnings ratio during pre IFRS and post IFRS.

$H_1$1: There is a statistically significant difference in the mean ratio of price-to-earnings ratio during pre IFRS and post IFRS.

$H_0$2: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS price to earnings ratio based on the pre IFRS price to earnings ratio.

$H_1$2: Controlling for stock price changes after IFRS, there is a statistically significant difference in the post IFRS price to earnings ratio based on the pre IFRS price to earnings ratio.

Hypothesis 3 and 4

The price-to-sales (price/sales) ratio is a valuation measurement used to determine how much investors value every dollar of a company's sales. Hypothesis 3 was used to determine if there is a statistically significant difference for the mean ratios between the periods 2009-2010 (pre) and 2011-2012 (post). Hypothesis 4 was used to determine if there is a statistically significant difference for the ratios between the periods 2009-2010 (pre) and 2011-2012 (post). The ratio of price-to-sales represents the independent variable. The change in companies' stock price (post IFRS) is the dependent variable. The pretest IFRS stock price change is the covariate.

$H_0$3: Controlling for the pretest IFRS stock price change, there is no statistically significant difference in the mean ratio of price-to-sales ratio between pre IFRS and post IFRS.

$H_1$3: Controlling for the pretest IFRS stock price change, there is a statistically significant difference in the mean ratio of price-to-sales ratio between pre IFRS and post IFRS.

$H_0$4: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS price to sales ratio based on the pre IFRS price to sales ratio.

$H_1$4: Controlling for stock price changes after IFRS, there is a statistically significant difference in the post IFRS price to sales ratio based on the pre IFRS price to sales ratio.

Hypothesis 5 and 6

The price-to-cash flow (price/cash flow) ratio is a valuation measurement used to measure a company's stock valuation. This ratio also accounts for profitable companies that are non-profitable because of large non-cash charges. Hypothesis 5 was used to determine if there is a statistically significant difference for the mean ratios between the periods 2009-2010 (pre) and 2011-2012 (post). Hypothesis 6 was used to determine if there is a statistically significant difference for the ratios between the periods 2009-2010 (pre) and 2011-2012 (post). The ratio of price-to-cash flow represents the independent variable. The change in companies' stock price (post IFRS) is the dependent variable. The pretest IFRS stock price change is the covariate.

$H_0$5: Controlling for the pretest IFRS stock price change, there is no statistically significant difference in the mean ratio of price-to-cash flow ratio between pre IFRS and post IFRS.

$H_1$5: Controlling for the pretest IFRS stock price change, there is a statistically significant difference in the mean ratio of price-to-cash flow ratio between pre IFRS and post IFRS.

Hypothesis 7

Hypothesis 7 suggests that a statistically significant difference in the change of company stock price before and after IFRS is a function of the three independent

variables mentioned in Hypotheses 1 through 6. It is expected that post IFRS coefficients will be improved when compared to the pre IFRS. A pretest, posttest covariate design was used to guide the study. The independent variables include price-to-earnings ratio PRICEEARNRATIOPREIFRS, price-to-sales ratio PRICESALESRATIOPREIFRS, and price-to-cash flow ratio PRICECASHFLOWRATIOPREIFRS. The change in companies' stock price (post IFRS) is the dependent variable STOCKSPRICECHANGEPOSTIFRS. The pretest IFRS stock price change STOCKSPRICECHANGEPREIFRS is the covariate. An *F* test was used to determine any statistically significant difference in the means of price to earnings ratio. An ANCOVA methodology was used to test the hypothesis and to draw conclusions.

$H_0$7: Controlling for the pretest IFRS stock price change, there is no statistically significant difference in the change of company stock prices between pre IFRS and post IFRS based on pre IFRS price-to-earnings ratio, pre IFRS price-to-sales ratio, and pre IFRS price-to-cash flow ratio.

$H_1$7: Controlling for the pretest IFRS stock price change, there is a statistically significant difference in the change of the company stock prices between pre IFRS and post IFRS based on pre IFRS price-to-earnings ratio, pre IFRS price-to-sales ratio, and pre IFRS price-to-cash flow ratio.

Hypotheses 1 through 6 are synthesized by the following regression model:

$$\Delta CSP_{jt} = 1\text{-}\beta_{0j}+\beta_{1j}X_{1jt}+\beta_{2j}X_{2jt}+\beta_{3j}X_{3jt}+\varepsilon_j$$

ΔCSP_{jt} = Change in the Company Stock Price for company j, at time t

X_{1jt} = Price-to-earnings ratio X_1, for company j at t point in time.

X_{2jt} = Price-to-sales ratio X_2, for company j at t point in time.

X_{3jt} = Price-to-cash flow ratio X_3, for company j at t point in time.

ε_j = is the error term for company j.

There are two general methods for analyzing secondary data (Cheng & Phillips, 2014). The first approach is called research question-driven, which involves researchers searching for suitable datasets to answer a particular question. The second approach to analyzing secondary data is called the data-driven approach. This approach is the reverse of the research question-driven approach. This approach reviews the variables within an existing dataset and develops questions that may be answered by the existing data. Typically, the research question-driven approach is used more frequently. Cheng & Phillips states that both approaches follow the same basic steps, which are listed below:

1. There needs to be an analytic plan, which includes the types of analyses that will be conducted and selection of specific variables that will be considered.
2. The researcher needs to evaluate and have a clear understanding of the strengths and weaknesses of the datasets.
3. Prior to the analysis of the datasets, the researcher needs to develop operational definitions of all variables that will be considered from the datasets.
4. Generating frequency tables and cross-tabulations of all variables will provide information on coding patterns for each variable and address missing data in the main analysis.
5. The final basic step to follow is the recoding of the original variables to properly address any missing values. If needed, the researcher should transform

the distribution of the variables, to try and meet the assumptions of the proposed statistical model of the intended study. A new dataset should be created and the original data should remain original and not altered in any way.

6. When using data from a longitudinal study or datasets stored separately it is necessary to check for the accuracy of the final merged dataset.

7. During a longitudinal study, coding methods for variables and assessment methods can change over time. Thus, it is important to closely examine survey questionnaires and codebooks so that uniformity is consistent throughout the study.

The existing data collected in this study was used to effectively measure all 248 Canadian companies to reflect the total population on key financial ratios during the pre IFRS and post IFRS periods on changes of stock valuations.

Internal and external validity concerns are threats that all researchers needs to address and take measures to control. Kratchwill (1978) stated that several possible internal validity threats present in time-series designs include: history, testing, multiple intervention, maturation, instrumentation, selection and interaction with other sources of invalidity, and instability. There are numerous time-series designs that a researcher can apply to their study and should select the design based upon their research questions.

Reliability, Validity, and Levels of Measurements in Research

Reliability, validity, and levels of measurements in research are present in all research, and researchers need to be conscientious of its effects on the variables and study. Once the choice of selecting the concept of a study is made, then the researcher(s)

need(s) to begin to develop an appropriate operational definition for the study. The process of developing an appropriate operational definition begins with deciding on an overall research strategy, which is driven or directed by the specific research questions or hypothesis of the concept of the study. Among the various approaches to research, each favors a specific type of operational definition. Once the research strategy is defined the next step is to select the appropriate operational definition that fits the concept. The objective is to find an appropriate or best possible fit of measurement for the concept (Singleton & Straits, 2010). This should be aided by taking into consideration three characteristics for describing quality information for the research idea: (1) validity, (2) reliability, and (3) levels of measurement.

Levels of Measurements

Selecting the appropriate type of measurement is an important part in the process of developing the research design. Levels of measurement can be defined as "the assignment of numbers or labels to units of analysis to represent variable categories." (Singleton & Straits, 2010). There are four general levels of measurement: (1) ratio, (2) interval, (3) nominal, and (4) ordinal. Each level of measurement interprets the assigned numbers to each category differently. Ratio measurement makes inferences based on ratios plus an absolute zero point. This allows the researcher to count specific individual actions and generally divide by the population to form a ratio. Unlike ratio measurements, interval measurements do not have an absolute zero point. Interval measurements represents the interval or equal distances between numbers. It combines the qualities of ordinal and nominal measurements, but adds the features of interval

counting. Nominal meausurements are considered to be the lowest level of measuring and is classified into two or more categories for a stated variable(s). Numbers are assigned to the variables within the categories to represent labels or codes for the convience of the researcher when collecting and analysing the information. No mathematical relationship is possible in nominal measuring because numbers are translated into labels and codes. The categories designed for the variables need to meet two conditions, they need to be exhaustive and mutually exclusive. To be exhaustive means to have sufficient categories for all of the information being classified. All of the information or numbers will fit into one of the categories. All of the information that corresponds or fits into the appropriate category needs to be mutually exclusive from all other categories. This simply means that no number should be entered in more than one category. Regardless the level of measurement, its function is to provide a framework to assist in interpreting the categories of a variable.

Reliability and Validity

The level of measurement assists the researcher in sorting out inferences about the information assigned to the categories. It has no relevance in addressing the adequacies of the categories as a whole. The consideration of reliability and validity is not achieved by the level of measurement, but rather by the evaluation of the quality of specific operational definitions selected (Singleton & Straits, 2010).

Reliability meausres dependably, consistancy, and stability of operational definitions. It addresses the concerns of obtaining consistent results of repeated applications. Validity measures the “goodness of fit” between an operational definition

and research idea or concept. Validity attempts to answer if the operatonal definition represents the true meaning of the research concept or that the concept is truly measuring what is meant to be measured by the operational definition (Singleton & Straits, 2010). If so, the validity measurement has been met or fulfilled. A measurement can not be valid, if it is unreliable. It is impossible to measure something accurate if the data is unreliable. A truly reliable measurement still may not be valid.

When an operational definition is applied to a set of cases, three potential sources of errors can occur and is defined by the following equation:

Observed value = true value + systematic error + random error (Singleton & Straits, 2010). The first of three potential sources of variation is "true differences". In an idealistic world all of the potential sources of variations would provide differences with the research idea being studied. However, since this is unobtainable a realistic approach would be to be aware of and recognize any potential errors and reduce or eliminate them. Systematic errors are factors that influence either the research idea or process of measurement. These errors are of systematic nature and can be in the form of a reactive measurement effect or social desirability effect. Systemactic errors affect a measurements validity but not its reliability. The final potential source of variation is a random measurement error. This occurs when things arise by chance, such as mood changes within the respondents, changes in the measuring process, or the researcher's momentary fatigue. These types of errors are unpredictable because they can change at any given time. The measurements are imprecise and inaccurate, causing unreliable measurements.

The random and unsystematic errors caused by random measurement can be overcome through repeated measurements.

Reliability assessment is the process of ensuring consistency either by slightly altering the measurements or by observing the measurements over time (Singleton & Straits, 2010). This can be accomplished by testing and retesting, measuring the equivalencey among the parts within the study, and/or using the same measurement instrument as other researchers. The reliability of a study can be improved by conducting preliminary and exploratory work prior to conducting the actual study, adding similar items to a scale, completing a comparative analysis item by item to reveal differences on a particular variable, and/or making direct observations of respondents for clues of misinterpretation or mood changes.

Validity assessment involves the effectiveness of the operational definition and the concepts meant to be measured. The assessment of validity can not be directly measured. There are two types of subjective validity measurements; face validity and content validity (Singleton & Straits, 2010). Face validity is the personal judgment that the operational definition meausures is the intended concept; however, this is generally not accepted because it is not based on obejective evidence. Content validity tries to answer whether the measurement adequately represents all areas of the research idea. Of the two validity measurements, this is the preferred method.

Criterion-related validation involves measuring instruments that have not been designed to test hypotheses (Singleton & Straits, 2010). This validity test depends on the relationship between a measure and its criterion and could pose significant problems if no

criterion exists or the researcher is unable to use the criterion. Constuct validation is used when either no criterion of prediction exists or well-defined domain content exists. This validation tool emphasizes the meaning of responses of a researchers measuring tool. Construct validation is based upon research evidence. The researcher makes conclusions on variables that are measurable to the concept and variables that are not measurable to the concept, which can cause systematic errors. More evidence that is gathered to support the hypothesis or measurable concept, the greater the researcher's confidence that the operational definitions validity against the concept exists. Other types of validity concerns exist, but the key point to understand is that validity assessment is a crucial step in determing whether the operational definition defines the concept of the study and that steps should be taken to reduce or eliminate validity concerns.

Threats to Validity

Threats to validity in research are an extremely important concern that researchers need to consider. The historical financial data collected in this research is public knowledge and is assumed to represent a true and accurate depiction of results and should eliminate validity concerns. Internal validity was minimal because the independent variables selected are historical financial data, which has already occurred. Likewise, external validity is minimal because the study focused on the implementation of IFRS in Canada only; however, the generalization that positive and effective outcomes of IFRS in Canada may be found or similar for other countries could create an external validity relevant to this study. The construct validity for the study will be upheld as the research

design and methodology is consistent for the research questions and objective of the study.

Measures for protection of Human Subjects

Measurements made for the protection of all human subjects and respondents in all studies need to be protected and the utmost concern for all researchers. This is considered an ethical gold standard of all research, no matter the type of research and the data collection process. Given that, all data sampled and studied will be gathered from existing online databases made readily available to the public. For confidentiality purposes no company names were used in the study, only numeric references will be used for each company in the study. Therefore, human subjects do not apply to this study and will not be involved.

Summary and Transition

The intentions of Chapter 3 are to demonstrate the type of research methodology to be used by implementing an experimental quantitative approach of available information. The analysis of the Canadian stock market of selected companies, which trade on the S&P/TSX Composite Index, was measured before and after the implementation of IFRS since its enactment in 2011. The objective of this study was to discover if any significant effects on Canadian stock prices are realized due to the enactment of IFRS in 2011. This was achieved by using a quantitative approach and an ANCOVA study. The dependent variable is the change in the stock price before and after the implementation of IFRS. The independent variables are 3 key financial indicators that are considered profitability ratios. The independent variables were compared between the

pre and post time periods of IFRS to help in identifying the effectiveness of the implementation of IFRS and its effect on the dependent variable. Potential findings of the study may suggest an overall improvement in financial reporting by companies which may include increased stock valuations after the implementation of IFRS. Chapter 4 will provide a description and interpretation of the results for the data collected. The final chapter will conclude with implications for positive social changes, recommendations, and suggestions for possible future research areas.

Chapter 4: Results

The purpose of this quantitative study was to analyze whether stock valuations of Canadian companies, listed on the S&P/TSX Composite Index have been influenced by the recent adoption by some countries of IFRS. I examined three research questions pertaining to the possible impacts of IFRS on Canadian companies' stock prices and key financial measurements and on industry sectors within Canada. I also tested seven hypotheses to ascertain whether there were any statistically significant differences in price changes after the implementation of IFRS. The results in this chapter are presented to show the relationships between the independent variables, price-to-earnings ratio, price-to-sales ratio and price-to-cash flow ratios and correlations found against the dependent variable, the changes in company stock prices for the post IFRS period and the independent variables and the covariate, and the changes in company stock prices for the pre IFRS period.

The following research questions were derived to help address questions concerning effects of IFRS in Canada and will be supported by the hypotheses of the study:

RQ 1: How will the implementation of International Financial Reporting Standards significantly affect Canadian companies' stock price and key financial measurements?

RQ 2: How might the implementation of IFRS affect changes in company stock prices?

RQ 3: What sector specific changes may be discovered from the implementation of IFRS in Canada?

These research questions were addressed by using an ANCOVA study and *t* tests for this inferential statistical analysis method. The seven hypotheses developed in Chapter 3 were tested in Chapter 4 to observe if there were any statistically significant differences in price changes after the implementation of IFRS.

Data Collection

The Morning Star Canada website was used for the data collection process. The website is a public site made available to all; therefore, accessibility of the Data for research purposes is understood to be permitted and free. Data included all 248 companies listed on the S&P/TSX Stock Exchange Composite Index. My objective was to collect all data for the 248 companies for the pre IFRS period (2009-2010) and the post IFRS period (2011-2012).

I evaluated 10 industry sectors by performing an ANCOVA test. I used the stock's price change for post IFRS as the dependent variable, industry sector for the independent variable and the stock's price change pre IFRS for the covariate. I conducted this analysis to make any observations of stock price changes between the pre and post periods of IFRS for the industry sectors.

I used the G Power 3.1 statistical software to determine the minimum sample sizes for the *t*-test, GLZM, and ANCOVA models. The appropriate sample size determined by the G Power 3.1 software for the *t*-test model was 105 companies for each group (pre IFRS group and the post IFRS group; or, 210 total companies total). I applied

the *t*-test model to Hypotheses 1, 3, 5, and 7. Below is the justification for using the sample size for the *t*-test model.

t tests - Means: Difference between two independent means (two groups)		
Analysis: A priori: Compute required sample size		
Input:	Tails(s)	Two
	Effect size d	0.5
	α err prob	0.05
	Power (1-β err prob)	0.95
	Allocation ratio N2/N1	1
Output:	Noncentrality parameter δ	3.6228442
	Critical t	1.9714347
	Df	208
	Sample size group 1	105
	Sample size group 2	105
	Total sample size	210
	Actual power	0.9501287

The *t*-test model involved analyzing each of the financial ratios during the pre IFRS period (2009-2010) and post IFRS period (2011-2012) to determine if there was a significant difference in the mean ratio for both pre IFRS and post IFRS groups. In Hypothesis 1, the financial ratio evaluated was price-to-earnings ratio and included 131 companies for each group (or, a total of 262 companies). In Hypothesis 3, the financial ratio evaluated was price-to-sales ratio and included 217 companies for each group or a total of 434 companies. In Hypothesis 5, the financial ratio evaluated was price-to-cash flow ratio and included 227 companies for each group (or, a total of 454 companies).

The appropriate sample size determined by the G Power 3.1 software for the GLZM model was 62 companies. The GLZM model was applied to Hypotheses 2, 4, and 6. Below is the justification for using the sample size for the GLZM model.

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero		
Analysis: A priori: Compute required sample size		
Input:	Effect size f^2	0.15
	α err prob	0.05
	Power (1-β err prob)	0.85
	Number of predictors	1
Output:	Noncentrality parameter λ	9.30000000
	Critical F	4.0011914
	Numerator df	1
	Denominator df	60
	Total sample size	62
	Actual power	0.8509394

The GLZM model involved controlling for stock price changes after IFRS to determine if there was a statistically significant difference in the post IFRS (2011-2012) financial ratio based on the pre IFRS (2009-2010) financial ratio. In Hypothesis 2 the financial ratio evaluated was price-to-earnings ratio and included 131 companies. In Hypothesis 4 the financial ratio evaluated was price-to-sales ratio and included 217 companies. In Hypothesis 6 the financial ratio evaluated was price-to-cash flow ratio and included 227 companies.

The appropriate sample size determined by G Power 3.1 software for the ANCOVA model was 128 companies which traded on the S&P/TSX Stock Exchange. The ANCOVA model was used when evaluating the 10 industry sectors. Below is the justification for using the sample size for the ANCOVA model.

F tests - ANCOVA: Fixed effects, main effects and interactions		
Analysis: A priori: Compute required sample size		
Input:	Effect size f	0.25
	α err prob	0.05
	Power (1-β err prob)	0.80
	Number of df	1

	Number of groups	2
	Number of covariates	1
Output:	Noncentrality parameter λ	8.0000000
	Critical F	3.9169322
	Denominator df	125
	Total sample size	128
	Actual power	0.8014112

The ANCOVA model involved analyzing the financial ratios during the post IFRS period (2011-2012) against the pre IFRS period (2009-2010) for the 10 specific industry sectors. None of the data was excluded for this test and included all 248 companies.

Initially, I considered 248 companies, however some companies were excluded. Some company data was excluded because data was not available for some of the pre and post periods for companies that were listed on the S&P/TSX. The cause of incomplete data was a result of one of several reasons, a name change in the company, mergers of companies, or a re-weighting of the index which either delisted or listed companies. The incomplete data was missing either one year or multiple years of financial data for the selected time periods for each given financial ratio. The excluded companies represented only a small fraction of lost data and had minimal, if any affects to the study because a large set of data was still available for the majority of the population. In addition, not all data excluded for one test was excluded for every test. G Power was used to determine the minimum recommended sample size and all sample sizes exceeded the G Power minimum recommendations. The data included in the study should be considered a true representation of the entire population because no sample data was randomly selected,

but rather the entire population for all companies listed on the S&P/TSX Composite Index was used.

Study Results

A paired sample t-test was used in this study to test Hypothesis 1, 3, 5, and 7 to determine if there was a statistically significant difference, at an α level < .05 for the pre and post IFRS periods. The pre IFRS period includes years 2009-2010 and represents the period when IFRS was not mandated. The post IFRS period includes years 2011-2012 and represents the period when IFRS were mandated. Hypothesis 1, 3, and 5 were evaluated to determine whether there was a statistically significant difference in the mean ratio of the price-to-earnings ratio, price-to-sales ratio, and price-to-cash flow ratio during pre IFRS and post IFRS periods. Hypothesis 7 was evaluated to determine whether there was a statistically significant difference in the change of company stock prices during pre IFRS and post IFRS. A series of ANCOVA analyses were used to test Hypotheses 2, 4, and 6. An ANCOVA study was conducted to control for stock price changes after IFRS and to determine if there is a statistically significant difference in the post IFRS price-to-earnings ratio, price-to-sales ratio, and price-to- cash flow ratios based on the pre IFRS financial ratios.

A multiple regression analysis was completed for all models to derive the best-fit model for the methodology and data used for this study. The results of these analyses are described and evaluated within this section, along with tables and figures.

A GLZM was used for all dependent variables and covariates for this ANCOVA study, which included paired samples t-test to determine whether there was a statistically

significant difference present. For this study an ANCOVA study was used to make considerations of the covariates. Covariates are used to make adjustments for the variables. The covariate used in this study was the stock price change for the post IFRS period.

Singleton and Straits (2010) stated the chi-square test is the most commonly used test to measure for statistical significance for independents. A 95 percent confidence interval was used to measure the accuracy of all dependent variables against the time periods evaluated. In addition, the Omni-bus test was used to compare the fitted model against the intercept-only models found in Tables 8, 19, and 30 for the specified variables, given in each table. The Wald chi-square was applied and tested the effect of the dependent variables against the independent variables and covariates. This test is based on the linearly independent pairwise comparisons among the estimated marginal means and addresses concerns with Type III errors. The Wald chi-squares tests can be found in Tables 11, 22, and 33. Parameter estimates were included for each GLZM conducted to display any statistical significance that may have been observed. In addition, scatterplots used represent any residuals that may have been observed by the dependent variables.

Price to Earnings Ratio - Paired Samples *t*-Test

$H_0$1: There is no statistically significant difference in the mean ratio of price-to-earnings ratio during pre IFRS and post IFRS.

$H_1$1: There is a statistically significant difference in the mean ratio of price-to-earnings ratio during pre IFRS and post IFRS.

Table 1

Paired Samples Statistics for Pre and Post IFRS Price-to-Earnings Ratio

		M	*N*	*SD*	*SEM*
Pair 1	PRICEEARNRATIOPREIFRS	-2.7252	131	36.49484	3.18857
	PRICEEARNRATIOPOSTIFRS	10.9656	131	68.89930	6.01976

A paired samples t-test was performed to determine whether there was a statistically significant difference in the mean ratio of price-to-earnings ratio during pre IFRS and post IFRS. From Table 3, the null hypothesis is rejected [t(130)= -2.023, p=0.045] because the p-value is less than the 5% level. The mean difference in the post IFRS price-to-earnings ratio (*M*=10.97, *SD*=68.90) is greater than that for pre IFRS (*M*=-2.73, *SD*=36.49), as indicated in Table 1. This may imply that the price-to-earnings ratio for the post period was higher and may indicate that the stock price may be overpriced during the post IFRS period.

Table 2

Paired Samples Correlations between Pre and Post IFRS Price-to-Earnings Ratio

		N	*Correlation*	*Sig.*
Pair 1	PRICEEARNRATIOPREIFRS & PRICEEARNRATIOPOSTIFRS	131	.015	.862

Table 3

Paired Samples Test for Pre- and Post-IFRS Price-to-Earnings Ratio

	Paired Differences						
				95% CI of the			*Sig. (2-*
	M	*SD*	*SEM*	*Difference*	*t*	*df*	*tailed)*

					LL	*UL*			
Pair 1	PRICEEARNRATIOPRE IFRS - PRICEEARNRATIOPOST IFRS	-13.69084	77.47288	6.76884	-27.08217	-.29951	-2.023	130	.045

Generalized Linear Model for Dependent Variable Price to Earnings Ratio Post IFRS, IV as Price to Earnings Ratio Pre IFRS, and Covariate Stock Price Change Post IFRS

$H_0$2: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS price to earnings ratio based on the pre IFRS price to earnings ratio.

$H_1$2: Controlling for stock price changes after IFRS, there is a statistically significant difference in the post IFRS price to earnings ratio based on the pre IFRS price to earnings ratio.

Table 4

GLZM Model Information

Dependent Variable	PRICE EARN RATIO POST IFRS
Probability Distribution	Normal
Link Function	Identity

Table 5

Case Processing Summary

	N	*Percent*
Included	131	52.8%
Excluded	117	47.2%
Total	248	100.0%

Table 6

Descriptive Statistics for Dependent Variable and Covariate

		N	*Min*	*Max*	*M*	*SD*
Dependent Variable	PRICE EARN RATIO POST IFRS	131	-83.90	758.30	10.9656	68.89930
Covariate	STOCKS PRICE CHANGE POST IFRS	131	-14.10	43.25	2.7867	6.60902

The GLZM for the dependent variable, price-to-earnings ratio included 131 companies with 117 excluded. The included companies represented 52.8% of the companies to be observed and analyzed. The descriptive statistics for the dependent variables and the covariate can be found in Table 6. The mean for the post IFRS period for the price-to-earnings ratio was (M=10.97) and the standard deviation was (SD=68.90). The stock price change for the post period (covariate) resulted in a mean of (M=2.79) and a standard deviation of (SD=6.61).

Table 7

Goodness of Fit[a] of GLZM

	Value	*df*	*Value/df*
Deviance	1709.743	7	244.249
Scaled Deviance	131.000	7	
Pearson Chi-Square	1709.743	7	244.249
Scaled Pearson Chi-Square	131.000	7	
Log Likelihood[b]	-354.144		
Akaike's Information Criterion (AIC)	958.288		
Finite Sample Corrected AIC (AICC)	7258.288		
Bayesian Information Criterion (BIC)	1317.688		
Consistent AIC (CAIC)	1442.688		

Dependent Variable: PRICE EARN RATIO POST IFRS

Model: (Intercept), PRICE EARN RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS

a. Information criteria are in smaller-is-better form.
b. The full log likelihood function is displayed and used in computing information criteria.

The test used to represent the "Goodness of Fit" was the Pearson's Chi-squared test. This test is used to determine the consistency of the sample data with the hypothesized distribution. The larger the differences between the actual distribution and the hypothesized distribution would result in a larger Chi-square, thereby suggesting a higher probability that a relationship exists. These values for the dependent variable satisfy the Pearson's Chi-squared test and this test is the best fit among the other "Goodness of Fit" tests evaluated. The Pearson Chi-square test used 7 degrees of freedom and the value/df ratio was 244.249. The results can be found in Tables 7, 18, and 29.

Table 8

Omnibus Test[a]

Likelihood Ratio Chi-Square	*df*	*Sig.*
771.423	123	.000

Dependent Variable: PRICE EARN RATIO POST IFRS
Model: (Intercept), PRICE EARN RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS
a. Compares the fitted model against the intercept-only model.

The overall or global test used was the Omnibus test. The test for all models included the Likelihood Ratio Chi-square test, which compares the fitted model against the intercept-only model. The ratio was 771.423 and the significance value was .000, which signifies a statistically significant relationship. The Omnibus tests for each model can be found in Tables 8, 19, and 30.

Table 9

Tests of Model Effects

	Type III		
Source	*Wald Chi-Square*	*df*	*Sig.*
(Intercept)	112.483	1	.000
PRICE EARN RATIO PRE IFRS	47137.209	122	.000
STOCKS PRICE CHANGE POST IFRS	33.850	1	.000

Dependent Variable: PRICE EARN RATIO POST IFRS

Model: (Intercept), PRICE EARN RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS

Table 10

Grand Mean Estimates

		95% Wald CI	
M	*SE*	*LL*	*UL*
11.1366	.32087	10.5077	11.7655

Note: Covariates appearing in the model are fixed at the following values: STOCKS PRICE CHANGE POST IFRS=2.7867

Table 11

Overall Test Results

Wald Chi-Square	*df*	*Sig.*
47137.209	122	.000

Note: The Wald chi-square tests the effect of PRICE EARN RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

The Wald Chi-square test was used with specific parameters to estimate from the pre and post periods of IFRS to test the true value of the parameters for the sample estimates and is based on the linearly independent pairwise comparisons among the estimated marginal means. The degrees of freedom used for the pre IFRS price-to-earnings ratio was 122 with a significance of .000. The Wald Chi-square value was

47137.209 and the p-value was .000. The p-value is less than the .05 alpha level; which, indicates a statistically significant relationship exists and the null hypothesis can be rejected.

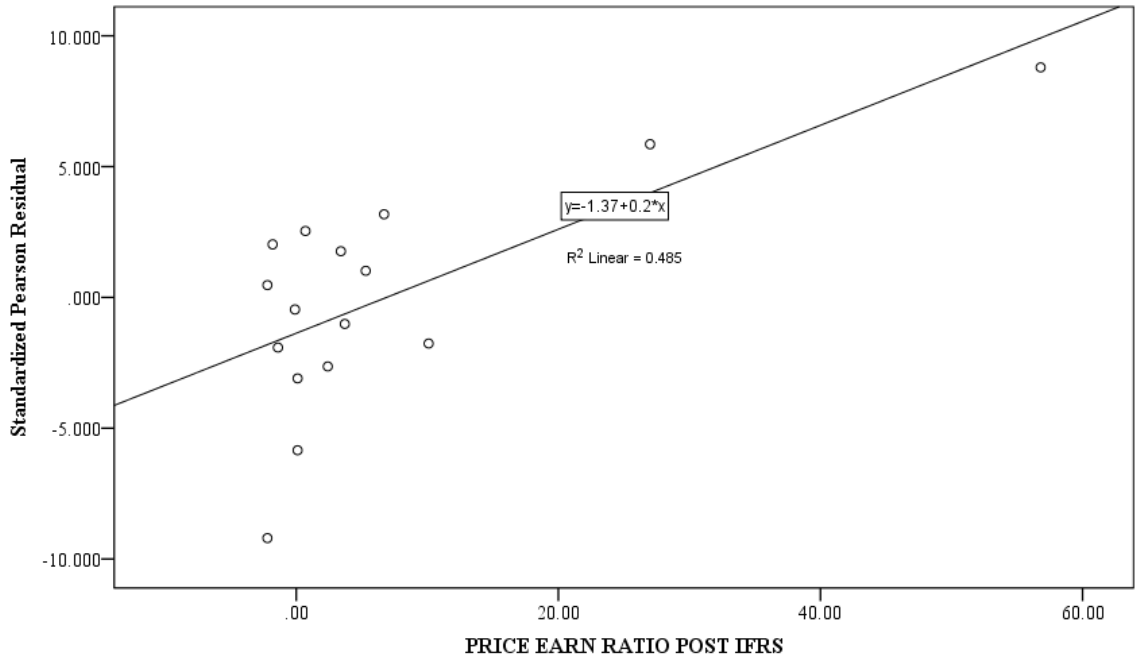

Figure 1. Scatterplot of GLZM Model Residuals by Dependent Variable - Price to Earnings Ratio Post IFRS.

The scatter plot in Figure 1 has a positive slope associated with the post IFRS price-to-earnings ratio with $y = 1.37+0.2^{*}x$ and a R^2 Linear = 0.485. In addition, the association would be considered to be a linear relationship. The strength of the pattern would be considered to have a moderate, positive correlation, as the cluster is tight and upward trending from the left to the right.

Price to Sales Ratio - Paired *t*-Test Results

$H_0$3: There is no statistically significant difference in the mean ratio of price-to-sales ratio during pre IFRS and post IFRS.

$H_1$3: There is a statistically significant difference in the mean ratio of price-to-sales ratio during pre IFRS and post IFRS.

Table 12

Paired Samples Statistics for Pre and Post IFRS Price-to-Sales Ratio

		M	*N*	*SD*	*SEM*
Pair 1	PRICESALESRATIOPREIFRS	-11.3631	217	157.85295	10.71576
	PRICESALESRATIOPOSTIFRS	.0249	217	2.06851	.14042

Table 13

Paired Samples Correlations between Pre and Post IFRS Price-to-Sales Ratio

		N	*Correlation*	*Sig.*
Pair 1	PRICESALESRATIOPREIFRS & PRICESALESRATIOPOSTIFRS	217	.096	.161

Table 14

Paired Samples Test for Pre and Post IFRS Price-to-Sales Ratio

		Paired Differences							
					95% CI				*Sig. (2-*
		M	*SD*	*SEM*	*LL*	*UL*	*t*	*df*	*tailed)*
Pair 1	PRICESALESRATIOPREIFRS – PRICESALESRATIOPOSTIFRS	-11.38802	157.66873	10.70325	-32.48421	9.70817	-1.064	216	.289

A paired samples t-test was conducted to test whether there was a statistically significant difference in the mean ratio of price-to-sales ratio between pre IFRS and post IFRS. From Table 14, the null hypothesis is accepted [t(216)= -1.064, p=0.289] because the p-value is greater than the 5% level. There is no statistically significant difference in the mean ratio of price-to-sales ratio during pre IFRS and post IFRS. The mean difference in the post IFRS price-to-sales ratio (*M*=.025, *SD*=2.07) is greater than that for pre IFRS (*M*=-11.36, *SD*=157.85), as indicated in Table 12. This may imply that the price-to-sales ratio for the post period was higher and may indicate that investments in stocks during the pre IFRS period may be more attractive because typically the lower the price-to-sales ratio, the more attractive the investment in the company.

Generalized Linear Model for Dependent Variable Price to Sales Ratio Post IFRS, IV as Price to Sales Ratio Pre IFRS, and Covariate Stock Price Change Post IFRS

$H_0$4: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS price to sales ratio based on the pre IFRS price to sales ratio.

$H_1$4: Controlling for stock price changes after IFRS, there is a statistically significant difference in the post IFRS price to sales ratio based on the pre IFRS price to sales ratio.

The Generalized Linear Model (GLZM) for the dependent variable, price-to-sales ratio included 217 companies with 31 excluded. The included companies represented 87.50% of the companies to be observed and analyzed. The descriptive statistics for the dependent variables and the covariate can be found in Table 17. The mean for the post IFRS period for the price-to-sales ratio was (M=.025) and the standard deviation was

(SD=2.07). The stock price change for the post period (covariate) resulted in a mean of 1.4268 and a standard deviation of 8.8907.

Table 15

GLZM Model Information

Dependent Variable	PRICE SALES RATIO POST IFRS
Probability Distribution	Normal
Link Function	Identity

Table 16

Case Processing Summary

	N	*Percent*
Included	217	87.5%
Excluded	31	12.5%
Total	248	100.0%

Table 17

Descriptive Statistics for Dependent Variable and Covariate

		N	*Min*	*Max*	*M*	*SD*
Dependent Variable	PRICE SALES RATIO POST IFRS	217	-19.10	10.50	.0249	2.06851
Covariate	STOCKS PRICE CHANGE POST IFRS	217	-78.46	43.25	1.4268	8.89076

Table 18

Goodness of Fit[a] of GLZM

	Value	*df*	*Value/df*
Deviance	200.491	115	1.743
Scaled Deviance	217.000	115	
Pearson Chi-Square	200.491	115	1.743
Scaled Pearson Chi-Square	217.000	115	

Log Likelihood[b]	-299.324
Akaike's Information Criterion (AIC)	804.649
Finite Sample Corrected AIC (AICC)	994.242
Bayesian Information Criterion (BIC)	1152.778
Consistent AIC (CAIC)	1255.778

Dependent Variable: PRICE SALES RATIO POST IFRS

Model: (Intercept), STOCKS PRICE CHANGE POST IFRS,PRICE SALES RATIO PRE IFRS

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

The test used to represent the "Goodness of Fit" was the Pearson's Chi-squared test. This test is used to determine the consistency of the sample data with the hypothesized distribution. The larger the differences between the actual distribution and the hypothesized distribution would result in a larger Chi-square, thereby suggesting a higher probability that a relationship exists. These values for the dependent variable satisfy the Pearson's Chi-squared test and this test is the best fit among the other "Goodness of Fit" tests evaluated. The Pearson Chi-square test used 115 degrees of freedom and the value/df ratio was 1.743. The results can be found in Tables 7, 18, and 29.

Table 19

Omnibus Test[a]

Likelihood Ratio Chi-Square	*df*	*Sig.*
331.612	101	.000

Dependent Variable: PRICE SALES RATIO POST IFRS

Model: (Intercept), STOCKS PRICE CHANGE POST IFRS, PRICE SALES RATIO PRE IFRS

a. Compares the fitted model against the intercept-only model.

Table 20

Tests of Model Effects

	Type III		
Source	*Wald Chi-Square*	*df*	*Sig.*
(Intercept)	3.852	1	.050
STOCKS PRICE CHANGE POST IFRS	3.301	1	.069
PRICE SALES RATIO PRE IFRS	746.047	100	.000

Dependent Variable: PRICE SALES RATIO POST IFRS
Model: (Intercept), STOCKS PRICE CHANGE POST IFRS, PRICE SALES RATIO PRE IFRS

Table 21

Grand Mean Estimates

		95% Wald CI	
M	*SE*	*LL*	*UL*
-.1417	.08512	-.3085	.0252

Note: Covariates appearing in the model are fixed at the following values: STOCKS PRICE CHANGE POST IFRS=1.4268

Table 22

Overall Test Results

Wald Chi-Square	*df*	*Sig.*
746.047	100	.000

Note: The Wald chi-square tests the effect of PRICE SALES RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

The Wald Chi-square test was used with specific parameters to estimate from the pre and post periods of IFRS to test the true value of the parameters for the sample estimates. The degrees of freedom used for the pre IFRS price-to-sales ratio was 101 with

a significance of .000. The Wald Chi-square value was 746.047 and the p-value was .000. The p-value is less than the .05 alpha level; which, indicates a statistically significant relationship exists and the null hypothesis can be rejected.

The scatter plot in Figure 2 has a positive slope associated with the post IFRS price-to-sales ratio with y = -0.16 + 0.91x and a R^2 Linear = 0.736. In addition, the association would be considered to be a linear relationship. The strength of the pattern would be considered to have a moderate, positive correlation, as the cluster is tight and upward trending from the left to the right.

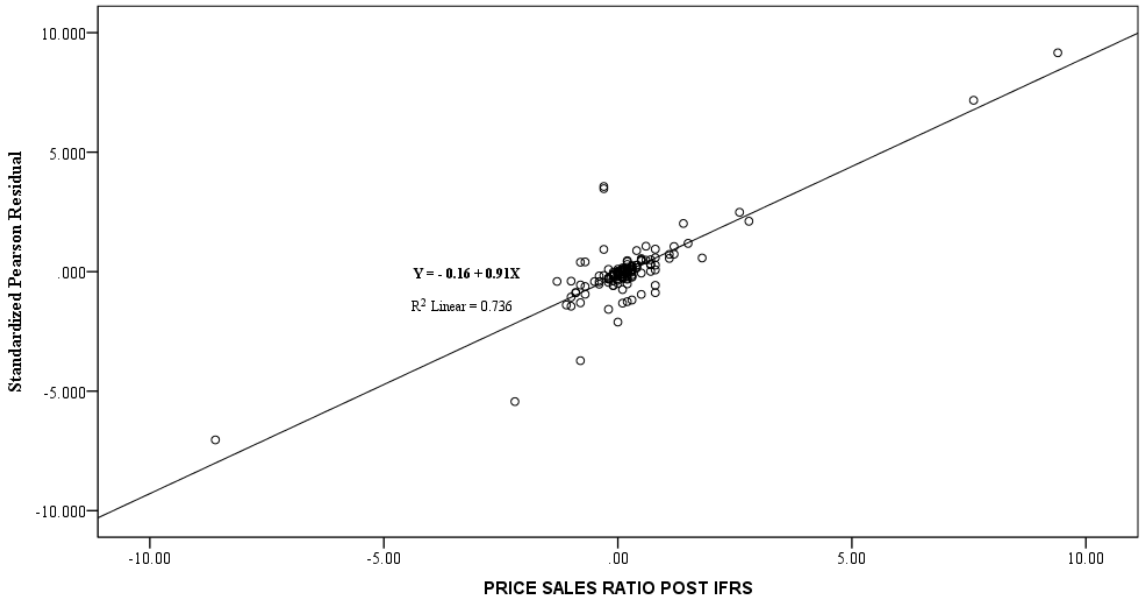

Figure 2. Scatterplot of GLZM Model Residuals by Dependent Variable - Price to Sales Ratio Post IFRS.

Price to Cash flow ratio - Paired *t*-Test Results

$H_0$5: There is no statistically significant difference in the mean ratio of price-to-cash flow ratio during pre IFRS and post IFRS.

$H_1$5: There is a statistically significant difference in the mean ratio of price-to-cash flow ratio during pre IFRS and post IFRS.

Table 23

Paired Samples Statistics for Pre and Post IFRS Price-to-Cash Flow Ratio

		M	*N*	*SD*	*SEM*
Pair 1	PRICECASHFLOWRATIO PREIFRS	-36.2581	227	665.64027	44.18010
	PRICECASHFLOWRATIO POSTIFRS	5.4278	227	127.21422	8.44350

Table 24

Paired Samples Correlations between Pre and Post IFRS Price-to-Cash Flow Ratio

		N	*Correlation*	*Sig.*
Pair 1	PRICECASHFLOWRATIOPREIFRS & PRICECASHFLOWRATIOPOSTIFRS	227	.004	.948

Table 25

Paired Samples Test for Pre and Post IFRS Price-to-Cash Flow Ratio

		Paired Differences							*Sig. (2-tailed)*
					95% CI				
		M	*SD*	*SEM*	*LL*	*UL*	*t*	*df*	
Pair 1	PRICECASHFLOWRATIOPREIFRS - PRICECASHFLOWRATIOPOSTIFRS	-41.68590	677.14503	44.94369	-130.24818	46.87638	-.928	226	.355

A paired samples t-test was performed to test whether there was a statistically significant difference in the mean ratio of price-to-cash flow ratio between pre IFRS and

post IFRS. From Table 25, the null hypothesis is accepted [t(226)= -0.928, p=0.355] because the p-value is greater than the 5% level. There is no statistically significant difference in the mean ratio of price-to-cash flow ratio during pre IFRS and post IFRS. The mean difference in the post IFRS price-to-cash flow ratio (*M*=5.43, *SD*=127.21) is greater than that for pre IFRS (*M*=-36.26, *SD*=665.64), as indicated in Table 23.

Generalized Linear Model for Dependent Variable Price to Cash Flow Ratio Post IFRS, IV as Price to Cash Flow Ratio Pre IFRS, and Covariate Stock Price Change Post IFRS

$H_0$6: Controlling for stock price changes after IFRS, there is no statistically significant difference in the post IFRS cash flow ratio based on the pre IFRS cash flow ratio.

$H_1$6: Controlling for stock price changes after IFRS, there is a statistically significant difference in the post IFRS cash flow ratio based on the pre IFRS cash flow ratio.

Table 26

GLZM Model Information

Dependent Variable	PRICE CASH FLOW RATIO POST IFRS
Probability Distribution	Normal
Link Function	Identity

Table 27

Case Processing Summary

	N	*Percent*
Included	227	91.5%
Excluded	21	8.5%
Total	248	100.0%

Table 28

Descriptive Statistics for Dependent Variable and Covariate

		N	*Min*	*Max*	*M*	*SD*
Dependent Variable	PRICE CASH FLOW RATIO POST IFRS	227	-890.10	1657.40	5.4278	127.21422
Covariate	STOCKS PRICE CHANGE POST IFRS	227	-78.46	43.25	1.3564	8.71735

The GLZM for the dependent variable, price-to-cash flow ratio included 227 companies with 21 excluded. The included companies represented 91.50% of the companies to be observed and analyzed. The descriptive statistics for the dependent variables and the covariate can be found in Table 28. The mean for the post IFRS period for the price-to-cash flow ratio was 5.4278 and the standard deviation was 127.2142. The stock price change for the post period (covariate) resulted in a mean of 1.3564 and a standard deviation of 8.7173.

The test used to represent the "Goodness of Fit" was the Pearson's Chi-squared test. This test is used to determine the consistency of the sample data with the hypothesized distribution. The larger the differences between the actual distribution and the hypothesized distribution would result in a larger Chi-square, thereby suggesting a higher probability that a relationship exists. These values for the dependent variable satisfy the Pearson's Chi-squared test and this test is the best fit among the other "Goodness of Fit" tests evaluated. The Pearson Chi-square test used 40 degrees of freedom and the value/df ratio was 44263.003. The results can be found in Tables 7, 18, and 29.

The overall or global test used was the Omnibus test. The test for all models included the Likelihood Ratio Chi-square test, which compares the fitted model against the intercept-only model. The ratio was 164.688 and the significance value was .868,

which signifies a no statistically significant relationship. The Omnibus tests for each model can be found in Tables 8, 19, and 30.

Table 29

Goodness of Fit[a] of GLZM

	Value	*df*	*Value/df*
Deviance	1770520.111	40	44263.003
Scaled Deviance	227.000	40	
Pearson Chi-Square	1770520.111	40	44263.003
Scaled Pearson Chi-Square	227.000	40	
Log Likelihood[b]	-1339.267		
Akaike's Information Criterion (AIC)	3054.534		
Finite Sample Corrected AIC (AICC)	4924.640		
Bayesian Information Criterion (BIC)	3698.425		
Consistent AIC (CAIC)	3886.425		

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

Model: (Intercept), PRICE CASH FLOW RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

Table 30

Omnibus Test[a]

Likelihood Ratio Chi-Square	*df*	*Sig.*
164.688	186	.868

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

Model: (Intercept), PRICE CASH FLOW RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS

a. Compares the fitted model against the intercept-only model.

Table 31

Tests of Model Effects

Source	Type III

	Wald Chi-Square	*df*	*Sig.*
(Intercept)	.593	1	.441
PRICE CASH FLOW RATIO PRE IFRS	241.863	185	.003
STOCKS PRICE CHANGE POST IFRS	.144	1	.704

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS
Model: (Intercept), PRICE CASH FLOW RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS

Table 32

Grand Mean Estimates

		95% Wald CI	
M	*SE*	*LL*	*UL*
4.1747	6.16535	-7.9091	16.2586

Note: Covariates appearing in the model are fixed at the following values: STOCKS PRICE CHANGE POST IFRS=1.3564

Table 33

Overall Test Results

Wald Chi-Square	*df*	*Sig.*
241.863	185	.003

Note: The Wald chi-square tests the effect of PRICE CASH FLOW RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

The Wald Chi-square test was used with specific parameters to estimate from the pre and post periods of IFRS to test the true value of the parameters for the sample estimates and is based on the linearly independent pairwise comparisons among the estimated marginal means. The degrees of freedom used for the pre IFRS price-to-cash

flow ratio was 185 with a significance of .003 and a Wald Chi-square value of 241.863. The Wald Chi-square value was 241.863 and the p-value was .003. The p-value is less than the .05 alpha level; which, indicates a statistically significant relationship exists and the null hypothesis can be rejected.

The scatter plot in Figure 3 has a positive slope associated with the post IFRS price-to-cash flow ratio with y = -0.1 + 8.03E-3*x and a R^2 Linear = 0.501. In addition, the association would be considered to be a linear relationship. The strength of the pattern would be considered to have a moderate, positive correlation, as the cluster is tight and upward trending from the left to the right.

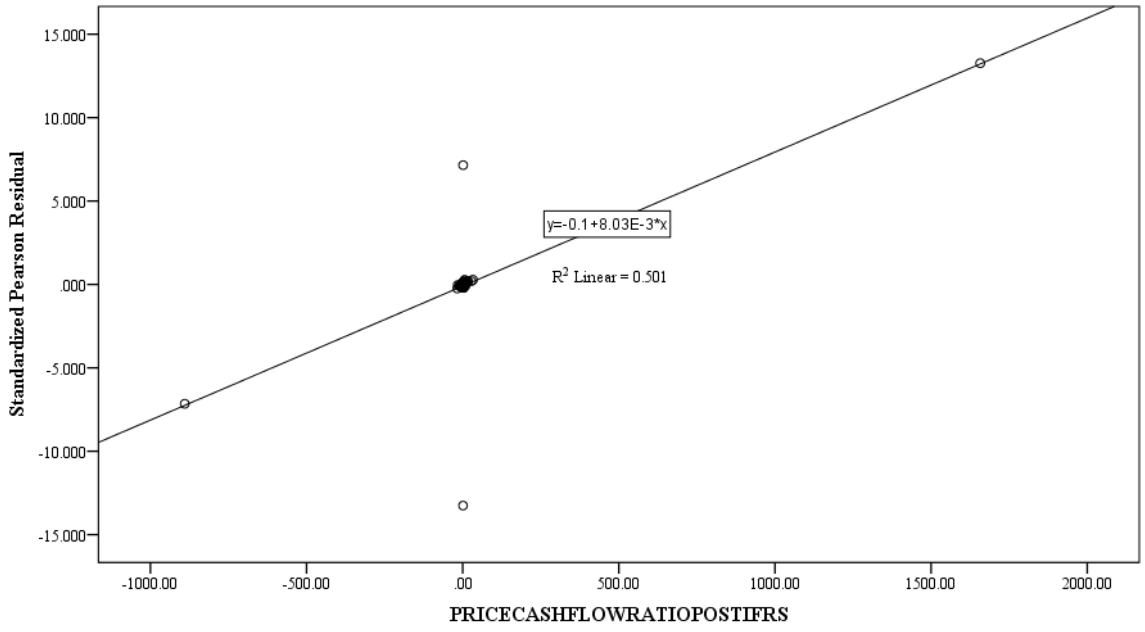

Figure 3. Scatterplot of GLZM Model Residuals by Dependent Variable - Price to Cash Flow Ratio Post IFRS.

Paired *t*-Test for Change in Company Stock Prices

$H_0$7: There is no statistically significant difference in the change in company stock prices during pre IFRS and post IFRS.

$H_1$7: There is a statistically significant difference in the change in the company stock prices during pre- IFRS and post IFRS.

Table 34

Paired Samples Statistics for Pre and Post IFRS Change of Company Stock Prices

		M	*N*	*SD*	*SEM*
Pair 1	STOCKSPRICECHANGEPRE IFRS	4.3899	248	6.14425	.39016
	STOCKSPRICECHANGEPOST IFRS	1.5009	248	8.66802	.55042

Table 35

Paired Samples Correlations between Pre and Post IFRS Change of Company Stock Prices

		N	*Correlation*	*Sig.*
Pair 1	STOCKSPRICECHANGEPRE IFRS & STOCKSPRICECHANGEPOST IFRS	248	.000	.994

Table 36

Paired Samples Test for Pre and Post IFRS Change of Company Stock Prices

		Paired Differences							
					95% CI				*Sig. (2-*
		M	*SD*	*SEM*	*LL*	*UL*	*t*	*df*	*tailed)*
Pair 1	STOCKSPRICECHANGE PREIFRS – STOCKSPRICECHANGE POSTIFRS	2.88899	10.62238	.67452	1.56044	4.21754	4.283	247	.000

A paired samples t-test was performed to determine whether there was a statistically significant difference in the change of company stock prices during pre IFRS and post IFRS. From Table 36, the null hypothesis is rejected [$t(247)= 4.283$, $p<0.001$] because the p-value is less than the 5% level. The mean difference in the pre IFRS change of company stock prices (M=4.39, SD=6.14) is greater than that for post IFRS change of company stock prices (M=1.50, SD=8.67).

Descriptive Statistics of Industry Sectors

The descriptive statistics of industry sectors is a further evaluation of this study to evaluate the effects of implementing IFRS on industry sectors specific to companies which trade on the S&P/TSX Stock Exchange. An ANCOVA study was used to assess the dependent and account for a covariate. The Levene's Test of Equality of Error Variances was used, which tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 37

Industry Sectors

		Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
Valid	Oil and Gas	44	17.7	17.7	17.7
	Diversified Industries	68	27.4	27.4	45.2
	Financial Services	29	11.7	11.7	56.9
	Mining	41	16.5	16.5	73.4
	Clean Technology	6	2.4	2.4	75.8
	Real Estate	20	8.1	8.1	83.9
	Utilities & Pipelines	14	5.6	5.6	89.5
	Technology	11	4.4	4.4	94.0
	Comm & Media	10	4.0	4.0	98.0

Other-Forest Products and Life Sciences	5	2.0	2.0	100.0
Total	248	100.0	100.0	

The descriptive statistics of industry sectors included all 248 companies which trade on the S&P/TSX; however, not all companies had sufficient data to include all time periods for pre IFRS (2009-2010) and post IFRS (2011-2012). This was due to several reasons, either the company is a newly registered company that does not cover all periods, companies joined the S&P/TSX after the 2009 year, or companies exited the S&P/TSX before the 2012 year. Table 37 displays the frequency or number of companies which represent each sector and the sector percent representing all 248 companies. The frequency and percent for each industry sector are segmented as follows: Oil and gas (44, 17.7%), Diversified Industries (68, 27.4%), Financial Services (29, 11.7%), Mining (41, 16.5%), Clean Technology (6, 2.4%), Real Estate (20, 8.1%), Utilities & Pipelines (14, 5.6%), Technology (11, 4.4%), Communication & Media (10, 4.0%), and Other-Forest Products and Life Sciences (5, 2.0%), respectively. The percent per sector of all companies is also further detailed in the bar chart below (Figure 4) as an additional visual display.

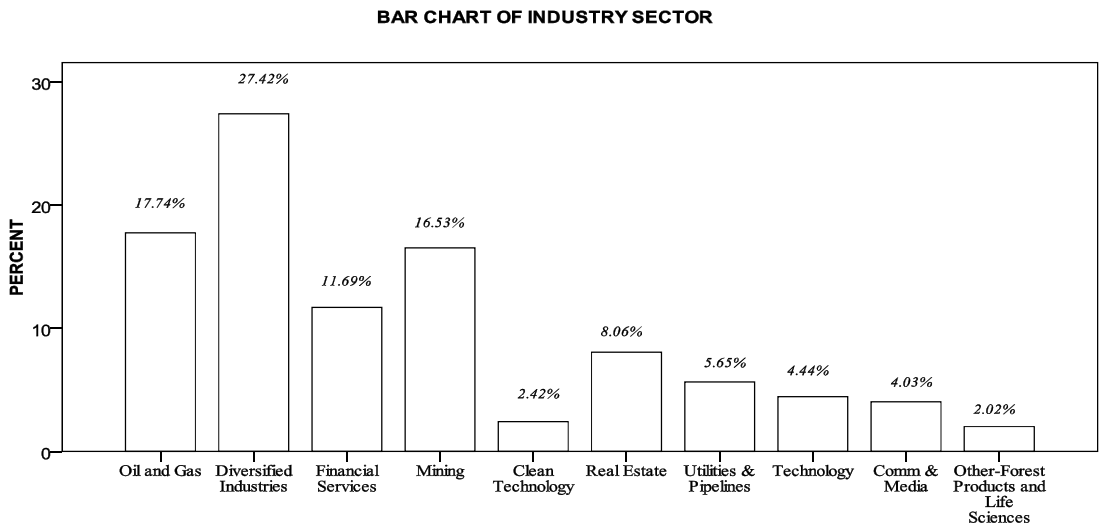

Figure 4. Bar chart of industry sectors by percent.

As shown in Appendix B, all industry sectors had a significant change in the changes in mean for the AVE PRICE PRE IFRS and AVE PRICE POST IFRS for each industry sector except for Oil and Gas, as the means were 18.69 and 18.75, respectively, which represents no significant change when compared because it is less than 1. This indicates that the average price pre and post IFRS had little change and may suggest that IFRS had little effect on average stock price changes. This implies the Canadian financial reporting standards, Canadian GAAP, which was the pre IFRS standard, had strict reporting standards and financial reporting under IFRS was similar in tight financial reporting standards for the Oil and Gas industry sector. In addition, this may suggest that investors were content and confident that IFRS would have little to no effect because of the similarity in pre and post financial reporting standards.

Appendix B displays the means, standard deviations, and number of companies within each industry sector for each financial indicator for all 4 years evaluated; pre IFRS

for 2009-2010 and post IFRS for 2011-2012. In addition, Appendix B illustrates the following industry sectors had a statistically significant change in the changes in mean: PRICE CASH FLOW RATIO PRE IFRS and PRICE CASH FLOW RATIO POST IFRS; PRICE EARN RATIO PRE IFRS and PRICE EARN RATIO POST IFRS; and PRICE SALES RATIO PRE IFRS and PRICE SALES RATIO POST IFRS for industry sectors. This is true because the mean for each financial ratio, when compared to the PRE and POST periods had a difference greater than 1. The industry sectors that did not have a statistically significant change in mean values include: Communication & Media for the PRICE CASH FLOW RATIO PRE AND POST periods, Diversified Industries for the PRICE SALES RATIO PRE and POST periods, Financial Services for the PRICE SALES RATIO PRE and POST periods, Real Estate for the PRICE SALES RATIO PRE and POST periods, Utilities & Pipelines for the PRICE SALES RATIO PRE and POST periods, Technology for the PRICE SALES RATIO PRE and POST periods, Communication & Media for the PRICE SALES RATIO PRE and POST periods, and Other-Forest Products and Life Sciences for the PRICE SALES RATIO PRE and POST periods and the PRICE EARN RATIO PRE and POST periods. This is true because the mean for each financial ratio, when compared to the PRE and POST periods had a mean difference that was less than 1.

An ANCOVA test was conducted to evaluate price-to-earnings ratio post IFRS and industry sectors, while controlling for price-to-earnings ratio pre IFRS, price-to-sales ratio post IFRS and industry sectors, while controlling for price-to-sales ratio pre IFRS, price-to-cash flow ratio post IFRS and industry sectors, while controlling for price-to-

cash flow ratio pre IFRS, differences in average prices of company stocks post IFRS and industry sectors, while controlling for average prices of company stocks pre IFRS, and differences in stocks price change of company stocks post IFRS and industry sectors, while controlling for stocks price change of company stocks pre IFRS. This study was conducted to account for the covariate variable, which can affect the relationship between the independent and dependent variables. In this study the covariate is the PRE IFRS variable for each study which includes PRICE EARN RATIO PRE IFRS, PRICE SALES RATIO PRE IFRS, PRICE CASH FLOW RATIO PRE IFRS, AVE PRICE PRE IFRS, and AND STOCKS PRICE CHANGE PRE IFRS.

ANCOVA RESULTS USING INDUSTRY SECTOR VARIABLE AS INDEPENDENT VARIABLE

1. DEPENDENT: PRICE EARN RATIO POST IFRS
   INDEPENDENT: INDUSTRY SECTOR
   COVARIATE: PRICE EARN RATIO PRE IFRS

Table 38

Descriptive Statistics

INDUSTRY SECTOR	*M*	*SD*	*N*
Oil and Gas	11.2706	32.50669	17
Diversified Industries	-.4537	15.17730	41
Financial Services	39.2136	161.16278	22
Mining	9.0933	17.08498	15
Clean Technology	18.2000	25.59727	2
Real Estate	-3.0333	6.98266	9
Utilities & Pipelines	4.3000	7.89465	12
Technology	26.8250	40.24023	8
Comm & Media	-2.1800	6.63302	5
Total	10.9656	68.89930	131

Dependent Variable: PRICE EARN RATIO POST IFRS

Table 39

Levene's Test of Equality of Error Variances[a]

F	*df1*	*df2*	*Sig.*
2.067	8	122	.044

Note: Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Dependent Variable: PRICE EARN RATIO POST IFRS

a. Design: Intercept + INDUSTRY SECTOR + INDUSTRY SECTOR * PRICEEARNRATIOPREIFRS

The inferential statistic test used to assess the equality of variances for PRICE EARN RATIO POST IFRS for INDUSTRY SECTOR AND PRICE EARN RATIO PRE IFRS was the Levene's test of Equality of Error Variances, which can be observed in Table 39. This was determined to be statistically significant because the p-value of .044 was less than the alpha of .05. This tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 40

Tests of Between-Subjects Effects

Source	*Type III Sum of Squares*	*df*	*MS*	*F*	*Sig.*	*Partial Eta Squared*	*Noncent. Parameter*	*Observed Power*[b]
Corrected Model	30535.146[a]	17	1796.185	.346	.992	.049	5.882	.219
Intercept	9229.879	1	9229.879	1.778	.185	.015	1.778	.262
INDUSTRY SECTOR	22601.710	8	2825.214	.544	.821	.037	4.354	.242
INDUSTRY SECTOR * PRICEEARNRATIO PREIFRS	2301.906	9	255.767	.049	1.000	.004	.443	.063
Error	586589.689	113	5191.059					
Total	632876.990	131						

Corrected Total	617124.835	130						

Dependent Variable: PRICE EARN RATIO POST IFRS

a. R Squared = .049 (Adjusted R Squared = -.094)

b. Computed using alpha = .05

Table 40 indicates the ANCOVA study suggests the post IFRS price-to-earnings ratio was not statistically significant (F = .346, p .992). The R Squared was .049 and the Adjusted R. Squared was -.094. The results showed the p value was greater than the computed alpha of .05. This indicates no improvement in the price-to-earnings ratio during the POST IFRS period over the PRE IFRS period of industry sectors.

Table 41

1. Grand Mean

		95% CI	
M	*SE*	*LL*	*UL*
12.825[a]	10.928	-8.825	34.476

Dependent Variable: PRICE EARN RATIO POST IFRS

a. Covariates in model evaluated at the values: PRICE EARN RATIO PRE IFRS = -2.7252.

Table 42

Estimates

			95% CI	
INDUSTRY SECTOR	*M*	*SE*	*LL*	*UL*
Oil and Gas	10.761[a]	17.704	-24.314	45.837
Diversified Industries	-.841[a]	11.484	-23.593	21.912
Financial Services	38.920[a]	15.567	8.078	69.761
Mining	11.956[a]	19.725	-27.123	51.035
Clean Technology	28.401[a]	58.480	-87.459	144.260
Real Estate	-2.051[a]	24.921	-51.424	47.322
Utilities & Pipelines	3.820[a]	21.125	-38.033	45.672
Technology	26.947[a]	25.494	-23.561	77.456

Comm & Media	-2.484[a]	58.819	-119.016	114.048

Dependent Variable: PRICE EARN RATIO POST IFRS

a. Covariates appearing in the model are evaluated at the following values: PRICEEARNRATIOPREIFRS = -2.7252.

A 95% confidence interval was used in Tables 42 and Appendix C to determine if the marginal means of the variables are statistically the same. The PRICE EARN RATIO PRE IFRS used was -2.73. All means in both Tables fell within the lower and upper bounds of the 95% confidence intervals, which indicated that the marginal mean difference is significant at the .05 level.

Table 43

Univariate Tests

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Contrast	26960.563	8	3370.070	.649	.735	.044	5.194	.288
Error	586589.689	113	5191.059					

Dependent Variable: PRICE EARN RATIO POST IFRS

The F tests the effect of INDUSTRY SECTOR. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Computed using alpha = .05

The Univariate test used is based on the linearly independent pairwise comparisons among the estimated marginal means and can be found in Table 43. The covariate used for this model is the PRICE EARN RATIO PRE IFRS = -2.7252.The F tests the effect of INDUSTRY SECTOR. The test is considered to be not statistically significant at the .05 alpha level (F = .649, p = .735). It is not statistically significant because the p value is greater than the .05 alpha level. Figure 5 represents independence between all industry sectors, regarding the PRICE EARN RATIO POST IFRS.

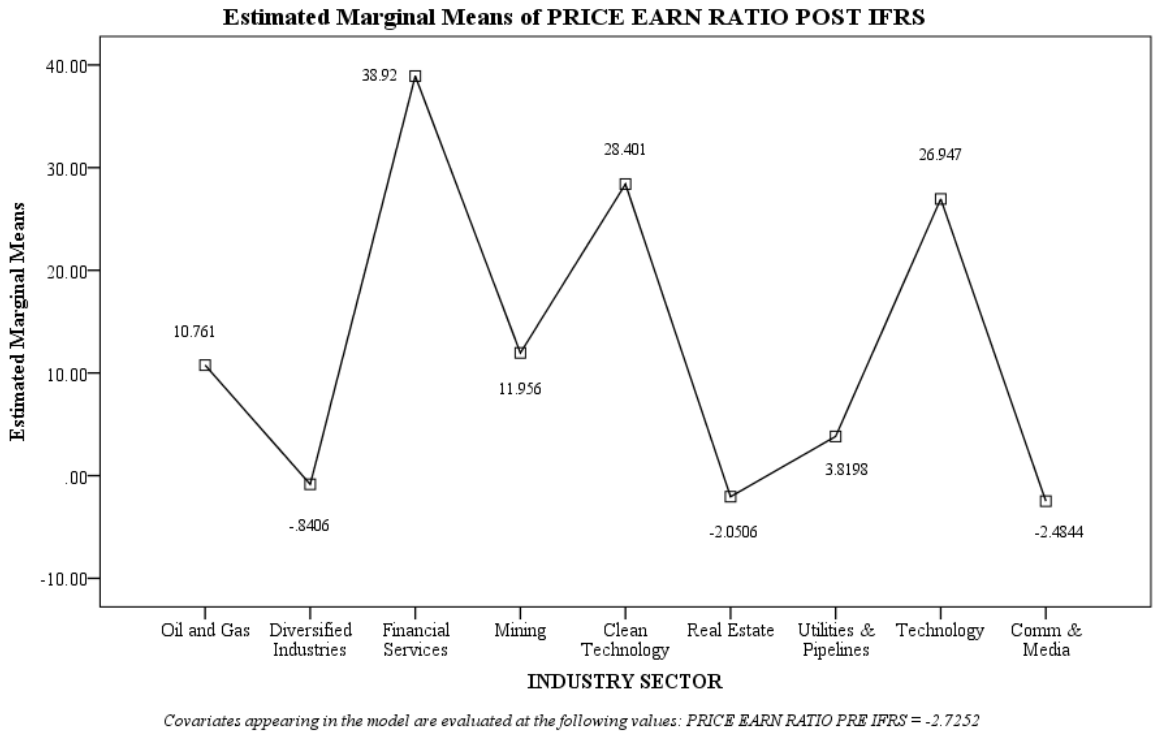

Figure 5. Estimate Marginal Means of PRICE EARN RATIO POST IFRS.

ANCOVA RESULTS USING INDUSTRY SECTOR VARIABLE AS INDEPENDENT VARIABLE

2. DEPENDENT: PRICE SALES RATIO POST IFRS
INDEPENDENT: INDUSTRY SECTOR
COVARIATE: PRICE SALES RATIO PRE IFRS

Table 44

Descriptive Statistics

INDUSTRY SECTOR	*M*	*SD*	*N*
Oil and Gas	-.3564	1.85114	39
Diversified Industries	.0689	.30797	61
Financial Services	.4259	1.83546	27
Mining	-.1226	4.38366	31
Clean Technology	-.1167	1.47705	6
Real Estate	.0500	2.43338	16

Utilities & Pipelines	.2692	.84102	13
Technology	.1778	.39299	9
Comm & Media	.1600	.24585	10
Other-Forest Products and Life Sciences	.1200	.71903	5
Total	.0249	2.06851	217

Note: Dependent Variable: PRICE SALES RATIO POST IFRS

Table 45

Levene's Test of Equality of Error Variances[a]

F	*df1*	*df2*	*Sig.*
3.326	9	207	.001

Dependent Variable: PRICE SALES RATIO POST IFRS

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + INDUSTRY SECTOR +
PRICE SALES RATIO PRE IFRS + INDUSTRY SECTOR *
PRICE SALES RATIO PRE IFRS

The inferential statistic test used to assess the equality of variances for PRICE SALES RATIO POST IFRS for INDUSTRY SECTOR AND PRICESALESRATIOPREIFRS was the Levene's test of Equality of Error Variances. This is represented in Table 45 and was determined to be statistically significant because the p-value of .001 was less than the alpha of .05. This tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 46

Tests of Between-Subjects Effects

Source	*Type III SS*	*df*	*MS*	*F*	*Sig.*	*Partial Eta Squared*	*Noncent. Parameter*	*Observed Power*[b]

Corrected Model	106.276[a]	19	5.593	1.347	.158	.115	25.597	.869
Intercept	2.578	1	2.578	.621	.432	.003	.621	.123
INDUSTRY SECTOR	9.406	9	1.045	.252	.986	.011	2.266	.133
PRICE SALES RATIO PRE IFRS	.009	1	.009	.002	.962	.000	.002	.050
INDUSTRY SECTOR * PRICE SALES RATIO PRE IFRS	87.682	9	9.742	2.346	.016	.097	21.118	.907
Error	817.930	197	4.152					
Total	924.340	217						
Corrected Total	924.206	216						

Dependent Variable: PRICE SALES RATIO POST IFRS

a. R Squared = .115 (Adjusted R Squared = .030)

b. Computed using alpha = .05

Table 46 indicates the ANCOVA study suggests the post IFRS price-to-sales ratio was statistically significant (F = .1.347, p = .158). The R Squared was .115 and the Adjusted R. Squared was .030. The results showed the p value was greater than the computed alpha of .05.This indicates no improvement in the price-to-sales ratio during the POST IFRS period over the PRE IFRS period of industry sectors.

Table 47

Grand Mean

		95% CI	
M	*SE*	*LL*	*UL*
.444[a]	5.059	-9.533	10.420

Dependent Variable: PRICE SALES RATIO POST IFRS

a. Covariates appearing in the model are evaluated at the following values:
PRICE SALES RATIO PRE IFRS = -11.3631.

Table 48

Estimates

INDUSTRY SECTOR	M	SE	95% CI	
			LL	UL
Oil and Gas	-.312[a]	.329	-.961	.337
Diversified Industries	-.003[a]	1.236	-2.441	2.434
Financial Services	-19.769[a]	4.988	-29.606	-9.932
Mining	-.167[a]	.367	-.891	.557
Clean Technology	12.953[a]	21.774	-29.986	55.892
Real Estate	8.188[a]	8.602	-8.776	25.153
Utilities & Pipelines	-8.689[a]	11.181	-30.740	13.361
Technology	2.948[a]	13.869	-24.402	30.298
Comm & Media	.348[a]	38.585	-75.745	76.441
Other-Forest Products and Life Sciences	8.943[a]	13.353	-17.391	35.277

Dependent Variable: PRICE SALES RATIO POST IFRS

a. Covariates appearing in the model are evaluated at the following values: PRICE SALES RATIO PRE IFRS = -11.3631.

A 95% confidence interval was used in Tables 48 and Appendix C to determine if the marginal means of the variables are statistically the same. The PRICE SALES RATIO PRE IFRS used was -11.363. All means in both Tables fell within the lower and upper bounds of the 95% confidence intervals, which indicated that the marginal mean difference is significant at the .05 level.

Table 49

Univariate Tests

	SS	df	MS	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Contrast	74.134	9	8.237	1.984	.043	.083	17.855	.841
Error	817.930	197	4.152					

Dependent Variable: PRICE SALES RATIO POST IFRS

Note: The F tests the effect of INDUSTRY SECTOR. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Computed using alpha = .05

The Univariate test used is based on the linearly independent pairwise comparisons among the estimated marginal means and can be found in Table 49. The covariate used for this model is the PRICE SALES RATIO PRE IFRS = -11.3631. The F tests the effect of INDUSTRY SECTOR. The test is considered to be statistically significant at the .05 alpha level ($F = 1.984$, $p = .043$). It is statistically significant because the p value is less than the .05 alpha level. Figure 5 represents independence between all industry sectors, regarding the PRICE SALES RATIO POST IFRS.

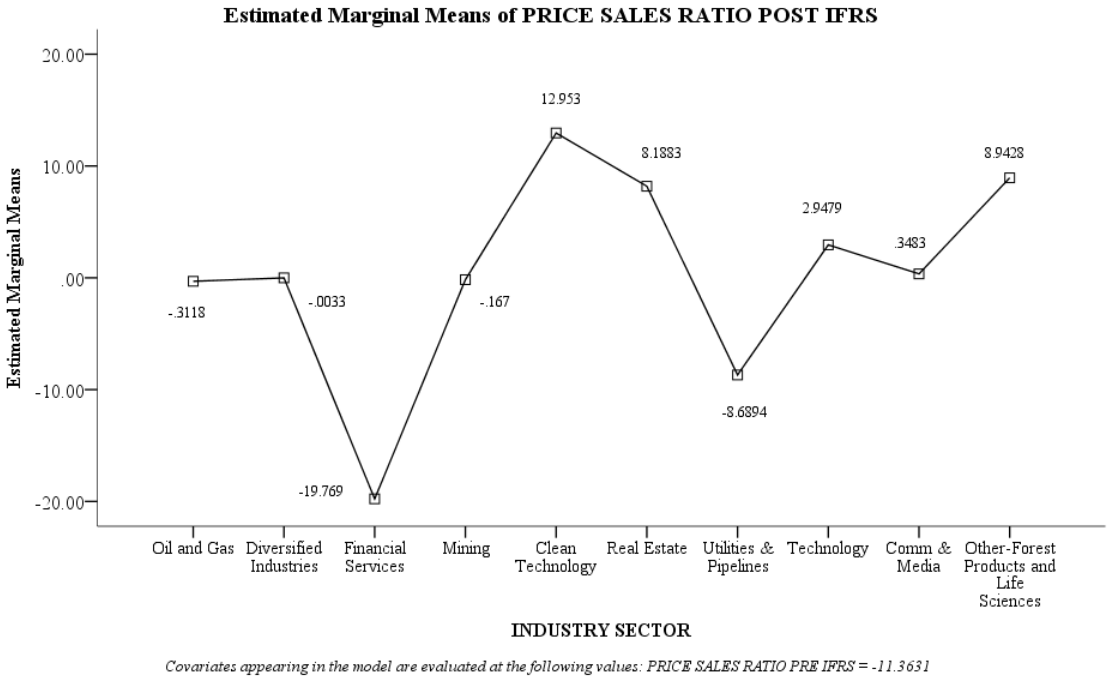

Figure 6. Estimate Marginal Means of PRICE SALES RATIO POST IFRS.

ANCOVA RESULTS USING INDUSTRY SECTOR VARIABLE AS INDEPENDENT VARIABLE

3. DEPENDENT: PRICE CASH FLOW RATIO POST IFRS
   INDEPENDENT: INDUSTRY SECTOR
   COVARIATE: PRICE SALES RATIO PRE IFRS

Table 50

Descriptive Statistics

INDUSTRY SECTOR	*M*	*SD*	*N*
Oil and Gas	.2179	5.96860	39
Diversified Industries	5.3098	39.22667	61
Financial Services	-3.1407	28.57005	27
Mining	44.9000	265.10793	39
Clean Technology	.9500	8.22308	6
Real Estate	-56.3250	222.41786	16
Utilities & Pipelines	1.3071	2.34470	14
Technology	5.8400	17.63502	10

Comm & Media	.6300	1.66870	10
Other-Forest Products and Life Sciences	9.1800	16.41271	5
Total	5.4278	127.21422	227

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

Table 51

Levene's Test of Equality of Error Variances[a]

F	*df1*	*df2*	*Sig.*
2.176	9	217	.025

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

Note: Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + INDUSTRY SECTOR + PRICE CASH FLOW RATIO PRE IFRS + INDUSTRY SECTOR * PRICE CASH FLOW RATIO PRE IFRS

The inferential statistic test used to assess the equality of variances for PRICE CASH FLOW RATIO POST IFRS for INDUSTRY SECTOR AND PRICECASHFLOWRATIOPREIFRS was the Levene's test of Equality of Error Variances, which can be observed in Table 51. This was determined to be statistically significant because the p-value of .025 was less than the alpha of .05. This tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 52

Tests of Between-Subjects Effects

Source	*Type III SS*	*df*	*MS*	*F*	*Sig.*	*Partial Eta Squared*	*Noncent. Parameter*	*Observed Power*[b]
Corrected Model	144447.911[a]	19	7602.522	.448	.978	.039	8.511	.320
Intercept	10.958	1	10.958	.001	.980	.000	.001	.050

INDUSTRY SECTOR	135029.617	9	15003.291	.884	.540	.037	7.956	.434
PRICE CASH FLOW RATIO PRE IFRS	2749.349	1	2749.349	.162	.688	.001	.162	.069
INDUSTRY SECTOR * PRICE CASH FLOW RATIO PRE IFRS	16432.001	9	1825.778	.108	.999	.005	.968	.081
Error	3513013.724	207	16971.081					
Total	3664149.170	227						
Corrected Total	3657461.635	226						

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

a. R Squared = .039 (Adjusted R Squared = -.049)

b. Computed using alpha = .05

Table 52 indicates the ANCOVA study suggests the post IFRS price-to-cash flow ratio was not statistically significant (F = .448, p = .978). The R Squared was .039 and the Adjusted R. Squared was -.049. The results showed the p value was greater than the computed alpha of .05. This indicates no improvement in the price-to-cash flow ratio during the POST IFRS period over the PRE IFRS period of industry sectors.

Table 53

Grand Mean

		95% CI	
M	*SE*	*LL*	*UL*
-31.619[a]	80.655	-190.630	127.391

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

a. Covariates appearing in the model are evaluated at the following values: PRICE CASH FLOW RATIO PRE IFRS = -36.2581.

Table 54

Estimates

INDUSTRY SECTOR	M	SE	95% CI	
			LL	UL
Oil and Gas	.631[a]	22.137	-43.011	44.274
Diversified Industries	16.609[a]	27.953	-38.499	71.718
Financial Services	-8.174[a]	32.964	-73.161	56.814
Mining	46.111[a]	21.077	4.558	87.665
Clean Technology	22.130[a]	172.064	-317.092	361.353
Real Estate	-417.155[a]	471.291	-1346.302	511.991
Utilities & Pipelines	1.619[a]	74.330	-144.922	148.160
Technology	35.457[a]	235.666	-429.157	500.071
Comm & Media	-6.824[a]	565.747	-1122.187	1108.540
Other-Forest Products and Life Sciences	-6.600[a]	121.928	-246.980	233.779

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

a. Covariates appearing in the model are evaluated at the following values: PRICE CASH FLOW RATIO PRE IFRS = -36.2581.

A 95% confidence interval was used in Tables 54 and Appendix C to determine if the marginal means of the variables are statistically the same. The PRICE CASH FLOW RATIO PRE IFRS used was -36.2581. All means in both Tables fell within the lower and upper bounds of the 95% confidence intervals, which indicated that the marginal mean difference is significant at the .05 level.

Table 55

Univariate Tests

	SS	df	MS	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
Contrast	67452.643	9	7494.738	.442	.911	.019	3.975	.216
Error	3513013.724	207	16971.081					

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

Note: The F tests the effect of INDUSTRY SECTOR. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Computed using alpha = .05

The Univariate test used is based on the linearly independent pairwise comparisons among the estimated marginal means and can be found in Table 55. The covariate used for this model is the PRICE CASH FLOW RATIO PRE IFRS = -36.2581. The F tests the effect of INDUSTRY SECTOR. The test is considered to be not statistically significant at the .05 alpha level (F = .442, p = .911). It is not statistically significant because the p value is greater than the .05 alpha level. Figure 5 represents independence between all industry sectors, regarding the PRICE CASH FLOW RATIO POST IFRS.

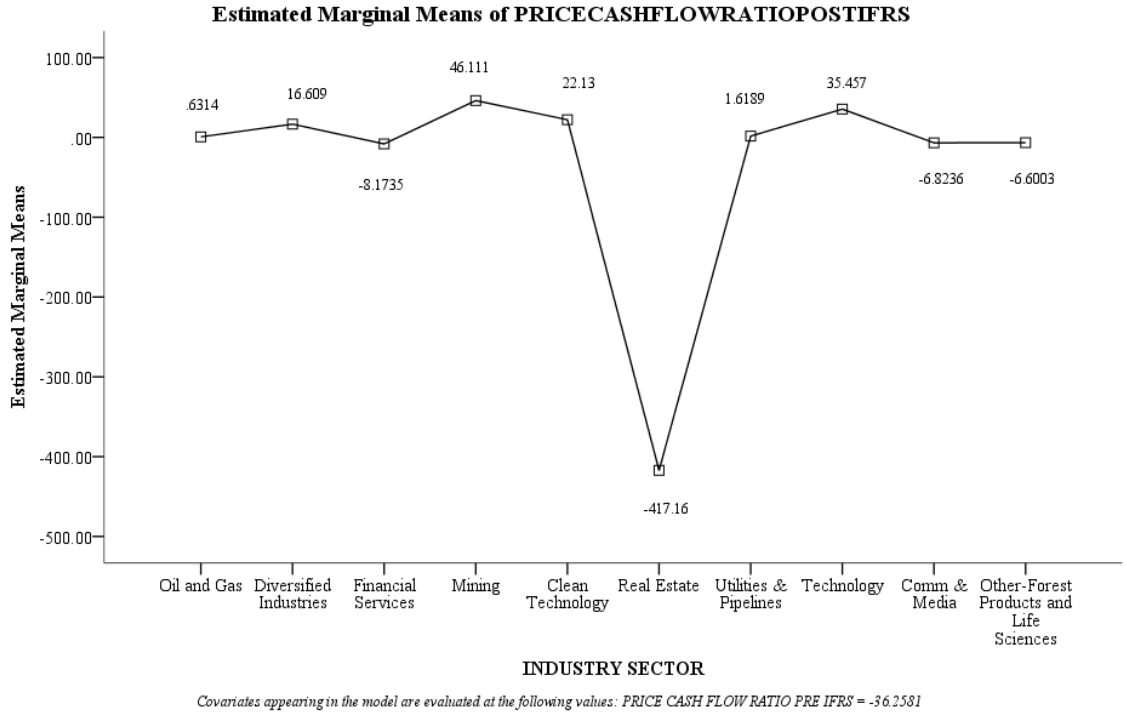

Figure 7. Estimate Marginal Means of PRICE CASH FLOW RATIO POST IFRS.

ANCOVA RESULTS USING INDUSTRY SECTOR VARIABLE AS INDEPENDENT VARIABLE

4. DEPENDENT: AVE PRICE POST IFRS
INDEPENDENT: INDUSTRY SECTOR
COVARIATE: AVE PRICE PRE IFRS

Table. 56

Descriptive Statistics

INDUSTRY SECTOR	*M*	*SD*	*N*
Oil and Gas	18.7470	14.54452	44
Diversified Industries	20.6862	17.32890	68
Financial Services	44.8538	70.07582	29
Mining	15.4835	13.05945	41
Clean Technology	17.9208	9.54098	6
Real Estate	20.0568	14.10119	20
Utilities & Pipelines	29.1454	12.02427	14
Technology	26.5468	28.07988	11
Comm & Media	28.4130	9.67881	10
Other-Forest Products and Life Sciences	24.0540	18.27152	5
Total	23.3074	29.04052	248

Dependent Variable: AVE PRICE POST IFRS

Table 57

Levene's Test of Equality of Error Variances[a]

F	*df1*	*df2*	*Sig.*
4.563	9	238	.000

Dependent Variable: AVE PRICE POST IFRS

Note: Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + INDUSTRY SECTOR + AVE PRICE PRE IFRS + INDUSTRY SECTOR * AVE PRICE PRE IFRS

The inferential statistic test used to assess the equality of variances for AVE PRICE POST IFRS for INDUSTRY SECTOR AND AVEPRICEPREIFRS was the Levene's test of Equality of Error Variances, which can be observed in Table 57. This was determined to be statistically significant because the p-value of .000 was less than the alpha of .05. This tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 58

Tests of Between-Subjects Effects

Source	*Type III SS*	*df*	*MS*	*F*	*Sig.*	*Partial Eta Squared*	*Noncent. Parameter*	*Observed Power*[b]
Corrected Model	193573.570[a]	19	10188.083	157.652	.000	.929	2995.382	1.000
Intercept	54.052	1	54.052	.836	.361	.004	.836	.149
INDUSTRY SECTOR	484.879	9	53.875	.834	.586	.032	7.503	.410
AVE PRICE PRE IFRS	8976.748	1	8976.748	138.907	.000	.379	138.907	1.000
INDUSTRY SECTOR * AVE PRICE PRE IFRS	1514.034	9	168.226	2.603	.007	.093	23.428	.939
Error	14734.273	228	64.624					
Total	343029.855	248						
Corrected Total	208307.844	247						

Dependent Variable: AVE PRICE POST IFRS

a. R Squared = .929 (Adjusted R Squared = .923)

b. Computed using alpha = .05

Table 58 indicates the ANCOVA study suggests the post IFRS AVE PRICE POST IFRS was statistically significant (F = 157.652, p .000). The R Squared was .929

and the Adjusted R. Squared was .923. The results showed the p value was less than the computed alpha of .05.This indicates an improvement in the average price of stocks during the POST IFRS period over the PRE IFRS period of industry sectors.

Table 59

Grand Mean

		95% CI	
M	*SE*	*LL*	*UL*
26.418[a]	1.022	24.404	28.431

Dependent Variable: AVE PRICE POST IFRS

a. Covariates appearing in model are evaluated at the following values: AVE PRICE PRE IFRS = 21.0375.

A 95% confidence interval was used in Tables 59 and Appendix C to determine if the marginal means of the variables are statistically the same. The AVE PRICE PRE IFRS used was 21.0375. All means in both Tables fell within the lower and upper bounds of the 95% confidence intervals, which indicated that the marginal mean difference is significant at the .05 level.

Table 60

Univariate Tests

	SS	*df*	*MS*	*F*	*Sig.*	*Partial Eta Squared*	*Noncent. Parameter*	*Observed Power[a]*
Contrast	2313.723	9	257.080	3.978	.000	.136	35.803	.995
Error	14734.273	228	64.624					

Dependent Variable: AVE PRICE POST IFRS

Note: The F tests the effect of INDUSTRY SECTOR. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Computed using alpha = .05

The Univariate test used is based on the linearly independent pairwise comparisons among the estimated marginal means and can be found in Table 60. The covariate used for this model is the AVE PRICE PRE IFRS = 21.0375.The F tests the effect of INDUSTRY SECTOR. The test is considered to be statistically significant at the .05 alpha level (F = 3.978, p = .000). It is statistically significant because the p value is less than the .05 alpha level. Figure 5 represents independence between all industry sectors, regarding the AVE PRICE POST IFRS.

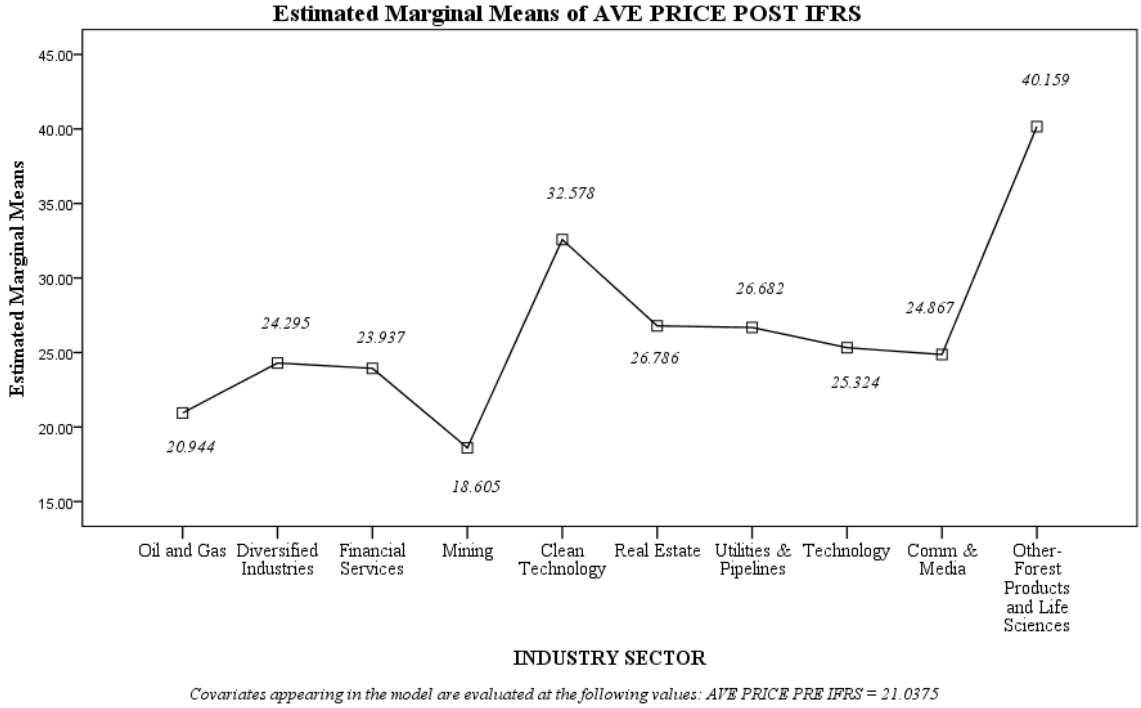

Figure 8. Estimate Marginal Means of AVE PRICE POST IFRS.

ANCOVA RESULTS USING INDUSTRY SECTOR VARIABLE AS INDEPENDENT VARIABLE

5. DEPENDENT: STOCKS PRICE CHANGE POST IFRS
   INDEPENDENT: INDUSTRY SECTOR
   COVARIATE: STOCKS PRICE CHANGE PRE IFRS

Table 61

Descriptive Statistics

INDUSTRY SECTOR	*M*	*SD*	*N*
Oil and Gas	-2.4432	5.10423	44
Diversified Industries	3.2793	6.06084	68
Financial Services	1.7552	16.58148	29
Mining	-.0349	5.15845	41
Clean Technology	-.1550	3.75663	6
Real Estate	.5485	9.03858	20
Utilities & Pipelines	1.7907	4.25925	14
Technology	8.1936	13.15716	11
Comm & Media	2.4300	6.43318	10
Other-Forest Products and Life Sciences	11.5440	7.28356	5
Total	1.5009	8.66802	248

Dependent Variable: STOCKS PRICE CHANGE POST IFRS

Table 62.

Levene's Test of Equality of Error Variances[a]

F	*df1*	*df2*	*Sig.*
1.361	9	238	.207

Dependent Variable:STOCKS PRICE CHANGE POST IFRS

Note: Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + INDUSTRYSECTOR + STOCKSPRICECHANGEPREIFRS + INDUSTRYSECTOR * STOCKSPRICECHANGEPREIFRS

The inferential statistic test used to assess the equality of variances for PRICE CHANGE POST IFRS for INDUSTRY SECTOR AND

STOCKSPRICECHANGEPREIFRS was the Levene's test of Equality of Error Variances, which can be observed in Table 62. This was determined to not be statistically significant because the p-value of .207 was greater than the alpha of .05. This tests the null hypothesis that the error variance of the dependent variable is equal across groups.

Table 63

Tests of Between-Subjects Effects

Source	*Type III SS*	*df*	*MS*	*F*	*Sig.*	*Partial Eta Squared*	*Noncent. Parameter*	*Observed Power*[b]
Corrected Model	3926.694[a]	19	206.668	3.220	.000	.212	61.189	1.000
Intercept	483.019	1	483.019	7.527	.007	.032	7.527	.780
INDUSTRY SECTOR	1021.740	9	113.527	1.769	.075	.065	15.922	.790
STOCKS PRICE CHANGE PRE IFRS	5.346	1	5.346	.083	.773	.000	.083	.060
INDUSTRY SECTOR * STOCKS PRICE CHANGE PRE IFRS	1851.340	9	205.704	3.205	.001	.112	28.849	.978
Error	14631.537	228	64.173					
Total	19116.891	248						
Corrected Total	18558.231	247						

Dependent Variable: STOCKS PRICE CHANGE POST IFRS

a. R Squared = .212 (Adjusted R Squared = .146)

b. Computed using alpha = .05

Table 63 indicates the ANCOVA study suggests the post IFRS price change among stocks was statistically significant (F = 3.220, p .000). The R Squared was .212

and the Adjusted R. Squared was .146. The results showed the p value was less than the computed alpha of .05.This indicates an improvement in the average price change during the POST IFRS period over the PRE IFRS period of industry sectors.

Table 64

Estimated Marginal Means-Grand Mean

		95% CI	
M	*SE*	*LL*	*UL*
2.688[a]	.750	1.210	4.166

Dependent Variable:STOCKS PRICE CHANGE POST IFRS

a. Covariates appearing in the model are evaluated at the following values: STOCKS PRICE CHANGE PRE IFRS = 4.38988.

Table 65

Estimates

			95% CI	
INDUSTRY SECTOR	*M*	*SE*	*LL*	*UL*
Oil and Gas	-2.242[a]	1.223	-4.653	.168
Diversified Industries	3.454[a]	.983	1.517	5.390
Financial Services	1.887[a]	1.491	-1.051	4.824
Mining	-.229[a]	1.301	-2.793	2.334
Clean Technology	-1.396[a]	3.733	-8.751	5.960
Real Estate	-1.152[a]	1.867	-4.831	2.526
Utilities & Pipelines	2.029[a]	2.191	-2.288	6.345
Technology	10.903[a]	2.526	5.926	15.880
Comm & Media	2.076[a]	2.885	-3.609	7.761
Other-Forest Products and Life Sciences	11.555[a]	3.600	4.463	18.648

Table 65

Estimates

INDUSTRY SECTOR	*M*	*SE*	*95% CI*	
			LL	*UL*
Oil and Gas	-2.242[a]	1.223	-4.653	.168
Diversified Industries	3.454[a]	.983	1.517	5.390
Financial Services	1.887[a]	1.491	-1.051	4.824
Mining	-.229[a]	1.301	-2.793	2.334
Clean Technology	-1.396[a]	3.733	-8.751	5.960
Real Estate	-1.152[a]	1.867	-4.831	2.526
Utilities & Pipelines	2.029[a]	2.191	-2.288	6.345
Technology	10.903[a]	2.526	5.926	15.880
Comm & Media	2.076[a]	2.885	-3.609	7.761
Other-Forest Products and Life Sciences	11.555[a]	3.600	4.463	18.648

Dependent Variable: STOCKS PRICE CHANGE POST IFRS

a. Covariates appearing in the model are evaluated at the following values: STOCKS PRICE CHANGE PRE IFRS = 4.38988.

A 95% confidence interval was used in Tables 65 and Appendix C to determine if the marginal means of the variables are statistically the same. The PRICE CHANGE PRE IFRS used was 4.38988. All means in both Tables fell within the lower and upper bounds of the 95% confidence intervals, which indicated that the marginal mean difference is significant at the .05 level.

Table 66

Univariate Tests

	SS	*df*	*MS*	*F*	*Sig.*	*Partial Eta Squared*	*Noncent. Parameter*	*Observed Power[a]*
Contrast	2536.195	**9**	281.799	**4.391**	.000	.148	39.521	.998
Error	14631.537	**228**	64.173					

Note: The F tests the effect of INDUSTRY SECTOR. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Computed using alpha = .05

The Univariate test used is based on the linearly independent pairwise comparisons among the estimated marginal means and can be found in Table 66. The covariate used for this model is the PRICE CHANGE PRE IFRS = 4.38988..The F tests the effect of INDUSTRY SECTOR. The test is considered to be statistically significant at the .05 alpha level (F = 4.391, p = .000). It is statistically significant because the p value is less than the .05 alpha level. Figure 5 represents independence between all industry sectors, regarding the PRICE CHANGE POST IFRS.

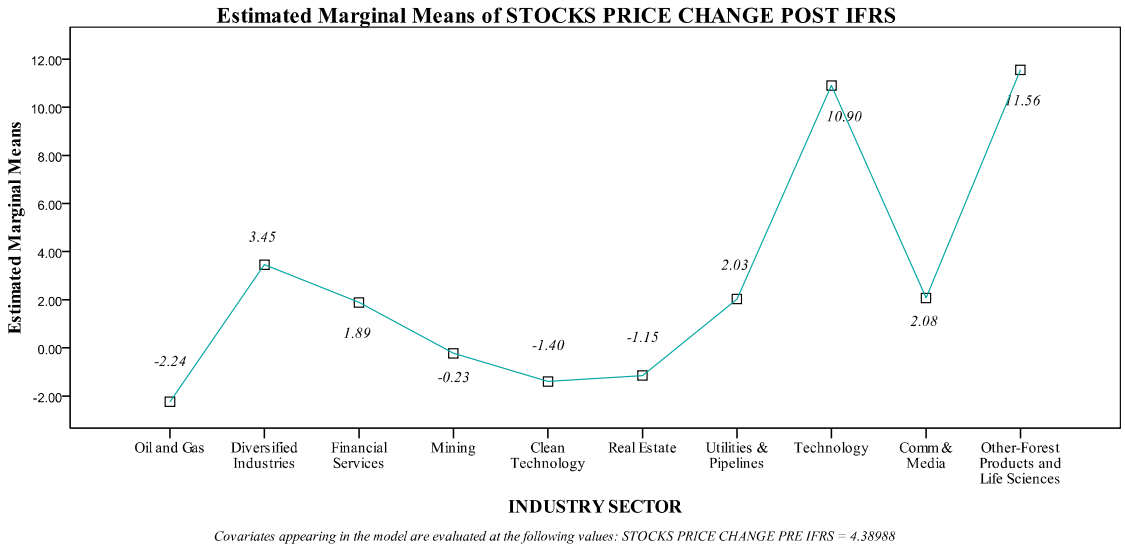

Figure 9. Estimate Marginal Means of STOCKS PRICE CHANGE POST IFRS.

Results of Study

The 7 hypotheses were evaluated and addressed pre and post IFRS impacts on specific company stocks, key financial ratios, and change in company stock prices and as they relate to the research questions. The companies included in the study included all 248 companies which traded on the S&P/TSX for the pre IFRS period from 2009-2010 and the post IFRS period from 2011-2012. A GLZM was used which included a paired sample t-test and ANCOVA study to determine whether there was a statistically significant difference was present. An ANCOVA study was used to control for variables and covariates. In addition, scatterplots were used to account for any residuals that may have been observed by the dependent variables. An additional study was conducted within this research to evaluate the effects on the same dependent variables on industry sectors. This was completed to make additional observations of industry sectors that trade on the S&P/TSX.

For Hypothesis 1, a paired sample t-test was performed and the results indicated that the null hypothesis was rejected [t(130)= -2.023, p=0.045] because the p-value is less than the 5% level. The mean ratio difference in the post IFRS price-to-earnings ratio (M=10.97, SD=68.90) is greater than that for pre IFRS (M=-2.73, SD=36.49), as indicated in Table 1. This may imply that the mean price-to-earnings ratio for the post period was higher and may indicate that the stock price may be overpriced during the post IFRS period; however, a negative ratio is not valid or relevant. The results for the

mean price-to-earnings ratio for the post IFRS period is an ideal figure and indicates that companies' financial situation improved after the implementation of IFRS. Blau & Paprocki (2011) stated that the lower a positive price-to-earnings ratio the better. This ratio indicates how much an investor is paying per one dollar of a company's earnings.

For Hypothesis 2, the test completed for this hypothesis was a Generalized Linear Model. The covariate used to control for the price-to-earnings ratio for the post IFRS period was STOCKS PRICE CHANGE POST. The Wald chi-square was used to test the effect of PRICE EARN RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means. The findings support rejecting the null hypothesis. This may imply that the price-to-earnings ratio for the post period was higher and may indicate that the stock price may be overpriced during the post IFRS period. The overall test results tests the effect of PRICE EARN RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means. The Wald Chi-square value was 47137.209 and the p-value was .000. The p-value is less than the .05 alpha level; which, indicates a statistically significant relationship exists and the null hypothesis can be rejected.

The scatterplot found in Figure 1 shows the Standardized Pearson residuals for price-to-earnings post IFRS. The scatter plot in Figure 1 has a positive slope associated with the post IFRS price-to-earnings ratio, with $y = 1.37+0.2^{*}x$ and a R^2 Linear = 0.485. In addition, the association would be considered to be a linear relationship. The strength

of the pattern would be considered to have a moderate, positive correlation, as the cluster is tight and upward trending from the left to the right.

For Hypothesis 3, a paired sample t-test was performed and the results indicated that the null hypothesis was accepted [t(216)= -1.064, p=0.289] because the p-value is greater than the 5% level, as displayed on Table 14. The mean ratio difference in the post IFRS price-to-sales ratio (M=.025, SD=2.07) is greater than that for pre IFRS (M=-11.36, SD=157.85), as indicated in Table 12. This may imply that the mean price-to-sales ratio for the post period was higher and may indicate that investments in stocks during the pre IFRS period may be more attractive, because typically the lower the price-to-sales ratio, the more attractive the investment in the company.

For Hypothesis 4, the test completed for this hypothesis was a Generalized Linear Model. The covariate used to control for the price-to-sales ratio for the post IFRS period was STOCKS PRICE CHANGE POST. The Wald chi-square was used to test the effect of PRICE SALES RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means. The findings support rejecting the null hypothesis. This may imply that the price-to-sales ratio for the post period was higher and may indicate that the stock price may be overpriced during the post IFRS period. The overall test results tests the effect of PRICE SALES RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means. The Wald Chi-square value was 746.047 and the p-value was

.000. The p-value is less than the .05 alpha level; which, indicates a statistically significant relationship exists and the null hypothesis can be rejected.

The scatterplot found in Figure 2 shows the Standardized Pearson residuals for price-to-sales post IFRS. The scatter plot in Figure 2 has a positive slope associated with the post IFRS price-to-sales ratio, with $y = -0.16 + 0.91x$ and a R^2 Linear = 0.736. In addition, the association would be considered to be a linear relationship. The strength of the pattern would be considered to have a moderate, positive correlation, as the cluster is tight and upward trending from the left to the right.

For Hypothesis 5, a paired sample t-test was performed and the results indicated that the null hypothesis was accepted [$t(226)= -0.928$, $p=0.355$] because the p-value is greater than the 5% level, as displayed on Table 25. The mean ratio difference in the post IFRS price-to-cash flow ratio ($M=5.43$, $SD=127.21$) is greater than that for pre IFRS ($M=-36.26$, $SD=665.64$), as indicated in Table 23. This may imply that the mean price-to-cash flow ratio for the post period was higher and may indicate that investments in stocks during the pre IFRS period may be more attractive, because typically the lower a positive price-to-cash flow ratio, the more attractive the investment in the company. A negative ratio is not valid or relevant, therefore, the results for the mean price-to-cash flow ratio for the post IFRS period is an ideal figure and indicates that companies' financial situation improved after the implementation of IFRS. Price-to-cash flow ratio calculates how much money a company is actually earning and how much an investor is paying for each dollar being earned by the company (Blau & Paprocki (2011).

Typically, the lower the ratio the better; however, a value of less than 20 is considered to be good.

For Hypothesis 6, the test completed for this hypothesis was a Generalized Linear Model. The covariate used to control for the price-to-cash flow ratio for the post IFRS period was STOCKS PRICE CHANGE POST. The Wald chi-square was used to test the effect of PRICE CASH FLOW RATIO PRE IFRS. This test is based on the linearly independent pairwise comparisons among the estimated marginal means. The Wald Chi-square value was 241.863 and the p-value was .003. The p-value is less than the .05 alpha level; which, indicates a statistically significant relationship exists and the null hypothesis can be rejected. The findings may imply that the price-to-cash flow ratio for the post period was higher and may indicate that the stock price may be overpriced during the post IFRS period. Typically, a higher ratio results in poorer stock performance.

The scatterplot found in Figure 3 shows the Standardized Pearson residuals for price-to-cash flow post IFRS. The scatter plot in Figure 3 has a positive slope associated with the post IFRS price-to-cash flow ratio, with $y = -0.1 + 8.03E\text{-}3^{*x}$ and a R^2 Linear = 0.501. In addition, the association would be considered to be a linear relationship. The strength of the pattern would be considered to have a moderate, positive correlation, as the cluster is tight and upward trending from the left to the right.

For Hypothesis 7, a paired sample t-test was performed and the results indicated that the null hypothesis was rejected [$t(247)= 4.283$, $p<0.001$] because the p-value is less than the 5% level, as displayed on Table 36. The mean difference in the pre IFRS

change of company stock prices (M=4.39, SD=6.14) is greater than that for post IFRS change of company stock prices (M=1.50, SD=8.67), as indicated in Table 34. This may imply that the mean difference in the company stock prices for the post period was higher and may indicate that investments in stocks during the pre IFRS period may be overvalued or the overall higher financial disclosure requirements improved investor confidence and investors were more willing to purchase company stock after IFRS implementation. This could be due to the positive correlation found with implementing IFRS. More investors may have felt more confident and less risk averse due to the positive effects from IFRS implementation.

Results of Study-Industry Sectors

This section of the paper evaluated an extension of the initial study to assess industry sectors and the effects of implementing IFRS on industry sectors specific to companies which trade on the S&P/TSX Stock Exchange. An ANCOVA study for each industry sector and financial indicator; along with The Levene's Test of Equality of Error Variances was used, which tested the null hypothesis that the error variance of the dependent variable is equal across groups was conducted. Each industry sector comprised of the following percentages for the entire population: (a) Oil and Gas was 17.7%, (b) Diversified Industries was 27.4%, (c) Financial Services was 11.7%, (d) Mining was 16.5%, (e) Clean Technology was 2.4% (f) Real Estate was 8.1%, (g) Utilities & Pipelines was 5.6%, (h) Technology was 4.4%, (i) Communication & Media was 4.0%, and (j) Other-Forest Products and Life Sciences was 2.0%.

As shown in Appendix B(1), all industry sectors, except for Oil and Gas, had a significant change in the changes in mean for the AVE PRICE PRE IFRS and AVE PRICE POST IFRS for each industry sector, which included: (a) Diversified Industries 17.51 and 20.69, which represents a significant change when compared because it is more than 1, (b) Financial Services 42.78 and 44.85, which represents a significant change when compared because it is more than 1, (c) Mining 16.79 and 15.48, which represents a significant change when compared because it is more than 1, (d) Clean Technology 11.87 and 17.92, which represents a significant change when compared because it is more than 1, (e) Real Estate 15.63 and 20.06, which represents a significant change when compared because it is more than 1, (f) Utilities & Pipelines 22.88 and 29.15, which represents a significant change when compared because it is more than 1, (g) Technology 22.72 and 26.55, which represents a significant change when compared because it is more than 1, (h) Communication & Media 25.03 and 28.41, which represents a significant change when compared because it is more than 1, and (i) Other-Forest Products and Life Sciences 14.17 and 24.05, which represents a significant change when compared because it is more than 1. This implies that IFRS implementation had improved the average price for company stocks and adopting IFRS improved financial reporting standards and company valuations. Investors had more confidence in what companies were reporting and were more risk averse when it came to purchasing company stocks for the mentioned industry sectors after the implementation of IFRS. Oil and gas did not have a significant change in mean for the AVE PRICE PRE IFRS and AVE PRICE POST IFRS (M=18.69, M=18.75) because the difference between the means is less than 1.

As shown in Appendices B(3), the following industry sectors had a statistically significant change in the changes in mean: PRICE CASH FLOW RATIO PRE IFRS and PRICE CASH FLOW RATIO POST IFRS, except for Comm & Media, PRICE EARN RATIO PRE IFRS and PRICE EARN RATIO POST IFRS, except for Other-Forest Products and Life Sciences, and PRICE SALES RATIO PRE IFRS and PRICE SALES RATIO POST IFRS, except for Diversified Industries, Financial Services, Real Estate, Utilities & Pipelines, Technology, Comm & Media, and Other-Forest Products and Life Sciences. This is true because the mean for each financial ratio, when compared to the PRE and POST IFRS periods, the difference is greater than 1. The significance for each financial indicator suggests variations for all industry sectors. For price-to-earnings ratio pre and post IFRS periods, it is most ideal to see the ratio decline from the pre IFRS to the post IFRS periods, discounting all negative ratios. For the price-to-sales ratio pre and post IFRS periods, it is most ideal to see the ratio increase from the pre IFRS to the post IFRS periods, discounting all negative ratios. For the price-to-cash flow ratio pre and post IFRS periods, it is most ideal to see the ratio the lower; however, a value of less than 20 is considered to be good, discounting all negative ratios.

The inferential statistic test used to assess the equality of variances for PRICE EARN RATIO POST IFRS for INDUSTRY SECTOR AND PRICE EARN RATIO PRE IFRS, PRICE SALES RATIO POST IFRS for INDUSTRY SECTOR and PRICE SALES RATIO PRE IFRS, PRICE CASH FLOW RATIO POST IFRS for INDUSTRY SECTOR and PRICE CASH FLOW RATIO PRE IFRS, AVE PRICE POST IFRS for

INDUSTRY SECTOR and AVE PRICE PRE IFRS, and STOCKS PRICE CHANGE POST IFRS for INDUSTRY SECTOR and STOCKS PRCIE CHANGE PRE IFRS was the Levene's test of Equality of Error Variances, which can be observed in Tables 39, 45, 51, 57, and 62, respectively. The Levene's test of Equality of Error Variances was determined to be statistically significant for price-to-earnings ratio, price-to-sales ratio, price-to-cash flow ratio, and average price because the p-values were less than the alpha of .05. As indicated by the statistical significance of all observed tests, the error variance of all dependent variables is equal across all groups. The Levene's test of Equality of Error Variances was determined to not be statistically significant for stocks price change because the p-value of .207 was more than the alpha of .05

The ANCOVA test was used to determine if a statistical significance was present for all above mentioned variables. Computing for an alpha of.05, the following Tables 40, 46, 52, 58, and 63 indicate the ANCOVA study for the post IFRS average price and post IFRS stocks price change were statistically significant. The results showed the p values were less than the computed alpha of .05. This indicates an improvement in all variables during the POST IFRS period over the PRE IFRS period of industry sectors. In addition, this suggests that the IFRS implementation had a positive effect on financial reporting standards in Canada over the previous financial reporting standard for the previously mentioned industry sectors. The ANCOVA tests that were not statistically significant were post IFRS price-to-earnings, post IFRS price-to-sales ratio, post IFRS price-to-cash flow ratio because the p-value were greater than the computed alpha of .05.

A 95% confidence interval was used in to determine if the marginal means of the variables were statistically the same. All means fell within the lower and upper bounds of the 95% confidence intervals, which indicated that the marginal mean difference is significant at the .05 level.

A Univariate test was used and is based on the linearly independent pairwise comparisons among the estimated marginal means and can be found in Tables 43, 49, 55, 60, and 66, respectively. This analysis explores each variable independently and central tendency of the values. Covariates were used for these models to control for affects in the relationships between the dependent and independent variables. The F tests the effect of INDUSTRY SECTOR. All Univariate tests were considered to be statistically significant at the .05 alpha levels because the p values were less than the .05 alpha levels, except for price-to-earnings ratio and price-to-cash flow ratio. Figures 5 through 9 represents independence between all industry sectors and displays the estimated marginal means of each variable and depicts a cumulative distribution of all values for the given variable.

Summary

My objective of this research design and methodology was to develop models and to evaluate whether statistical significance was present for key financial indicators and change of company stock prices between the pre and post IFRS periods, as mentioned in the hypotheses 1-7. A GLZM for all dependents and covariates for this ANCOVA study were applied for hypotheses 2, 4, and 6. The GLZM models indicated that the null hypotheses were rejected for all GLZM analyses. Paired sample t-tests were used to

determine whether there was a statistically significant difference present for hypotheses 1, 3, 5, and 7. The paired sample t-tests indicated that the null hypotheses for 1 and 7 are rejected, while the null hypotheses for 3 and 5 are accepted. An additional objective was to effectively answer the research questions 1-3 of this study. The results suggest that research question 1 was answered and indicate that the implementation of IFRS had a positive and statistically significant effect for the mean ratio of price-to-earnings ratio, price-to-earnings ratio, price-to-sales ratio, price-to-cash flow ratio, and change of company stock prices for pre IFRS price-to-earnings ratio, pre IFRS price-to-sales ratio, and pre IFRS price-to-cash flow ratio. A more detailed evaluation of the Research Questions is discussed in Chapter 5.

Further evaluation of the initial study was conducted on 10 industry sectors, all comprising of the 248 companies within the initial study and consisting of the same time periods. The results of the study were used to answer research question 3. An ANCOVA study was used to assess the dependent variables and account for a covariate. The Levene's Test of Equality of Error Variances was used, which tested the null hypothesis that the error variance of the dependent variable is equal across groups, except for STOCKS PRICE CHANGE POST IFRS. The ANCOVA test was used to determine if a statistical significance was present for all variables. Computing for an alpha = .05, the following Tables 40, 46, 52, 58, and 63 indicate the ANCOVA study for the AVE PRICE POST IFRS and STOCKS PRICE CHANGE POST IFRS were statistically significant. This indicates an improvement in all variables during the POST IFRS period over the PRE IFRS period of industry sectors. In addition, this suggests that the IFRS

implementation had a positive effect on financial reporting standards in Canada over the previous financial reporting standard for the previously mentioned industry sectors. The results for the industry sectors have not completely answered research question 3 as PRICE EARN RATIO POST IFRS, PRICE SALES RATIO POST IFRS, and PRICE CASH FLOW RAT The results for the industry sectors have not completely answered research question 3 and as PRICE EARN RATIO POST IFRS, PRICE SALES RATIO POST IFRS, and PRICE CASH FLOW RATIO POST IFRS indicate a no positive effect on company stock prices after the enactment of the IFRS. IO POST IFRS indicate no positive effect on company stock prices after the enactment of the IFRS.

My research was designed to add to the current research on the effects of the implementation of IFRS on key financial indicators and stock prices of companies. My research has indicated that IFRS implementation, to some degree, does have a statistically significant impact to key financial indicators and stock prices of companies.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study was to analyze any effects that IFRS may have had on Canadian stock valuations and key financial indicators after IFRS implementation.

The overall outcome of the research suggests that IFRS may have some effect on Canadian companies which trade on the S&P/TSX. The 7 hypotheses were evaluated and addressed pre and post IFRS impacts on specific company stocks, key financial ratios, and change in company stock prices and as they relate to the research questions. A GLZM for all dependents and covariates for this ANCOVA study were applied, as well as paired samples t-tests were used to determine whether there was a statistically significant difference present.

A statistically significant relationship exists for the null hypotheses for 1, 2, 4, 6 and 7; these hypotheses were rejected. The results suggest that IFRS implementation positively impacted the mean ratio of price-to-earnings ratio, price-to-earnings ratio, price-to-sales ratio, price-to-cash flow ratio, and the mean difference in company stock prices for the post IFRS period. Hypotheses 3 and 5 exhibited no statistical significance between the ratios. The influence of IFRS was not statistically significant for the mean ratio of price-to-sales ratio and mean ratio of price-to-sales ratio.

An ANCOVA test was used for the industry sectors and suggests similar results. To test for statistical significance an ANCOVA test was used. The results suggest that IFRS implementation had a positive effect on financial reporting standards in Canada over the previous financial reporting standard for the previously mentioned industry sectors.

Interpretation of Findings

This study evaluated pre and post IFRS impacts on 248 company stocks, key financial ratios, and change in company stock prices and as they relate to the research questions. The objective of IFRS is to mandate a unitary, fair, and simple international financial reporting standard to allow similar comparisons to be made between companies domestically and across international borders. This research was to solidify IFRS objectives within Canada and provide additional research to industry sectors, as an extension of the initial research conducted.

Research Question 1

The results of the study indicate several interesting outcomes that assist in answering Research Question 1. The initial study and models were evaluated and the outcome was that the null hypotheses for Hypotheses 1, 2, 4, 6, and 7 were rejected, indicating a statistically significant relationship exists between the variables when compared for the pre IFRS and post IFRS periods.

The mean ratio difference for price-to-earnings ratio for Hypothesis 1 was (M = -2.7, SD = 36.49) for the pre IFRS period and (M = 10.97, SD = 68.90) for the post IFRS period. The mean ratio improved during the post IFRS period. As shown in Table 3, the null hypothesis is rejected [$t(130) = -2.023$, $p = 0.045$] because the p-value is less than the 5% level. Hypothesis 2 indicates that the mean for the post IFRS period for the price-to-earnings ratio was 10.97 and the standard deviation was 68.90. The stock price change for the post period (covariate) resulted in a mean of 2.79 and a standard deviation of 6.61. The Pearson's Chi-squared test was .000, and the Wald Chi-square value was 47137.209.

The results indicate a statistically significant relationship exists and the null hypothesis can be rejected.

Hypothesis 4 indicated that the mean for the post IFRS period for the price-to-sales ratio was.025 and the standard deviation was 2.07. The stock price change for the post period (covariate) resulted in a mean of 1.43 and a standard deviation of 8.89. The Pearson's Chi-squared test was .000 and the Wald Chi-square value was 746.047. This indicates a statistically significant relationship exists and the null hypothesis can be rejected.

Hypothesis 6 indicated that the mean for the post IFRS period for the price-to-cash flow ratio was 5.43 and the standard deviation was 127.21. The stock price change for the post period (covariate) resulted in a mean of 1.36 and a standard deviation of 8.72. The mean difference in the pre IFRS change of company stock prices for hypothesis 7 was (M = 4.39, SD = 6.14) and is greater than that for post IFRS change of company stock prices (M = 1.50, SD = 8.67). The Pearson's Chi-squared test was .868 and the Wald Chi-square value was 241.863. This indicates a statistically significant relationship exists and the null hypothesis can be rejected. This suggests that IFRS implementation positively impacted the mean ratio of price-to-earnings ratio price-to-earnings ratio, price-to-sales ratio, price-to-cash flow ratio and change of company stock prices. This suggests improved financial disclosures, as dictated by IFRS, has improved financial health of Canadian companies and improves investor confidence and overall risk aversion levels. Hail, Leuz, & Wysocki (2010) and Smith (2012) demonstrated that improved financial disclosures contributes to several benefits, as it pertains to capital market

investors' abilities to reducing adverse selections and increases in market liquidity. IFRS requirements improve investors' abilities to make fair and equal comparisons of financial disclosures. In addition, market liquidity is improved because investors begin to trade more confidently and efficiently and supply and demand becomes more fluent. This is further supported because the null hypothesis for hypothesis 7 was rejected, which indicated that the mean difference in the post IFRS change of company stock prices was greater than that for pre IFRS period. Overall, company stock valuations increased after the implementation of IFRS, which indicates an overall benefit of IFRS application.

Hypotheses 3 and 5 were accepted and showed no statistical significance between the ratios. The influence of IFRS was not statistically significant for the mean ratio of price-to-sales ratio and mean ratio of price-to-sales ratio. The mean ratio difference in the post IFRS price-to-sales ratio for hypothesis 3 was (M = .025, SD = 2.07) and is greater than that for pre IFRS (M = -11.36, SD = 157.85), as indicated in Table 13. This may imply that the price-to-sales ratio for the post period was higher and may indicate that investments in stocks during the pre IFRS period may be more attractive, because typically the lower the price-to-sales ratio, the more attractive the investment in the company. From Table 15, the null hypothesis is accepted [$t(216) = -1.064$, $p = 0.289$] because the p-value is greater than the 5% level. The mean ratio difference in the post IFRS price-to-cash flow ratio for hypothesis 5 was (M=5.43, SD=127.21) and is greater than that for pre IFRS (M = -36.26, SD = 665.64), as indicated in Table 25. From Table 27, the null hypothesis is accepted [$t(226) = -0.928$, $p = 0.355$] because the p-value is

greater than the 5% level. Overall, IFRS had some practical implications to Canadian companies' financial reporting data, but not all hypotheses were statistically significant.

Research Question 2

Analysis of the models above shows 5 out of the 7 null hypotheses was rejected, thereby suggesting an overall improvement in Canadian key financial indicators and change in company stock prices after the implementation of IFRS. Comparability is possibly the single most important concept and general theme for implementing IFRS. Franco, Kothari, & Verdi (2011) stated that comparability of financial statements has a psychological impact on investors' confidence. Rational investment decisions cannot be possible without comparable financial statements. In addition, investor confidence is increased when they have fair and equal comparisons of company stocks. Accounting measures are directly influenced and affected by the type of financial reporting standard that is used. Aharony, Barniv, and Falk (2010) found that IFRS had a positive correlation with the accounting measurements on research and development, goodwill, and asset revaluation. This thought can be applied to the key financial indicators as set forth in this study. Additional research by Liu, Yao, Hu, and Liu (2011) suggested similar results. Chen, Young, and Zhuang (2013) stated value relevance of financial disclosures increased after IFRS adoption. Elias (2012) found that improved accounting quality through IFRS adoption in Australia increased value relevance and improved earnings management. This study further strengthens this idea and adds additional knowledge in this area with regards to IFRS implications on increased value relevance and improved

earnings management. Companies are better able to manage financial information, thereby improving earnings management and increasing value relevance for all investors.

Research Question 3

An extension of the initial study was conducted on industry sectors of the total population. The results for the industry sectors have not completely answered research question 3 as PRICE EARN RATIO POST IFRS, PRICE SALES RATIO POST IFRS, and PRICE CASH FLOW RATIO POST IFRS indicate no positive effect on company stock prices after the enactment of the IFRS. As shown in Table 41, all industry sectors had a significant change in the changes in mean for the AVE PRICE PRE IFRS and AVE PRICE POST IFRS for each industry sector except for Oil and Gas, as the means were 18.69 and 18.75, respectively, which represents no significant change when compared because it is less than 1. All industry sectors with statistical significance for the changes in the mean for AVE PRICE PRE IFRS and AVE PRICE POST IFRS implies the Canadian financial reporting standards, Canadian GAAP, which was the pre IFRS, had strict reporting standards and financial reporting under IFRS was similar in tight financial reporting standards for the Oil and Gas industry sector. In addition, this may suggest that investors were content and confident that IFRS would have little to no effect because of the similarity in pre and post financial reporting standards.

As shown in Table B3, the following industry sectors had some statistical significant change in the changes in mean: PRICE CASH FLOW RATIO, PRICE EARN RATIO, and PRICE SALES RATIO for industry sectors. This is true because the mean for each financial ratio, when compared to the PRE and POST periods, the difference is

greater than 1, except for Comm & Media. All but three of the statistically significant differences in the price-to-cash flow ratio for each industry sector suggests no improvement in the ratio, but rather a lower ratio from pre IFRS to post IFRS. This may indicate that IFRS have negative effect to all industry sectors, except for Mining, Technology, and Other-Forest Products and Life Sciences. There was no statistically significance to Communication & Media, when compared to pre IFRS and post IFRS, there showed an improvement in the price-to-cash flow ratio. The total mean for price-to-cash flow ratio for the industry sector was pre IFRS -36.26 and post IFRS 6.45, respectively.

The price-to-earnings ratio was statistically significant for all industry sectors except for Comm & Media, Real Estate, and Other-Forest Products and Life Sciences. The Data for Other-Forest Products and Life Sciences was incomplete for the pre IFRS period. The total mean for price-to-earnings ratio for the industry sector was pre IFRS -19.37 and post IFRS 59.52, respectively.

The price-to-sales ratio was statistically significant for all industry sectors except for Diversified Industries, Financial Services, Real Estate, Utilities & Pipelines, Technology, Communication & Media, and Other-Forest Products and Life Sciences. The industry sector that was negatively significant was Oil & Gas. The non-significant industry sectors that positively improved were Diversified Industries, Real Estate, and Other-Forest Products and Life Sciences. The total mean for price-to-sales ratio for the industry sector was statistically significant and showed an improvement from pre IFRS -.34 to post IFRS 8.31, respectively.

The Levene's test of Equality of Error Variances, which can be observed in Tables 39, 45, 51, 57, and 62 is used to assess the equality of variances for the industry sectors. The Levene's test of Equality of Error Variances was determined to be statistically significant for price-to-earnings ratio, price-to-sales ratio, price-to-cash flow ratio, and average price because the p-values were less than the alpha of .05. This tests that the error variance of the dependent variable is equal across groups. The Levene's test of Equality of Error Variances for stocks price change post IFRS was not significant.

The ANCOVA test was used to determine if a statistical significance was present for all variables. Computing for an alpha .05, the following Tables 40, 46, 52, 58, and 63 indicate the ANCOVA study for the post IFRS average price and post IFRS stocks price change were statistically significant. The results showed the p values were less than the computed alpha of .05.This indicates an improvement in all variables during the POST IFRS period over the PRE IFRS period of industry sectors. In addition, this suggests that the IFRS implementation had a positive effect on financial reporting standards in Canada over the previous financial reporting standard for all industry sectors. The ANCOVA tests that were not statistically significant include post IFRS price-to-earnings, post IFRS price-to-sales ratio, and post IFRS price-to-cash flow ratio because the p-values were greater than the .05 alpha level.

A 95% confidence interval was used to determine if the marginal means of the variables were statistically the same. All means for post IFRS price-to-earnings, post IFRS price-to-sales ratio, post IFRS price-to-cash flow ratio, post IFRS average price, and post IFRS stocks price change fell within the lower and upper bounds of the 95%

confidence intervals, which indicated that the marginal mean difference is significant at the .05 alpha level.

A Univariate test was used and is based on the linearly independent pairwise comparisons among the estimated marginal means and can be found in Tables 43, 49, 55, 60, and 66. This analysis explores each variable independently and the central tendency of the values. All Univariate tests were considered to be statistically significant at the .05 alpha levels because the p values were less than the .05 alpha levels, except for the post IFRS price-to-earnings ratio and post IFRS price-to-cash flow ratio. Figures 5 through 9 represents independence between all industry sectors and displays the estimated marginal means of each variable and depicts a cumulative distribution of all values for the given variable.

Limitations of the Study

The methodology of this research was a quantitative study which used secondary data for the data collection process. The time period for which data was collected was limited to the periods 2009-2010 (pretest IFRS) and 2011-2012 (posttest IFRS). A causal-comparative research design was used from available existing data to determine outcome measurements. Limitations of extracting financial data on publicly traded Canadian companies trading on the S&P/TSX did exist, however all publicly traded Canadian companies are required to report their financial information publicly. The limitation existed because either companies were not registered with the TSX during the years of interest (2009-2012) or companies were not listed as companies on the S&P during the years of interest. The total companies listed on the S&P/TSX at the time or collecting

data was 248. The companies that did not report financial data for the years of interest were not included in the study. The incomplete data was missing either one year or multiple years of financial data for the selected time periods for each given financial ratio. The excluded companies represented only a small fraction of lost data and had minimal, if any affects to the study because a large set of data was still available for the majority of the population. In addition, not all data excluded for one test was excluded for every test. The data included in the study should be considered a true representation of the entire population because no sample data was randomly selected, but rather the entire population for all companies listed on the S&P/TSX Composite Index was used. Limitations to the study may be presented in research being conducted over international boundaries; however, none were evident in this study as the data that was collected was from Canadian origin and relatively simple to obtain.

This research focused only on companies that trade on the S&P/TSX, thus generalizability of companies outside of the S&P/TSX was limited. The data was collected from the Morningstar Canada's website http://www2.morningstar.ca/homepage/h_ca.aspx?culture=en-CA. This site provides public access and was considered to be reliable.

Internal validity concerns were limited within this study as all data collected was historical data. In addition, external validity concerns were limited because data collected was limited to Canadian companies only. No concerns were found with regards to construct validity, as the research design and methodology was consistent for the research questions and objectives of the study.

Recommendations

Research conducted on IFRS, specific to Canada are limited. In addition, the key financial indicators and industry sectors evaluated in this study was not found on any public database. Likewise, this study assessed these variables specifically on Canadian companies which trade on the S&P/TSX. Future recommendations of future studies include analyzing different Canadian indices and stock exchanges. There are numerous indices found trading within the Canadian financial markets. Some of these indices that trade on the S&P/TSX may include Capped Consumer Staples Index, Small Cap Index, and Capped Composite Index, to name a few. Industry sectors may be able to be further evaluated from these other indices. In addition, further research would be beneficial on other Canadian stock Exchanges such as, Alberta Stock Exchange, Montreal Stock Exchange, TSX Venture Exchange, Vancouver Stock Exchange, and NASDAQ Canada. Additionally, my study was limited to the time periods 2009-2010 (pre IFRS) and 2011-2012 (post IFRS). Further research could be completed to include a larger time period, which would provide more relevancies to the study.

The key financial indicators used in this study included price-to-earnings ratio, price-to-sales ratio, and price-to-cash flow ratios, which are all considered to be valuation measurements. A recent ratio that has become more common in today's financial analysis of companies is the price-to-free cash flow ratio. This ratio is a valuation metric that is similar to the price-to-cash flow ratio but measures free cash flow, which does not account for capital expenditures and is considered to be a stricter valuation measurement. In addition, two metrics in finance used to measure the performance of companies are

economic value added (EVA) and market value added (MVA). These were recently developed by scholars and could be used to compare IFRS for both before and after its enactment. Future studies could include additional ratio metrics not limited to the valuation of companies.

It was recognized within this study that additional educational opportunities would be necessary in the recent IFRS. Pfeffer, Jacobs, DeLong, and Tang (2012) reported that according to the Canadian Investor Relations Institute, only 50% of the investment community is prepared to transition to IFRS and approximately 8% of all investors are able to interpret financial statements using IFRS and are well educated. Sufficient resources need to be allocated to properly educate the investment community to allow for the success of IFRS in Canada. In addition, comparability of financial statements improves analysts' reviews and forecasting. Franco, Kothari, and Verdi (2011) suggested greater comparability of financial statements leads to more evaluations being completed by analysts. Further, accuracies in forecasting are improved and costs are lowered when acquiring information. Byard, Li, and Yu (2011) found that a reduction in analyst's forecasted errors and decreased forecasted dispersion occurred when IFRS are followed. It has been recognized that proper education on evaluating IFRS financial data is imperative, as described above. Classes should be offered in more repetition and levels of increased detail for professionals and investors so they can be better informed as to how to read the IFRS reports and the differences found between IFRS and Canadian GAAP. Incorporating all recommendations above will provide additional research for the Canadian IFRS effectiveness and downfalls. In addition, it will provide another layer of

investor confidence and hopefully reduce costs for analysts and investors as they become more aware of the intricacies and inner workings of IFRS.

Implications for Social Change

Individual's making investment decisions on their own can be an overwhelming, difficult, and a daunting task. What makes the investment decision process even more challenging is comparing financial disclosures of companies that are not of equal or fair values to make an appropriate comparison. Likewise, this challenge is also confronted among financial analysts, corporations, and government entities. The application of IFRS would assist individuals and entities in making appropriate comparisons of corporate financial statements, thereby promoting positive social change.

The globalization of corporate, economic, and political transactions has made evaluations of financial statements of corporations more difficult. The objective of IFRS is to make financial reporting of corporations more efficient, effective, and simple for evaluations and analyses by individuals, financial analysts, corporations, and government entities. Durocher and Gendron (2011) stated that an un-unified accounting language among all corporations makes it difficult for company comparisons. The investor ultimately has the burden of translation costs. If financial disclosures are not reported equally for all companies then the investor would need to analyze each financial disclosure and make any appropriate adjustments to make a fair and equal comparison. This could result in adjustment errors, investor fatigue, and/or inaccurate comparisons. Durocher and Gendron believed that IFRS would allow for open barriers to international boundaries, reduce the cost of capital, and minimize the cost to reconciliation of financial

statements for comparison. By requiring a unified financial reporting standard investors could be confident in making international investments. In addition, companies that report financial statements in different countries would reduce their costs in preparing its financial statements because it would only need to abide by IFRS. They would not need to prepare additional financial statements to comply with other countries financial reporting regulations. The positive outcomes of IFRS promote positive social change at the individual, family, organizational, and societal / policy, and international levels.

This research can contribute to existing research with regards to IFRS and can promote, positive social change for capital market investors, corporations, and governments alike, to allow capital market investors an equal way to compare corporate financial information. Many countries have recognized the importance to conforming to a single and unitary financial reporting system that allows for financial transparency and comparability for capital market investors. As of April 2015, 140 jurisdictions have instituted some form of IFRS (ifrs.org, 2015). Overall, the total number of jurisdictions continues to grow, as more continue to accept a single set of global accounting standards. Individuals can have the confidence to analyze Canadian companies' financial disclosures at the micro or macro levels and know they are comparing financial statements equally, which will allow them to make the most appropriate investment decision. Also, this transparency of comparing financial statements will reduce research costs for them. Likewise, financial analysts will be able to reduce their costs, forecasting errors, and complete more financial evaluations of corporations. Franco, Kothari, and Verdi, (2011) stated that rational comparisons among alternative investments is not

possible without the ability to make fair comparisons. They determined that comparability among companies has increased. They suggested that greater comparability of financial statements leads to more evaluations being completed by analysts. In addition, greater comparability increases forecast accuracies, as well as lowers costs associated with acquiring information.

The implementation of IFRS will benefit corporations and government entities. It would reduce its' cost of capital of comparing financial statements, provide more evaluations to be completed with accuracy, and allow equal comparison on a micro and macro level. In addition, corporations would be able to invest internationally, thereby increasing foreign economies Gross Domestic Products and its own company's revenues through international investments and expansions. Government entities would also reduce costs because they only need to be verse in IFRS policies and regulations. This would allow them to be more productive and familiar when working with other countries with identical financial reporting regulations. Government entities would be able to work more efficiently and effectively with other government entities on a micro and macro levels. The application of a single and enforceable financial reporting system not only would benefit capital market investors, but also investment analysts, government agencies, and corporations alike.

This study has provided evidence and has added to the existing research with regards to IFRS. All capital market investors at the individual, family, organizational, government, and societal levels all benefit from this research. Moreover, this research has demonstrated that IFRS have effectively been implemented in the Canadian financial

markets with success. This research should provide another layer of investor confidence to the existing IFRS research.

Conclusions

Clearly, countries have the abilities to make financial reporting standards a requirement through new legislations. Financial statements are used as an internal control for performance evaluation, measured against other internal divisions, and the evaluation of company projects (Ross, Westerfield, & Jordan, 1993). In addition, external uses include evaluations made by creditors and investors to determine the financial strengths and actions taken by a company. Financial reporting requirements will influence market investors' confidence and investment decisions. By establishing a unified, fair, and transparent method of comparing financial statements will reduce irrational investment decisions be made by all capital market investors.

In this study several outcomes demonstrated IFRS have made positive impacts to key financial indicators and positive changes in company stock prices after IFRS was in effect. This suggests IFRS implementation has improved the overall corporate financials. In addition, capital market investors have shown the willingness to make investments because comparisons of corporate financial statements have been made easier. This study provides another layer to existing research in this field to improve investor confidence and demonstrates the effectiveness of IFRS implementation in Canada. It is up to each country's willingness to promote appropriate financial reporting requirements to benefit all capital market investors. One goal of the country should be to attract international investors, which will improve corporate profits and the country's overall economic

condition. If the number of countries that implements IFRS continues to grow, over time, all capital market investors will be able to make fair, equal, and transparent comparisons of corporate financials. This will promote positive social change for individuals, families, organizations, and societies at micro and macro levels.

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Appendix A: Parameter Estimates-Significant Values of Independent Variable

Table A1

Price-to-Earnings Ratio for Pre IFRS

			95% Wald CI		*Hypothesis Test*		
Parameter	*B*	*SE*	*LL*	*UL*	*Wald Chi-Square*	*df*	*Sig.*
(Intercept)	5.495	3.6403	-1.640	12.630	2.279	1	.131
[PRICE EARN RATIO PRE IFRS=-253.30]	-22.038	5.1663	-32.164	-11.912	18.197	1	.000
[PRICE EARN RATIO PRE IFRS=-96.00]	2.846	5.6290	-8.186	13.879	.256	1	.613
[PRICE EARN RATIO PRE IFRS=-80.20]	-9.380	5.1146	-19.404	.645	3.363	1	.067
[PRICE EARN RATIO PRE IFRS=-79.60]	-3.935	5.1107	-13.952	6.082	.593	1	.441
[PRICE EARN RATIO PRE IFRS=-57.50]	-13.806	5.2228	-24.042	-3.569	6.987	1	.008
[PRICE EARN RATIO PRE IFRS=-47.60]	-43.767	10.4694	-64.286	-23.247	17.476	1	.000
[PRICE EARN RATIO PRE IFRS=-46.70]	-1.143	5.1191	-11.176	8.890	.050	1	.823
[PRICE EARN RATIO PRE IFRS=-36.20]	-8.835	5.1107	-18.852	1.182	2.989	1	.084
[PRICE EARN RATIO PRE IFRS=-32.40]	-7.413	5.2018	-17.609	2.782	2.031	1	.154
[PRICE EARN RATIO PRE IFRS=-23.70]	-1.618	5.3274	-12.060	8.823	.092	1	.761
[PRICE EARN RATIO PRE IFRS=-22.30]	-9.052	5.1129	-19.073	.969	3.135	1	.077
[PRICE EARN RATIO PRE IFRS=-21.30]	-13.642	5.1940	-23.822	-3.462	6.898	1	.009
[PRICE EARN RATIO PRE IFRS=-21.00]	5.293	5.1120	-4.726	15.312	1.072	1	.300
[PRICE EARN RATIO PRE IFRS=-19.10]	-1.423	5.2327	-11.679	8.832	.074	1	.786

table continues

[PRICE EARN RATIO PRE IFRS=-19.00]	-15.163	5.1323	-25.222	-5.104	8.729	1	.003
[PRICE EARN RATIO PRE IFRS=-18.10]	1.110	5.1091	-8.904	11.123	.047	1	.828
[PRICE EARN RATIO PRE IFRS=-17.00]	-2.389	5.1173	-12.419	7.641	.218	1	.641
[PRICE EARN RATIO PRE IFRS=-16.20]	-1.109	5.1127	-11.130	8.912	.047	1	.828
[PRICE EARN RATIO PRE IFRS=-15.00]	134.797	5.3958	124.221	145.372	624.092	1	.000
[PRICE EARN RATIO PRE IFRS=-14.80]	-4.017	5.1125	-14.037	6.003	.617	1	.432
[PRICE EARN RATIO PRE IFRS=-14.70]	-6.679	5.2855	-17.038	3.681	1.597	1	.206
[PRICE EARN RATIO PRE IFRS=-14.00]	11.379	5.2520	1.086	21.673	4.695	1	.030
[PRICE EARN RATIO PRE IFRS=-13.50]	-1.387	5.1096	-11.402	8.627	.074	1	.786
[PRICE EARN RATIO PRE IFRS=-13.40]	-9.145	5.1093	-19.159	.869	3.204	1	.073
[PRICE EARN RATIO PRE IFRS=-12.50]	.057	5.1191	-9.976	10.090	.000	1	.991
[PRICE EARN RATIO PRE IFRS=-11.70]	45.231	5.1235	35.189	55.273	77.937	1	.000
[PRICE EARN RATIO PRE IFRS=-11.30]	-97.248	5.1881	-107.417	-87.080	351.352	1	.000
[PRICE EARN RATIO PRE IFRS=-9.50]	17.646	4.4327	8.958	26.334	15.848	1	.000
[PRICE EARN RATIO PRE IFRS=-9.10]	-17.157	5.5396	-28.014	-6.299	9.592	1	.002
[PRICE EARN RATIO PRE IFRS=-8.90]	-13.364	5.1916	-23.540	-3.189	6.627	1	.010
[PRICE EARN RATIO PRE IFRS=-8.30]	-22.636	6.1137	-34.619	-10.653	13.708	1	.000
[PRICE EARN RATIO PRE IFRS=-6.90]	-15.282	5.2727	-25.617	-4.948	8.401	1	.004

table continues

[PRICE EARN RATIO PRE IFRS=-6.70]	2.107	5.1728	-8.032	12.245	.166	1	.684
[PRICE EARN RATIO PRE IFRS=-6.40]	-3.865	5.2133	-14.083	6.353	.550	1	.458
[PRICE EARN RATIO PRE IFRS=-6.10]	1.687	6.2344	-10.532	13.906	.073	1	.787
[PRICE EARN RATIO PRE IFRS=-5.80]	-30.760	5.2760	-41.100	-20.419	33.990	1	.000
[PRICE EARN RATIO PRE IFRS=-5.60]	-1.214	4.4436	-9.924	7.495	.075	1	.785
[PRICE EARN RATIO PRE IFRS=-5.40]	19.012	5.8952	7.457	30.566	10.400	1	.001
[PRICE EARN RATIO PRE IFRS=-4.40]	-9.805	5.1231	-19.846	.236	3.663	1	.056
[PRICE EARN RATIO PRE IFRS=-4.30]	-1.904	5.2120	-12.119	8.312	.133	1	.715
[PRICE EARN RATIO PRE IFRS=-4.00]	3.301	5.1405	-6.774	13.376	.412	1	.521
[PRICE EARN RATIO PRE IFRS=-3.90]	747.092	5.1369	737.024	757.161	21151.339	1	.000
[PRICE EARN RATIO PRE IFRS=-2.70]	-8.393	5.1120	-18.412	1.626	2.696	1	.101
[PRICE EARN RATIO PRE IFRS=-2.20]	-15.431	5.2385	-25.698	-5.164	8.678	1	.003
[PRICE EARN RATIO PRE IFRS=-2.10]	-6.434	5.1248	-16.478	3.610	1.576	1	.209
[PRICE EARN RATIO PRE IFRS=-2.00]	7.580	5.8418	-3.870	19.030	1.684	1	.194
[PRICE EARN RATIO PRE IFRS=-1.80]	-15.876	5.2810	-26.226	-5.525	9.037	1	.003
[PRICE EARN RATIO PRE IFRS=-1.70]	-10.083	5.1193	-20.116	-.049	3.879	1	.049
[PRICE EARN RATIO PRE IFRS=-1.60]	-6.587	5.1096	-16.602	3.427	1.662	1	.197
[PRICE EARN RATIO PRE IFRS=-1.10]	-8.299	5.1110	-18.317	1.718	2.637	1	.104

table continues

[PRICE EARN RATIO PRE IFRS=-1.00]	-1.966	5.2582	-12.272	8.340	.140	1	.709
[PRICE EARN RATIO PRE IFRS=-.70]	-12.100	4.4516	-20.825	-3.375	7.388	1	.007
[PRICE EARN RATIO PRE IFRS=-.60]	22.913	5.4022	12.325	33.501	17.989	1	.000
[PRICE EARN RATIO PRE IFRS=-.50]	-7.389	5.1270	-17.437	2.660	2.077	1	.150
[PRICE EARN RATIO PRE IFRS=-.30]	-21.559	5.1542	-31.661	-11.457	17.495	1	.000
[PRICE EARN RATIO PRE IFRS=-.10]	-10.675	5.1480	-20.765	-.585	4.300	1	.038
[PRICE EARN RATIO PRE IFRS=.20]	-12.159	5.1542	-22.261	-2.057	5.565	1	.018
[PRICE EARN RATIO PRE IFRS=.40]	114.082	5.1233	104.041	124.124	495.831	1	.000
[PRICE EARN RATIO PRE IFRS=.50]	1.822	4.4581	-6.915	10.560	.167	1	.683
[PRICE EARN RATIO PRE IFRS=.60]	-8.006	5.1092	-18.020	2.008	2.456	1	.117
[PRICE EARN RATIO PRE IFRS=.70]	-5.260	5.1494	-15.353	4.832	1.044	1	.307
[PRICE EARN RATIO PRE IFRS=.80]	-14.458	4.4996	-23.277	-5.639	10.325	1	.001
[PRICE EARN RATIO PRE IFRS=.90]	-27.374	5.1889	-37.544	-17.204	27.831	1	.000
[PRICE EARN RATIO PRE IFRS=1.10]	-9.492	5.1285	-19.544	.560	3.426	1	.064
[PRICE EARN RATIO PRE IFRS=1.20]	-7.849	5.1475	-17.938	2.240	2.325	1	.127
[PRICE EARN RATIO PRE IFRS=1.30]	-31.218	8.3625	-47.608	-14.827	13.936	1	.000
[PRICE EARN RATIO PRE IFRS=2.10]	-5.091	5.1157	-15.118	4.935	.990	1	.320
[PRICE EARN RATIO PRE IFRS=2.20]	-1.148	5.1587	-11.259	8.963	.050	1	.824

table continues

[PRICE EARN RATIO PRE IFRS=2.30]	-17.000	5.4242	-27.631	-6.369	9.822	1	.002
[PRICE EARN RATIO PRE IFRS=2.40]	1.090	4.6154	-7.956	10.136	.056	1	.813
[PRICE EARN RATIO PRE IFRS=3.00]	-10.469	5.1522	-20.567	-.370	4.128	1	.042
[PRICE EARN RATIO PRE IFRS=3.30]	-5.764	5.1137	-15.786	4.259	1.270	1	.260
[PRICE EARN RATIO PRE IFRS=3.50]	-7.835	5.1107	-17.852	2.182	2.350	1	.125
[PRICE EARN RATIO PRE IFRS=3.60]	-7.307	5.1120	-17.326	2.712	2.043	1	.153
[PRICE EARN RATIO PRE IFRS=3.90]	-12.101	5.1575	-22.209	-1.992	5.505	1	.019
[PRICE EARN RATIO PRE IFRS=4.00]	-3.869	5.1438	-13.950	6.213	.566	1	.452
[PRICE EARN RATIO PRE IFRS=4.20]	-3.606	5.1102	-13.622	6.410	.498	1	.480
[PRICE EARN RATIO PRE IFRS=4.30]	-3.932	5.1092	-13.946	6.081	.592	1	.441
[PRICE EARN RATIO PRE IFRS=4.50]	-2.208	5.1349	-12.273	7.856	.185	1	.667
[PRICE EARN RATIO PRE IFRS=4.90]	-7.936	5.3350	-18.393	2.520	2.213	1	.137
[PRICE EARN RATIO PRE IFRS=5.20]	23.199	5.2609	12.888	33.510	19.445	1	.000
[PRICE EARN RATIO PRE IFRS=5.60]	-10.738	5.1097	-20.753	-.724	4.417	1	.036
[PRICE EARN RATIO PRE IFRS=6.00]	-16.942	5.1940	-27.122	-6.762	10.639	1	.001
[PRICE EARN RATIO PRE IFRS=6.10]	-.391	5.1106	-10.407	9.626	.006	1	.939
[PRICE EARN RATIO PRE IFRS=6.50]	7.449	4.4379	-1.249	16.147	2.817	1	.093
[PRICE EARN RATIO PRE IFRS=7.00]	-17.950	5.2630	-28.265	-7.635	11.633	1	.001

table continues

[PRICE EARN RATIO PRE IFRS=7.40]	-10.496	5.1989	-20.686	-.307	4.076	1	.043
[PRICE EARN RATIO PRE IFRS=7.70]	-8.526	5.1095	-18.540	1.488	2.784	1	.095
[PRICE EARN RATIO PRE IFRS=7.90]	-10.640	5.1252	-20.685	-.595	4.310	1	.038
[PRICE EARN RATIO PRE IFRS=8.00]	-7.146	5.1100	-17.161	2.870	1.955	1	.162
[PRICE EARN RATIO PRE IFRS=8.10]	5.510	5.1650	-4.613	15.633	1.138	1	.286
[PRICE EARN RATIO PRE IFRS=8.40]	12.395	5.1243	2.352	22.439	5.851	1	.016
[PRICE EARN RATIO PRE IFRS=8.60]	-7.911	5.1332	-17.972	2.149	2.375	1	.123
[PRICE EARN RATIO PRE IFRS=8.90]	-2.202	5.1464	-12.289	7.884	.183	1	.669
[PRICE EARN RATIO PRE IFRS=9.20]	.949	5.1136	-9.073	10.972	.034	1	.853
[PRICE EARN RATIO PRE IFRS=9.70]	.213	6.2344	-12.006	12.432	.001	1	.973
[PRICE EARN RATIO PRE IFRS=10.00]	-4.055	5.1103	-14.071	5.961	.630	1	.427
[PRICE EARN RATIO PRE IFRS=10.30]	-19.917	5.1428	-29.997	-9.838	14.999	1	.000
[PRICE EARN RATIO PRE IFRS=10.40]	-21.266	5.1307	-31.322	-11.210	17.180	1	.000
[PRICE EARN RATIO PRE IFRS=10.80]	6.187	5.4008	-4.398	16.773	1.312	1	.252
[PRICE EARN RATIO PRE IFRS=10.90]	6.242	5.1741	-3.899	16.383	1.455	1	.228
[PRICE EARN RATIO PRE IFRS=11.20]	-6.067	5.1734	-16.207	4.072	1.375	1	.241
[PRICE EARN RATIO PRE IFRS=12.50]	5.983	5.1125	-4.037	16.003	1.370	1	.242
[PRICE EARN RATIO PRE IFRS=14.50]	8.803	5.1091	-1.211	18.817	2.969	1	.085

table continues

[PRICE EARN RATIO PRE IFRS=16.80]	-10.433	5.3299	-20.880	.013	3.832	1	.050
[PRICE EARN RATIO PRE IFRS=17.50]	19.431	5.1188	9.398	29.464	14.410	1	.000
[PRICE EARN RATIO PRE IFRS=18.90]	30.263	5.1214	20.225	40.301	34.918	1	.000
[PRICE EARN RATIO PRE IFRS=20.50]	-21.364	5.7671	-32.668	-10.061	13.724	1	.000
[PRICE EARN RATIO PRE IFRS=21.50]	-17.766	5.2678	-28.091	-7.442	11.375	1	.001
[PRICE EARN RATIO PRE IFRS=30.80]	-10.765	5.1128	-20.786	-.744	4.433	1	.035
[PRICE EARN RATIO PRE IFRS=32.00]	26.745	5.1972	16.559	36.931	26.481	1	.000
[PRICE EARN RATIO PRE IFRS=131.50]	-22.706	5.1092	-32.720	-12.692	19.751	1	.000
[PRICE EARN RATIO PRE IFRS=219.90]	0[a]	.	.	.	.	.	.
STOCKS PRICE CHANGE POST IFRS	1.290	.2216	.855	1.724	33.850	1	.000
(Scale)	13.051[b]	1.6126	10.244	16.628			

Dependent Variable: PRICE EARN RATIO POST IFRS

Model: (Intercept), PRICE EARN RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS

a. Set to zero because this parameter is redundant.

b. Maximum likelihood estimate.

Table A2

Price-to-Sales Ratio for Pre IFRS

			95% Wald CI		*Hypothesis Test*		
Parameter	*B*	*SE*	*LL*	*UL*	*Wald Chi-Square*	*df*	*Sig.*
(Intercept)	.166	.9614	-1.718	2.051	.030	1	.863
STOCKS PRICE CHANGE POST IFRS	.017	.0091	-.001	.035	3.301	1	.069

table continues

[PRICE SALES RATIO PRE IFRS=-2311.30]	-2.647	1.3597	-5.312	.018	3.790	1	.052
[PRICE SALES RATIO PRE IFRS=-258.40]	-2.679	1.3594	-5.343	-.014	3.882	1	.049
[PRICE SALES RATIO PRE IFRS=-13.80]	-19.152	1.3618	-21.821	-16.483	197.780	1	.000
[PRICE SALES RATIO PRE IFRS=-10.10]	.883	1.3646	-1.792	3.558	.419	1	.518
[PRICE SALES RATIO PRE IFRS=-6.70]	.626	1.3594	-2.039	3.290	.212	1	.645
[PRICE SALES RATIO PRE IFRS=-4.60]	-1.024	1.3600	-3.689	1.642	.566	1	.452
[PRICE SALES RATIO PRE IFRS=-3.10]	-1.546	1.3597	-4.211	1.119	1.293	1	.256
[PRICE SALES RATIO PRE IFRS=-2.70]	.654	1.3597	-2.011	3.319	.231	1	.631
[PRICE SALES RATIO PRE IFRS=-2.10]	10.334	1.3595	7.669	12.998	57.777	1	.000
[PRICE SALES RATIO PRE IFRS=-1.90]	.448	1.3597	-2.217	3.113	.109	1	.742
[PRICE SALES RATIO PRE IFRS=-1.70]	-1.223	1.3628	-3.894	1.448	.805	1	.370
[PRICE SALES RATIO PRE IFRS=-1.50]	-.008	1.1775	-2.316	2.300	.000	1	.994
[PRICE SALES RATIO PRE IFRS=-1.40]	-.327	1.3600	-2.992	2.339	.058	1	.810
[PRICE SALES RATIO PRE IFRS=-1.00]	-2.764	1.3614	-5.433	-.096	4.123	1	.042
[PRICE SALES RATIO PRE IFRS=-.90]	.261	1.3598	-2.404	2.926	.037	1	.848
[PRICE SALES RATIO PRE IFRS=-.60]	.174	1.1773	-2.134	2.481	.022	1	.883
[PRICE SALES RATIO PRE IFRS=-.50]	-.447	1.1772	-2.754	1.861	.144	1	.704
[PRICE SALES RATIO PRE IFRS=-.40]	-1.087	1.3608	-3.754	1.580	.638	1	.424

table continues

[PRICE SALES RATIO PRE IFRS=-.30]	-.275	1.1779	-2.584	2.033	.055	1	.815
[PRICE SALES RATIO PRE IFRS=-.20]	-.107	1.0747	-2.213	2.000	.010	1	.921
[PRICE SALES RATIO PRE IFRS=-.10]	-1.111	1.1783	-3.420	1.199	.888	1	.346
[PRICE SALES RATIO PRE IFRS=.00]	-.157	.9802	-2.078	1.764	.026	1	.873
[PRICE SALES RATIO PRE IFRS=.10]	-.186	1.0197	-2.184	1.813	.033	1	.856
[PRICE SALES RATIO PRE IFRS=.20]	.085	1.0747	-2.022	2.191	.006	1	.937
[PRICE SALES RATIO PRE IFRS=.30]	-.455	1.3596	-3.120	2.209	.112	1	.738
[PRICE SALES RATIO PRE IFRS=.40]	.308	1.3594	-2.356	2.973	.051	1	.821
[PRICE SALES RATIO PRE IFRS=.50]	.240	1.0133	-1.745	2.226	.056	1	.812
[PRICE SALES RATIO PRE IFRS=.60]	-.238	1.1782	-2.547	2.071	.041	1	.840
[PRICE SALES RATIO PRE IFRS=.70]	.274	1.1773	-2.034	2.581	.054	1	.816
[PRICE SALES RATIO PRE IFRS=.80]	-.880	1.3648	-3.554	1.795	.415	1	.519
[PRICE SALES RATIO PRE IFRS=.90]	.297	1.3594	-2.367	2.962	.048	1	.827
[PRICE SALES RATIO PRE IFRS=1.00]	.389	1.0749	-1.718	2.495	.131	1	.718
[PRICE SALES RATIO PRE IFRS=1.10]	-4.626	1.3627	-7.297	-1.955	11.523	1	.001
[PRICE SALES RATIO PRE IFRS=1.20]	-3.264	1.1099	-5.440	-1.089	8.651	1	.003
[PRICE SALES RATIO PRE IFRS=1.30]	.404	1.3604	-2.263	3.070	.088	1	.767
[PRICE SALES RATIO PRE IFRS=1.40]	1.657	1.3621	-1.012	4.327	1.480	1	.224

table continues

[PRICE SALES RATIO PRE IFRS=1.50]	.719	1.3594	-1.945	3.384	.280	1	.597
[PRICE SALES RATIO PRE IFRS=1.60]	.144	1.3596	-2.521	2.808	.011	1	.916
[PRICE SALES RATIO PRE IFRS=1.80]	.014	1.3594	-2.650	2.678	.000	1	.992
[PRICE SALES RATIO PRE IFRS=1.90]	7.235	1.3672	4.555	9.914	28.000	1	.000
[PRICE SALES RATIO PRE IFRS=2.00]	-.368	1.1101	-2.544	1.808	.110	1	.740
[PRICE SALES RATIO PRE IFRS=2.10]	-.822	1.3629	-3.493	1.849	.364	1	.546
[PRICE SALES RATIO PRE IFRS=2.30]	-2.006	1.3603	-4.672	.660	2.175	1	.140
[PRICE SALES RATIO PRE IFRS=2.40]	.094	1.3603	-2.572	2.760	.005	1	.945
[PRICE SALES RATIO PRE IFRS=2.50]	.256	1.3596	-2.409	2.921	.035	1	.851
[PRICE SALES RATIO PRE IFRS=2.70]	.206	1.3594	-2.458	2.870	.023	1	.879
[PRICE SALES RATIO PRE IFRS=2.90]	-.169	1.3613	-2.837	2.499	.015	1	.901
[PRICE SALES RATIO PRE IFRS=3.30]	-2.309	1.3603	-4.975	.357	2.882	1	.090
[PRICE SALES RATIO PRE IFRS=3.50]	-3.143	1.3597	-5.808	-.478	5.341	1	.021
[PRICE SALES RATIO PRE IFRS=3.80]	.021	1.3594	-2.643	2.686	.000	1	.987
[PRICE SALES RATIO PRE IFRS=4.10]	-2.765	1.3595	-5.429	-.100	4.136	1	.042
[PRICE SALES RATIO PRE IFRS=4.70]	1.951	1.1100	-.225	4.126	3.089	1	.079
[PRICE SALES RATIO PRE IFRS=4.80]	-.387	1.3594	-3.052	2.277	.081	1	.776
[PRICE SALES RATIO PRE IFRS=5.90]	1.197	1.1784	-1.113	3.507	1.032	1	.310

table continues

[PRICE SALES RATIO PRE IFRS=7.50]	-2.748	1.3596	-5.413	-.084	4.086	1	.043
[PRICE SALES RATIO PRE IFRS=12.70]	.728	1.3599	-1.938	3.393	.286	1	.592
[PRICE SALES RATIO PRE IFRS=19.70]	0[a]	.	.	.	.	.	.
(Scale)	.924[b]	.0887	.765	1.115			

Dependent Variable: PRICE SALES RATIO POST IFRS

Model: (Intercept), STOCKS PRICE CHANGE POST IFRS, PRICE SALES RATIO PRE IFRS

a. Set to zero because this parameter is redundant.

b. Maximum likelihood estimate.

Table A3

Price-to-Cash Flow Ratio for Pre IFRS

			95% Wald CI		*Hypothesis Test*		
Parameter	*B*	*SE*	*LL*	*UL*	*Wald Chi-Square*	*df*	***Sig.***
(Intercept)	-6.000	88.3349	-179.134	167.133	.005	1	.946
[PRICE CASH FLOW RATIO PRE IFRS=-9955.90]	.834	125.0485	-244.256	245.925	.000	1	.995
[PRICE CASH FLOW RATIO PRE IFRS=-158.20]	32.574	124.9354	-212.295	277.443	.068	1	.794
[PRICE CASH FLOW RATIO PRE IFRS=-152.90]	6.486	124.8984	-238.310	251.282	.003	1	.959
[PRICE CASH FLOW RATIO PRE IFRS=-84.60]	-11.844	125.0145	-256.868	233.180	.009	1	.925
[PRICE CASH FLOW RATIO PRE IFRS=-77.80]	36.979	124.9579	-207.934	281.891	.088	1	.767
[PRICE CASH FLOW RATIO PRE IFRS=-75.90]	1.903	124.8974	-242.892	246.697	.000	1	.988
[PRICE CASH FLOW RATIO PRE IFRS=-65.90]	19.379	127.9128	-231.325	270.084	.023	1	.880
[PRICE CASH FLOW RATIO PRE IFRS=-40.40]	2.542	124.8972	-242.252	247.336	.000	1	.984

table continues

[PRICE CASH FLOW RATIO PRE IFRS=-36.10]	290.677	124.9064	45.865	535.489	5.416	1	.020
[PRICE CASH FLOW RATIO PRE IFRS=-34.50]	13.928	124.9574	-230.984	258.840	.012	1	.911
[PRICE CASH FLOW RATIO PRE IFRS=-33.70]	10.093	125.1628	-235.221	255.408	.007	1	.936
[PRICE CASH FLOW RATIO PRE IFRS=-27.70]	10.368	125.0803	-234.785	255.521	.007	1	.934
[PRICE CASH FLOW RATIO PRE IFRS=-26.60]	-5.776	125.1031	-250.974	239.421	.002	1	.963
[PRICE CASH FLOW RATIO PRE IFRS=-22.80]	-1.730	125.1041	-246.930	243.470	.000	1	.989
[PRICE CASH FLOW RATIO PRE IFRS=-21.50]	4.732	124.9050	-240.078	249.541	.001	1	.970
[PRICE CASH FLOW RATIO PRE IFRS=-19.40]	5.543	124.9007	-239.257	250.344	.002	1	.965
[PRICE CASH FLOW RATIO PRE IFRS=-19.20]	14.369	125.3705	-231.352	260.091	.013	1	.909
[PRICE CASH FLOW RATIO PRE IFRS=-16.60]	8.241	125.2451	-237.235	253.716	.004	1	.948
[PRICE CASH FLOW RATIO PRE IFRS=-16.00]	3.403	124.9439	-241.482	248.289	.001	1	.978
[PRICE CASH FLOW RATIO PRE IFRS=-15.50]	-32.700	125.5900	-278.852	213.451	.068	1	.795
[PRICE CASH FLOW RATIO PRE IFRS=-11.60]	8.340	124.9547	-236.567	253.246	.004	1	.947
[PRICE CASH FLOW RATIO PRE IFRS=-11.10]	3.475	124.9263	-241.376	248.327	.001	1	.978
[PRICE CASH FLOW RATIO PRE IFRS=-10.50]	6.528	124.8992	-238.270	251.326	.003	1	.958
[PRICE CASH FLOW RATIO PRE IFRS=-9.10]	2.323	124.9079	-242.492	247.138	.000	1	.985
[PRICE CASH FLOW RATIO PRE IFRS=-8.20]	5.851	124.9172	-238.983	250.684	.002	1	.963
[PRICE CASH FLOW RATIO PRE IFRS=-8.10]	8.693	127.6423	-241.482	258.867	.005	1	.946

table continues

[PRICE CASH FLOW RATIO PRE IFRS=-8.00]	21.419	125.2938	-224.152	266.991	.029	1	.864
[PRICE CASH FLOW RATIO PRE IFRS=-7.50]	-.881	125.1960	-246.261	244.498	.000	1	.994
[PRICE CASH FLOW RATIO PRE IFRS=-7.30]	-45.070	125.3256	-290.704	200.563	.129	1	.719
[PRICE CASH FLOW RATIO PRE IFRS=-6.80]	3.355	124.9402	-241.523	248.233	.001	1	.979
[PRICE CASH FLOW RATIO PRE IFRS=-6.50]	836.280	108.2657	624.083	1048.477	59.665	1	.000
[PRICE CASH FLOW RATIO PRE IFRS=-5.90]	2.406	124.9376	-242.467	247.279	.000	1	.985
[PRICE CASH FLOW RATIO PRE IFRS=-5.80]	2.294	125.0579	-242.815	247.403	.000	1	.985
[PRICE CASH FLOW RATIO PRE IFRS=-5.60]	12.057	125.1399	-233.213	257.327	.009	1	.923
[PRICE CASH FLOW RATIO PRE IFRS=-5.30]	5.654	124.8988	-239.144	250.451	.002	1	.964
[PRICE CASH FLOW RATIO PRE IFRS=-5.20]	66.652	126.0489	-180.399	313.704	.280	1	.597
[PRICE CASH FLOW RATIO PRE IFRS=-4.90]	10.145	125.3075	-235.453	255.743	.007	1	.935
[PRICE CASH FLOW RATIO PRE IFRS=-4.80]	50.208	125.5116	-195.790	296.206	.160	1	.689
[PRICE CASH FLOW RATIO PRE IFRS=-4.30]	14.768	128.1380	-236.378	265.914	.013	1	.908
[PRICE CASH FLOW RATIO PRE IFRS=-4.20]	-38.477	125.8361	-285.111	208.157	.093	1	.760
[PRICE CASH FLOW RATIO PRE IFRS=-4.10]	7.710	125.0721	-237.427	252.846	.004	1	.951
[PRICE CASH FLOW RATIO PRE IFRS=-3.80]	4.203	124.9874	-240.768	249.174	.001	1	.973
[PRICE CASH FLOW RATIO PRE IFRS=-3.70]	6.618	124.9259	-238.232	251.468	.003	1	.958
[PRICE CASH FLOW RATIO PRE IFRS=-3.40]	8.112	125.0588	-236.998	253.223	.004	1	.948

table continues

[PRICE CASH FLOW RATIO PRE IFRS=-3.30]	2.827	124.9234	-242.018	247.673	.001	1	.982
[PRICE CASH FLOW RATIO PRE IFRS=-3.20]	7.126	124.8972	-237.668	251.920	.003	1	.955
[PRICE CASH FLOW RATIO PRE IFRS=-2.80]	6.822	108.2706	-205.384	219.029	.004	1	.950
[PRICE CASH FLOW RATIO PRE IFRS=-2.40]	2.274	125.1684	-243.051	247.600	.000	1	.986
[PRICE CASH FLOW RATIO PRE IFRS=-2.20]	-12.444	126.0861	-259.568	234.680	.010	1	.921
[PRICE CASH FLOW RATIO PRE IFRS=-2.10]	9.462	125.1925	-235.911	254.835	.006	1	.940
[PRICE CASH FLOW RATIO PRE IFRS=-2.00]	2.723	125.9875	-244.208	249.654	.000	1	.983
[PRICE CASH FLOW RATIO PRE IFRS=-1.90]	12.065	125.8174	-234.533	258.662	.009	1	.924
[PRICE CASH FLOW RATIO PRE IFRS=-1.70]	8.384	124.9066	-236.429	253.196	.005	1	.946
[PRICE CASH FLOW RATIO PRE IFRS=-1.60]	.572	125.2425	-244.899	246.043	.000	1	.996
[PRICE CASH FLOW RATIO PRE IFRS=-1.50]	8.702	108.4340	-203.825	221.229	.006	1	.936
[PRICE CASH FLOW RATIO PRE IFRS=-1.20]	15.111	124.9606	-229.807	260.029	.015	1	.904
[PRICE CASH FLOW RATIO PRE IFRS=-1.10]	4.087	125.1661	-241.234	249.408	.001	1	.974
[PRICE CASH FLOW RATIO PRE IFRS=-.90]	9.428	108.9095	-204.031	222.887	.007	1	.931
[PRICE CASH FLOW RATIO PRE IFRS=-.70]	3.623	124.8976	-241.172	248.418	.001	1	.977
[PRICE CASH FLOW RATIO PRE IFRS=-.60]	5.154	124.9731	-239.789	250.096	.002	1	.967
[PRICE CASH FLOW RATIO PRE IFRS=-.50]	12.465	108.5598	-200.309	225.238	.013	1	.909
[PRICE CASH FLOW RATIO PRE IFRS=-.40]	9.684	125.1786	-235.662	255.029	.006	1	.938

table continues

[PRICE CASH FLOW RATIO PRE IFRS=-.20]	6.489	108.1772	-205.535	218.512	.004	1	.952
[PRICE CASH FLOW RATIO PRE IFRS=-.10]	8.756	108.4233	-203.749	221.262	.007	1	.936
[PRICE CASH FLOW RATIO PRE IFRS=.00]	18.523	102.0605	-181.512	218.558	.033	1	.856
[PRICE CASH FLOW RATIO PRE IFRS=.10]	23.175	108.5291	-189.538	235.888	.046	1	.831
[PRICE CASH FLOW RATIO PRE IFRS=.20]	9.556	125.0145	-235.468	254.580	.006	1	.939
[PRICE CASH FLOW RATIO PRE IFRS=.30]	7.838	124.9811	-237.120	252.796	.004	1	.950
[PRICE CASH FLOW RATIO PRE IFRS=.40]	7.018	98.7858	-186.599	200.634	.005	1	.943
[PRICE CASH FLOW RATIO PRE IFRS=.50]	3.230	124.8976	-241.565	248.025	.001	1	.979
[PRICE CASH FLOW RATIO PRE IFRS=.60]	-1.767	125.7250	-248.183	244.650	.000	1	.989
[PRICE CASH FLOW RATIO PRE IFRS=.70]	9.280	125.0545	-235.822	254.382	.006	1	.941
[PRICE CASH FLOW RATIO PRE IFRS=.80]	7.828	108.4389	-204.708	220.364	.005	1	.942
[PRICE CASH FLOW RATIO PRE IFRS=.90]	10.398	108.6140	-202.481	223.278	.009	1	.924
[PRICE CASH FLOW RATIO PRE IFRS=1.00]	6.935	102.0927	-193.163	207.033	.005	1	.946
[PRICE CASH FLOW RATIO PRE IFRS=1.10]	21.206	105.1148	-184.815	227.228	.041	1	.840
[PRICE CASH FLOW RATIO PRE IFRS=1.20]	-15.666	128.7309	-267.973	236.642	.015	1	.903
[PRICE CASH FLOW RATIO PRE IFRS=1.30]	3.385	101.9785	-196.489	203.260	.001	1	.974
[PRICE CASH FLOW RATIO PRE IFRS=1.40]	5.849	124.8978	-238.946	250.644	.002	1	.963
[PRICE CASH FLOW RATIO PRE IFRS=1.50]	10.293	102.0573	-189.736	210.321	.010	1	.920

table continues

[PRICE CASH FLOW RATIO PRE IFRS=1.60]	8.080	125.0545	-237.022	253.182	.004	1	.948
[PRICE CASH FLOW RATIO PRE IFRS=1.70]	10.662	125.8486	-235.997	257.321	.007	1	.932
[PRICE CASH FLOW RATIO PRE IFRS=1.80]	.166	108.1684	-211.840	212.173	.000	1	.999
[PRICE CASH FLOW RATIO PRE IFRS=1.90]	9.768	108.2481	-202.394	221.930	.008	1	.928
[PRICE CASH FLOW RATIO PRE IFRS=2.00]	13.422	125.9343	-233.405	260.248	.011	1	.915
[PRICE CASH FLOW RATIO PRE IFRS=2.20]	7.763	108.1939	-204.293	219.819	.005	1	.943
[PRICE CASH FLOW RATIO PRE IFRS=2.30]	9.438	125.1367	-235.826	254.701	.006	1	.940
[PRICE CASH FLOW RATIO PRE IFRS=2.40]	6.300	125.0849	-238.862	251.462	.003	1	.960
[PRICE CASH FLOW RATIO PRE IFRS=2.50]	-7.216	108.4752	-219.823	205.392	.004	1	.947
[PRICE CASH FLOW RATIO PRE IFRS=2.60]	10.297	125.3186	-235.323	255.917	.007	1	.935
[PRICE CASH FLOW RATIO PRE IFRS=2.90]	4.606	108.7575	-208.555	217.767	.002	1	.966
[PRICE CASH FLOW RATIO PRE IFRS=3.10]	3.880	124.9358	-240.990	248.750	.001	1	.975
[PRICE CASH FLOW RATIO PRE IFRS=3.20]	9.840	125.3499	-235.841	255.521	.006	1	.937
[PRICE CASH FLOW RATIO PRE IFRS=3.30]	5.038	101.9880	-194.854	204.931	.002	1	.961
[PRICE CASH FLOW RATIO PRE IFRS=3.40]	-20.986	125.0213	-266.023	224.051	.028	1	.867
[PRICE CASH FLOW RATIO PRE IFRS=3.50]	8.505	124.9780	-236.447	253.458	.005	1	.946
[PRICE CASH FLOW RATIO PRE IFRS=3.70]	12.266	126.1262	-234.937	259.469	.009	1	.923
[PRICE CASH FLOW RATIO PRE IFRS=3.90]	12.640	108.5214	-200.059	225.338	.014	1	.907

table continues

[PRICE CASH FLOW RATIO PRE IFRS=4.20]	9.526	125.1684	-235.800	254.851	.006	1	.939
[PRICE CASH FLOW RATIO PRE IFRS=4.30]	5.250	124.9006	-239.550	250.051	.002	1	.966
[PRICE CASH FLOW RATIO PRE IFRS=4.50]	8.714	125.0213	-236.323	253.751	.005	1	.944
[PRICE CASH FLOW RATIO PRE IFRS=4.60]	16.880	137.0138	-251.662	285.422	.015	1	.902
[PRICE CASH FLOW RATIO PRE IFRS=4.70]	5.025	124.9048	-239.784	249.834	.002	1	.968
[PRICE CASH FLOW RATIO PRE IFRS=5.10]	2.522	124.9140	-242.305	247.349	.000	1	.984
[PRICE CASH FLOW RATIO PRE IFRS=5.50]	20.509	124.8974	-224.285	265.304	.027	1	.870
[PRICE CASH FLOW RATIO PRE IFRS=6.00]	2.369	108.1643	-209.629	214.367	.000	1	.983
[PRICE CASH FLOW RATIO PRE IFRS=6.10]	13.258	125.0037	-231.744	258.261	.011	1	.916
[PRICE CASH FLOW RATIO PRE IFRS=6.40]	11.243	125.1061	-233.960	256.446	.008	1	.928
[PRICE CASH FLOW RATIO PRE IFRS=6.70]	8.356	124.9175	-236.478	253.190	.004	1	.947
[PRICE CASH FLOW RATIO PRE IFRS=6.80]	7.203	125.4348	-238.645	253.051	.003	1	.954
[PRICE CASH FLOW RATIO PRE IFRS=7.20]	3.676	124.9293	-241.181	248.533	.001	1	.977
[PRICE CASH FLOW RATIO PRE IFRS=7.70]	7.165	125.5722	-238.952	253.282	.003	1	.954
[PRICE CASH FLOW RATIO PRE IFRS=7.80]	9.510	125.0094	-235.504	254.524	.006	1	.939
[PRICE CASH FLOW RATIO PRE IFRS=8.10]	11.503	124.9444	-233.383	256.390	.008	1	.927
[PRICE CASH FLOW RATIO PRE IFRS=9.30]	86.731	125.0354	-158.334	331.796	.481	1	.488
[PRICE CASH FLOW RATIO PRE IFRS=9.50]	5.711	124.9606	-239.207	250.629	.002	1	.964

table continues

[PRICE CASH FLOW RATIO PRE IFRS=9.80]	10.895	125.7036	-235.479	257.270	.008	1	.931
[PRICE CASH FLOW RATIO PRE IFRS=10.20]	-16.534	137.5098	-286.048	252.981	.014	1	.904
[PRICE CASH FLOW RATIO PRE IFRS=10.40]	3.872	124.9708	-241.066	248.811	.001	1	.975
[PRICE CASH FLOW RATIO PRE IFRS=10.90]	12.064	129.1424	-241.051	265.178	.009	1	.926
[PRICE CASH FLOW RATIO PRE IFRS=11.00]	1.201	124.8983	-243.595	245.997	.000	1	.992
[PRICE CASH FLOW RATIO PRE IFRS=11.10]	-1.765	124.9084	-246.580	243.051	.000	1	.989
[PRICE CASH FLOW RATIO PRE IFRS=11.60]	-4.433	124.8987	-249.230	240.363	.001	1	.972
[PRICE CASH FLOW RATIO PRE IFRS=12.10]	8.766	124.9568	-236.145	253.676	.005	1	.944
[PRICE CASH FLOW RATIO PRE IFRS=12.30]	-1.330	124.9622	-246.252	243.591	.000	1	.992
[PRICE CASH FLOW RATIO PRE IFRS=13.30]	6.966	125.3558	-238.727	252.659	.003	1	.956
[PRICE CASH FLOW RATIO PRE IFRS=14.50]	11.525	125.5424	-234.534	257.583	.008	1	.927
[PRICE CASH FLOW RATIO PRE IFRS=14.90]	18.874	126.7858	-229.621	267.370	.022	1	.882
[PRICE CASH FLOW RATIO PRE IFRS=15.40]	5.017	124.9611	-239.902	249.937	.002	1	.968
[PRICE CASH FLOW RATIO PRE IFRS=16.00]	5.234	124.9214	-239.608	250.075	.002	1	.967
[PRICE CASH FLOW RATIO PRE IFRS=16.30]	9.389	124.9301	-235.469	254.248	.006	1	.940
[PRICE CASH FLOW RATIO PRE IFRS=17.60]	103.219	125.1672	-142.104	348.542	.680	1	.410
[PRICE CASH FLOW RATIO PRE IFRS=18.00]	2.433	124.9121	-242.390	247.256	.000	1	.984
[PRICE CASH FLOW RATIO PRE IFRS=21.50]	18.646	125.4701	-227.271	264.563	.022	1	.882

table continues

[PRICE CASH FLOW RATIO PRE IFRS=22.20]	57.025	131.0213	-199.772	313.822	.189	1	.663
[PRICE CASH FLOW RATIO PRE IFRS=22.70]	3.816	108.2904	-208.430	216.061	.001	1	.972
[PRICE CASH FLOW RATIO PRE IFRS=24.20]	11.454	125.0510	-233.642	256.549	.008	1	.927
[PRICE CASH FLOW RATIO PRE IFRS=24.60]	-7.022	125.1507	-252.313	238.269	.003	1	.955
[PRICE CASH FLOW RATIO PRE IFRS=28.10]	-3.447	126.1191	-250.636	243.742	.001	1	.978
[PRICE CASH FLOW RATIO PRE IFRS=37.40]	-27.944	126.3521	-275.589	219.702	.049	1	.825
[PRICE CASH FLOW RATIO PRE IFRS=41.90]	.087	124.8971	-244.707	244.881	.000	1	.999
[PRICE CASH FLOW RATIO PRE IFRS=42.90]	4.930	124.9009	-239.871	249.732	.002	1	.969
[PRICE CASH FLOW RATIO PRE IFRS=46.10]	9.699	124.9249	-235.150	254.547	.006	1	.938
[PRICE CASH FLOW RATIO PRE IFRS=48.00]	12.952	124.9407	-231.928	257.831	.011	1	.917
[PRICE CASH FLOW RATIO PRE IFRS=66.40]	8.011	124.8998	-236.788	252.810	.004	1	.949
[PRICE CASH FLOW RATIO PRE IFRS=89.20]	10.112	125.2592	-235.392	255.616	.007	1	.936
[PRICE CASH FLOW RATIO PRE IFRS=93.40]	-17.894	124.9043	-262.702	226.914	.021	1	.886
[PRICE CASH FLOW RATIO PRE IFRS=127.30]	10.347	125.5218	-235.671	256.365	.007	1	.934
[PRICE CASH FLOW RATIO PRE IFRS=137.70]	13.724	124.9160	-231.107	258.554	.012	1	.913
[PRICE CASH FLOW RATIO PRE IFRS=188.00]	-4.905	124.9194	-249.743	239.932	.002	1	.969
[PRICE CASH FLOW RATIO PRE IFRS=260.00]	-32.078	181.8786	-388.554	324.397	.031	1	.860
[PRICE CASH FLOW RATIO PRE IFRS=1026.90]	0[a]	.	.	.	.	.	.

table continues

STOCKS PRICE CHANGE POST IFRS	-.648	1.7086	-3.997	2.700	.144	1	.704
(Scale)	7799.648[b]	732.1112	6488.992	9375.032			

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

Model: (Intercept), PRICE CASH FLOW RATIO PRE IFRS, STOCKS PRICE CHANGE POST IFRS

a. Set to zero because this parameter is redundant.

b. Maximum likelihood estimate.

Appendix B: Mean and Standard Deviation by Industry Sector

Table B1

Mean and Standard Deviation by Industry Sector For Stock Price

INDUSTRY SECTOR		*STOCKS PRICE YR2009*	*STOCKS PRICE YR2010*	*STOCKS PRICE CHANGE PRE IFRS*	*AVE PRICE PRE IFRS*	*STOCKS PRICE YR2011*	*STOCKS PRICE YR2012*	*STOCKS PRICE CHANGE POST IFRS*	*AVE PRICE POST IFRS*
Oil and Gas	Mean	17.788	22.6371	5.84114	18.6876	20.9195	17.933	-2.4432	18.7470
	Std. Deviation	12.5067	14.04949	9.110757	13.04410	15.17077	13.9445	5.10423	14.54452
	N	39	42	44	44	42	43	44	44
Diversified Industries	Mean	17.486	20.8668	3.64618	17.5094	20.2370	23.356	3.2793	20.6862
	Std. Deviation	14.4284	17.33138	4.893058	15.98722	16.08221	18.5697	6.06084	17.32890
	N	61	63	68	68	64	65	68	68
Financial Services	Mean	45.475	48.0989	4.01069	42.7764	45.5468	45.731	1.7552	44.8538
	Std. Deviation	75.8093	73.76721	6.065473	72.52007	78.54233	62.7583	16.58148	70.07582
	N	26	27	29	29	28	29	29	29
Mining	Mean	14.411	19.8795	6.17195	16.7935	15.5010	15.466	-.0349	15.4835
	Std. Deviation	13.9002	18.03680	6.313104	15.79289	12.63663	13.9542	5.15845	13.05945
	N	39	41	41	41	41	41	41	41
Clean Technology	Mean	10.163	13.5800	3.41667	11.8717	17.9983	17.843	-.1550	17.9208
	Std. Deviation	5.5193	5.76600	1.937149	5.56028	10.55687	8.8130	3.75663	9.54098
	N	6	6	6	6	6	6	6	6
Real Estate	Mean	17.531	21.5663	3.22800	15.6390	23.2735	25.414	.5485	20.0568
	Std. Deviation	7.3736	9.10447	4.065317	10.72842	10.95655	14.0557	9.03858	14.10119

table continues

	N	16	16	20	20	17	16	20	20
Utilities & Pipelines	Mean	21.058	24.6979	3.64000	22.8779	28.2500	30.041	1.7907	29.1454
	Std. Deviation	7.2203	8.64000	3.593927	7.75643	11.73722	12.6679	4.25925	12.02427
	N	14	14	14	14	14	14	14	14
Technology	Mean	23.621	26.3550	2.48545	22.7164	24.6950	30.644	8.1936	26.5468
	Std. Deviation	20.8917	19.26566	6.530138	20.24119	22.35855	34.0318	13.15716	28.07988
	N	10	10	11	11	10	11	11	11
Comm & Media	Mean	23.700	26.3640	2.66400	25.0320	27.1980	29.628	2.4300	28.4130
	Std. Deviation	9.1163	8.51117	3.336536	8.65970	11.18563	9.1068	6.43318	9.67881
	N	10	10	10	10	10	10	10	10
Other-Forest Products and Life Sciences	Mean	11.732	16.6080	4.87600	14.1700	18.2820	29.826	11.5440	24.0540
	Std. Deviation	5.0636	9.19274	5.559202	6.88094	17.50950	19.6886	7.28356	18.27152
	N	5	5	5	5	5	5	5	5
Total	Mean	20.677	24.6224	4.38988	21.0375	23.6039	24.860	1.5009	23.3074
	Std. Deviation	29.4955	29.73715	6.144250	28.93889	31.06687	28.0076	8.66802	29.04052
	N	226	234	248	248	237	240	248	248

Table B2

Mean and Standard Deviation by Industry Sector For Price-to-Earnings and Price-to-Sales Ratios

INDUSTRY SECTOR		*PE2009*	*PE2010*	*PE2011*	*PE2012*	*PS2009*	*PS2010*	*PS2011*	*PS2012*
Oil and Gas	Mean	52.290	70.963	47.349	355.850	68.133	18.44	8.50	6.17
	Std. Deviation	89.2199	104.3476	59.1083	1760.9504	399.6660	62.485	28.646	16.115

table continues

	N	20	30	35	32	39	42	42	42
Diversified Industries	Mean	73.474	25.355	22.834	18.784	1.375	1.83	1.15	1.21
	Std. Deviation	366.0995	30.6475	49.6209	11.4753	1.5251	3.561	1.298	1.333
	N	46	58	59	64	61	62	64	65
Financial Services	Mean	17.904	13.720	29.271	45.473	2.304	2.63	2.52	3.51
	Std. Deviation	7.2560	2.5062	86.4171	148.1473	1.6810	2.075	2.316	4.393
	N	27	25	24	26	27	27	28	29
Mining	Mean	84.357	33.621	30.053	25.268	41.834	153.92	141.23	6.06
	Std. Deviation	173.7169	22.8556	58.9853	15.1434	134.2145	843.571	821.036	8.287
	N	23	29	32	28	32	35	37	36
Clean Technology	Mean	47.767	39.467	25.200	237.267	3.367	4.33	4.68	4.57
	Std. Deviation	56.9049	20.0151	9.8995	336.7237	1.7500	2.109	2.420	2.884
	N	3	3	2	3	6	6	6	6
Real Estate	Mean	38.092	62.100	13.717	16.200	3.206	3.99	5.38	5.44
	Std. Deviation	18.7573	82.1737	13.7970	18.8200	1.7380	1.889	3.472	2.420
	N	12	13	12	14	16	16	16	17
Utilities & Pipelines	Mean	23.479	22.723	22.815	26.492	1.807	1.89	2.08	3.35
	Std. Deviation	18.2653	9.3273	9.3587	14.7830	.7509	1.057	1.116	4.058
	N	14	13	13	13	14	14	13	14
Technology	Mean	27.867	23.933	18.070	46.311	1.956	2.07	1.71	2.07
	Std. Deviation	20.1160	10.6159	11.7746	38.6960	1.2279	1.300	1.189	1.529
	N	9	9	10	9	9	9	10	10
Comm & Media	Mean	19.150	18.111	15.925	13.989	1.420	1.48	1.41	1.57
	Std. Deviation	7.7097	7.2442	7.0118	2.4333	.7193	.675	.559	.633
	N	6	9	8	9	10	10	10	10
Other-Forest Products and Life Sciences	Mean	12.600	19.967	98.100	42.433	1.020	1.44	1.62	1.74
	Std. Deviation	.	15.8254	4.1012	28.0124	.9471	1.827	2.564	1.896
	N	1	3	2	3	5	5	5	5
Total	Mean	50.662	34.255	28.855	81.752	19.524	28.77	25.57	3.71

table continues

	Std. Deviation	208.7083	53.1794	54.1902	706.9344	176.3901	333.421	328.982	8.052
	N	161	192	197	201	219	226	231	234

Table B3

Mean and Standard Deviation by Industry Sector For Price-to-Cash Flow Ratio and for Price-to-Cash Flow Ratio for Pre IFRS and Post IFRS

INDUSTRY SECTOR		*P CASH FLOW09*	*P CASH FLOW10*	*P CASH FLOW11*	*P CASH FLOW12*	*PRICE CASH FLOW RATIO PRE IFRS*	*PRICE CASH FLOW RATIO POST IFRS*
Oil and Gas	Mean	-12.485	-9.705	1.183	6.61	22.0487	5.4262
	Std. Deviation	163.9167	144.0685	51.6276	19.373	166.31733	34.32294
	N	39	42	42	42	39	42
Diversified Industries	Mean	.523	13.127	5.416	9.40	12.5213	4.0578
	Std. Deviation	33.6295	19.0588	38.5662	7.731	36.57391	39.24595
	N	61	62	64	65	61	64
Financial Services	Mean	8.800	17.770	8.875	8.57	8.9704	-1.5286
	Std. Deviation	26.6422	48.3936	26.6025	15.499	53.99193	29.30514
	N	27	27	28	29	27	28
Mining	Mean	262.408	-3.507	9.520	53.80	-263.5385	44.2750
	Std. Deviation	1600.5877	60.6353	35.2264	264.261	1593.36488	261.71689
	N	39	40	40	40	39	40
Clean Technology	Mean	1.417	6.483	6.867	7.82	5.0667	.9500
	Std. Deviation	10.5789	21.0933	18.7490	12.456	14.71281	8.22308
	N	6	6	6	6	6	6
Real Estate	Mean	10.513	12.313	73.131	16.71	1.8000	-56.3250
	Std. Deviation	3.3092	3.3768	223.2054	8.431	2.72274	222.41786

table continues

	N	16	16	16	17	16	16
Utilities & Pipelines	Mean	7.714	14.943	9.429	10.74	7.2286	1.3071
	Std. Deviation	2.3145	23.6981	5.2913	5.520	23.92554	2.34470
	N	14	14	14	14	14	14
Technology	Mean	10.240	10.650	2.345	14.25	.4100	11.9000
	Std. Deviation	6.9367	11.7078	22.9676	11.727	6.86221	26.15060
	N	10	10	11	11	10	11
Comm & Media	Mean	7.750	7.770	7.770	8.40	.0200	.6300
	Std. Deviation	3.1511	3.2370	4.3069	3.937	2.79197	1.66870
	N	10	10	10	10	10	10
Other-Forest Products and Life Sciences	Mean	6.340	9.700	7.100	16.28	3.3600	9.1800
	Std. Deviation	26.1701	7.1889	20.0418	7.360	24.09332	16.41271
	N	5	5	5	5	5	5
Total	Mean	46.312	6.136	10.627	17.12	-36.2581	6.4479
	Std. Deviation	667.4284	69.3691	68.2953	108.850	665.64027	125.71465
	N	227	232	236	239	227	236

Table B4

Price-to-Earnings Ratio for Pre IFRS and Post IFRS and Price-to-Sales Ratio for Pre IFRS and Post IFRS

INDUSTRY SECTOR		*PRICE EARN RATIO PRE IFRS*	*PRICE EARN RATIO POST IFRS*	*PRICE SALES RATIO PRE IFRS*	*PRICE SALES RATIO POST IFRS*
Oil and Gas	Mean	-4.7789	347.0100	-2.3333	-58.3667
	Std. Deviation	14.88846	1811.47536	12.76754	370.25831
	N	19	30	42	39
Diversified Industries	Mean	-51.3250	-5.5862	.0656	.4033

table continues

	Std. Deviation	375.31770	50.18284	.30301	2.56196
	N	44	58	64	61
Financial Services	Mean	-3.6480	19.2870	.4786	.3296
	Std. Deviation	7.47725	184.18876	1.82257	.93965
	N	25	23	28	27
Mining	Mean	-21.8667	-6.1200	-.2000	126.2344
	Std. Deviation	59.72023	62.96859	4.09355	760.40565
	N	21	25	36	32
Clean Technology	Mean	-30.6500	18.2000	-.1167	.9667
	Std. Deviation	70.07428	25.59727	1.47705	.51640
	N	2	2	6	6
Real Estate	Mean	6.6583	-2.7364	.0500	.7813
	Std. Deviation	42.17891	6.39535	2.43338	.74406
	N	12	11	16	16
Utilities & Pipelines	Mean	-1.0615	4.3000	.2692	.0857
	Std. Deviation	11.16502	7.89465	.84102	.58026
	N	13	12	13	14
Technology	Mean	-3.9333	26.6111	.3600	.1111
	Std. Deviation	19.74715	37.64676	.68508	.59675
	N	9	9	10	9
Comm & Media	Mean	.9500	-1.9429	.1600	.0600
	Std. Deviation	2.33731	5.78471	.24585	.20111
	N	6	7	10	10

table continues

Other-Forest Products and Life Sciences	Mean		-66.3000	.1200	.4200
	Std. Deviation		.	.71903	.90111
	N		1	5	5
Total	Mean	-19.3669	59.5191	-.3400	8.3100
	Std. Deviation	203.88818	748.50198	5.79615	330.15365
	N	151	178	230	219

Appendix C: Pairwise Comparisons

Table C1

Dependent Variable: PRICE EARN RATIO POST IFRS

(I) INDUSTRY SECTOR	*(J) INDUSTRY SECTOR*	*M Difference (I-J)*	*SE*	*Sig.*[b]	*95% CI for Difference*[b]	
					LL	*UL*
Oil and Gas	Diversified Industries	11.602	21.103	.584	-30.206	53.411
	Financial Services	-28.158	23.575	.235	-74.865	18.548
	Mining	-1.195	26.505	.964	-53.706	51.317
	Clean Technology	-17.639	61.101	.773	-138.691	103.413
	Real Estate	12.812	30.570	.676	-47.752	73.376
	Utilities & Pipelines	6.942	27.563	.802	-47.665	61.548
	Technology	-16.186	31.039	.603	-77.679	45.307
	Comm & Media	13.246	61.426	.830	-108.450	134.942
Diversified Industries	Oil and Gas	-11.602	21.103	.584	-53.411	30.206
	Financial Services	-39.760*	19.345	.042	-78.087	-1.434
	Mining	-12.797	22.825	.576	-58.017	32.423
	Clean Technology	-29.241	59.597	.625	-147.313	88.831
	Real Estate	1.210	27.440	.965	-53.153	55.573
	Utilities & Pipelines	-4.660	24.045	.847	-52.298	42.977
	Technology	-27.788	27.961	.322	-83.185	27.609
	Comm & Media	1.644	59.930	.978	-117.089	120.376
Financial Services	Oil and Gas	28.158	23.575	.235	-18.548	74.865
	Diversified Industries	39.760*	19.345	.042	1.434	78.087
	Mining	26.964	25.128	.286	-22.820	76.747
	Clean Technology	10.519	60.516	.862	-109.375	130.413
	Real Estate	40.970	29.384	.166	-17.244	99.185
	Utilities & Pipelines	35.100	26.241	.184	-16.889	87.089
	Technology	11.972	29.871	.689	-47.208	71.153
	Comm & Media	41.404	60.845	.498	-79.140	161.948
Mining	Oil and Gas	1.195	26.505	.964	-51.317	53.706

table continues

	Diversified Industries	12.797	22.825	.576	-32.423	58.017
	Financial Services	-26.964	25.128	.286	-76.747	22.820
	Clean Technology	-16.444	61.717	.790	-138.717	105.828
	Real Estate	14.007	31.783	.660	-48.961	76.974
	Utilities & Pipelines	8.136	28.902	.779	-49.125	65.397
	Technology	-14.991	32.234	.643	-78.853	48.870
	Comm & Media	14.440	62.039	.816	-108.470	137.350
Clean Technology	Oil and Gas	17.639	61.101	.773	-103.413	138.691
	Diversified Industries	29.241	59.597	.625	-88.831	147.313
	Financial Services	-10.519	60.516	.862	-130.413	109.375
	Mining	16.444	61.717	.790	-105.828	138.717
	Real Estate	30.451	63.568	.633	-95.489	156.392
	Utilities & Pipelines	24.581	62.178	.693	-98.606	147.767
	Technology	1.453	63.795	.982	-124.937	127.843
	Comm & Media	30.885	82.943	.710	-133.441	195.211
Real Estate	Oil and Gas	-12.812	30.570	.676	-73.376	47.752
	Diversified Industries	-1.210	27.440	.965	-55.573	53.153
	Financial Services	-40.970	29.384	.166	-99.185	17.244
	Mining	-14.007	31.783	.660	-76.974	48.961
	Clean Technology	-30.451	63.568	.633	-156.392	95.489
	Utilities & Pipelines	-5.870	32.670	.858	-70.595	58.855
	Technology	-28.998	35.651	.418	-99.629	41.634
	Comm & Media	.434	63.881	.995	-126.126	126.994
Utilities & Pipelines	Oil and Gas	-6.942	27.563	.802	-61.548	47.665
	Diversified Industries	4.660	24.045	.847	-42.977	52.298
	Financial Services	-35.100	26.241	.184	-87.089	16.889
	Mining	-8.136	28.902	.779	-65.397	49.125
	Clean Technology	-24.581	62.178	.693	-147.767	98.606
	Real Estate	5.870	32.670	.858	-58.855	70.595
	Technology	-23.127	33.109	.486	-88.723	42.468
	Comm & Media	6.304	62.498	.920	-117.515	130.124
Technology	Oil and Gas	16.186	31.039	.603	-45.307	77.679

table continues

	Diversified Industries	27.788	27.961	.322	-27.609	83.185
	Financial Services	-11.972	29.871	.689	-71.153	47.208
	Mining	14.991	32.234	.643	-48.870	78.853
	Clean Technology	-1.453	63.795	.982	-127.843	124.937
	Real Estate	28.998	35.651	.418	-41.634	99.629
	Utilities & Pipelines	23.127	33.109	.486	-42.468	88.723
	Comm & Media	29.432	64.107	.647	-97.575	156.439
Comm & Media	Oil and Gas	-13.246	61.426	.830	-134.942	108.450
	Diversified Industries	-1.644	59.930	.978	-120.376	117.089
	Financial Services	-41.404	60.845	.498	-161.948	79.140
	Mining	-14.440	62.039	.816	-137.350	108.470
	Clean Technology	-30.885	82.943	.710	-195.211	133.441
	Real Estate	-.434	63.881	.995	-126.994	126.126
	Utilities & Pipelines	-6.304	62.498	.920	-130.124	117.515
	Technology	-29.432	64.107	.647	-156.439	97.575

Dependent Variable: PRICE EARN RATIO POST IFRS

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table C2

Dependent Variable: PRICE SALES RATIO POST IFRS

		M			*95% CI for Difference*[b]	
		Difference				
(I) INDUSTRY SECTOR	*(J) INDUSTRY SECTOR*	*(I-J)*	*SE*	*Sig.*[b]	*LL*	*UL*
Oil and Gas	Diversified Industries	-.308	1.279	.810	-2.831	2.214
	Financial Services	19.458*	4.999	.000	9.599	29.316
	Mining	-.145	.493	.769	-1.117	.827
	Clean Technology	-13.265	21.776	.543	-56.209	29.679
	Real Estate	-8.500	8.608	.325	-25.477	8.477
	Utilities & Pipelines	8.378	11.186	.455	-13.682	30.437
	Technology	-3.260	13.873	.814	-30.617	24.098
	Comm & Media	-.660	38.587	.986	-76.756	75.436

table continues

	Other-Forest Products and Life Sciences	-9.255	13.357	.489	-35.597	17.087
Diversified Industries	Oil and Gas	.308	1.279	.810	-2.214	2.831
	Financial Services	19.766*	5.139	.000	9.632	29.901
	Mining	.164	1.289	.899	-2.379	2.706
	Clean Technology	-12.956	21.809	.553	-55.965	30.052
	Real Estate	-8.192	8.691	.347	-25.330	8.947
	Utilities & Pipelines	8.686	11.249	.441	-13.499	30.871
	Technology	-2.951	13.924	.832	-30.410	24.507
	Comm & Media	-.352	38.605	.993	-76.484	75.780
	Other-Forest Products and Life Sciences	-8.946	13.410	.505	-35.393	17.500
Financial Services	Oil and Gas	-19.458*	4.999	.000	-29.316	-9.599
	Diversified Industries	-19.766*	5.139	.000	-29.901	-9.632
	Mining	-19.602*	5.002	.000	-29.466	-9.739
	Clean Technology	-32.722	22.338	.145	-76.774	11.329
	Real Estate	-27.958*	9.944	.005	-47.568	-8.348
	Utilities & Pipelines	-11.080	12.243	.367	-35.225	13.065
	Technology	-22.717	14.738	.125	-51.782	6.348
	Comm & Media	-20.118	38.906	.606	-96.844	56.608
	Other-Forest Products and Life Sciences	-28.712*	14.255	.045	-56.823	-.601
Mining	Oil and Gas	.145	.493	.769	-.827	1.117
	Diversified Industries	-.164	1.289	.899	-2.706	2.379
	Financial Services	19.602*	5.002	.000	9.739	29.466
	Clean Technology	-13.120	21.777	.548	-56.065	29.825
	Real Estate	-8.355	8.610	.333	-25.335	8.624
	Utilities & Pipelines	8.522	11.187	.447	-13.540	30.585
	Technology	-3.115	13.873	.823	-30.474	24.245
	Comm & Media	-.515	38.587	.989	-76.612	75.581
	Other-Forest Products and Life Sciences	-9.110	13.358	.496	-35.454	17.234
Clean Technology	Oil and Gas	13.265	21.776	.543	-29.679	56.209
	Diversified Industries	12.956	21.809	.553	-30.052	55.965
	Financial Services	32.722	22.338	.145	-11.329	76.774
	Mining	13.120	21.777	.548	-29.825	56.065
	Real Estate	4.765	23.411	.839	-41.404	50.933
	Utilities & Pipelines	21.642	24.477	.378	-26.628	69.912
	Technology	10.005	25.815	.699	-40.905	60.915
	Comm & Media	12.605	44.305	.776	-74.768	99.977

table continues

	Other-Forest Products and Life Sciences	4.010	25.542	.875	-46.361	54.381
Real Estate	Oil and Gas	8.500	8.608	.325	-8.477	25.477
	Diversified Industries	8.192	8.691	.347	-8.947	25.330
	Financial Services	27.958*	9.944	.005	8.348	47.568
	Mining	8.355	8.610	.333	-8.624	25.335
	Clean Technology	-4.765	23.411	.839	-50.933	41.404
	Utilities & Pipelines	16.878	14.107	.233	-10.943	44.699
	Technology	5.240	16.320	.748	-26.944	37.424
	Comm & Media	7.840	39.532	.843	-70.121	85.801
	Other-Forest Products and Life Sciences	-.755	15.884	.962	-32.080	30.571
Utilities & Pipelines	Oil and Gas	-8.378	11.186	.455	-30.437	13.682
	Diversified Industries	-8.686	11.249	.441	-30.871	13.499
	Financial Services	11.080	12.243	.367	-13.065	35.225
	Mining	-8.522	11.187	.447	-30.585	13.540
	Clean Technology	-21.642	24.477	.378	-69.912	26.628
	Real Estate	-16.878	14.107	.233	-44.699	10.943
	Technology	-11.637	17.815	.514	-46.769	23.494
	Comm & Media	-9.038	40.173	.822	-88.261	70.186
	Other-Forest Products and Life Sciences	-17.632	17.416	.313	-51.979	16.714
Technology	Oil and Gas	3.260	13.873	.814	-24.098	30.617
	Diversified Industries	2.951	13.924	.832	-24.507	30.410
	Financial Services	22.717	14.738	.125	-6.348	51.782
	Mining	3.115	13.873	.823	-24.245	30.474
	Clean Technology	-10.005	25.815	.699	-60.915	40.905
	Real Estate	-5.240	16.320	.748	-37.424	26.944
	Utilities & Pipelines	11.637	17.815	.514	-23.494	46.769
	Comm & Media	2.600	41.002	.950	-78.259	83.458
	Other-Forest Products and Life Sciences	-5.995	19.252	.756	-43.962	31.972
Comm & Media	Oil and Gas	.660	38.587	.986	-75.436	76.756
	Diversified Industries	.352	38.605	.993	-75.780	76.484
	Financial Services	20.118	38.906	.606	-56.608	96.844
	Mining	.515	38.587	.989	-75.581	76.612
	Clean Technology	-12.605	44.305	.776	-99.977	74.768
	Real Estate	-7.840	39.532	.843	-85.801	70.121
	Utilities & Pipelines	9.038	40.173	.822	-70.186	88.261
	Technology	-2.600	41.002	.950	-83.458	78.259
	Other-Forest Products and Life Sciences	-8.595	40.830	.834	-89.115	71.926

table continues

Other-Forest Products and Life Sciences	Oil and Gas	9.255	13.357	.489	-17.087	35.597
	Diversified Industries	8.946	13.410	.505	-17.500	35.393
	Financial Services	28.712*	14.255	.045	.601	56.823
	Mining	9.110	13.358	.496	-17.234	35.454
	Clean Technology	-4.010	25.542	.875	-54.381	46.361
	Real Estate	.755	15.884	.962	-30.571	32.080
	Utilities & Pipelines	17.632	17.416	.313	-16.714	51.979
	Technology	5.995	19.252	.756	-31.972	43.962
	Comm & Media	8.595	40.830	.834	-71.926	89.115

Dependent Variable: PRICE SALES RATIO POST IFRS

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table C3

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

(I) INDUSTRY SECTOR	*(J) INDUSTRY SECTOR*	*M Difference (I-J)*	*SE*	*Sig.[a]*	*95% CI for Difference[a]*	
					LL	*UL*
Oil and Gas	Diversified Industries	-15.978	35.657	.655	-86.275	54.319
	Financial Services	8.805	39.707	.825	-69.477	87.087
	Mining	-45.480	30.566	.138	-105.741	14.781
	Clean Technology	-21.499	173.482	.901	-363.517	320.520
	Real Estate	417.787	471.811	.377	-512.384	1347.957
	Utilities & Pipelines	-.988	77.557	.990	-153.890	151.915
	Technology	-34.826	236.704	.883	-501.485	431.833
	Comm & Media	7.455	566.179	.990	-1108.762	1123.672
	Other-Forest Products and Life Sciences	7.232	123.921	.954	-237.077	251.541
Diversified Industries	Oil and Gas	15.978	35.657	.655	-54.319	86.275
	Financial Services	24.783	43.220	.567	-60.425	109.990
	Mining	-29.502	35.009	.400	-98.521	39.517
	Clean Technology	-5.521	174.320	.975	-349.191	338.149
	Real Estate	433.765	472.120	.359	-497.015	1364.544
	Utilities & Pipelines	14.990	79.412	.850	-141.571	171.551
	Technology	-18.848	237.318	.937	-486.719	449.023
	Comm & Media	23.433	566.437	.967	-1093.292	1140.157

table continues

	Other-Forest Products and Life Sciences	23.210	125.091	.853	-223.406	269.825
Financial Services	Oil and Gas	-8.805	39.707	.825	-87.087	69.477
	Diversified Industries	-24.783	43.220	.567	-109.990	60.425
	Mining	-54.285	39.126	.167	-131.421	22.851
	Clean Technology	-30.304	175.193	.863	-375.695	315.088
	Real Estate	408.982	472.443	.388	-522.435	1340.398
	Utilities & Pipelines	-9.792	81.312	.904	-170.098	150.513
	Technology	-43.631	237.961	.855	-512.768	425.506
	Comm & Media	-1.350	566.706	.998	-1118.605	1115.906
	Other-Forest Products and Life Sciences	-1.573	126.305	.990	-250.582	247.436
Mining	Oil and Gas	45.480	30.566	.138	-14.781	105.741
	Diversified Industries	29.502	35.009	.400	-39.517	98.521
	Financial Services	54.285	39.126	.167	-22.851	131.421
	Clean Technology	23.981	173.350	.890	-317.777	365.739
	Real Estate	463.267	471.762	.327	-466.808	1393.342
	Utilities & Pipelines	44.493	77.261	.565	-107.826	196.811
	Technology	10.654	236.607	.964	-455.814	477.123
	Comm & Media	52.935	566.139	.926	-1063.203	1169.073
	Other-Forest Products and Life Sciences	52.712	123.736	.671	-191.233	296.656
Clean Technology	Oil and Gas	21.499	173.482	.901	-320.520	363.517
	Diversified Industries	5.521	174.320	.975	-338.149	349.191
	Financial Services	30.304	175.193	.863	-315.088	375.695
	Mining	-23.981	173.350	.890	-365.739	317.777
	Real Estate	439.286	501.719	.382	-549.848	1428.419
	Utilities & Pipelines	20.511	187.433	.913	-349.010	390.033
	Technology	-13.327	291.796	.964	-588.599	561.945
	Comm & Media	28.954	591.333	.961	-1136.854	1194.762
	Other-Forest Products and Life Sciences	28.731	210.885	.892	-387.027	444.488
Real Estate	Oil and Gas	-417.787	471.811	.377	-1347.957	512.384
	Diversified Industries	-433.765	472.120	.359	-1364.544	497.015
	Financial Services	-408.982	472.443	.388	-1340.398	522.435
	Mining	-463.267	471.762	.327	-1393.342	466.808
	Clean Technology	-439.286	501.719	.382	-1428.419	549.848
	Utilities & Pipelines	-418.774	477.117	.381	-1359.406	521.857
	Technology	-452.612	526.929	.391	-1491.448	586.223
	Comm & Media	-410.332	736.332	.578	-1862.003	1041.340
	Other-Forest Products and Life Sciences	-410.555	486.808	.400	-1370.292	549.182

table continues

Utilities & Pipelines	Oil and Gas	.988	77.557	.990	-151.915	153.890
	Diversified Industries	-14.990	79.412	.850	-171.551	141.571
	Financial Services	9.792	81.312	.904	-150.513	170.098
	Mining	-44.493	77.261	.565	-196.811	107.826
	Clean Technology	-20.511	187.433	.913	-390.033	349.010
	Real Estate	418.774	477.117	.381	-521.857	1359.406
	Technology	-33.838	247.111	.891	-521.014	453.338
	Comm & Media	8.443	570.609	.988	-1116.507	1133.392
	Other-Forest Products and Life Sciences	8.219	142.798	.954	-273.306	289.745
Technology	Oil and Gas	34.826	236.704	.883	-431.833	501.485
	Diversified Industries	18.848	237.318	.937	-449.023	486.719
	Financial Services	43.631	237.961	.855	-425.506	512.768
	Mining	-10.654	236.607	.964	-477.123	455.814
	Clean Technology	13.327	291.796	.964	-561.945	588.599
	Real Estate	452.612	526.929	.391	-586.223	1491.448
	Utilities & Pipelines	33.838	247.111	.891	-453.338	521.014
	Comm & Media	42.281	612.868	.945	-1165.984	1250.545
	Other-Forest Products and Life Sciences	42.057	265.339	.874	-481.057	565.172
Comm & Media	Oil and Gas	-7.455	566.179	.990	-1123.672	1108.762
	Diversified Industries	-23.433	566.437	.967	-1140.157	1093.292
	Financial Services	1.350	566.706	.998	-1115.906	1118.605
	Mining	-52.935	566.139	.926	-1169.073	1063.203
	Clean Technology	-28.954	591.333	.961	-1194.762	1136.854
	Real Estate	410.332	736.332	.578	-1041.340	1862.003
	Utilities & Pipelines	-8.443	570.609	.988	-1133.392	1116.507
	Technology	-42.281	612.868	.945	-1250.545	1165.984
	Other-Forest Products and Life Sciences	-.223	578.736	1.000	-1141.196	1140.749
Other-Forest Products and Life Sciences	Oil and Gas	-7.232	123.921	.954	-251.541	237.077
	Diversified Industries	-23.210	125.091	.853	-269.825	223.406
	Financial Services	1.573	126.305	.990	-247.436	250.582
	Mining	-52.712	123.736	.671	-296.656	191.233
	Clean Technology	-28.731	210.885	.892	-444.488	387.027
	Real Estate	410.555	486.808	.400	-549.182	1370.292
	Utilities & Pipelines	-8.219	142.798	.954	-289.745	273.306
	Technology	-42.057	265.339	.874	-565.172	481.057
	Comm & Media	.223	578.736	1.000	-1140.749	1141.196

Dependent Variable: PRICE CASH FLOW RATIO POST IFRS

Note: Based on estimated marginal means.

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table C4

Dependent Variable: AVE PRICE POST IFRS

(I) INDUSTRY SECTOR	*(J) INDUSTRY SECTOR*	*M Difference (I-J)*	*SE*	*Sig.*[b]	*95% CI for Difference*[b]	
					LL	*UL*
Oil and Gas	Diversified Industries	-3.351*	1.586	.036	-6.476	-.226
	Financial Services	-2.993	1.988	.134	-6.911	.925
	Mining	2.339	1.792	.193	-1.192	5.869
	Clean Technology	-11.635	6.885	.092	-25.202	1.932
	Real Estate	-5.842*	2.369	.014	-10.509	-1.175
	Utilities & Pipelines	-5.738*	2.532	.024	-10.728	-.748
	Technology	-4.380	2.727	.110	-9.754	.993
	Comm & Media	-3.924	3.083	.205	-9.999	2.152
	Other-Forest Products and Life Sciences	-19.215*	5.526	.001	-30.104	-8.327
Diversified Industries	Oil and Gas	3.351*	1.586	.036	.226	6.476
	Financial Services	.358	1.853	.847	-3.293	4.009
	Mining	5.690*	1.640	.001	2.458	8.922
	Clean Technology	-8.284	6.848	.228	-21.776	5.209
	Real Estate	-2.491	2.256	.271	-6.936	1.954
	Utilities & Pipelines	-2.387	2.428	.326	-7.171	2.396
	Technology	-1.029	2.630	.696	-6.211	4.153
	Comm & Media	-.573	2.998	.849	-6.480	5.335
	Other-Forest Products and Life Sciences	-15.864*	5.479	.004	-26.660	-5.069
Financial Services	Oil and Gas	2.993	1.988	.134	-.925	6.911
	Diversified Industries	-.358	1.853	.847	-4.009	3.293
	Mining	5.332*	2.032	.009	1.328	9.336
	Clean Technology	-8.642	6.952	.215	-22.340	5.056
	Real Estate	-2.849	2.555	.266	-7.883	2.186
	Utilities & Pipelines	-2.745	2.708	.312	-8.080	2.590
	Technology	-1.387	2.891	.632	-7.083	4.309
	Comm & Media	-.930	3.229	.773	-7.293	5.432
	Other-Forest Products and Life Sciences	-16.222*	5.608	.004	-27.273	-5.171
Mining	Oil and Gas	-2.339	1.792	.193	-5.869	1.192
	Diversified Industries	-5.690*	1.640	.001	-8.922	-2.458
	Financial Services	-5.332*	2.032	.009	-9.336	-1.328

table continues

	Clean Technology	-13.974*	6.898	.044	-27.566	-.381
	Real Estate	-8.181*	2.405	.001	-12.920	-3.442
	Utilities & Pipelines	-8.077*	2.567	.002	-13.135	-3.019
	Technology	-6.719*	2.759	.016	-12.155	-1.283
	Comm & Media	-6.262*	3.112	.045	-12.394	-.131
	Other-Forest Products and Life Sciences	-21.554*	5.542	.000	-32.474	-10.635
Clean Technology	Oil and Gas	11.635	6.885	.092	-1.932	25.202
	Diversified Industries	8.284	6.848	.228	-5.209	21.776
	Financial Services	8.642	6.952	.215	-5.056	22.340
	Mining	13.974*	6.898	.044	.381	27.566
	Real Estate	5.793	7.070	.413	-8.138	19.724
	Utilities & Pipelines	5.897	7.127	.409	-8.146	19.939
	Technology	7.255	7.198	.315	-6.928	21.438
	Comm & Media	7.711	7.340	.295	-6.753	22.175
	Other-Forest Products and Life Sciences	-7.581	8.655	.382	-24.635	9.473
Real Estate	Oil and Gas	5.842*	2.369	.014	1.175	10.509
	Diversified Industries	2.491	2.256	.271	-1.954	6.936
	Financial Services	2.849	2.555	.266	-2.186	7.883
	Mining	8.181*	2.405	.001	3.442	12.920
	Clean Technology	-5.793	7.070	.413	-19.724	8.138
	Utilities & Pipelines	.104	2.998	.972	-5.804	6.011
	Technology	1.462	3.164	.644	-4.773	7.697
	Comm & Media	1.918	3.476	.582	-4.931	8.768
	Other-Forest Products and Life Sciences	-13.373*	5.754	.021	-24.711	-2.035
Utilities & Pipelines	Oil and Gas	5.738*	2.532	.024	.748	10.728
	Diversified Industries	2.387	2.428	.326	-2.396	7.171
	Financial Services	2.745	2.708	.312	-2.590	8.080
	Mining	8.077*	2.567	.002	3.019	13.135
	Clean Technology	-5.897	7.127	.409	-19.939	8.146
	Real Estate	-.104	2.998	.972	-6.011	5.804
	Technology	1.358	3.289	.680	-5.122	7.838
	Comm & Media	1.815	3.590	.614	-5.259	8.888
	Other-Forest Products and Life Sciences	-13.477*	5.824	.022	-24.952	-2.002
Technology	Oil and Gas	4.380	2.727	.110	-.993	9.754
	Diversified Industries	1.029	2.630	.696	-4.153	6.211
	Financial Services	1.387	2.891	.632	-4.309	7.083
	Mining	6.719*	2.759	.016	1.283	12.155
	Clean Technology	-7.255	7.198	.315	-21.438	6.928
	Real Estate	-1.462	3.164	.644	-7.697	4.773

table continues

	Utilities & Pipelines	-1.358	3.289	.680	-7.838	5.122
	Comm & Media	.456	3.730	.903	-6.892	7.805
	Other-Forest Products and Life Sciences	-14.835*	5.911	.013	-26.482	-3.189
Comm & Media	Oil and Gas	3.924	3.083	.205	-2.152	9.999
	Diversified Industries	.573	2.998	.849	-5.335	6.480
	Financial Services	.930	3.229	.773	-5.432	7.293
	Mining	6.262*	3.112	.045	.131	12.394
	Clean Technology	-7.711	7.340	.295	-22.175	6.753
	Real Estate	-1.918	3.476	.582	-8.768	4.931
	Utilities & Pipelines	-1.815	3.590	.614	-8.888	5.259
	Technology	-.456	3.730	.903	-7.805	6.892
	Other-Forest Products and Life Sciences	-15.292*	6.083	.013	-27.279	-3.305
Other-Forest Products and Life Sciences	Oil and Gas	19.215*	5.526	.001	8.327	30.104
	Diversified Industries	15.864*	5.479	.004	5.069	26.660
	Financial Services	16.222*	5.608	.004	5.171	27.273
	Mining	21.554*	5.542	.000	10.635	32.474
	Clean Technology	7.581	8.655	.382	-9.473	24.635
	Real Estate	13.373*	5.754	.021	2.035	24.711
	Utilities & Pipelines	13.477*	5.824	.022	2.002	24.952
	Technology	14.835*	5.911	.013	3.189	26.482
	Comm & Media	15.292*	6.083	.013	3.305	27.279

Dependent Variable: AVE PRICE POST IFRS

Note: Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table C5

Dependent Variable: STOCKS PRICE CHANGE POST IFRS

(I) INDUSTRY SECTOR	*(J) INDUSTRY SECTOR*	*M Difference (I-J)*	*SE*	*Sig.[a]*	*95% CI for Difference[a]*	
					LL	*UL*
Oil and Gas	Diversified Industries	-5.696*	1.569	.000	-8.788	-2.604
	Financial Services	-4.129*	1.928	.033	-7.928	-.329
	Mining	-2.013	1.786	.261	-5.532	1.506

table continues

	Clean Technology	-.847	3.928	.830	-8.587	6.894
	Real Estate	-1.090	2.232	.626	-5.487	3.308
	Utilities & Pipelines	-4.271	2.509	.090	-9.215	.673
	Technology	-13.145*	2.806	.000	-18.675	-7.615
	Comm & Media	-4.318	3.134	.170	-10.493	1.857
	Other-Forest Products and Life Sciences	-13.798*	3.802	.000	-21.289	-6.306
Diversified Industries	Oil and Gas	5.696*	1.569	.000	2.604	8.788
	Financial Services	1.567	1.785	.381	-1.951	5.085
	Mining	3.683*	1.631	.025	.470	6.896
	Clean Technology	4.850	3.860	.210	-2.757	12.456
	Real Estate	4.606*	2.110	.030	.450	8.763
	Utilities & Pipelines	1.425	2.401	.553	-3.306	6.156
	Technology	-7.449*	2.710	.006	-12.789	-2.108
	Comm & Media	1.378	3.048	.652	-4.628	7.384
	Other-Forest Products and Life Sciences	-8.101*	3.731	.031	-15.454	-.749
Financial Services	Oil and Gas	4.129*	1.928	.033	.329	7.928
	Diversified Industries	-1.567	1.785	.381	-5.085	1.951
	Mining	2.116	1.979	.286	-1.783	6.015
	Clean Technology	3.282	4.020	.415	-4.638	11.202
	Real Estate	3.039	2.389	.205	-1.668	7.746
	Utilities & Pipelines	-.142	2.650	.957	-5.363	5.079
	Technology	-9.016*	2.933	.002	-14.795	-3.237
	Comm & Media	-.189	3.248	.954	-6.589	6.210
	Other-Forest Products and Life Sciences	-9.669*	3.896	.014	-17.346	-1.992
Mining	Oil and Gas	2.013	1.786	.261	-1.506	5.532
	Diversified Industries	-3.683*	1.631	.025	-6.896	-.470
	Financial Services	-2.116	1.979	.286	-6.015	1.783
	Clean Technology	1.166	3.953	.768	-6.623	8.956
	Real Estate	.923	2.275	.685	-3.561	5.407

table continues

	Utilities & Pipelines	-2.258	2.548	.376	-7.278	2.762
	Technology	-11.132*	2.841	.000	-16.731	-5.534
	Comm & Media	-2.305	3.165	.467	-8.542	3.931
	Other-Forest Products and Life Sciences	-11.785*	3.828	.002	-19.327	-4.243
Clean Technology	Oil and Gas	.847	3.928	.830	-6.894	8.587
	Diversified Industries	-4.850	3.860	.210	-12.456	2.757
	Financial Services	-3.282	4.020	.415	-11.202	4.638
	Mining	-1.166	3.953	.768	-8.956	6.623
	Real Estate	-.243	4.174	.954	-8.467	7.981
	Utilities & Pipelines	-3.424	4.328	.430	-11.953	5.104
	Technology	-12.298*	4.507	.007	-21.180	-3.417
	Comm & Media	-3.472	4.718	.463	-12.768	5.825
	Other-Forest Products and Life Sciences	-12.951*	5.186	.013	-23.169	-2.733
Real Estate	Oil and Gas	1.090	2.232	.626	-3.308	5.487
	Diversified Industries	-4.606*	2.110	.030	-8.763	-.450
	Financial Services	-3.039	2.389	.205	-7.746	1.668
	Mining	-.923	2.275	.685	-5.407	3.561
	Clean Technology	.243	4.174	.954	-7.981	8.467
	Utilities & Pipelines	-3.181	2.878	.270	-8.852	2.490
	Technology	-12.055*	3.141	.000	-18.244	-5.867
	Comm & Media	-3.228	3.437	.349	-10.000	3.543
	Other-Forest Products and Life Sciences	-12.708*	4.055	.002	-20.698	-4.718
Utilities & Pipelines	Oil and Gas	4.271	2.509	.090	-.673	9.215
	Diversified Industries	-1.425	2.401	.553	-6.156	3.306
	Financial Services	.142	2.650	.957	-5.079	5.363
	Mining	2.258	2.548	.376	-2.762	7.278
	Clean Technology	3.424	4.328	.430	-5.104	11.953
	Real Estate	3.181	2.878	.270	-2.490	8.852
	Technology	-8.874*	3.343	.009	-15.462	-2.286

table continues

	Comm & Media	-.047	3.623	.990	-7.185	7.091
	Other-Forest Products and Life Sciences	-9.527*	4.214	.025	-17.830	-1.224
Technology	Oil and Gas	13.145*	2.806	.000	7.615	18.675
	Diversified Industries	7.449*	2.710	.006	2.108	12.789
	Financial Services	9.016*	2.933	.002	3.237	14.795
	Mining	11.132*	2.841	.000	5.534	16.731
	Clean Technology	12.298*	4.507	.007	3.417	21.180
	Real Estate	12.055*	3.141	.000	5.867	18.244
	Utilities & Pipelines	8.874*	3.343	.009	2.286	15.462
	Comm & Media	8.827*	3.835	.022	1.271	16.383
	Other-Forest Products and Life Sciences	-.653	4.397	.882	-9.317	8.012
Comm & Media	Oil and Gas	4.318	3.134	.170	-1.857	10.493
	Diversified Industries	-1.378	3.048	.652	-7.384	4.628
	Financial Services	.189	3.248	.954	-6.210	6.589
	Mining	2.305	3.165	.467	-3.931	8.542
	Clean Technology	3.472	4.718	.463	-5.825	12.768
	Real Estate	3.228	3.437	.349	-3.543	10.000
	Utilities & Pipelines	.047	3.623	.990	-7.091	7.185
	Technology	-8.827*	3.835	.022	-16.383	-1.271
	Other-Forest Products and Life Sciences	-9.480*	4.613	.041	-18.570	-.389
Other-Forest Products and Life Sciences	Oil and Gas	13.798*	3.802	.000	6.306	21.289
	Diversified Industries	8.101*	3.731	.031	.749	15.454
	Financial Services	9.669*	3.896	.014	1.992	17.346
	Mining	11.785*	3.828	.002	4.243	19.327
	Clean Technology	12.951*	5.186	.013	2.733	23.169
	Real Estate	12.708*	4.055	.002	4.718	20.698
	Utilities & Pipelines	9.527*	4.214	.025	1.224	17.830
	Technology	.653	4.397	.882	-8.012	9.317

table continues

	Comm & Media	9.480*	4.613	.041	.389	18.570

Dependent Variable: STOCKS PRICE CHANGE POST IFRS

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Note: Greatest significant mean difference in stock prices post IFRS was between oil & gas and forest products: a negative 13.798