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**Earnings Management prior Seasoned Equity Offerings:  
Pre- versus Post- Canadian SOX**

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## Approval Certificate

Earning Managements prior Seasoned Equity Offerings: Pre- versus  
Post- Canadian SOX

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## **DECLARATION**

I hereby declare that this thesis is entirely my own work and that it has not been submitted as an exercise for a degree at any other University.

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## ABSTRACT

**Purpose:** This study investigates the prevalence of accrual-based and real-based earnings management activities prior seasoned equity offerings (SEOs) for a sample of Canadian public firms between 1993 and 2008. This study also examines earnings management trends around reforms in the Canadian corporate governance regime brought by Canadian SOX (CSOX) Act.

**Design/methodology/approach:** Both parametric (t-test) and non-parametric (Wilcoxon test) tests are used to examine the statistical significance of mean and median accrual and real-based manipulation in the year preceding the announcement of a SEO. Results are reported for the entire sample of Canadian SEOs as well as for pre- and post-CSOX periods.

**Findings:** The results reveal evidence of accrual and real income-increasing manipulation in the year preceding SEO announcement dates. Furthermore, some evidence of a shift from accrual-based to real-based earnings manipulation is detected in the post-CSOX period indicating that new corporate governance mechanisms and codes put forth by CSOX Act may have contributed to enhancing the quality of financial reporting.

**Research limitations/Implications:** This study provides evidence of income-increasing manipulation prior to SEOs that is constrained after the passage of CSOX Act. This change in earnings management trends might signal mitigation of the agency problem. However, this research faces some limitations. The main limitation is represented by the small number of observations in the final sample used for computing discretionary accruals metrics. This sample size reduction was also due to implementation of several criteria during sampling procedures.

**Practical implications:** The findings of this study provide evidence for policy makers on the potency of their corporate governance legislation, CSOX. This is also of interest to equity investors whom might make more efficient decisions in their investments.

**Originality/value:** This study provides the first analysis in Canada to test for accrual and real-based earnings management by SEO firms. Furthermore, this paper conducts the first examination of the role of CSOX in enhancing the quality of financial reporting, within the context of SEOs.

**Keywords:** Earnings Management, Accrual-based Manipulation, Real-based Manipulation, Seasoned Equity Offering, Canadian SOX

## LIST OF TABLES

Table 3.1: Sample Selection Procedure.....	57
Table 3.2: Distribution of SEO Sample by year and industry .....	58
Table 4.1: Descriptive Statistics.....	62
Table 4.2: Pearson Correlation Coefficients.....	65
Table 4.3: Accrual-Based Earnings Management Proxies derived from the Cross-Sectional Modified-Jones Model based on the Cash Flow (CF) Approach.....	67
Table 4.4: Real-based Earnings Management Proxies.....	71
Table 4.5: Real-based Earnings Management Comprehensive Measures.....	74
Table 5.1: Summary of Findings .....	79

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## CONTENTS

ABSTRACT.....	IV
LIST OF TABLES.....	V
ACKNOWLEDGEMENTS.....	VI

### **Chapter One: Introduction..... 1**

1.1	Introduction.....	1
1.2	General Background .....	1
1.3	Purpose of the Study .....	4
1.4	Originality of the Study .....	5
1.5	Major Findings of the Study .....	5
1.6	Contributions to the Literature.....	6
1.7	Structure of the Study .....	6

### **Chapter Two: Literature review..... 8**

2.1	Introduction.....	8
2.2	Earnings Management .....	9
2.2.1	Definition.....	9
2.2.2	Incentives of earnings management .....	10
2.2.3	Earnings management tools and their consequences.....	12
2.2.4	Earnings management and agency theory .....	17
2.3	Seasoned Equity Offerings .....	19
2.3.1	Definition.....	19
2.3.2	Seasoned equity offerings and information asymmetry .....	19
2.3.3	Seasoned equity offerings and opportunistic earnings management.....	21
2.4	Sarbanes Oxley Act of 2002 .....	23
2.4.1	Purpose and implications.....	24
2.4.2	Sarbanes Oxley Act: market response and earnings management .....	26
2.4.3	Sarbanes Oxley Act of 2002 and earnings management around diverse corporate events	30
2.5	Case of Canada .....	31
2.5.1	Canadian versus U.S. regulatory structure .....	32
2.5.2	Canadian corporate governance in transition .....	32
2.5.3	Process of regulatory reform: new reforms .....	34
2.5.4	SOX-like legislations and earnings management .....	37
2.5.5	Canadian-SOX and earnings management .....	38
2.6	Conclusion .....	38

<b>Chapter Three: Methodology .....</b>	<b>41</b>
3.1 Introduction.....	41
3.2 Philosophical Dimension .....	41
3.3 Reasoning Approach.....	42
3.4 Research Strategy.....	43
3.5 Hypotheses Development .....	44
3.6 Research Method .....	48
3.7 Parametric and Non-Parametric Significance Tests .....	54
3.8 Data Sources .....	55
3.9 Samples Procedures .....	55
3.10 Conclusion .....	60
<b>Chapter 4: Results .....</b>	<b>61</b>
4.1 Introduction.....	61
4.2 Analysis Framework .....	61
4.3 Descriptive Statistics.....	61
4.4 Empirical Results.....	65
4.4.1 Results of accrual-based earnings management for the entire sample and pre- and post-CSOX sub-samples .....	65
4.4.2 Results of real-based earnings management for the entire sample and pre- and post-CSOX sub-samples .....	68
4.5 Discussion of the Results.....	75
4.6 Conclusion .....	76
<b>Chapter 5: Conclusion.....</b>	<b>78</b>
5.1 Introduction.....	78
5.2 Summary of the Findings.....	78
5.3 Validity .....	79
5.4 Limitations of the Research .....	81
5.5 Theoretical and Practical Implications.....	82
5.6 Suggestions for Future Research .....	83
<b>Reference List .....</b>	<b>84</b>



## **Chapter One: Introduction**

### **1.1 Introduction**

This chapter introduces the general topic of this thesis and highlights its originality and contributions. It starts by providing a general background about the topics of interest in section two; these are mainly earnings management activities prior to seasoned equity offerings and Canadian Sarbanes Oxley Act (CSOX). The purpose of research is stated in section three. Section four sheds light on the originality of this research. A summary of the main findings is presented in section five. Section six discusses how these findings contribute to relevant literature. Section seven provides an outline for successive chapters.

### **1.2 General Background**

A seasoned equity offering (SEO), also known as secondary equity offering, is defined as a new issue of common stocks by a firm that has already been publicly traded to new or existing shareholders. According to Carlson et al. (2006) and Lyandres (2010), SEO announcements by a company are usually an indicator of the new growth opportunities. SEOs are one feasible way to meet the company's long-term needs of expansion through raising funds from external sources.

The strategic actions made around the time of the SEO announcement have been studied thoroughly in the literature (e.g. Teoh et al., 1998a; Rangan, 1998; Shivakumar, 2000; Ducharme et al. 2004 and others). Of the behaviors that has been detected and examined carefully was earning management. Watts and Zimmerman (1990) defines earning management as an opportunistic behavior which takes place when managers engage in the manipulation of accounting information to either maximize the firm's value or take advantage of such alteration. The incentives lying behind the management of earnings provided a direct motivation for researchers to study whether such activities occur around SEOs. In this context, Ching et al. (2006) consider that SEOs drive managers to alter financial reports and increase earnings prior the issue for the fact that such behavior can improve the price at which their firm's SEOs is sold to investors.

Moreover, empirical findings by researchers documenting the unusual underperformance of stock returns and earnings following a seasoned equity issue (e.g. Spiess and Affleck-Graves,

1995; Loughran and Ritter, 1995) created a new reason to investigate whether activities of earnings management are taking place during pre-issue years. In this respect, Rangan (1998) reports earnings that are upwardly manipulated in the year preceding the SEOs, thus boosting temporarily a firm's stock price. He interprets that as soon as inflated pre-issue earnings are no longer attained, dissatisfied investors will devalue the firm causing its stock price to decline accordingly. Consistent with Rangan (1998), Teoh et al. (1998a) document similar findings. Additionally, they provide evidence of a worse post-event performance accompanying issuers with the most aggressive accounting manipulations or greatest positive abnormal accruals preceding the issue.

Similarly, Shivakumar (2000) finds evidence of overstated earnings prior the issue of seasoned equity offerings. However, opposing Rangan (1998) and Teoh et al. (1998a) conclusions, he argues that investors are able to detect these accounting adjustments made around the offerings, and rationally unravel its impact on stock price. Therefore, earning management according to him is not planned to deceive investors and fool them, but it is a normal behavior by issuers in response to the subsequent stock price reversals by investors.

Reporting evidence of earnings management activities at the time of SEOs was not the only concern of previous studies. Inclusively, there has been a great deal of interest in understanding the strategies that firms conduct to manage their earnings. Teoh et al. (1998a), Rangan (1998) and Shivakumar (2000) document activities of income-increasing earnings management around SEOs that are focused exclusively on accrual-based manipulations. However, Roychowdhury (2006) presents evidence suggesting that firm managers adopt several real earnings management methods in order to achieve certain standards in their reported margins while incurring minimal annual losses.

The distinction between the different tools of earnings management activities is indispensable. In this context, Graham et al. (2005) find in a survey conducted evidence of managers favoring real activities over accrual-based adjustments as tools to manage earnings. They attribute the case to the fact that real methods, despite being costly, are less likely to be detected as they can be indistinguishable from normal business operations. These real activities according to Cohen and Zarowin (2010) have a direct effect on cash flows, and therefore differ from accrual-based ones which leave no influence.

Though, firms' managers need to avoid detection of their earnings management activities, specifically their accrual-based ones, has grown noticeably after the passage of Sarbanes-Oxley Act (SOX) in 2002 as reported by Cohen et al. (2008). Therefore, approving Graham et al.'s (2005) conjectures, Cohen et al. (2008) and Ibrahim et al. (2011) provide further evidence of managers substituting accrual-based earnings management activities with real earnings management methods in the period following SOX Act. Their study has been motivated by the main objectives of the act which focus on bringing back integrity of financial reporting especially after a series of highly publicized accounting scandals such as Enron and WorldCom.

After the enactment of Sarbanes-Oxley Act (SOX) in 2002 by the United States Congress encompassing the most extensive reforms and improvements of American business practices, "Canada soon followed suit of their southern neighbors. Ontario Bill198 (CSOX) was passed by the Ontario legislature" (Hossain, 2013, p.25). Resembling the regulatory changes assigned by SOX act, the Canadian SOX-like legislation (CSOX) mandated similar far-reaching reforms at various levels such as corporate governance, accounting standards, internal controls, disclosure controls, integrity, transparency...etc. For instance, Catherine Conally described CSOX during the Insurance Institute of Ontario Seminar held in Toronto as encompassing a 'uniquely Canadian Twist' for which it tackles the need for transparent and exhaustive financial reporting (Gambrill, 2006, p. 47). "The Act went into full effect on April 7, 2003 although it received Royal Assent on December 9, 2002" (Hossain, 2013, p.12).

Seeking to provide insight on the effectiveness of CSOX regulatory provisions, Nui (2006) examine the impact of the new corporate governance mechanisms and codes on the quality of earnings. Empirical tests on a sample of firms listed on the S&P/TSX composite index show that overall governance quality is negatively related to the level of abnormal accruals, thus suggesting that recent reforms in governance codes have been successful in reducing accrual manipulation and subsequent managerial opportunism (Nui, 2006). Consistently, Jordan et al. (2014) suggest that Canadian-SOX played a major role in causing the demise of a certain type of earnings management often denoted as cosmetic earnings management (CEM). Obviously, they find strong evidence of its existence in the pre-CSOX period, while no indications of it was apparent in the period following the legislation.

### 1.3 Purpose of the Study

As mentioned earlier, seasoned equity offerings have been gaining recently an increased attention from academics and practitioners. In fact, they provide the perfect context for studying myopic financial management, primarily earnings management. Also, a considerable attention has been given to the vital role of different corporate governance reforms in monitoring managerial misconduct and in improving the integrity of financial reporting. For instance, several studies document the mitigating effect U.S. SOX have on practices of earnings management (e.g. Cohen et al., 2008; Bartov and Cohen, 2009; Ibrahim et al., 2011). Mindful of importance of these two topics, this research aims to study Canadian SEO firms' propensity to manipulate earnings in the year prior to the offering in a pre- versus post-CSOX comparative approach. More precisely, it attempts to investigate the prevalence of both accrual-based and real-based earnings management activities prior SEOs in the period preceding the passage of CSOX and in the period following it. Furthermore, evidence of variations in earnings management activities following the enactment of U.S. SOX (Cohen et al., 2008; Ibrahim et al. 2011) prompt questions of whether the SOX-like legislation (CSOX) had in Canada a similar impact as the SOX had in the United States. Accordingly, this study also aims to investigate whether there is a change in earnings management activities after the passage of CSOX.

The research will attempt to answer the following research questions:

- Do Canadian SEO firms engage in accrual-based earnings management activities in the accounting year prior to SEO announcements?
- Do Canadian firms engage in real-based earnings management activities in the accounting year prior to SEO announcements?
- Is there a change in the accrual-based earning management activities of Canadian SEO firms before and after the enactment of CSOX?
- Is there a change in the real-based earning management activities of Canadian SEO firms before and after the enactment of CSOX?

#### **1.4 Originality of the Study**

Earnings management around major corporate events has received a considerable attention from researchers who have studied its incentives and examined its tools and their consequences. For instance, a broad stream of studies has investigated the prevalence of earnings management activities around seasoned equity offerings (e.g. Teoh et al., 1998; Rangan, 1998; Shivakumar, 2000; Cohen and Zarowin, 2010; Ibrahim et al., 2011). Earnings management, however, has been perceived in most of the times as being a biased act of financial reporting. In fact, a series of highly publicized accounting scandals such as Enron and WorldCom has raised concerns about the integrity of financial information available to investors thus, indicated an urgent need for extensive reforms capable of reducing biased accounting practices. Canada was one of the countries that responded to the alarming signs and introduced accordingly the Canadian-SOX corporate governance legislation. Although CSOX mandated extensive changes in business practices, the pervasiveness of activities that led to the passage of the legislation and the consequences of the subsequent regulatory reforms have yet to be steadily studied. Therefore, the originality of this study lies in the choice of the Canadian market as a new field of study together with its corporate governance legislation (CSOX). Markedly, Canada has the ninth largest stock exchange in the world (TSX) and the third largest in North America by market capitalization. Furthermore, CSOX is the first public issue of a Canadian legislation that is relevant to "Sarbanes-Oxley" in the United States. To the best of my knowledge, this research is the first in its kind in considering the Canadian SEO setting to test for activities of earnings management (both accrual and real-based earnings management) in a pre- versus post-CSOX comparative approach. In other words, the Canadian market provides this research with valuable benchmark for matters that have not already been tackled in the literature, thus ensuring further originality.

#### **1.5 Major Findings of the Study**

The findings of this study show that Canadian SEO firms use more than one method to engage in income-increasing manipulation in a sample over a period 1993-2008. Particularly, they engage in both accrual-based and real-based earnings management activities in the year preceding SEO announcement dates through abnormal accruals, accelerated sales levels (shown as lower levels of cash flows from operations) and reduced discretionary expenditures. However, earnings

management activities exhibit new trends after the passage of CSOX. Empirical results show that accrual-based earnings management activities have been restrained in the post-CSOX period. This improvement in accruals quality is demonstrated by the substantial decline of abnormal accruals in the year prior to the announcement of SEOs. Furthermore, low insignificant levels of abnormal accruals have been accompanied by high levels of real account manipulations post-CSOX, thus indicating a shift from accrual-based earnings management to real-based earnings manipulation in the post-CSOX period. Therefore, there is evidence that CSOX has impacted aggressive accounting practices known as earnings management and contributed partially in enhancing the quality of financial reporting.

## **1.6 Contributions to the Literature**

This research has several contributions to literature. First of all, this study extends the current debate on the prevalence of multiple earnings management methods around seasoned equity offerings. To the best of my knowledge, this paper is the first attempt to consider publicly traded firms in Canada for examining two methods of earnings management, accrual-based methods and real-based methods, in the year prior to SEOs. Furthermore, this paper conducts the first examination of the role of CSOX in the SEO setting, on acts of financial reporting, specifically earnings management. Particularly, magnitudes of accrual-based and real-based earnings management activities prior SEOs are compared in pre- and post-CSOX periods. Therefore, this research contributes to the stream of accounting and finance literature that aim at studying the changes that have resulted from the passage of SOX-like legislations outside the United States.

## **1.7 Structure of the Study**

The rest of the thesis is organized as follows

Chapter two starts by providing an overview about earnings management and an empirical research review that covers its incentives and tools and their consequences in section two. This section also highlights agency theory as a basic framework for earnings management and tackles agency problems accompanying it. Section three introduces seasoned equity offerings and provides a brief summary of their types. A research review on the relationship between SEOs and information asymmetry as well as opportunistic earnings management is also provided in

this section. Section four is allocated to discussing the U.S. Sarbanes Oxley Act, its purpose, implications and effectiveness. Section five tackles the Canadian case, its regulatory structure and the corporate governance reforms it went through until the passage of the Canadian SOX-like legislation in 2003 (CSOX). Some of the research studies that investigate the effectiveness of SOX-like legislations have been also reviewed in this section. Section six concludes

Chapter three addresses the methodology used in the pursuit of research objective. It starts by highlighting the philosophical dimensions of this research in section two. Section three discusses the reasoning approach of this study. Research Strategy is discussed in section four. Section five introduces the development of the research hypotheses. Section six explains research methods and procedures. Statistical tests used to test the results are introduced in section seven. Section eight identifies data sources. Sampling procedures are explained in section nine. Section ten concludes.

Chapter four presents the empirical results of this research. Section two introduces the analysis framework used in this chapter. Section three provides descriptive statistics for accrual-based and real-based earnings management proxies as well as Pearson correlation coefficients between the proxies of both methods. Section four reports the results, explains the significance of abnormal accrual-based and real-based earnings management proxies and compares it with previous research findings. Empirical results and their relevance to the research hypotheses are discussed in section five. Section six concludes.

Chapter five provides conclusion for this study and opens avenues for future research. Section two in this final chapter summarizes the findings of the study. Section three discusses the validity of results. The limitations of the study are highlighted in chapter four. Section five explains the theoretical and practical implications. Section six suggests avenues for future research.

## **Chapter Two: Literature review**

### **2.1 Introduction**

Earnings management has been widely scrutinized through a broad stream of research. Various incentives have been documented for driving managers to carry out different practices of earnings management. These incentives greatly depend on the objectives of earnings management within a particular corporate setting. In this respect, earnings management activities have accompanied major corporate events such as initial public offerings (IPOs) seasoned equity offerings (SEOs), mergers and acquisitions (M&As) and management buyouts. Earnings management around the time of the SEO announcement has received considerable attention from academics and practitioners. In fact, managerial opportunism emphasized empirical investigation on the use of earnings manipulation methods around dates of offering. Accordingly, SEOs became the perfect context for studying myopic financial management, primarily, earnings management. Inclusively, there has been a great deal of interest in examining two basic methods of earnings management, accrual and real-based, around major reforms in corporate governance regimes worldwide.

This chapter starts by providing an overview about earnings management and an empirical research review that covers its incentives and tools and their consequences in section two. This section also highlights agency theory as a basic framework for earnings management and tackles agency problems accompanying it. Section three introduces seasoned equity offerings and provides a brief summary of their types. A research review on the relationship between SEOs and information asymmetry as well as opportunistic earnings management is also provided in this section. Section four is allocated to discussing the U.S. Sarbanes Oxley Act, its purpose, implications and effectiveness. Section five tackles the Canadian case, its regulatory structure and the corporate governance reforms it went through until the passage of the Canadian SOX-like legislation in 2003 (CSOX). Some of the research studies that investigate the effectiveness of SOX-like legislations have been also reviewed in this section. Section six concludes



## 2.2 Earnings Management

The following paragraphs provide an overview about earnings management and an empirical research review that covers its incentives and tools and their consequences in section two. This section also highlights agency theory as a basic framework for earnings management and tackles agency problems accompanying it.

### 2.2.1 Definition

Late eighties have witnessed the widespread of a significant ethical financial reporting issue known as “Earnings management”. Being dealt with by accountants on an everyday basis, earnings management became widely scrutinized by researchers worldwide (Armstrong, 1993). The majority of previous research has been motivated by the positive accounting theory suggested by Watts and Zimmerman (1986) who sought to derive and recommend optimal accounting standards. However, latest research on earnings management has shifted the attention to agency theory as proposed by Ross (1973) and Jensen and Meckling (1976), which occurs when cooperating parts have different aims, thus suggesting that agents (managers) could engage in earnings management activities to their own best interests while opposing those of their principals (shareholders and investors).

Earnings management origin dates back to the mid-20th century when Hepworth (1953) was the first to introduce this research topic into world of finance and accounting. Subsequently, literature came up with many different definitions. Watts and Zimmerman (1978) define earnings management as taking place when managers engage in the manipulation of accounting information with or without constraints, in order to maximize the firm’s value. Though, Davidson et al. (1988) suggest that earnings management is a strategy used by managers in conformity with the restrictions mentioned by generally accepted accounting principles (GAAP) in order to report a desired level of earnings. Alternative definitions of earnings management involve those of Schipper (1989) and Healy and Wahlen (1999). Earnings management according to Schipper (1989) is a purposeful behavior of altering the external process of financial reporting with the intent of taking advantage of such alteration. However, the most used description of earnings management by researchers to date is the one suggested by Healy and Wahlen (1999, p. 368) who state that “Earnings management occurs when managers use

judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers".

Fields et al. (2001) adopts the updated definition of earnings management by Watts and Zimmerman (1990). Thus, they view earnings management as an opportunistic behavior that managers would not engage in unless they perceive an anticipated benefit from, either at the personal level, or at the firm's value level. Besides, Phillips et al. (2003) consider the way by which managers could execute their earnings management activities. According to them, this could be achieved through exercising managerial discretion over operating cash flows and accounting choices. To sum up all the definitions of earnings management and generalize, Scott (2009, p.403) mentions that "earnings management is the choice of accounting policies or actions that can affect earnings in order to achieve a specific objective".

### 2.2.2 Incentives of earnings management

Since there are many different definitions that describe earnings management, the employed one will greatly depend on its objective and direction within the research study. As different purposes drive managers to carry out different practices of earnings management, this would suggest that the term "earnings management" would be defined based on the many incentives that managers face to manipulate earnings. Healy and Wahlen (1999) identify three general classifications of earnings management incentives: capital market incentives, contractual incentives and regulatory incentives. However, Valle Ruiz (2016) extends this classification into a more general one and classified the incentives into two groups: internal factors and external factors, where internal factors are those directly governed by firms while external factors are those that companies cannot directly govern. Her classification came after Campa and Camacho-Minano's (2015) work on determining the motives that affect manager's choice between different practices of earnings management.

- Internal factors of earnings management

The internal factors that drive managers to engage in earnings management activities are the following: capital market motivation, contractual motivation and type of company (Valle Ruiz,

2016). Starting with capital market motivation, the opportunity of valuing stocks that investors had after the improved disclosure of accounting information, has created an incentive for managers to alter disclosed financial reports and influence short-term stock price performance (Healy & Wahlen, 1999). Evidence on capital market reasons towards managing earnings has been shown in several studies. For instance, accounting manipulations have been documented frequently for being associated with financing activities like initial public offerings (IPOs) (Teoh et al., 1998; Teoh et al., 1998b), refinancing activities such as seasoned equity offerings (SEOs) (Teoh et al., 1998a; Rangan, 1998 and Shivakumar 2000), reasons of avoiding decreased earnings and losses (Burgstahler and Dichev, 1997; Glaum et al., 2004) as well as reasons of meeting financial analysts' earnings expectations in order to guarantee future growth (DeGeorge et al., 1999; Matsumoto, 2002; Burgstahler and Eames, 2006; Keung et al., 2010). Contractual motivation suggests that incentives created by compensation and lending contracts can influence managers to engage in the management of earnings (Healy and Wahlen, 1999). Those incentives include manager's willingness to increase the bonuses and rewards permitted in their compensation contracts (Healy, 1985; Holthausen et al., 1995; Guidry et al., 1999; Shuto, 2007), as well as to alleviate possible future violation of debt covenants, thus avoiding the risk of costly restructuring contractual decisions (DeFond and Jiambalvo, 1994; DeAngelo et al., 1994; Sweeney, 1994; Jaggi and Lee, 2002). Finally, several studies investigate whether institutional characteristics matters to managers and induces their incentives to manage earnings (e.g. Beatty and Harris, 1999; Ball and Shivakumar, 2005; Arnedo et al., 2007). They focus mainly on comparing publicly traded firms to privately held ones based on the argument made in Dye (1988) and Trueman and Titman (1988) about the positive relationship between information asymmetry and earnings management. To clarify, Beatty and Harris (1999) suggest that institutional differences can provide a setting in which the difference in information asymmetry significance is very high.

- External factors of Earnings Management

According to the literature, the external factors that prompt the earnings management are the following: institutional factors and the level of investor protection in a country, tax considerations, economic conditions, bankruptcy considerations, and regulatory legislations (Valle Ruiz, 2016). La Porta et al. (1997, 1998) believe that the degree of investor protection in a

country changes according to the institutional factors in that country. These factors involve primarily the legal framework of a country, upon which investor protection is based. In this context, several studies such as Leuz et al. (2003) and Enomoto et al. (2015) provide evidence showing that earnings management varies systematically across countries with different legal systems. In other words, the management of earnings is restricted in a country with a strong legal environment that protects investors while increased in countries where investor protection is weak. Furthermore, tax considerations according to Goncharov and Zimmermann (2006) are important drivers of earnings management as they find companies having the tendency to reduce tax expenses through manipulating earnings downwards. Similarly, several research studies show that reforms in tax rules can also influence manager's financial reporting decisions through inducing the management of earnings (e.g. Scholes, et al., 1992; Maydew, 1997; Calegari, 2000). Distressed economic conditions can also exert an external pressure on managers of financially troubled firms to engage in the manipulation of reported income upwardly or downwardly. However, their accounting choices are determined based on the different reasons as perceived within their distressed firms (Noe and Wang, 2000; Smith et al., 2001; Jaggi and Lee, 2002; Saleh and Ahmed, 2005). Similarly, it is found that failing firms display significantly fraudulent financial reporting in years' prior bankruptcy in a last attempt to disguise its deteriorating financial conditions before being legally filed (Rosner, 2003, Jones, 2011; Beneish et al., 2012; Campa and Camacho-Miñano, 2014). Finally, several studies suggest that regulatory considerations and legislations can strongly affect how managers manage earnings such that regulatory guidelines are well satisfied (e.g. Collins et al., 1995; Cohen et al., 2008; Ibrahim, et al., 2011).

### 2.2.3 Earnings management tools and their consequences

Two methods are commonly recognized for being used in earnings management activities: accrual-based manipulations and real-based manipulations (Schipper, 1989). Accrual-based manipulations occupy a noteworthy part in the literature as earlier research focused on using it as a proxy for earnings management activities. However, once evidence of managers favoring real activities over accrual-based adjustments has been provided (Graham et al., 2005), real-based methods subsequently became an alternative proxy of earnings management in latest research.

The distinction between the different tools of earnings management activities is indispensable. In this context, Kothari et al. (2016) document in accrual-based earnings management activities managers exercising their judgment and discretion over accounting choices. Notably, their intervention in the process of financial reporting could distort a company's concealed operating performance, but does not normally entail adjusting operations themselves. However, in real-based earnings management activities, managers tend to deviate from normal operational practices with the desire to misdirect some stakeholders into believing certain financial goals has been attained in the ordinary course of operations (Roychowdhury 2006).

- Accrual-based earnings management method

Until the beginning of 21<sup>st</sup> century, usage of accrual-based methods to manage earnings has been well documented in the literature (e.g. Teoh et al., 1998a; Rangan, 1998; Shivakumar, 2000; Phillips et al. 2003 and others). The accruals utilized in activities of earnings management refer to all accounting records that sum up the effects of transactions taking place within a firm. The purpose is to generate the necessary information for assessing each entity's overall performance during a given period of time (FASB, 2010). Explicitly, accruals arise from the difference in timing that exists between the accounting recognition of a transaction and the cash flow resulting from operations (Healy, 1985). Examples of accruals include the discrepancy between sales and cash flow. The reconciliation of cash flow to sales requires employing accounts receivables.

As accruals serve as important information for investors to estimate a firm's performance over time, accounting standards were set purposefully to train accountants on how to use them carefully and timely. However, intentional and unintentional errors can arise from accrual accounting as managers have to make complex decisions in deriving statements of cash flows, thus affecting negatively accrual as well as earnings quality (Ising, 2014). In this respect, the literature exhibits different measures of accruals quality. One concept focusses on measuring the magnitude of accrual estimation error based on the assumption that a poor mismatch between accruals and cash flow recognition indicates a poor accrual quality (Dechow and Dichev, 2002). Another concept considers using the magnitude of accruals that is equivalent to computing the ratio of a firm's accruals to the value of its cash flow from operations (e.g. Leuz et al., 2003). Above all, many studies test for discretionary accruals emerging from the accounting

adjustments and discretions exercised by managers in order to examine the quality of manipulated accruals and earnings (e.g. Healy, 1985; Defond and Jiambalvo, 1994; Toeh et al., 1998 a,b; Shivakumar, 2000 and others). Notably, the preceding mentioned measures are commonly used in earnings management studies for the fact that activities of accrual accounting are solely related to the financial reporting of earnings.

The majority of studies on the effect of earnings management focus mostly on using discretionary accruals as a proxy for earnings management. However, the problem in using them is that they are unobservable. Accordingly, researchers generated different methods of estimation based on categorizing totals accruals into discretionary and non-discretionary accruals. While the non-discretionary part represents the regular normal transactions of a firm that have been recorded but have yet to be realized, the discretionary component reflects unexpected abnormal accruals arising from the management choices adopted by managers in order to manage results. To compute discretionary amounts, current literature employs the cash flow approach of the current accrual model that involves regressing total accruals on the accounting items explaining them (Dechow et al., 1995). The error term in the model signifies the unexplained amount of accruals i.e. discretionary current accruals, thus providing a direct measure of accrual-based earnings management. Even though the usefulness and power of aggregate accrual measures have been widely questioned and tested with further improvements and enhancements suggested (e.g. McNichols, 2000; Kothari et al., 2005; Ibrahim, 2009; Stubben, 2010), they still persist as the most used in this field of study by researchers (Ibrahim, 2009).

- Real-based earnings management method

While managing earnings through accruals has been investigated by a numerous number of studies, Graham et al. (2005) find in a survey evidence of managers favoring real activities over accrual-based adjustments as tools to manage earnings. Unlike accrual-based earnings management that tends to mask true economic performance through enforcing accrual accounting judgements and choices of generally accepted accounting principles (GAAP) (Dechow and Skinner, 2000), real earnings management exercises an extra economic effect as it alters firm's real business transactions through activities having a direct effect on cash flows (Roychowdhury, 2006; Gunny, 2010). Correspondingly, GAAP does not provide a framework of

acceptable accounting principles for real operations as it does for accrual-based ones (Kothari et al., 2016).

The two methods may be used by managers to manipulate earnings motivated by several incentives and with diverse implications in the future. However, managers prefer real methods rather than accrual-based ones based on the fact that real methods, despite being costly, are less likely to be detected. This is the case since real activities can be indistinguishable from normal business operations as explained by Graham et al. (2005). For instance, real earnings management can be achieved during the fiscal year when the execution of real operations is taking place, unlike accrual-based earnings management that typically occurs towards the end of the fiscal year after most of the real transactions has been realized (Zang, 2012). Furthermore, real earnings management activities do not fall under the jurisdiction of any auditing system and hence are less susceptible to the scrutiny and the extensive controls imposed by regulators and auditors (Kim and Sohn, 2013).

Real earnings management practices impact various business activities that can eventually appear in the form of different operating figures. With the major objective of meeting particular earnings thresholds, managers may engage in actions like manipulating sales, cutting discretionary expenditures, and overproducing inventory to reduce the costs of goods sold (Roychowdhury, 2006). When timing or structuring an operation, investment, or financing transaction is changed, then models to distinguish normal levels of real activities from abnormal ones have to be developed. Accordingly, Roychowdhury (2006) introduced three manipulation metrics: the abnormal levels of cash flow from operations (CFO), production costs, and discretionary expenses. These were acknowledged as proxies of real earnings management. Subsequently, Cohen et al. (2008), Cohen and Zarowin (2010), Ibrahim et al. (2011), Zang (2012), and others proved the construct validity of these proxies.

Particularly, the three methods and their impact on the above mentioned variables are:

- (1) Sales manipulation: acceleration of the timing of sales through increased price discounts or more lenient credit terms, which would in turn increase sales levels temporarily, however these are likely to disappear as soon as management reverts to old prices. Extra sales will increase earnings in the current period, assuming that margins are positive. However, sales

manipulation activities will abnormally lead to lower cash flows (CFO) and higher production costs, given that margins are low (Roychowdhury, 2006).

- (2) Overproduction: reporting lower cost of goods sold through increased production. When managers distribute the fixed overhead costs over a larger number of produced units, managers can realize lower cost of goods sold (COGS) and therefore report higher earnings levels (Roychowdhury, 2006)
- (3) Discretionary expenses reduction: reduction of discretionary expenses including advertising expenses, research and development (R&D) expenses, and selling, general, and administrative (SG&A) expenses. Reducing mentioned expenses will result in an increase in current period earnings (Roychowdhury, 2006).

Much of the recent research on real earnings management activities focuses on reduction of R&D expenditures as an evidence of their existence. For instance, Dechow and Sloan (1991) notice that CEOs tend to spend less on R&D during their final years in office in an attempt to enhance short-term earnings performance. Similarly, Baber et al. (1991) and Bushee (1998) find that discretionary investment expenditures on R&D are significantly reduced when managers seek to attain certain short-term earnings goals. As systematic evidence has been provided on the management of earnings through reduction of R&D expenditures, there has been a dearth of studies that provide systematic rather than anecdotal evidence on the rest real earnings management activities such as sales manipulation and overproduction activities. In this context, Bartov (1993) was the first to report evidence consistent with timing of asset sales by managers in order to manage earnings. Thomas and Zhang (2002) were able to document earnings management as an empirical regularity associated with inventory overproduction; however, they were unable to exclude economic incentives as an alternative justification of extreme inventory production.

In fact, the widespread use of real earnings management methods has not been well documented and understood until recent years. The pervasiveness of real activities manipulation has been proved when Graham et al. (2005) surveyed more than 400 financial executives asking them to describe their financial reporting trends. The majority of respondents admitted to cutting discretionary expenditures and capital investments in order to meet particular earnings targets. Particularly, Graham et al. (2005, p. 32) stated the following:



*“...strong evidence that managers take real economic actions to maintain accounting appearances. In particular, 80% of survey participants report that they would decrease discretionary spending on R&D, advertising, and maintenance to meet an earnings target. More than half (55.3%) state that they would delay starting a new project to meet an earnings target, even if such a delay entailed a small sacrifice in value. . . .”*

Provided that the two methods, accrual and real manipulations, can be used by managers to manage earnings, Zang (2012) decides to study whether a tradeoff between the two strategies takes place. She suggests that managers' trade-off decisions rely on the costliness and timing of the two manipulation activities. Her findings reveal a direct substitutive association between the two methods. Notably, negative correlation is marked between accrual-based methods and real-based ones; however, a positive correlation is observed between real-based methods and the costs of accrual ones.

#### 2.2.4 Earnings management and agency theory

Recent Accounting scandals such as Enron and WorldCom have created a public awareness on the opportunistic nature of earnings management. Two of the biggest scandals in the world are categorized as the largest bankruptcies in U.S. history, Enron and WorldCom constituted two egregious examples of managers engaging opportunistically in earnings management for their own best interests rather than for the interests of the shareholders (Jiraporn et al., 2008). Accordingly, agency theory has been emphasized as a basic framework for earnings management activities for it portrays the principal-agent relationship as being characterized by the misalignment of goals and interests between two parties.

The emergence of agency logic of corporate governance has been documented in the mid-1980s when companies started to adopt the agency conceptualization of managers regarded as comparatively fungible agents of shareholders. Agency logic entailed fundamental reforms to the pre-agency model that emphasizes managerial capitalism, thus displacing the concept of managers having exclusively unique competencies and special strategic knowledge to allocate corporate resources efficiently (Zajac and Westphal, 2004). In contrast, agency assumptions introduced a whole new concept of economic resource allocation known as “investor capitalism” and characterized by shareholders' ability to intervene in their company's performance and to

diversify better and more easily than top executives (Davis and Thompson 1994; Useem, 1996; Westphal and Zajac, 1998; Zajac and Westphal, 2004).

However, the adopted agency logic incorporated several hitches. When agency relationships described firms as a “nexus of contracts” between agents and principals where each contract involves assigning some decision making authority to the agent on the behalf of principals, it should come as no surprise to notice divergence and inconsistency between agent’s decisions and the ones that might increase principals’ welfare (Jensen and Meckling 1976, p.311). Such agency problem arises mainly due to information asymmetry between cooperating parties of the contractual relationship (Eisenhardt 1989) and inevitably encourages opportunism and moral hazard. In this respect, agents will take advantage of the information the principals are unaware off and carry out opportunistic actions at the expense of their principals (Hendrikse 2003).

Given that the relationship between the stockholders and the managers of a firm matches the description of a pure agency relationship (Jensen and Meckling 1976), then a disagreement between the two parties’ aims and plans will certainly emerge and develop. For instance, a disagreement may establish as managers tend to exercise their discretions over earnings in order to attain private control benefits and other personal objectives (Jiraporn et al., 2008). However, others argue that managers may use discretion over accounting choices possibly to convey private information to investors (e.g. Guay et al., 1996 and Arya et al. 2003). Obviously, in terms of agency logic, comprehending the true efforts and incentives behind earnings management is challenging and hence hidden action problems of information asymmetry arise. To clarify, given that shareholders (principals) do not know whether managers (agents) have managed earnings in accordance to their interests, then it is expected that self-interested managers will take advantage of their delegated authority to carry out opportunistic earnings management activities at the expense of shareholders. This can be primarily motivated by capital market incentives such as financing and refinancing activities and contractual incentives like compensation contracts and debt covenants and with the purpose of maximizing firms’ value or their welfare.

## 2.3 Seasoned Equity Offerings

This section defines seasoned equity offerings and provides a brief summary of their types. A research review on the relationship between SEOs and information asymmetry as well as opportunistic earnings management is also presented in this section.

### 2.3.1 Definition

A seasoned equity offering (SEO), also known as secondary equity offering, is defined as a new issue of common stocks by a firm that has already been publicly traded to new or existing shareholders. According to Carlson et al. (2006) and Lyandres (2010), SEO announcements by a company are usually an indicator of the new growth opportunities. SEOs are one feasible way to meet the company's long-term needs of expansion through raising funds from external sources.

The common forms of issuing SEOs usually include private placements, public offerings and rights issues. Private placements are new issue of common stocks to a select group of well-informed investors such as large banks, pension funds, mutual funds, insurance companies etc. However, public offerings are newly issued shares intended to be sold to the public and any other type of investor. Unlike public offerings, a placement does not have to be registered with the Securities and Exchange Commission (SEC), if only investment was the aim of purchasing the securities (Downes and Goodman, 2014). As for rights issues, existing shareholders are given the opportunity to subscribe to an additional issue of shares while maintaining their proportionate ownership. Shares are generally offered at a discount to the current market price. To the shareholder, rights are often transferable, thus selling them on the open market is permitted. Notably, the services of an underwriter are often used to conduct seasoned equity offering in much the same way as conducting initial public offerings, except for the pricing of the new shares which depends primarily on the market price of the outstanding shares.

### 2.3.2 Seasoned equity offerings and information asymmetry

Most of the existing studies on SEOs have concentrated largely on market's reaction to SEO announcements and SEO issues. It has been shown extensively that the market reacts negatively to SEO announcements. In other words, the majority of SEOs triggers a price drop in the issuer's equity. Myers and Majluf (1984) provide a fundamental theory based upon asymmetry

information between managers and outside investors in order to explain negative decline in stock price following SEO announcements. They explain that when investors are asymmetrically uninformed about the firm value as compared to insiders, they will react negatively to announcements of SEOs as the latter can indicate signs of stock overvaluation. Within the body of mentioned theory, subsequent studies were conducted to find more explanations to this negative price reaction. One reason was that SEOs can signal a shortfall in a firm's unobservable net cash flow from operations (Miller and Rock, 1985; Slovin et al., 2000; and Intintoli and Kahle, 2010). Another explanation was that SEOs are intended to mitigate the risk of a firm's outstanding debt (Elliott et al., 2009), that makes investors willing to place a downward evaluation to the firm's issuing value in both cases.

Consistent with the asymmetric information theoretical model proposed, extensive empirical research finds a downward stock price drift following SEOs. For instance, Asquith and Mullins (1986) report, on average, a 2% to 3% stock price decline at the announcement of seasoned equity offerings while Eckbo and Marsulis (1995) and Bayless and Chaplinsky (1996) document an announcement effect of -3% and -2% respectively. Similar unfavorable announcement effects have also been reported by Ritter (2003) and recently by Lui et al. (2016) for the case of public offerings and rights issues. Long-term underperformance of stock returns following SEOs announcement has also been documented empirically by several researchers such as Loughran and Ritter (1995); Spiess and Affleck-Graves (1995); Brav et al. (2000); Mitchell and Stafford (2000); Clarke et al. (2001); Ritter (2003) and many others.

When recent research highlighted asymmetric information as a justification for the negative behavior of stock prices following SEO announcements, Korajczyk et al. (1991) argue that managers will choose to issue equity at times when investors are most informed about the firm's quality. According to Korajczyk et al. (1991), the perfect timing of an SEO closely follows credible earnings releases for they deliver unusually good news about the firm's valuation; hence, the level of the price drop subsequent to a SEO announcement would be the smallest but increasing over time. Marsulis et al. (1993) and Bayless and Chaplinski (1996) find further evidence supporting the real presence of a window of opportunity for SEO issues characterized by reduced levels of information asymmetry and adverse selection effects.

### 2.3.3 Seasoned equity offerings and opportunistic earnings management

While some firms await their quarterly credible earnings releases to conduct their SEO issues, other firms tend to alter their financial reports and increase earnings prior the issue in order to improve the price at which their firm's SEOs is sold to investors. In other words, stock price on issue day is what determines the amount of SEO proceeds and improving it will motivate managers to overstate earnings prior the issue. SEOs therefore provide the perfect context for studying myopic financial management as well as market's financial reaction.

Consistent with the managerial opportunism emphasized by earnings management activities as explained by Watts and Zimmerman (1990), Rangan (1998) reports earnings that are upwardly manipulated in the year preceding the SEOs, thus boosting temporarily a firm's stock price. He finds that as soon as inflated pre-issue earnings are no longer attained, dissatisfied investors will devalue the firm causing its stock price to decline accordingly. This is also confirmed by Teoh et al. (1998a) regarding the worse performance accompanying issuers with the most aggressive accounting manipulations preceding the issue. For instance, they report an issuers' net income growth that surpasses the performance of matched non-issuers by a 1.69% median in the issue year, followed by a significant underperformance of 1.60% and 0.32% less than that of the matched non-issuers in the subsequent two years. Remarkably, aggressive issuers undergo a poor earnings performance of 7.50% less than that of matched non-issuers during their third post-issue year.

Similarly, Shivakumar (2000) finds evidence of overstated earnings prior the issue of seasoned equity offerings. However, opposing Rangan (1998) and Teoh et al. (1998a) conclusions, he argues that investors are able to detect these accounting adjustments made around the offerings, and rationally unravel its impact on stock prices through discounting them. Earnings management according to him is not planned to deceive investors and fool them, but it is a normal behavior by issuers in response to the subsequent stock price reversals by investors. In other words, Shivakumar (2000) challenges the commonly articulated view about the conformity present between earnings management around SEOs and managerial opportunism. In contrast, Ducharme et al.'s (2004) findings support opportunistic earnings management in the sense that it

creates a temporary increased growth rate that reverses eventually. Markedly, aggressive issuers with very poor post-offer stock price performance are later sued by disappointed investors.

Consistent with Shivakumar's (2000) conclusions, Ching et al. (2006) find no significant association between pre-issue earnings management and long-run stock returns which suggests that investors are mindful of possible earnings management activities by managers prior SEOs announcements, and therefore, they are not fooled by false reported earnings at the time of SEOs.

Reporting evidence of earnings management activities at the time of SEOs was not the only concern of previous studies. Inclusive, there has been a great deal of interest in understanding the strategies that firms conduct to manage their earnings prior SEOs. Teoh et al. (1998a), Rangan (1998), Shivakumar (2000), Ducharme (2004), Marquardt and Wiedman (2004) and Ching et al. (2006) document activities of income-increasing earnings management around SEOs that are focused exclusively on accrual-based manipulations. These studies employ either Jones (1991) model or modified Jones (1995) model for estimating accrual management. However, when recent research presented further evidence of managers engaging in several real earnings management methods in order to meet particular earnings benchmarks (e.g. Graham et al., 2005; Roychowdhury, 2006; Gunny, 2010 and Zang 2012), there has been an increased appreciation for documenting such activities around major corporate events such as seasoned equity offerings. Given that real methods are indistinguishable from normal business operations, thus they are likely to be detected (Graham et al., 2005). Cohen and Zarowin (2010) were motivated to add real activities manipulation in addition to accrual-based methods around SEOs of U.S. firms listed on NYSE, NASDAQ, or AMEX for the first time. Remarkably, they report firm engagement in real-based earnings management methods in addition to accrual-based around SEOs and document the tendency for firms to tradeoff between the two methods. Consistent with Rangan (1998) and Teoh et al. (1998a), Cohen and Zarowin (2010) find firm's post-SEO operating underperformance regarded as being caused by real methods more severe than those by accrual-based earnings management methods. Not to mention that they are the first to prove the construct validity of the three real manipulation methods proposed by Roychowdhury (2006) through identifying negative abnormal cash flows from operations, positive abnormal production costs and negative abnormal discretionary expenses in the year.

Ibrahim et al. (2011) provide similar evidence regarding S&P firms' engagement in income-increasing accrual and real manipulation in the year preceding SEOs. Importantly, they consider the year prior to SEOs as a pioneer in testing for earnings management; as it was believed that managers' incentives to manage earnings are the strongest at that point of time. Ibrahim et al., (2011) however were able to report real earnings management practices only through negative abnormal CFO resulting from sales that boost temporarily when price discounts and more lenient terms are provided. Furthermore and consistent with Graham et al.'s conjectures, Ibrahim et al., (2011) indicate no evidence of litigation initiated by investors against firms with income-increasing real account manipulation for they are less likely to be detected. Conversely, SEO firms with income-increasing discretionary accruals are more likely to be prosecuted for accounting anomalies.

Kothari et al. (2016) further highlight SEOs as an important setting for assessing multiple earnings management activities around which stock valuations and subsequent wealth transferred from potential shareholders to the firm and its current shareholders strongly depend on reported earnings. Nevertheless, the time of securities issues is a period of improved scrutiny where only extreme opaque earnings management methods could escape recognition and detection. Given these contradictory circumstances, Kothari et al. (2016) were able to approve opacity of real earnings management as central in misleading investors into overvaluing stocks at the time of a SEO while devaluing them in the future once overvaluation is revised. Their results reveal that evidence of an upward stock valuation at the time of an SEO accompanied with future operating underperformance is strong among firms with greater propensity for opaque real earnings management methods rather than for accrual ones. Notably, real activities manipulations are identified through the suppression of discretionary expenditures including research and development (R&D) expenses, and selling, general, and administrative (SG&A) expenses.

#### **2.4 Sarbanes Oxley Act of 2002**

The section is allocated to discussing the U.S. Sarbanes Oxley Act, its purpose, implications and effectiveness.

### 2.4.1 Purpose and implications

Firms' managers need to avoid investors' detection of their accounting manipulations wasn't their only consideration. For instance, the quality of their financial reporting became extensively scrutinized by regulators after a series of highly publicized accounting scandals starting in late 2001 and continuing into 2002 such as Enron Tyco, WorldCom, and Global Crossing. Such scandals raised concerns about the integrity and reliability of the accounting and financial information available to investors, and indicated an urgent need for extensive far-reaching reforms capable of reducing biased accounting practices. Bratton (2003) state "The stock market awakened in 2002 to discover that it no longer had numbers it could trust" (Bratton, 2003; p. 1024). As a result, the United States Congress passed the Sarbanes-Oxley Act (SOX) on the 25<sup>th</sup> of July 2002 mandating the most extensive reforms and improvements of American business practices and with the most important implications on various aspects of business environment. In fact, the law's official name of the act is ' The Public Company Accounting Reform and Investor Protection of 2002', however it was known for its current name because the two accounting reform bills of Sen. Sarbanes and Rep. Oxley were put together with other legislative proposals in order to form it (Zhang, 2007; Coates and Srinivasan, 2014).

Given that auditors were susceptible only to part-time public authorities that impose light rules and little control, the Congress had to institute a new unique quasi-public body that they called the 'Public Company Accounting Oversight Board' (PCAOB) capable of supervising Securities and Exchange Commission (SEC) registered auditors and reinforcing laws that prohibit managerial fraud and theft. Accordingly, they ensure and guarantee the preparation of healthy informative financial reports that do not deceive investors and fool them. In brief, overseeing auditors and protecting investors are matters that constituted the core aims of Sarbanes Oxley Act.

The reforms and improvements of the act have captured the interest of various academics and researchers. Romano (2005) state that on the top of the SOX initiatives were fundamental corporate governance mandates and reinforced disclosure requirements introduced exceptionally and for the first time into the realm of federal securities legislation. For instance, section 302 of SOX that pertains to "Corporate Responsibility for Financial Reports" requires that periodic



financial reports are to include chief executive officers and chief financial officers' (CEO/CFOs') certifications of excluding untrue misleading statements as well as any material omission, otherwise significant harsh penalties are imposed (Lobo and Zhou, 2010). Another provision aimed at fortifying corporate governance regime is section 404 of SOX. It requires firms to periodically assess the effectiveness of their internal control structure and procedures in order to guarantee accurate financial reporting. However, section 404 mandates that an outside independent auditor attest to assessments of internal controls and processes made by firm's management in an attempt to introduce new auditor independence principles and responsibilities, and enhance auditor oversight while restricting conflicts of interest (Gray, 2005; Iliev, 2010). Importantly, it was believed that high profile corporate scandals such as Enron have occurred because auditors have been performing non-auditing services to the firm besides their primary job. It is also noteworthy that forfeiture is triggered whenever any accounting restatement is required to be made by a public firm due to material incompliance with any of securities laws' requirements. Firms' CEOs and CFOs, for instance, could be obliged to forfeit any received incentive pay like bonuses and stock options or any profits earned from the sale of their firms' securities within one-year period following the initial issuance of the financial report. Corporate fraud was further deterred by significantly raising maximum criminal penalties for possible securities law violations from \$1 million to \$5 million and from 10 years to 20 years of imprisonment (Chang et al., 2012). Even more, disclosure of corporate fraud was enhanced by extending protection for employees who report illegal activities or assist in an investigation about any managerial misconduct. It is stated in section 806 of SOX that "no company may discharge, demote, suspend, threaten, harass, or in any other manner discriminate against an employee in the terms and conditions of employment because of any lawful act done by the employee". Given that SOX aims at improving integrity of financial reporting through enhanced corporate governance, disclosure requirements and auditing standards and the impose of penalties on any fraudulent managerial conduct, it should have a significant role to play in detection of earnings management activities and earnings quality identification. In this context, popular "Numbers Game" speech by Arthur Levitt in 1998 and the oratory preceding the passage of SOX indicate that Congress and the Securities and Exchange Commission (SEC) have strongly believed that strengthened audit quality would lead to higher earnings quality (DeFond and Francis 2005). Hence, SOX can be beneficial to investors in terms of providing

accurate and reliable financial information that properly reflects the financial conditions and operations of the companies while reducing as much as possible misleading activities of earnings management.

#### 2.4.2 Sarbanes Oxley Act: market response and earnings management

The impact of Sarbanes Oxley Act of 2002 on earnings management has been widely investigated by several researchers. Given that most of SOX provisions were designed to reduce the gains of conducting fraudulent financial reporting and to increase the potential punishments for any misconduct, managers should recognize their responsibilities in achieving an improved corporate accountability and reliability through mitigating aggressive accounting practices like earnings management. Examinations of changes in firms' earnings management activities has been driven to a certain extent by the literature reporting that managerial tendency to manage earnings and to elude negative earnings surprises has augmented considerably over time (e.g. Payne and Robb, 2000; Brown 2001; Bartov et. al. 2002; Matsumoto 2002; Brown and Caylor 2005; Burgstahler and Eames 2006). The major incentives driving managers to meet or beat analysts' earnings forecasts through their management of earnings were achieving credibility in the eyes of capital market constituents and maintaining or maximizing their companies' stock prices (Graham et al., 2005). However, there were potential problems accompanying such accounting practices and have been anticipated frankly by the Securities and Exchange Commission (SEC) chairman Arthur Levitt in his speech at New York University's Center for Law and Business on September 28, 1998 in which he stated the following:

*"I have become concerned that the motivation to meet Wall Street earnings expectations may be overriding common sense business practices. Too many corporate managers, auditors, and analysts are participants in a game of nods and winks. In the zeal to satisfy consensus estimates and project a smooth earnings path, wishful thinking may be winning the day over faithful representation.*

*As a result, I fear that we are witnessing an erosion in the quality of earnings, and therefore, the quality of financial reporting. Managing may be giving way to manipulation; integrity may be losing out to illusion."*

... *“While the problem of earnings management is not new, it has swelled in a market that is unforgiving of companies that miss their estimates. I recently read of one major U.S. company, that failed to meet its so-called “numbers” by one penny, and lost more than six percent of its stock value in one day.”*

The above mentioned statements has been further proved by the evidence of substantial stock price drops associated with even minor negative earnings surprises on one hand (Skinner and Sloan, 2001 and Kinney et al., 2002). While a positive stock returns in response to an alignment achieved with market expectations as shaped by analysts’ forecasts on the other hand (Bartov et al., 2002). However, Skinner and Sloan (2001) suggest an asymmetric stock market reaction to such earnings surprises in the sense that the magnitude of negative price revisions tend to be asymmetrically larger than positive price revisions in response to negative and positive earnings surprises respectively, especially for growth stocks. These findings indicate that managers perceive certain opportunities from earnings management activities which peaked in the period preceding the occurrence of a list of major accounting scandals. In other words, these scandals were a result of firms engaging aggressively in transactions missing real substance and intended merely to enhance reported earnings. For instance, Enron misemployed off-balance-sheet financing vehicles known as special-purpose entities (SPEs) to conceal its liabilities and losses and fabricate earnings. This resulted in a declaration of \$1.01 billion of nonrecurring charge as of the end of 2001 when those amounts were realized. Another practice of aggressive earnings management that contributed in the cascade of fraudulent scandals was premature and fictitious revenue recognition that caused 39 percent of the 919 announced financial restatements between 1997 and 2002 (United States General Accounting Office 2002).

Reduced investor confidence in the financial system following high profile corporate scandals promoted the passage of the Sarbanes-Oxley Act of 2002. The Congress aimed at reinforcing corporate reliability and accountability in order to restore lost investor trust in the integrity of reported financial statements. While the new legislations were intended to enhance corporate governance and disclosure requirements, it is not obvious whether capital markets perceive the new legislations positively. Diverse results have been generated of the event studies conducted around the dates of passage of SOX. Jain and Razaee (2006) for instance, report positive abnormal returns around the events leading up to the enactment of SOX, thus emphasizing its

role in creating a strong corporate environment and regaining investor confidence. Their results propose that the Act induce benefits that remarkably offset its compulsory compliance costs. However, significant negative abnormal returns were documented by Zhang (2007) in U.S. firms and foreign firms complying with SOX around the passage dates. Her findings suggest that the net costs of SOX provisions play a major part in observed negative market reactions around key SOX events. Bhattacharya et al. (2007) find that SOX requirement of CEOs and CFOs certification of earnings numbers is considered by the market as insignificant for certifiers and non-certifiers. Consistent with Jain and Razaee (2006), Li et al. (2008) document positive abnormal stock returns in response to legislative events following the passage of SOX. Though, their empirical tests exhibit a positive association between reported market response and the level of firms' earnings management in the sense that investors expect that firms with more aggressive earnings management tend to reveal a greater enhancement in the quality of financial reporting in response to SOX.

Besides, trends in earnings management activities have also been an important matter to be investigated carefully following the enactment of SOX. For this reason, Lobo and Zhou (2006) use measures of accounting conservatism to compare levels of managerial discretion over accounting numbers between the two year periods prior to and the two period following SOX. Results show an upsurge in conservatism in reporting behavior in a quite short period following SOX. This has been captured by discretionary accruals decline in the post-SOX period relative to the pre-SOX period and Basu's (1997) measure of conservatism. While value of discretionary accruals has been used by Lobo and Zhou (2006) to measure the aggressiveness of financial reporting and examine conservatism, absolute value of discretionary accruals has been used by Zhou (2008) to measure earnings management and examine the accuracy of financial reporting i.e. unbiased accounting. He states that increased conservatism could suggest less positive information being reported about the firm's underlying operating performance. On the other hand, less earnings management means reporting more reflective financial information of the firm's underlying operating performance. Therefore, in an attempt to bring together conflicting implications of increased conservatism and less earnings management, Zhou (2008) finds evidence of managers reporting more conservatively while engaging in less overall earnings management in the period subsequent to SOX. This finding is consistent with the fact that SOX has an influential impact in improving the accuracy and credibility of financial reporting.

Furthermore, the rounding up of earnings often denoted as cosmetic earnings management (CEM) which has also been examined by Aono and Guan (2008) in the period preceding and the period following SOX. They find strong evidence of its existence in the pre-CSOX period while a mild indication of it was apparent in the period following the legislation, thus providing a further proof of SOX mitigating effect but on a new different type of earnings management this time.

While accrual-based earnings management has been the most investigated method before and after the passage of SOX in previous research, Cohen et al., (2008) was the first to examine the prevalence of real earnings management methods besides accrual-based ones in the pre-SOX and post- SOX period. Their study has been motivated by the findings of Graham et al.'s (2005) survey who document managers favoring real activities over accrual-based adjustments as tools to manage earnings attributing the case to the fact that real methods, despite being costly, are less likely to be detected. Hence, managers need to avoid detection of their earnings management activities, specifically their accrual-based ones, has grown noticeably after the passage of Sarbanes-Oxley Act (SOX) in 2002 as reported by Cohen et al. (2008). Therefore, approving Graham et al.'s (2005) conjectures, Cohen et al. (2008) provide further evidence of managers substituting accrual-based earnings management activities that were significantly high in the period prior SOX with real earnings management methods in the period following SOX. Notably, the degree of managers' engagement in real earnings management prior SOX was low.

Moreover, Bartov and Cohen (2009) investigate trends in earnings management following SOX after observing and identifying changes in management's propensity to meet or beat analysts' earnings forecasts in the post-SOX period. The observed decline in management's inclination to just meet or beat analysts' earnings forecasts in the post-SOX period has been associated with findings of declined expectations management and accrual-based earnings management on one hand and findings of increased real earnings management on the other hand. Importantly, they were the first to document evidence of declined expectations management in the period following SOX which suggests that managers have mitigated their downward guidance of analysts' forecasts in order to elude negative earnings surprises or generate positive ones.

### 2.4.3 Sarbanes Oxley Act of 2002 and earnings management around diverse corporate events

Motivated by the diverse incentives of earnings management, researchers employed different contexts and settings to examine how U.S. Sarbanes Oxley Act of 2002 shaped managerial propensity to manage earnings. Within the context of seasoned equity offerings (SEOs), Ibrahim et al., (2011), attempt to investigate the prevalence of both accrual and real-based earnings management activities in the pre-SOX period and post-SOX period. They report SEO firms' engagement in both accrual-based and real-based earnings management methods in the year prior to the offering during the pre-SOX period, and detect some evidence of a shift to real-based methods during the post-SOX period. Furthermore, Ibrahim et al., (2011) findings show that probability of litigation is directly associated with SEO firms with income-increasing discretionary accruals. Accordingly, the passage of SOX has shifted to some extent investors' attention from accrual-based earnings management to real ones in their litigation decisions. Implicated option backdating firms is another setting considered to test for SOX mitigating effect on levels of accrual-based earnings management. With firms known for creating a self-serving managerial environment and power at the expense of shareholders' welfare, one could expect that after controlling for corporate governance and internal control quality by means of SOX provisions, an enhancement in financial reporting quality would be spotted. This is exactly what Hossain et al., (2011) document in a sample of companies implicated for option backdating relative to a matched control sample of non-implicated companies at the level of their improved accruals quality and in the time period following the enactment of SOX provisions. Recently, firms that engaged in mergers and acquisitions (M&As) transactions have served as a new research design to study variations of firms' prior deal announcement earnings management levels between pre-SOX and post-SOX periods. Unlike what previous studies have argued regarding SOX mitigating effect on earnings management practices, the study conducted by Alshairi et al. (2017) presents significant evidence of overstated earnings by acquiring and target firms in the post-SOX period.

While a numerous part of the literature seems to give support to the positive impact of SOX on the quality of reported earnings, Marra et al. (2010) find a significant weak association for the post-SOX period between accrual-based earnings management and the new initiatives under

SOX that were believed to affect discretionary accruals like boards and audit committees. Therefore, no evidence of declined accrual management and improved earnings quality is reported in the period following SOX. According to Gavigo and Rosenboim (2013), observed decline in abnormal accruals is not merely the result of SOX but rather the result of the high profile corporate scandals of 2001 and 2002. Furthermore, Rutledge et al. (2014) highlight the relationship between earnings management and audit quality and document that SOX has more influence on earnings quality of companies audited by the Big 4 than those not audited by Big 4 audit firms.

Recently, Coates and Srinivasam (2014) reviewed and evaluated over 120 research papers addressing the impact of Sarbanes-Oxley Act in order to draw conclusions about the benefits and costs the Act has generated 10 years after its implementation. In spite of its contentious nature, Coates and Srinivasam (2014) find that the Act overcame all challenges intimidating its constitutionality in order to achieve its sought objectives of improved governance and enhanced financial reporting. Furthermore, while the direct costs of SOX were significant with smaller companies bearing the largest proportion, substantial amendments to section 404 mainly have reduced its costliness and made it more acceptable at wider scale.

## **2.5 Case of Canada**

Since recent financial collapses of 2001-2002 in the United States, regulators worldwide are paying serious attention to the structure of firms' corporate governance. Consistent with the U.S. Congress enactment of Sarbanes-Oxley Act in 2002 that introduced most extensive reforms and improvements of American business practices, many nations passed similar legislation including Canada, United Kingdom, Australia, China, Japan...etc. Given that many Canadian public firms are dual-listed on both Canadian and U.S stock exchanges, imposed reforms by SOX to the corporate governance of such firms made them realize higher standards than those only listed on domestic Canadian exchanges. This inconsistency between two closely connected markets has provoked Canadian regulators to follow the U.S. lead and propose new corporate governance and disclosure reform initiatives capable of restoring investors' confidence in Canadian capital markets while keeping them almost in line with U.S. SOX provisions (Barnes et al., 2004).

### 2.5.1 Canadian versus U.S. regulatory structure

The Canadian adoption of reforms similar to those mandated by U.S. SOX has been shaped by the considerable regulatory structural and institutional disparities between the two countries' financial markets. Unlike the United States (Gray, 2005), Canada has no exclusive national securities regulatory authority like the Securities and Exchange Commission (SEC). As an alternative, Canada's ten provincial and three territorial governments are responsible for securities regulation, each within its own province or territory. Regulatory authorities from each division have cooperated to constitute the Canadian Securities Administrators (CSA), an umbrella organization whose purpose is to harmonize securities regulation across the whole country. Recently, the CSA has initiated its mutual reliance system called "passport system" that provides issuers with an efficient access to Canada's capital markets by dealing only with one principal securities regulator instead of the rest 13<sup>th</sup> regulatory agencies. Still, Canada refers to Ontario Securities Commission (OSC) as the prime securities regulatory authority in the country for it has within its jurisdiction of the Toronto Stock Exchange (TSX) that constitutes the largest public firms of Canada (Canadian Securities Administrators, 2009)

Another difference between the U.S and Canadian capital markets appears at the level of share ownership concentration. Over 25% of the largest 300 companies listed on the TSX are in the hands of controlling shareholders, a percentage that is considerably high compared to that documented in public firms listed on U.S. exchanges. As a final major difference shaping the Canadian own process towards reform is the very low market capitalization of many Canadian public firms (McDermott and Farrell, 2004).

### 2.5.2 Canadian corporate governance in transition

In the pre-SOX period, Canada's corporate governance took the form of a principles-based structure rather than the rules-based structure featured in the United States. This structure of corporate governance started to take shape in line with 1994 Dey Report guidelines and subsequent to Toronto Stock Exchange (TSX) comply-or-explain requirements in 1995. Compliance of listed companies was not required under this voluntary 'guidelines' approach; but rather, companies were encouraged to adopt their own unique corporate governance approach in accordance to these guidelines. Still, companies that decide on not practicing best practice



principles were required to disclose reasons of not complying and provide explanations of resultant inconsistencies between their approach and proposed guidelines (Bredeson, 2007)

In 2002, the passage of SOX in the U.S. in response to major corporate collapses has provoked an argument amongst Canadian regulators regarding the possibility of adopting similar U.S. rules-based corporate governance system in place of Canada's principles-based structure. They grasped the opportunity to take a close measured approach into introducing new desired corporate governance reforms while benefiting from, and building upon U.S. experiences. Several arguments backed Canada's vital need to mirror U.S. legislative reforms. One argument was supported by the strong belief that a Canadian/U.S. harmonization was crucial to preserve Canadian firms' access to US capital markets through Canada-U.S. Multi-jurisdictional Disclosure System (MJDS) implemented in 1991. For instance, according to Hendry and King, (2004), "*Canadian firms make up the single largest group of foreign firms listed on U.S. stock exchanges, with more than 180 Canadian firms cross-listed on the NYSE, the American Stock Exchange, or the NASDAQ at year-end 2003... Roughly 15 percent of the TSX-listed firms have a U.S. listing...*" (Hendry and King, 2004; p: 10). This situation obliged Canadian regulators to find a solution to accommodate simultaneously the contradictory needs of Canadian issuers listed on American stock exchanges and mitigate the unbearable conflicting requirements that cross-listed companies face (Gray, 2005). Another argument in favor of switching to a rules-based corporate governance system was made by a number of observers who claimed that a voluntary 'guidelines' approach in Canada is too fragile to properly deal with serious corporate governance concerns as the ones highlighted by recent scandals and therefore new U.S.-style rules and regulations are strongly recommended (Barnes et al., 2004).

On the other hand, there were opinions supporting the belief that a guidelines approach is more favorable in Canada and that corporate governance should persist along its traditional path. They refer to differences between corporate environments and capital markets of the two countries as the reasoning to why not adopt U.S reforms in Canada. For instance, the greater proportion of 'large-cap' Canadian public firms that feature controlling shareholders suggest that governance reforms that increase the independence of Canadian public firms' boards of directors and audit committees are impracticable in Canada, since both mandates oppose the interests and desires of those controlling shareholders. Furthermore, the large number of 'small-cap' public firms in

Canada may have no enough resources to acquire competent directors who could satisfy rules of financial expertise and experience and are keen to serve on their boards. In this regard, there was an urge to lessen these rules for 'small-cap' issuers. Generally, it was argued that meeting rules and measures similar to those mandated by SOX would force a relatively greater burden on 'small-cap' Canadian companies as compared to what larger U.S. companies are required to bear (Barnes et al., 2004; Gray, 2005). Building on this argument, Canadian securities regulators have been hesitant to adopt U.S.-like rules and regulations in many cases, taking into account the consequential redundant heavy requirements that a specific regulation could generate every time a firm with certain circumstances tries to comply with. It was rather considered that a general principles-based structure of good corporate governance can better suit Canada taking into account its unique regulatory structure and capital market composition.

Given the contradictory opinions regarding Canadian/U.S. regulatory harmonization, chair of OSC, David Brown, delivered in September 2002 and for the first time after the introduction of SOX an outline of OSC's balanced approach to corporate governance reforms in Canada. While there have been plans to help restore public confidence in Canadian capital markets through newly introduced reforms, there have been intentions to address accompanied risks of sacrificing the efficiency of those markets every time excessive pressure and cost are imposed especially on 'small-cap' firms. Even though David Brown supported mandatory rules-based corporate governance approach over a voluntary guidelines approach in Canada, he highlighted the importance of introducing "made-in-Canada solution" that strives to accommodate Canada's "unique circumstances" rather than copying rules that were issued originally to address the capital markets of their U.S. counterparts. He stated that "*we have to make sure that we don't try to impose rules that make sense for large corporations but don't make sense for small corporations.*" (Barnes et al., 2004; p. 262).

### 2.5.3 Process of regulatory reform: new reforms

The first public issue of a Canadian legislation that is relevant to "Sarbanes-Oxley" was the passage of "Keeping the Promise for a Strong Economy Act (Budget Measures), 2002" by Ontario legislature, now referred to as Ontario Bill 198 or Canadian SOX (CSOX). "*The Act went into full effect on April 7, 2003 although it received Royal Assent on December 9, 2002*"

(Hossain, 2013; p.12). (Hossain, 2013; p: 12). Given that Bill 198 is a budgetary legislation; its provisions tackled diverse aspects of governmental operations and therefore encompassed several measures about tax, commodity trading, auto insurance, corporate disclosure etc. Hence, only a small part of Bill 198 was equivalent to U.S. SOX legislations and measures.

However, after a broad consultation process carried out by CSA together with OSC in June 2003, the CSA built on Bill 198 (C-SOX) and issued for public a series of corporate governance rules and policies taking the form of multilateral instruments or MIs and national instruments or NIs. These reform rules closely resembled the regulatory changes assigned by U.S. SOX with some key differences to conform with different features of Canada's regulatory structure. The amended draft of MIs and NIs has been published by all provinces of Canada except for British Columbia.

- Auditor oversight has been addressed under National Instrument 52-108 (*Auditor Oversight*) which became effective on the 30<sup>th</sup> of March 2004. It requires Canadian public firms to have their auditor's report prepared by an audit accounting firm participating in an independent oversight program developed by the Canadian Public Accountability Board (CPAB). Similar to Public Company Accounting Oversight Board (PCAOB) in U.S., CPAB is established by securities regulators in Canada to oversee auditors and evaluate the adequacy of their audit quality control policies and compliance with independence standards.
- Canada's version of SOX 302 is known as MI 52-109 (*Certification of Disclosure in Issuers' Annual and Interim Filings*) and became effective on the 30<sup>th</sup> of March, 2004. Under this instrument, Canadian securities regulators mandate important disclosure requirements and procedures to ensure the fair presentation of issuers' reported financial information. Despite of some slight differences as to how financial information is disclosed in Canada, required annual and interim certificates by CEOs and CFOs confirming the representativeness of the financial information filed by issuers is far very close to what U.S. SOX has enacted in section 302.
- Another set of rules mirroring the audit committee requirements applied in the U.S. is MI 52-110 (*Audit Committees*). It requires major Canadian issuers to report directly through their external auditors to an independent and financially literate audit committee

in favor of restricting prospective conflict of interest arising from management's interference in audit processes. MI 52-110 applies to each issuer at the earlier of 1st July, 2005 or the issuer's first annual meeting after 1st July, 2004.

- MI 52-111 (*Reporting on Internal Control over Financial Reporting*) that would have required the equivalent of SOX 404 requirements has been withdrawn after extensive review and consultation in 2006. Accordingly, Canadian firms do not need any more the attestation of an independent auditor to management's assessment of their internal controls and processes. A change that affects compliance program and saves on costly auditing services especially for small-cap firms. Instead, a modification in MI 52-109 took place by assigning the responsibility of assessing the effectiveness of issuer's internal control over financial reporting to CEOs and CFOs of a reporting issuer (Huang et al., 2009). This issuer has been already required to periodically test the effectiveness of its internal control structure and accounting procedures and draw conclusions.

Interestingly, besides the passage of a series of mandatory corporate governance rules, CSA persisted on Canada's famous principles-based corporate governance configuration and introduced on the 16<sup>th</sup> of January, 2004 National Instrument 58-101 (*Disclosure of Corporate Governance Practices*). NI 58-101 requires all issuers to disclose the best practice principles they have adopted such as board's composition and independence of its mandates and committees. Besides, it introduced National Policy 58-201 (*Effective Corporate Governance*) to provide assistance on such corporate governance practices. Notably, these practices are the updated amended version of TSX guidelines in 1994 and 1995.

In addition to the CSA rules and guidelines, it is worth mentioning that penalties for breaches of the Ontario *Securities Act* has been amended and increased from \$1 million and 1 year in prison to \$5 million and 5 years in prison. The new punishment measures involve violations such as market manipulation and fraudulent acts.

Bill 198 (CSOX) was passed in 2002 however the deadline for full compliance is 2008 (was initially in 2007 for large-cap firms and 2008 for small-cap firms). Accordingly, Canadians had the opportunity and time to learn from U.S. experience and the drawbacks faced in order to develop the best corporate governance practices.

To conclude, Canada has been able to take advantage of the U.S. experience and build upon through introducing its SOX-like legislation (CSOX) and mandating similar far-reaching reforms at various levels such as corporate governance, accounting standards, auditing, internal controls, disclosure controls, integrity, transparency...etc. The series of fundamental amendments and reforms that have been made to its regulatory structure had the aim of restoring investor's confidence in the Canadian regulatory system and protecting the reliability of its capital markets. Therefore, with the enacted CSOX that Catherine Conolly described during the Insurance Institute of Ontario Seminar held in Toronto as encompassing a "uniquely Canadian Twist" (Gambrill, 2006, p. 47), investors are looking forward to receiving more consistent disclosure on a timely basis with good quality financial information.

#### 2.5.4 SOX-like legislations and earnings management

Consistent with the vigorous investigation that has been made in the U.S. on the impact of SOX on earnings management trends around major events of corporate finance (e.g. Cohen et al., 2008; Bartov & Cohen, 2009; Ibrahim, et al., 2011; Hossain et al., 2011; Alsharairi et al. 2017), a worldwide growing attention in the literature has been given to the impact of SOX-like corporate governance legislations on managers' choices of accounting practices. For instance, corporate governance instruments raised by the Corporate Governance Best-Practice Principles (CGBPP) in Taiwan (independence of supervisors, financial expertise of independent directors, and voluntary formation of independent directorships) have been reported for reducing earnings management significantly for Taiwanese listed companies (Chen et al., 2007). In Australia, Liu (2012) provides evidence on the impact of recently issued 'Corporate Governance Principles and Recommendations' (CGPR) in mitigating earnings management activities. Notably, CGPR highlights the importance of board monitoring and board independence as in U.S. SOX.

Furthermore, the UK Higgs Report (2003) aims at improving corporate reliability and accountability of financial reporting and hence constraining earnings management activities (Iqbal and Strong, 2010; Habbash et al., 2013a). In this regard, Kassamany et al. (2017) investigate the commonness of both accrual-based and real earnings management activities in the period preceding and following the passage of Higgs report within the context of mergers and acquisitions (M&As). Kassamany et al. (2017) however find no significant evidence of a change

in earnings management practices in the post-Higgs era as compared to the pre-Higgs era, thus suggesting that Higgs recommendations have not been effective in restraining such manipulations.

#### 2.5.5 Canadian-SOX and earnings management

In Canada and starting long before CSOX when Toronto Stock Exchange (TSX) was in the process of enhancing the corporate governance standards and guidelines of its listed companies, Park and Shin (2004) investigated the impact of TSX Corporate Governance Guidelines of 1994 on accrual-based earnings management. Even though TSX Guidelines of 1994 recommend listed companies to have outside directors serving as board members and monitoring abnormal accruals, Park and Shin (2004) find no reduction in earnings management following its passage. They suggest that a guideline approach recommending an ordinary outside director was ineffective to the board in monitoring managerial discretion over accounting choices in Canada. They also explain that capital markets like Canada with a highly concentrated ownership and an outside directors' labor market that is not well developed are reasons to why curbing earnings management was a difficult task to outside directors.

Seeking to provide insight on the effectiveness of the new regulatory provisions of CSOX, Nui (2006) examine the impact of new corporate governance mechanisms and codes on the quality of earnings. Empirical tests on a sample of 519 firms listed on the S&P/TSX composite index between 2001 and 2004 show that overall governance quality is negatively related to the level of abnormal accruals, thus suggesting that recent reforms in governance codes have been effective in monitoring managerial opportunism. Consistently, Jordan et al.'s (2014) suggest that Canadian-SOX played a major role in causing the demise of a particular type of earnings management often denoted as cosmetic earnings management (CEM). In fact, they find strong evidence of its existence in the pre-CSOX period while no indications of it was apparent in the period following the legislation.

## 2.6 Conclusion

Earnings management has received considerable attention from researchers who have studied its incentives together with its multiple tools and their consequences. The majority of latest research

has been motivated by agency theory as a basic framework for earnings management activities. In fact, earnings management activities occur at the level of a contractual relationship between a manager (agent) and stockholders (principals), generate agency costs due to misalignment of interests between the two parties and emphasizes opportunism due to information asymmetries. For instance, managers engage opportunistically in the manipulation of accounting information to either maximize their firms' value or their welfare.

Furthermore, a growing consideration in the literature has been given to the tendency of firms to manipulate earnings around major corporate events such as seasoned equity offerings (SEOs). In fact, SEOs provide the perfect context for studying capital market reactions as well as myopic financial management. In this respect, it has been shown extensively that the market reacts negatively to SEO announcements. Besides, it was considered that SEOs drive managers to overstate earnings prior the issue for the fact that such behavior can improve the price at which their firm's SEOs is sold to investors. Accordingly, it was suggested that the unusual underperformance of stock returns and earnings following a seasoned equity issue is due to earnings management behavior in pre-issue years.

Reporting evidence of earnings management activities prior SEOs was not the only concern of previous studies. Inclusively, there has been a great deal of interest in understanding the strategies that firms conduct to manage their earnings. Considerable number of earlier studies document activities of income-increasing earnings management around SEOs that are focused exclusively on accrual-based manipulations. However, recent research presents evidence of firms favoring real activities over accrual-based manipulations based on the fact that real methods, despite being costly, are less likely to be detected. Markedly, managers may engage in real manipulation activities through acceleration of sales, overproduction of inventory and reduction in discretionary spending.

Firms' managers need to avoid detection of their accounting manipulations has grown remarkably after a series of major reforms to corporate governance codes around the world. For example, provisions of Sarbanes-Oxley Act in the U.S. were designed to enhance the quality of financial reporting through mitigating aggressive accounting practices like earnings management. Likewise, Canadian SOX-like legislation introduced similar corporate governance

and disclosure reform initiatives capable of restoring investors' confidence in Canadian capital markets. A broad stream of research sought to provide insight on the impact of the new regulatory provisions of U.S. SOX and SOX-like legislations over financial reporting behavior. Most of the studies found evidence of reduced earnings management behavior following the passage of U.S. SOX Act and SOX-like legislations, thus suggesting that mandated reforms have been successful in improving corporate reliability and accountability.



## **Chapter Three: Methodology**

### **3.1 Introduction**

Chapter three addresses the methodology used in the pursuit of research objective that is investigating the prevalence of both accrual-based and real-based earnings management activities prior Canadian SEOs in the period preceding the passage of Canadian-SOX and in the period following it. This chapter starts by highlighting the philosophical dimensions of this research in section two. Section three discusses the reasoning approach of this study. Research Strategy is discussed in section four. Section five introduces the development of the research hypotheses. Section six explains research methods and procedures. Statistical tests used to test the results are introduced in section seven. Section eight identifies data sources. Sampling procedures are explained in section nine. Section ten concludes.

### **3.2 Philosophical Dimension**

Research philosophy refers to the way the researcher approaches the development of knowledge. This development and apprehension of knowledge relies on certain assumptions made by the researcher about the sources and nature of that knowledge. Two core assumptions that portray philosophical approaches are ontology and epistemology. Ontological assumptions relate to the “*nature of reality*” (Lincoln and Guba, 1985, p: 37) or the “*study of being*” (Crotty, 1998, p: 10) and tend to raise questions of “*how things really are*” and “*how things really work*”. In other words, this assumption is concerned with the nature of “*real existence*” and “*real action*” (Denzin and Lincoln, 1998, p: 201). On the continuum of ontological perspective, there are two extreme positions: objective realism and subjective solipsism. While objective realism assumes an existence of a reality that is independent of human thoughts and beliefs, subjective solipsism perceives “*reality*” as a projection of human imagination and asserts its non-existence outside oneself, that is to say “*one’s mind is one’s world*” (Morgan and Smircich, 1980, p: 494). Since objective realists affirm the existence of a world that predates humans, viable knowledge about a tangible reality according to Morgan and Smircich (1980) can be achieved through sense observation and measurement. Given that this research aims at detecting the variations in earnings management activities of SEO Canadian firms after the passage of Canadian-SOX, it is

assumed that managerial propensity to manage earnings prior SEOs is perceived as an external independent reality that could be studied through the observation of data and computation of measurable proxies. Accordingly, this research has a tendency towards objective realism.

The second assumption, epistemology, relates to the nature of knowledge and poses the question of *“how is it possible, if it is, for us to gain knowledge of the world”* (Hughes and Sharrock 1997, p: 5). Two extreme positions of the epistemological stance are: positivism and interpretivism. In positivism, a researcher believes that a reasonable knowledge cannot be achieved unless natural sciences are applied through direct measures and experiences. On the other hand, an interpretivist in phenomenology considers that humans and social individuals are those who construct reality. That is to say, social subjects can only be studied based on their personal diverse assumptions and perceptions rather than on scientific mathematical assumptions. This study approaches its research questions with a positivist epistemological stand. When empirical knowledge is a key characteristic of the positivism paradigm (Ritchie, 2013), a researcher can therefore, produce outcomes and come up with conclusions after the application of statistics and other forms of research practices on a set of observations (Creswell 2009). Given that this research aims at detecting the variations in earnings management activities of SEO Canadian firms before and after the CSOX Act, empirical data required for the calculation of discretionary accruals and real earnings metrics will be collected from trusted databases, observed and then studied within the context of descriptive statistics. This will result in generating meaningful inferences which have been achieved through observations and direct measurements, a fundamental characteristic of positivism.

### **3.3 Reasoning Approach**

In research, there are primarily two general methods of reasoning: the deductive and the inductive approaches. Both methods incorporate a certain theory to either start or end with. Deductive reasoning starts from general topic and then moves to a more specific one (Trochim, 2006). It starts with a certain theory upon which a theoretical framework or hypothesis can be built and developed, followed by testing the hypothesis through observation and measurement and finally draws conclusions about the validity of that theory used. On the contrary, inductive reasoning works the other way around, starting from specific observations and the moving to

broader theories and generalizations (Trochim, 2006). It begins with observations, formulates the hypotheses, and ends up with a theory. It is generally used for analyzing qualitative data to derive new concepts and build up new theories.

This study adopts the deductive approach of reasoning. Provided that the major objective of this research is to study firms' willingness to manage earnings prior an SEO in Canada with the changes accompanying such behavior after the passage of Canadian-SOX, then the agency theory will act as the guiding theory for such a study. Since recent accounting scandals such as Enron and World Com have been attributed to the opportunistic earnings management activities utilized by firms' managers (agents) at the expense of shareholders (principal) (Jiraporn et al., 2008), it was clear the need for regulatory legislations such as SOX and Canadian-SOX capable of mitigating such activities. Accordingly, this research would start by discussing agency theory as a fundamental theory in examining managers' engagement in earnings management methods, as well as addressing its implications within the context of seasoned equity offerings. Then, this theory will be narrowed down to discuss the principle guidelines of C-SOX that stresses on improving the quality of financial reporting and alleviating fraudulent accounting practices. Afterwards, this will be narrowed down further into several hypotheses in order to subsequently test them statistically, reject or accept them and thereby reach a reliable conclusion. It is worth mentioning that generalization is a cornerstone in the deductive approach and therefore a substantial sample is required in order to attain rigor in generalizing the results. Accordingly, this research is conducted on a considerable sample of Canadian SEOs.

### **3.4 Research Strategy**

Research strategy is defined as "the general orientation to the conduct of research" (Bryman, 2008, p. 698). It is stated that a research strategy should be chosen in accordance with research aim and question(s) in the pursuit of answering them (Saunders et al., 2011). This study adopts an archival research strategy, where a researcher obtains information from archives and conducts new practices to evaluate and analyze it (Bryman et al., 2004). This information extracted and analyzed results from business decisions as stated by Maines and Wahlen (2006). This is the case in this study since previous data of managerial accounting decisions adopted by Canadian SEO firms at the earnings level will be obtained and analyzed accordingly.

Furthermore, since this study examines variations in earnings management activities of SEO Canadian firms after the passage of Canadian-SOX, it employs a longitudinal design where the testing of the data will be conducted over two periods: pre- and post C-SOX, thus highlighting the importance of longitudinal studies in scrutinizing the change or development of the studied subject.

### 3.5 Hypotheses Development

As discussed in chapter two, diverse incentives drive managers to carry out different practices of earnings management. These practices are reported as taking place around major events in corporate finance such as initial public offerings (IPOs) (e.g. Teoh et al., 1998; Teoh et al., 1998b; Chang et al., 2010), seasoned equity offerings (SEOs) (e.g. Rangan, 1998; Teoh et al., 1998a; Shivakumar 2000; Cohen and Zarowin, 2010; Ibrahim et al., 2011), mergers and acquisitions (M&As) (e.g. Botsari and Meeks, 2008; Kassamany et al., 2017; Alsharairi et al., 2017) and management buyouts (e.g. DeAngelo, 1986; Perry and Williams, 1994).

Seasoned equity offerings (SEOs) provide one of the perfect contexts for studying myopic financial management. Empirical findings by researchers documenting the unusual underperformance of stock returns and earnings following a seasoned equity issue (e.g. Spiess and Affleck-Graves, 1995; Loughran and Ritter, 1995) provided a direct motivation to investigate whether activities of earnings management are taking place during pre-issue years. It is argued that SEO firms tend to alter their financial reports and overstate earnings prior the issue in order to improve the price at which their firm's SEOs are sold to investors (Ching et al., 2006).

Accordingly, SEOs have been documented frequently for being associated with activities of income-increasing earnings management. Such activities focus exclusively on accrual-based manipulations. In this respect, Rangan (1998) reports earnings that are upwardly manipulated in the year around SEOs, thus boosting temporarily a firm's stock price. These manipulations take the form of positive abnormal accruals. However, he mentions that as soon as inflated pre-issue earnings are no longer attained, dissatisfied investors will devalue the firm causing its stock price to decline consequently. Consistent with Rangan (1998), Teoh et al. (1998a) document similar findings. Additionally, they provide evidence of a worse post-event performance accompanying

issuers with the most aggressive accounting manipulations or greatest positive abnormal accruals preceding the issue.

Similarly, Shivakumar (2000) finds evidence of positive abnormal accruals prior the issue of seasoned equity offerings. However, opposing Rangan (1998) and Teoh et al. (1998a) conclusions, he argues that investors are able to detect these accounting adjustments made around the offerings, and rationally unravel its impact on stock price. Therefore, earning management according to him is not planned to deceive investors and fool them, but it is a normal behavior by issuers in response to the subsequent stock price reversals by investors.

While all of the studies on earnings management cited above use data from the US, there has been paucity of research in other countries. In this regard, Ching et al. (2006) use data from Hong Kong and find further evidence of positive discretionary accruals in the year prior to SEOs. Besides and consistent with Shivakumar's (2000) conclusions, they find no significant association between pre-issue earnings management and long-run stock returns, thus suggesting that investors are mindful of possible earnings management activities by managers prior SEOs announcements.

Given the motivation of SEO firms to manage earnings upward (i.e. positive abnormal accruals) prior to SEO announcements and the supported empirical literature, this study will begin by replicating prior results in a Canadian sample of SEO firms and examining the following hypothesis:

**Hypothesis 1: Canadian SEO firms engage in positive accrual-based earnings management in the accounting year prior to SEO announcements.**

While managing earnings through accruals has been investigated by a numerous number of studies, Graham et al. (2005) find in a US-based survey evidence of managers favoring real activities over accrual-based ones as tools to manage earnings. They prove the prevalence of real activities manipulations, which include price discounts to temporarily boost sales, excessive inventory production to lower the cost of goods sold, and reduction in discretionary expenditures such as research and development (R&D) expenses to improve profit margins (Graham et al., 2005). While much of the recent research focuses on providing systematic evidence on the real

management of earnings through methods such as the reduction of R&D expenditures (Baber et al. 1991; Bushee 1998), there has been a dearth of studies that provide systematic rather than anecdotal evidence on the rest real earnings management activities such as sales manipulation and inventory overproduction (Bartov, 1993; Thomas and Zhang, 2002). It is worth mentioning that Roychowdhury (2006) was the first to develop empirical methods to detect all three real manipulation activities around earnings thresholds, particularly the zero threshold.

Consequently, Cohen and Zarowin (2010) investigated the prevalence of real activities manipulation in addition to accrual-based methods around SEOs for a sample of 1,511 completed US offers from 1987 to 2006. Remarkably, they report firms' engagement in real-based earnings management methods in addition to accrual-based ones around SEOs and document the tendency for firms to tradeoff between the two methods. Not to mention that they were the first to prove the construct validity of the three real manipulation methods proposed by Roychowdhury (2006) through identifying negative abnormal cash flows from operations, positive abnormal production costs and negative abnormal discretionary expenses in the SEO year. Ibrahim et al. (2011) provide similar evidence regarding firms' engagement in income-increasing accrual and real manipulation in the year preceding SEOs for a sample of 1,871 firms between 1990 and 2004. Importantly, they consider the year prior to SEOs as a pioneer in testing for earnings management; as it was believed that managers' incentives to manage earnings are the strongest at that point of time. Ibrahim et al., (2011) however were able to report income-increasing real account manipulations only through negative abnormal CFOs resulting from price discounts or more lenient credit terms.

Kothari et al. (2016) further highlight SEOs as an important setting for assessing multiple earnings management activities. They explain that the time of securities issues is a period of improved scrutiny where only extreme opaque earnings management methods could escape recognition and detection. Accordingly, their evidence of an upward stock valuation at the time of an SEO accompanied with future operating underperformance is strong among firms with greater propensity for opaque real earnings management methods rather than for accrual ones. Notably, Kothari et al. (2016) primary measure of real activities manipulations is unusual reductions of discretionary expenditures including research and development (R&D) expenses, and selling, general, and administrative (SG&A) expenses.

Building on the empirical evidence of the existence of real earnings management activities to manage earnings in the SEO setting, the following hypothesis is proposed:

**Hypothesis 2: Canadian SEO firms engage in positive real-based earnings management in the accounting year prior to SEO announcements.**

Provided that accounting research should align with practice, it has been important to examine how regulation might impact the behavior of firms around SEOs. While the quality of financial reporting became extensively scrutinized after a series of highly publicized accounting scandals, an increased appreciation in the literature has been given to the vital role of different corporate governance reforms and regulations in monitoring managerial discretion, primarily, earnings management (e.g. Chen et al., 2007; Cohen et al., 2008; Ibrahim, et al., 2011; Liu, 2012; Kassamany et al., 2017). In the U.S., the impact of Sarbanes Oxley Act of 2002 on earnings management has been widely investigated in the literature (e.g. Cohen et al., 2008; Li et al., 2008; Zhou, 2008; Bartov and Cohen, 2009; Hossain et al., 2011; Ibrahim et al., 2011). Cohen et al., (2008) for instance, provide evidence of managers substituting accrual-based earnings management activities with real earnings management methods in the period following SOX. They attribute the shift to the fact that real methods, despite being costly, are less likely to be detected as suggested by Graham et al. (2005). Their study has been motivated by the main objectives of the act which focus on bringing back integrity of financial reporting through mitigating aggressive accounting practices like earnings management. Within the context of SEOs, Ibrahim et al., (2011) report firms' engagement in both accrual-based and real-based earnings management methods in the year prior to the offering during the pre-SOX period, and detect some evidence of a shift to real-based methods during the post-SOX period.

Consistent with the U.S. Congress enactment of SOX in 2002, Canada followed the lead of their southern neighbors and proposed similar corporate governance and disclosure reform initiatives capable of restoring investors' confidence in the Canadian regulatory system as well as capital markets. Seeking to provide insight on the effectiveness of the new Canadian regulatory provisions, Nui (2006) examine the impact of new corporate governance mechanisms and codes on the quality of earnings. Empirical tests on a sample of 519 firms listed on the S&P/TSX composite index between 2001 and 2004 show that overall governance quality is negatively

related to the level of abnormal accruals, thus suggesting that recent reforms in governance codes have been effective in monitoring managerial opportunism. Consistently, Jordan et al.'s (2014) suggest that Canadian-SOX played a major role in causing the demise of cosmetic earnings management (CEM) as no indications of it was apparent in the period following the legislation.

To the extent that the Canadian-SOX has had a major role in strengthening the corporate governance code in Canada, it is worth to investigate the prevalence of both accrual-based and real earnings management activities in the period preceding the passage of Canadian-SOX Act and in the period following the enactment. In this regard, the primary objective in detecting variations in earnings management activities of SEO Canadian firms is to investigate whether the passage of the corporate codes resulted in restraining such manipulations. Furthermore, based on U.S. and Canadian evidence, this study will examine the possibility of the occurrences of real earnings management activities after CSOX and whether SEO firms switched from accrual earnings management to real-based earnings manipulation. Accordingly, the following two hypotheses are formulated:

**Hypothesis 3a: The magnitude of positive accrual-based earnings management by Canadian SEO firms is lower in the post-CSOX period than in the pre-CSOX period.**

**Hypothesis 3b: The magnitude of positive real-based earnings management by Canadian SEO firms is higher in the post-CSOX period than in the pre-CSOX period.**

### **3.6 Research Method**

Taking into account that the main aim of this research is to examine the prevalence of both accrual-based and real-based earnings management activities prior Canadian SEOs in the periods before and after Canadian-SOX Act, the following research method will be used to address it.

- Accrual-based Earnings Management:

To account for accrual-based earnings management activities, examining discretionary accruals (DA) by differentiating them from non-discretionary accruals is required. To estimate DA and non-DA, Modified Jones model as described in Dechow et al. (1995) and as adjusted by Kothari et al. (2005) through adding return on assets (ROA) variable will be employed in this study. This



will be based on the cash-flow approach of the current accrual model. To check for robustness, cash-flow approach of total accruals will be used.

Starting with the basic equation, non-discretionary accruals is estimated based on cash-flow approach of the actual current accrual model:

$$\frac{CAC_{ij,t}}{TA_{ij,t-1}} = a_0 \left( \frac{1}{TA_{ij,t-1}} \right) + a_1 \left( \frac{\Delta REV_{ij,t}}{A_{ij,t-1}} \right) + a_2 (ROA_{ij,t}) + \varepsilon_{ij,t} \quad (1)$$

Where:

$CAC_{ij,t}$ : The current accruals for firm  $i$  in portfolio  $j$  for year  $t$ ;

$TA_{ij,t-1}$  : total assets for a firm  $i$  in portfolio  $j$  for year  $t-1$ ;

$\Delta REV_{ij,t}$  : The change in revenues for a firm  $i$  in portfolio  $j$  for year  $t$ ;

$ROA_{ij,t}$ : Return on asset for a firm  $i$  in portfolio  $j$  for year  $t$ ;

$\varepsilon_{ij,t}$ : Residual term for a firm  $i$  in portfolio  $j$  for year  $t$

All variables in the above regression model, except  $ROA_{ij,t}$ , are scaled by lagged total assets ( $TA_{ij,t-1}$ ) to reduce heteroskedasticity. The estimation of coefficients  $\hat{a}_0$ ,  $\hat{a}_1$ , and  $\hat{a}_2$  for industry and year combination is based on the Fama and French 12 (FF12) industry classification in order to allow for more efficient estimation of the OLS regression parameters without excluding any industry-year portfolio with observations less than six.

Second, discretionary current accruals which is signified by the error term in the model is estimated through subtracting non-discretionary current accruals from actual current ones.

Current accruals are calculated from the cash flow statement as net income before extraordinary minus cash flow from operations minus depreciation and amortization (D&A), as shown below:

NI (Worldscope yearly data item WC04001) – CFO (WorldScope yearly data item WC04201 + WC04831) – D&A (Worldscope yearly data item WC04051).

Using the estimates of the cash flow approach parameters, the normal or non-discretionary accruals ( $NCAC_{ij,t}$ ) is computed as follows:

$$NCAC_{ij,t} = \hat{a}_0 \left( \frac{1}{A_{ij,t-1}} \right) + \hat{a}_1 \left( \frac{\Delta REV_{ij,t} - \Delta REC_{ij,t}}{A_{ij,t-1}} \right) + \hat{a}_2 (ROA_{ij,t}) \quad (2)$$

Where:

$\Delta REC_{ij,t}$ : Change in accounts receivable for a firm  $i$  in portfolio  $j$  for year  $t$

The reported revenues of the firm ( $\Delta REV_{ij,t}$ ) are adjusted for the change in accounts receivable ( $\Delta REC_{ij,t}$ ) to take into consideration any possible accounting discretion arising from credit sales (Defond and Jiambalvo, 1994)

Therefore, by subtracting normal or non-discretionary accruals (2) from actual current accruals (1), discretionary accruals will be obtained thus representing a direct measure of accrual-based earnings management.

$$DCAC_{ij,t} = \frac{CAC_{ij,t}}{A_{ij,t-1}} - NCAC_{ij,t} \quad (3)$$

A zero value of discretionary accruals indicates normal current accruals for  $i$  firm in year  $t$  and hence no earnings management is detected. However, positive value indicates that a firm's current accruals exceed their normal levels and hence an upward management of earnings is observed. On the other hand, a negative value reveals a downward manipulation and that a firm's current accruals are below the expected ones.

To check for robustness, the following cross-sectional regression for each industry and year combination is estimated:

$$\frac{TAC_{ij,t}}{TA_{ij,t-1}} = a_0 \left( \frac{1}{TA_{ij,t-1}} \right) + a_1 \left( \frac{\Delta REV_{ij,t}}{TA_{ij,t-1}} \right) + a_2 \left( \frac{PPE_{ij,t}}{TA_{ij,t-1}} \right) + a_3 (ROA_{ij,t}) + \varepsilon_{ij,t} \quad (4)$$

Where:

$TAC_{ij,t}$ : is the total accruals for firm  $i$  in industry group  $j$  for year  $t$ ;

$PPE_{ij,t}$ : is the Gross property, plant and equipment for firm  $i$  in industry group  $j$  for year  $t$

Total Accruals are calculated from the cash flow statement as net income before extraordinary minus cash flow from operations.

NI (Worldscope yearly data item WC04001) – CFO (WorldScope yearly data item WC04201 + WC04831)

Similarly, Using the estimates of equation (4) parameters, the normal or non-discretionary total accruals ( $NTAC_{ij,t}$ ) is computed as follows:

$$NTAC_{ij,t} = \hat{a}_0 \left( \frac{1}{TA_{ij,t-1}} \right) + \hat{a}_1 \left( \frac{\Delta REV_{ij,t} - REC_{ij,t}}{TA_{ij,t-1}} \right) + \hat{a}_2 \left( \frac{PPE_{ij,t}}{TA_{ij,t-1}} \right) + \hat{a}_3 (ROA_{ij,t}) \quad (5)$$

Therefore, the difference between total accruals (4) and normal or non-discretionary total accruals (5) will result in computing the discretionary accruals as follows:

$$DCAC_{ij,t} = \frac{TAC_{ij,t}}{TA_{ij,t-1}} - NTAC_{ij,t} \quad (6)$$

- Real Earnings Management:

According to Roychowdhury (2006), proxies of real earnings management concentrate on three manipulation metrics: the abnormal levels of cash flow from operations (CFO), discretionary expenses, and production costs. His evidence suggests that firms' managers use methods that impact those variables to achieve certain standards in their reported margins. Successive studies such as Cohen et al. (2008), Cohen and Zarowin (2010), Ibrahim et al. (2011) prove the construct validity of these proxies.

Particularly, the three methods with their proxies are:

- (1) acceleration of the timing of sales through increased price discounts or more lenient credit terms, which would in turn temporarily increase sales levels and abnormally decrease cash flows from operations (A\_CFO stands for abnormal CFO)
- (2) reporting lower cost of goods sold through increased production (A\_PROD stands for abnormal production costs)
- (3) decreases in discretionary expenses including advertising expense, research and development (R&D) expenses, and selling, general, and administrative (SG&A) expenses (A\_DISX stands for abnormal discretionary expenses)

In order to compute the abnormal levels of the above proxies, models developed by Dechow et al. (1998) and followed by Roychowdhury (2006) have to be conducted:

$$\frac{CFO_{ij,t}}{TA_{ij,t-1}} = a_0 \frac{1}{TA_{ij,t-1}} + a_1 \frac{REV_{ij,t}}{TA_{ij,t-1}} + a_2 \frac{\Delta REV_{ij,t}}{TA_{ij,t-1}} + e_{ij,t} \quad (7)$$

Where:

$CFO_{ij,t}$ : is the cash flow from operations for a firm  $i$  in industry group  $j$  in year  $t$ .

The estimation of coefficients  $a_0$ ,  $a_1$ , and  $a_2$  for each industry and year combination done following the OLS regressions are used to calculate the normal level of CFO. So that Abnormal CFO (A\_CFO) is actual CFO (Worldscope yearly data items WC04201 plus WC04831) minus normal CFO computed using the estimated parameters from equation (7)

Production costs are defined as the sum of cost of goods sold (COGS) (Worldscope yearly data item WC01051) and change in inventory (Worldscope yearly data item WC02101) during the year.

Normal COGS are modeled as a linear function of current sales:

$$\frac{COGS_{ij,t}}{TA_{ij,t-1}} = a_0 \frac{1}{TA_{ij,t-1}} + a_1 \frac{REV_{ij,t}}{TA_{ij,t-1}} + e_{ij,t} \quad (8)$$

Next, inventory growth is modeled as a linear function of the current and previous change in sales:

$$\frac{\Delta INV_{ij,t}}{TA_{ij,t-1}} = a_0 \frac{1}{TA_{ij,t-1}} + a_1 \frac{\Delta REV_{ij,t}}{TA_{ij,t-1}} + a_2 \frac{\Delta REV_{ij,t-1}}{TA_{ij,t-1}} + e_{ij,t} \quad (9)$$

Using equations (8) and (9), normal level of production costs is estimated as:

$$\frac{PROD_{ij,t}}{TA_{ij,t-1}} = a_0 \frac{1}{TA_{ij,t-1}} + a_1 \frac{REV_{ij,t}}{TA_{ij,t-1}} + a_2 \frac{\Delta REV_{ij,t}}{TA_{ij,t-1}} + a_3 \frac{\Delta REV_{ij,t-1}}{TA_{ij,t-1}} + e_{ij,t} \quad (10)$$

So that Abnormal production costs (A\_PROD) is actual production costs minus normal production costs computed using the estimated parameters from equation (10)

Like COGS's modeling, Normal discretionary expenses can be modeled as a linear function of sales:

$$\frac{DISX_{ij,t}}{TA_{ij,t-1}} = a_0 \frac{1}{TA_{ij,t-1}} + a_1 \frac{REV_{ij,t}}{TA_{ij,t-1}} + e_{ij,t} \quad (11)$$

However, this creates a mechanical problem if firms tend to boost sales upwards for the sake of increasing their reported earnings during a particular year, thus exhibiting significantly lower residuals from running the above regression as expressed in equation (11). To address this issue, discretionary expenses are modeled as a function of lagged sales as shown next:

$$\frac{DISX_{ij,t}}{TA_{ij,t-1}} = a_0 \frac{1}{TA_{ij,t-1}} + a_1 \frac{REV_{ij,t-1}}{TA_{ij,t-1}} + e_{ij,t} \quad (12)$$

So that, abnormal discretionary expenses (A\_DISX) is actual discretionary expenses minus normal discretionary expenses computed using the estimated parameters from equation (12). Discretionary expenses are defined as the sum of research and development (R&D) expenses (Worldscope yearly data item WC01201) and selling, general & administrative (SG&A) expenses (Worldscope yearly data item WC01101). In calculating discretionary expenses, if SG&A is not missing but the R&D value is missing, then R&D is set to zero in order not to lose many observations.

To sum up, CFO is cash flow from operations in period t, PROD signifies the production costs in period t and is defined as the sum of cost of goods sold (COGS) and change in inventory ( $\Delta INV$ ) during the year. DISX stands for the discretionary expenditures in period t, and is defined as the sum of advertising expenses, research and development (R&D) expenses, and selling, general, and administrative (SG&A) expenses.

The abnormal CFO (A\_CFO), abnormal production costs (A\_PROD) and abnormal discretionary expenses (A\_DISX) are computed as actual values minus the normal levels estimated from equations (7), (10) and (12). The three computed variables will be used as proxies for real earnings management.

Hence, for a given sales levels, reported earnings that are upwardly manipulated are more likely to be detected if firms engage in one or all of these: unusually low cash flow from operations, and/or unusually low discretionary expenses, and/or unusually high production costs.

Accrual and real-based earnings management are measured in the year preceding the offering date as identified by the announcement date of the deal in Thomson Reuters database, and consistent with Ibrahim et al. (2011) who believes that managers' incentives to manage earnings are the strongest at that point of time. The offering year (year t) and pre-offering year (year t-1) are determined similar to Cohen and Zarowin (2010) and Ibrahim et al. (2011). As an example, if a firm has a December 31 year-end and assuming that accounting information for the financial year 2005 is available by March 31st, 2006. If the firm announces a seasoned equity between April 1st 2006 and March 31st, 2007, accounting information for 2005 is used as the data for the pre-offering year.

### 3.7 Parametric and Non-Parametric Significance Tests

T-tests are generally used to assess the statistical significance of the means of abnormal accruals, A\_CFO, A\_PROD and A\_DISX. Assuming a cross-sectional independence in estimated abnormal accruals, A\_CFO, A\_PROD and A\_DISX of the sample study, the t-test would be estimated by dividing the equal-weighted sample mean for each of abnormal accruals, A\_CFO, A\_PROD and A\_DISX by an estimate of their standard error. To summarize, suppose that AM (stands for abnormal manipulations) represent both abnormal accruals and abnormal real earnings manipulations.

The test statistic is:

$$\overline{AM} / \left( \frac{s(AM)}{\sqrt{N}} \right) \sim t_{N-1}$$

Where the mean abnormal manipulations for the sample is:

$$\overline{AM} = \frac{1}{N} \sum_{i=1}^N AM_{it}$$

And the estimated standard deviation of  $\overline{AM}$  is

$$s(AM) = \sqrt{\sum_{i=1}^N (AM_{it} - \overline{AM})^2 / N - 1}$$

$AM_{it}$ : is abnormal earnings manipulations (accrual-based and real-based) for firm  $i$  in year  $t$ .

$N$ : is the sample size.

In fact, t-tests assume that abnormal manipulations are normally distributed. Thus, failing to meet this assumption could lead to incorrect inferences especially when the researcher faces the problem of a t-test sampling distribution being different from actual distribution. In an attempt to improve the validity of the statistical inferences, researchers tend to use non-parametric tests,

even when parametric test assumptions are met. In other words, non-parametric tests could act as a robustness measure for the results obtained from t-tests. Wilcoxon rank tests are examples of non-parametric tests or what so-called distribution-free tests that will be used as robustness measure for the results of t-statistics tests.

### **3.8 Data Sources**

While research strategy represents the general plan, data collection tools and analysis techniques represent the tactics of the research. Given that this research relies on secondary data sources, data collection will involve two steps. First, data on Canadian SEO announcements are obtained from Thomson Reuters Eikon. Eikon is a platform that provides access to real time market data, news, data analytics and filtering according to the relevance of needs (Thomson Reuters, 2017). Second step includes obtaining financial data necessary for the computation of annual proxies of accrual-based and real-based earnings management in the year prior to SEO announcements from Thomson Reuters DataStream. It is evident that the data collection tool is direct observation of variables required for detecting earnings management activities prior SEOs. All the available and collected data are then cleaned, organized and prepared to be tested statistically.

### **3.9 Samples Procedures**

This research covers all Canadian public firms that underwent an SEO in the sixteen year period from 1 January, 1993 till 31 December, 2008. It considers the years 1992-2007 for the SEO sample as the year prior the offering is being used to test for earnings management activities. Pre-CSOX announcements cover announcement dates from 1 January 1993 to 30 March 2004; and for post-CSOX sample the dates are from 31 March 2004 to 31 December 2008. This period is particularly interesting as Canada experienced major reforms in its corporate governance provisions starting with 1994 Dey Report guidelines, followed by Toronto Stock Exchange (TSX) comply-or-explain requirements in 1995 and recently the passage of Ontario Bill 198 in April 2003 in relevance to the Sarbanes-Oxley legislation in the U.S. The initial sample is composed of 48,114 Canadian SEOs (follow-on); it is limited to 47,274 excluding non-domestic seasoned equity offers. To be included in the final sample, each seasoned equity announcement has to meet the following criteria:

- Given that SEO is a new issue of common stocks by a firm that has already been publicly traded to new or existing shareholders, Canadian SEO firms must be publicly listed companies and traded on the Toronto Stock exchange (TSX) and TSX Venture exchange. The structure of both exchanges shaped the process of regulatory reform and the adoption of Canadian SOX-like legislation (CSOX) in 2003. Therefore, the choice of both exchanges as scope of study ensures that listed Canadian SEO firms are subject to same regulations and rules. This limits the sample count to 9,123 SEOs.
- The sample in this study includes Canadian firms that underwent an SEO in the sixteen year period from 1 January, 1993 till 31 December, 2008. Consequently, the sample count is reduced to 4,986.

Accordingly, this study examines completed SEOs with offer price greater than or equal to \$5 and excludes those with an offer price less than \$5. This limits the sample count to 1,607. Furthermore, this sample is restricted to all non-financial firms since firms of a financial sector are subject to unique accounting procedures and requirements which may differ considerably from other sectors. This reduces the sample to 1,295 SEO firm-year observations. In the process of collecting data, some SEO firms did not have Datastream codes. This further reduces the sample to 1,127 SEOs. Moreover, it is required that each firm-year observation has the financial data necessary to compute discretionary accruals metrics and real earnings management proxies; otherwise it is dropped out of the sample. This reduces the sample count to 296 for discretionary accruals computation and 621 SEOs for measures of real earnings manipulations. Furthermore, to account for SEOs by same firm in adjacent fiscal periods, this sample keeps only one firm-year observation of that adjacent period in order to prevent confounding multiple transactions. This reduces the sample count to 235 for accrual-based measure and 492 for real-based measures. Finally, in addition to the exclusion of observations due to unavailable data, few observations are deleted to mitigate the effects of outliers. The mean plus/minus 3 Standard deviation rule is used to check the distribution of variables in the study and exclude extreme values. This results in a final sample of 222 SEO firm-year observations for accrual-based earnings management and 470 SEO firm-year observations for real-based management.



The detailed sample selection procedure is illustrated in Table 3.1.

**Table 3.1: Sample Selection Procedure**

Description	Count	
	Accrual-Based	Real-Based
Initial Sample: Canadian SEOs between 01/01/1993 to 31/12/2008	4,986	4,986
<b>EXCLUDE:</b>		
Completed SEOs with offer price $\leq$ \$5 <sup>a</sup>	3,379	3,379
SEO firms in finance industries	312	312
Missing DataStream Codes	168	168
Observations with unavailable data	831	506
SEO by same firm in adjacent years <sup>b</sup>	61	129
Outliers <sup>c</sup>	13	22
<b>Final Sample</b>	<b>222</b>	<b>470</b>

<sup>a</sup> Earnings management activities will not be significant and meaningful for SEOs with offer price less than \$5

<sup>b</sup> SEOs by same firm in same year are excluded from the final sample because this confound the results.

<sup>c</sup> In addition to the unavailable data, few observations are deleted to mitigate the effects of outliers. The mean plus/minus 3 Standard deviation rule is used to check the distribution of these variables and exclude extreme values.

**Table 3.2: Distribution of SEO Sample by year and industry**

<b>Panel A: Distribution of SEO sample by year</b>				
Year	Accrual-Based		Real-Based	
	Freq.	%	Freq.	%
1993	2	0.9	43	9.1
1994	6	2.6	27	5.7
1995	3	1.3	14	3.0
1996	9	3.9	22	4.7
1997	7	3.1	21	4.5
1998	6	2.6	21	4.5
1999	8	3.5	24	5.1
2000	6	2.6	24	5.1
2001	13	5.7	27	5.7
2002	19	8.3	32	6.8
2003	14	6.1	25	5.3
2004	27	11.8	35	7.4
2005	20	8.7	34	7.2
2006	22	9.6	30	6.4
2007	42	18.3	60	12.8
2008	25	10.9	31	6.6
<b>Total</b>	<b>229</b>	<b>100</b>	<b>470</b>	<b>100</b>

**Panel B: Distribution of SEO sample by industry**

Industry	Accrual-Based		Real-Based	
	Freq.	%	Freq.	%
Consumer Non-durables	5	2.2	19	4.0
Consumer durables	7	3.1	11	2.3
Manufacturing	14	6.1	25	5.3
Energy	62	27.1	188	40.0
Chemicals	5	2.2	9	1.9
Business Equipment	22	9.6	37	7.9
Telecommunications	9	3.9	19	4.0
Utilities	6	2.6	12	2.6
Wholesale and Retail	12	5.2	28	6.0
Healthcare	8	3.5	12	2.6
Other	79	34.5	110	23.4
<b>Total</b>	<b>229</b>	<b>100</b>	<b>470</b>	<b>100</b>

Industries are based on Fama French 12 classification.

Table 3.2 reports the distribution of the final sample comprising of 229 SEO firm-year observations for accrual-based earnings management methods and 470 SEO firm-year observations for real-based methods. Given that financial data necessary to compute discretionary accruals metrics incorporated more missing records than data necessary to compute real earnings management proxies, final sample for accrual-based methods was smaller than that for real-methods. Therefore, for a more representative reading of SEOs distribution over time, the final sample to be used in the computation of real manipulations will be considered. Panel A shows that the highest count of SEOs was in 2007 with a total of 60 SEOs comprising 12.8% of the entire sample of seasoned offerings. On the contrary, year 1995 witnessed the lowest number of SEOs among the study years, with a total of 14 SEOs comprising 3.0% of the entire sample of seasoned offerings.

Panel B of this table demonstrates how the sample is distributed across a total range of 11 industry sectors. These sectors are classified according to the Fama and French 12 industry classification using the 4-digit SIC codes. Finance sector with SIC between 6,000 and 6,999 is excluded based on above mentioned criteria of sample study. SEOs are most prevalent in the energy industry with 188 SEOs (40.0%) followed by the unclassified sector with 110 SEOs

(23.4%) and business equipment sector with 37 SEOs (7.9%). Together, these three sectors comprise more than 70% of the sample. The remaining SEOs (about 29 % of the distribution) are distributed among the remaining eight industries.

It is worth mentioning that any industry-year combinations that have less than six observations is dropped out of the sample since the empirical analysis is based on cross-sectional analysis by industry and year combination. This strictly applies on consumer non-durables sector and chemicals sector in the final sample used for computing discretionary accruals metrics. Accordingly, the sample count is reduced to 212 for accrual-based earnings management.

### **3.10 Conclusion**

In brief, this research approaches its research question with a positivist philosophical stand since it relies on empirical observations to generate meaningful inferences. It also adopts the deductive approach of reasoning since it starts with agency theory as its guiding theory and narrows it down into explicit hypotheses. Furthermore, an archival research strategy is used since previous data of Canadian SEOs will be obtained from archives to be evaluated and analyzed. To account for accrual-based earnings management activities, cash-flow approach of the current accrual model will be employed. To check for robustness, cash-flow approach of total accruals will be used. To detect real earnings management, three proxies measuring the abnormal levels of cash flow from operations, production costs, and discretionary expenditures will be used. Announcement dates of Canadian SEOs and the financial data necessary to compute accrual-based and real-based earnings management proxies are obtained from Thomson Reuters Eikon and Datastream respectively. Furthermore, for testing the statistical significance of the results, both parametric (t test) and non-parametric (Wilcoxon rank test) are used. These procedures are applied on a sample of 222 SEO firm-year observations for accrual-based earnings management methods and 470 SEO firm-year observations for real-based methods.

## **Chapter 4: Results**

### **4.1 Introduction**

Chapter four presents the empirical results of this thesis. Section two introduces the analysis framework utilized in this chapter. Section three provides descriptive statistics for accrual-based and real-based earnings management proxies as well as Pearson correlation coefficients between the proxies of both methods. Section four reports the results, explains the significance of abnormal accrual-based and real-based earnings management proxies and compares it with previous research findings. Empirical results and their relevance to the research hypotheses are discussed in section five. Section six concludes.

### **4.2 Analysis Framework**

Descriptive and inferential statistics are two essential tools in the process of hypothesis testing and result reporting. Accordingly, the following paragraphs will present the descriptive statistics of the research output including the abnormal levels of accruals and real manipulation activities obtained from the implementation of the cross-sectional Jones model adjusted by Kothari et al (2005) modifications and Roychowdhury 2006's models. In addition, parametric and non-parametric tests are used to detect the statistical significance of the mean and median abnormal accruals and abnormal real earnings manipulations. Particularly, one-sample t-tests are performed to test hypotheses  $H_1$  and  $H_2$  postulating if Canadian SEO firms engage in positive accrual and real-based earnings management in the accounting year prior to SEO announcements based on the significance of the mean and median of abnormal accruals and abnormal real earnings manipulations. Independent sample tests and Wilcoxon rank test are performed to test hypotheses  $H_{3a}$  and  $H_{3b}$  by detecting pre-post CSOX mean and median differences.

### **4.3 Descriptive Statistics**

This section will present the descriptive statistics of the research output. The mean, median, standard deviation, minimum, maximum, kurtosis and skewness figures are reported for abnormal current and total accruals, abnormal cash flows from operations, abnormal production costs and abnormal discretionary expenditures. The results are shown in table 4.1 for the entire sample and sub-samples of pre- and post-CSOX.

For the entire sample, table 4.1 panel A shows that A\_CA and A\_TA score mean values of 1.9% and 0.4% respectively with a standard deviation of 20.6 % and 10.1% each. The minimum and maximum values of A\_CA are -66.4% and 139.9% respectively, while -41% and 39.5% for A\_TA. Real manipulation measures: A\_CFO, A\_PROD and A\_DISX report mean values of -0.9%, 0.4% and -6.8% respectively with a standard deviation of 14.8%, 16.6% and 17.5% each. The minimum and maximum values of A\_CFO are -132.7% and 57.5% respectively, -66.3% and 105.7% for A\_PROD, and -96.0% and 50.8% for A\_DISX. Standard Kurtosis of all the abnormal measures of earnings management does not fall within the normal range of  $\pm 3$ , indicating non-normality, except for A\_TA. Furthermore, skewness of A\_CA, A\_CFO and A\_DISX are also outside the normal range of  $\pm 1$  confirming non-normality, except for A\_TA and A\_PROD.

**Table 4.1: Descriptive Statistics**

This table presents the descriptive statistics of the study sample over three panels. It presents the mean, median, standard deviation, minimum, maximum, skewness and kurtosis figures for the entire sample, pre-CSOX subsample and post-CSOX subsample.

**Panel A: Entire Sample**

	Mean	Median	Nb. of Obs.	Std. Dev.	Minimum	Maximum	Kurtosis	Skewnes
A_CA	0.019	0.001	212	0.206	-0.664	1.399	14.176	2.373
A_TA	0.004	-0.003	206	0.101	-0.410	0.395	2.995	0.281
A_CFO	-0.009	0.001	470	0.148	-1.327	0.575	18.186	-2.375
A_PROD	0.004	0.010	405	0.166	-0.663	1.057	6.335	0.102
A_DISX	-0.068	-0.016	403	0.175	-0.960	0.508	4.317	-1.151

**Panel B: Pre-CSOX Subsample**

	Mean	Median	Nb. of Obs.	Std. Dev.	Minimum	Maximum	Kurtosis	Skewnes
A_CA	0.052	0.003	89	0.248	-0.257	1.399	13.391	3.236
A_TA	0.022	0.001	84	0.109	-0.213	0.395	2.252	1.102
A_CFO	0.014	0.009	287	0.125	-0.539	0.575	4.622	-0.073
A_PROD	0.006	0.015	237	0.139	-0.542	0.459	2.691	-0.352
A_DISX	-0.068	-0.017	211	0.164	-0.805	0.435	4.714	-1.436

**Panel C: Post-CSOX Subsample**

	Mean	Median	Nb. of Obs.	Std. Dev.	Minimum	Maximum	Kurtosis	Skewnes
A_CA	-0.006	-0.002	123	0.165	-0.664	0.468	2.843	-0.475
A_TA	-0.008	-0.007	122	0.094	-0.410	0.244	2.817	-0.714
A_CFO	-0.045	-0.009	183	0.172	-1.327	0.229	20.462	-3.545
A_PROD	0.002	0.001	168	0.197	-0.663	1.057	6.432	0.345
A_DISX	-0.068	-0.012	192	0.186	-0.960	0.508	3.976	-0.933

Panel B shows that in the pre-CSOX subsample mean values of A\_CA and A\_TA are 5.2% and 2.2% respectively. The standard deviation of abnormal current accruals is 24.8% and that of abnormal total accruals is 10.9%. The minimum and maximum values of A\_CA are -25.7% and 139.9 % respectively, and those of A\_TA are -21.3% and 39.5% respectively. Furthermore, the pre-CSOX subsample witnesses a 1.4% mean A\_CFO, 0.6% mean A\_PROD and -6.8% mean A\_DISX with standard deviation of 12.5%, 13.9% and 16.4% respectively. The minimum and maximum values of A\_CFO are -53.9% and 57.5% respectively, -54.2% and 45.9% for A\_PROD and -80.5% and 43.5% for A\_DISX. Standard Kurtosis of all the abnormal measures

does not indicate normality, except for A\_TA and A\_PROD. Likewise, skewness values indicate non-normality, except for A\_CFO and A\_PROD.

In the post-CSOX subsample in Panel C, mean values of A\_CA and A\_TA are -0.6% and -0.8% respectively with a standard deviation of 16.5 % and 9.4% each. The minimum and maximum values of A\_CA are -66.4% and 46.8% respectively, while -41.0% and 24.4% for A\_TA. Panel C also shows that the means for A\_CFO, A\_PROD and A\_DISX are -4.5%, 0.2% and -6.8% respectively, with a standard deviation of 17.2%, 19.7% and 18.6% each. The minimum and maximum values of A\_CFO are -132.7 and 22.9% respectively, -66.3% and 105.7% for A\_PROD and -96.0% and 50.8% for A\_DISX. Standard Kurtosis of all the abnormal measures does not indicate normality, except for A\_CA and A\_TA. However, skewness values of all abnormal measures in the post-CSOX sub-sample indicate a normal distribution, except for the skewness of A\_CFO which indicates a negatively skewed distribution.

Despite the fact that the outliers were excluded in all accrual and real-based earnings management proxies, the Kurtosis and skewness values for some measures are outside the relevant range of normality. In this regards, non-parametric tests will be conducted in the following sections (in addition to the parametric ones) to make sure that the results are not affected by the non-normality issue.

Table 4.2 presents Pearson correlation coefficients between accrual-based and real-based earnings management measures. As can be seen, A\_CA and A\_TA are positively correlated. Abnormal accruals measures are not significantly correlated with real-based manipulation proxies. Consistent with Ibrahim et al. (2011), these correlation coefficients will have no impact on subsequent empirical analysis.



**Table 4.2: Pearson Correlation Coefficients**

This table presents the Pearson correlation coefficients (p-values) between accrual-based and real-based earnings management proxies

	A_CA	A_TA	A_CFO	A_PROD	A_DISX
A_CA	1	0.015 (0.415)	0.028 (0.343)	-0.004 (0.477)	-0.056 (0.208)
A_TA		1	-0.050 (0.238)	0.020 (0.386)	0.073 (0.147)
A_CFO			1	-0.028 (0.290)	0.030 (0.277)
A_PROD				1	0.005 (0.463)
A_DISX					1

A\_CA = Discretionary current accruals measured using Modified Jones Model with Kothari et al. (2005) modifications,

A\_TA = Discretionary total accruals measured using Modified Jones Model with Kothari et al. (2005) modifications,

A\_CFO = Abnormal Cash Flow from Operations,

A\_PROD = Abnormal Production Costs,

A\_DISX = Abnormal Discretionary Expenditures

#### 4.4 Empirical Results

This section presents a detailed presentation of the results.

##### 4.4.1 Results of accrual-based earnings management for the entire sample and pre- and post-CSOX sub-samples

###### 4.4.1.1 Reporting the results

Table 4.3 reports the mean and median estimates of both current and total accruals in the year preceding announcement dates of SEOs. Mean and median abnormal accruals (A\_CA and A\_TA) for the entire sample of SEOs are shown in panel A. While mean and median values for abnormal accruals in the pre- and post CSOX periods are presented in panel B. This section will deal with results of current accruals only, leaving total accruals to be examined in the robustness check section.

Starting with the entire sample of SEOs, the mean estimate of abnormal current accruals is 0.019, statistically significant at the 10% level. This could indicate that Canadian SEOs, in general, do overstate their earnings in the year prior to the offering. This evidence of accrual-based earnings management activities prior SEOs has been reported in a significant number of earlier studies. For instance, Rangan (1998) reports that earnings are upwardly manipulated in the year around SEOs. Consistently, Teoh et al. (1998a) document significantly positive mean and median discretionary current accruals prior SEOs. These accruals rise monotonically to a peak in the

offering year before they significantly decline in the years after. Similarly, Shivakumar (2000) finds evidence of positive abnormal accruals in the years preceding the issuance of seasoned equity offerings. In a recent study of earnings management activities in the year prior SEOs, Ibrahim et al. (2011) report median current accruals of 0.005, statistically significant at the 10% level and consistent with income-increasing accrual manipulation. Notably, all of the above cited studies use data from the US, however, for multiple study periods.

When the whole sample is divided into the pre- and post-CSOX subsamples in table 4.3 panel B, results show mean abnormal current accruals of 0.052 in the pre-CSOX period, significant at the 5% level. However, the median estimate is positive (0.003) but insignificant. This could indicate the prevalence of accrual-based earnings prior Canadian SEOs in the period preceding the passage of CSOX. Nevertheless, Canadian SEOs do not exhibit any evidence of accrual-based earnings manipulations in the post-CSOX period since both the mean and median estimates of abnormal current accruals (-0.006 and -0.002 respectively) are statistically insignificant. It is evident from the reported results that there exists a considerable decline in the mean abnormal current accruals in the post-CSOX period as compared to the pre-CSOX one. In this regard, table 4.2 panel B shows that the mean abnormal current accruals difference between pre and post-CSOX periods is 0.058, statistically significant at the 5% level as expected. This would highlight the crucial role of CSOX in constraining the use of accrual-based earnings management activities by Canadian SEOs. It is worth mentioning that year 2004 is when CSOX corporate governance reforms started to impact trends of earnings management. To clarify, On March 30, 2004, Canadian Securities Administrators (CSA) built on CSOX already passed on April 7, 2003 and issued a series of corporate governance rules and policies that resemble those assigned by U.S. SOX. Those regulatory provisions focused primarily on bringing back integrity of financial reporting.

These findings are in line with the findings of Nui (2006) who shows that new corporate governance mechanisms and codes of CSOX have constrained the accrual manipulation of 519 firms listed on the S&P/TSX composite index between 2001 and 2004. Furthermore, these outcomes are consistent with the US evidence on the impact of SOX 2002 in restraining firms from engaging in income-increasing accrual manipulations. For instance, Cohen et al., (2008) report that enhanced governance mechanisms of SOX have led to a reduction in accrual-based

earnings management activities in the period following its implementation. Consistently, Ibrahim et al., (2011) provide further evidence of lower managerial discretionary accruals in the post-SOX period as they report a median difference of -0.006, significant at the 5%, between the pre- and post-SOX periods.

**Table 4.3: Accrual-Based Earnings Management Proxies derived from the Cross-Sectional Modified-Jones Model based on the Cash Flow (CF) Approach**

The following table shows accrual-based earnings management measures for SEOs in the year prior to the announcement dates. Panel A reveals Abnormal Current Accruals (A\_CA) and Abnormal Total Accruals (A\_TA) for SEO observations in all years. Panel B shows A\_CA and A\_TA for SEO observations in the Pre- and Post-CSOX periods. The results are based on parametric (t-tests for the means) and nonparametric (Wilcoxon signed-ranks test for the medians) tests. P-values are given in parentheses and significant results are marked in bold. \*\*\*, \*\*, \* denote one-tailed significance at 1%, 5%, and 10% level respectively.

**Panel A: Abnormal Current and Total Accruals Results for the Entire Sample**

	All SEOs	
	Mean	Median
A_CA	<b>0.019*</b>	0.001
P-Value	(0.094)	(0.467)
No. of Obs.	212	
A_TA	0.004	-0.003
P-Value	(0.275)	(0.463)
No. of Obs.	206	

**Panel B: Abnormal Current and Total Accruals results for the Pre- and Post-CSOX Subsamples**

	Pre-CSOX		Post-CSOX		Difference Pre-Post	
	Mean	Median	Mean	Median	Mean	Median
A_CA	<b>0.052**</b>	0.003	-0.006	-0.002	<b>0.058**</b>	0.005
P-Value	(0.025)	(0.416)	(0.350)	(0.427)	(0.042)	(0.661)
No. of Obs.	89		123			
A_TA	<b>0.022**</b>	0.001	-0.008	-0.007	<b>0.030**</b>	0.008
P-Value	(0.030)	(0.163)	(0.162)	(0.233)	(0.031)	(0.158)
No. of Obs.	84		122			

A\_CA = Discretionary current accruals measured using Modified Jones Model with Kothari et al. (2005) modifications,  
A\_TA = Discretionary total accruals measured using Modified Jones Model with Kothari et al. (2005) modifications.

#### 4.4.1.2 Robustness checks

As mentioned in chapter three, this study will use the cash flow-based approach of abnormal total accruals as another proxy of accrual-based earnings management activities for comparison

reasons and as a robustness check. Notably, results came out to be closely similar, particularly, when discretionary total accruals were used instead of discretionary current accruals under the modified Jones model (Jones, 1991; Dechow et al., 1995) with Kothari et al.'s (2005) modifications.

Consistent with previous evidence on the prevalence of discretionary current accruals in the period preceding the passage of C-SOX, table 4.3 panel B shows a mean abnormal total accruals of 0.022 in the pre-CSOX period and significant at the 5% level. Markedly, both mean abnormal total accruals and current accruals yield the same statistically significant level of 0.05. In the post-CSOX period, both mean and median abnormal total accruals are negative (-0.008 and -0.007 respectively) and insignificant. Besides, Pre-post mean difference  $A\_TA$  is 0.030 and significant at the 5% level. Obviously, results obtained for abnormal total accruals are very close to those obtained for abnormal current accruals. This confirms that the overall level of accrual-based earnings management activities has been significantly reduced by Canadian SEOs in the post-CSOX period.

However, while previous results reports Canadian SEOs' tendency to engage in income-increasing accrual manipulation in the year prior to the offering, mean and median  $A\_TA$  for the whole sample of SEOs in table 4.3 panel A show no significant figures (0.004 and -0.003 respectively). In this regard, Botsari and Meeks (2008) explain this discrepancy between abnormal current and total accruals and associate it to the treatment of depreciation. To clarify, since current accruals measure ignores depreciation and amortization from the total accruals measure, a difference between the two abnormal measures will always be an option. Botsari and Meeks (2008) further explain that current accruals comprise judgmental items that are used to manage earnings; and this could also lead to estimates that differ from those obtained for abnormal total accruals.

#### 4.4.2 Results of real-based earnings management for the entire sample and pre- and post-CSOX sub-samples

##### 4.4.2.1 Reporting the results

Table 4.4 reports the mean and median estimates of abnormal cash flows from operations, abnormal production costs and abnormal discretionary expenditures in the year preceding the announcement dates of SEOs. As discussed in the previous chapter, a positive  $A\_PROD$ , and a negative  $A\_CFO$  and  $A\_DISX$  indicate an upward manipulation of earnings. For the entire sample of SEOs in panel A, a negative mean estimate of -0.009 for  $A\_CFO$  and statistically significant at the 10% level reveals positive earnings manipulation in the year prior to the offering. Regarding  $A\_PROD$ , panel A of table 4.4 exhibits positive mean and median estimates of 0.004 and 0.010 respectively, however, these results are not statistically significant. This indicates that Canadian SEOs are not engaging in abnormal real behavior through overproduction in the year preceding the announcement date. However, the negative mean and median estimates of -0.068 and -0.016 respectively for  $A\_DISX$  (both significant at the 1% level) indicate that SEO firms are reducing these expenditures considerably prior to the offering.

These findings are consistent with the findings of Cohen and Zarowin (2010) who report in the year prior to SEOs significant negative median estimates of abnormal CFOs and abnormal discretionary expenditures while insignificant median estimates of abnormal production costs. Consistently, Ibrahim et al. (2011) provide further evidence of income-increasing real account manipulations in the year preceding the announcement dates of seasoned equity. In this regard, they find mean and median estimates of abnormal CFOs that are negative and statistically significant at the 1% and 5% respectively. Notably, the substantial reduction of discretionary expenditures reported above is in line with the findings of Kothari et al. (2016) who report abnormally low R&D expenditures for a sample of 3,353 SEOs between 1970 and 2012. Kothari et al (2016) consider unusual reductions of discretionary expenditures (including research and development (R&D) expenses) as a primary measure of real activities manipulations around SEOs.

As shown previously, Canadian SEOs, in general, tend to overstate earnings in the year prior to announcement dates via abnormal cash flows from operations and discretionary expenditures. This can remain evident when the sample is divided into the pre- and post-CSOX subsamples. For instance, table 4.4 panel B shows that in the year prior to announcement dates, SEO firms of the pre-CSOX sub-sample report mean and median  $A\_DISX$  of -0.068 and -0.017 respectively, both statistically significant at 1% level. This could indicate the prevalence of real earnings

management activities prior SEOs in the period preceding the passage of Canadian-SOX. However, Kassamany et al (2017) state that this unusual suppression of discretionary expenditures could increase cash flows from operations and hence may generate positive estimates of A\_CFO. This is evident in the pre-CSOX subsample where the mean and median values of A\_CFO are positive and statistically significant at the 5% 1% levels respectively. Notably, these estimates of A\_CFO do not exhibit consistency with income increasing real account manipulations in the pre-CSOX period. Regarding A\_PROD, their mean and median values do not show any significance in the pre-CSOX period as well as in the post-CSOX period.

Estimates of interest in the post-CSOX period are those reported for A\_CFO and A\_DISX in table 4.4 panel B. Mean and median A\_DISX of -0.068 and -0.012 respectively, both statistically significant at the 1% level indicate a persistence of income-increasing real account manipulations following the enactment of CSOX provisions. Interestingly, unlike the positive mean and median estimates of A\_CFO in the pre-CSOX period, A\_CFO values in the post-CSOX subsample show negative mean and median values of -0.045 and -0.009 respectively, both statistically significant at the 1% level. This could indicate a greater propensity of Canadian SEO firms to manipulate earnings upwards in the year prior to the offering via real-based methods (A\_CFO and A\_DISX). These results are exclusive for the period following the enactment of CSOX.

When comparing pre-post magnitudes of real-based methods, results of table 4.4 panel B show that the mean and median differences for A\_CFO are 0.059 and 0.018 (both statistically significant at the 1% level) respectively. However, mean and median differences for A\_PROD and A\_DISX do not exhibit any statistical significance. This indicates that Canadian SEOs engage in real-based earnings management activities through sales manipulations following the passage of C-SOX. Notably, they persist on their real income-increasing behavior of abnormal reduction in discretionary expenditures.

These results are in line with the US evidence of a shift to real-based earnings management methods following the passage of SOX 2002. For instance, Cohen et al., (2008) find that the period following the enactment of SOX is characterized by higher levels of real-based earnings management activities as managers shift from accrual to real activities manipulation. They attribute the shift to the fact that real methods, despite being costly, are less likely to be detected

as suggested by Graham et al. (2005). Within the context of SEOs, Ibrahim et al., (2011) detect some evidence of a shift to real-based methods during the post-SOX era. In this regard, they report a median difference of -0.009 for abnormal cash flows from operations (significant at the 5% level) between the pre- and post-SOX periods.

**Table 4.4: Real-based Earnings Management Proxies**

The following table shows real-based earnings management measures for SEOs in the year prior to the announcement dates. Panel A reveals abnormal real accounts for SEO observations in all years. Panel B shows abnormal real accounts for SEO observations in the Pre- and Post-CSOX periods. The results are based on parametric (t-tests for the means) and nonparametric (Wilcoxon signed-ranks test for the medians) tests. P-values are given in parentheses and significant results are marked in bold. \*\*\*, \*\*, \* denote one-tailed significance at 1%, 5%, and 10% level respectively.

**Panel A: Abnormal Real Accounts Results for the Entire Sample**

All SEOs		
	Mean	Median
A_CFO	<b>-0.009*</b>	0.001
P-Value	(0.092)	(0.385)
No. of Obs.	470	
A_PROD	0.004	0.010
P-Value	(0.289)	(0.143)
No. of Obs.	405	
A_DISX	<b>-0.068***</b>	<b>-0.016***</b>
P-Value	(0.000)	(0.000)
No. of Obs.	403	

**Panel B: Abnormal Real Accounts Results for the Pre and Post-CSOX Subsamples**

	Pre-CSOX		Post-CSOX		Difference Pre-Post	
	Mean	Median	Mean	Median	Mean	Median
A_CFO	<b>0.014**</b>	<b>0.009***</b>	<b>-0.045***</b>	<b>-0.009***</b>	<b>0.059***</b>	<b>0.018***</b>
P-Value	(0.031)	(0.007)	(0.001)	(0.006)	(0.000)	(0.000)
No. of Obs.	287		183			
A_PROD	0.006	0.015	0.002	0.001	0.004	0.014
P-Value	(0.237)	(0.102)	(0.451)	(0.404)	(0.784)	(0.659)
No. of Obs.	237		168			
A_DISX	<b>-0.068***</b>	<b>-0.017***</b>	<b>-0.068***</b>	<b>-0.012***</b>	0.000	-0.056
P-Value	(0.000)	(0.000)	(0.000)	(0.000)	(0.992)	(0.465)
No. of Obs.	211		192			

A\_CFO = Abnormal Cash Flows from Operations,

A\_PROD = Abnormal Production Costs,

A\_DISX = Abnormal Discretionary Expenditures.

#### 4.4.2.2 Robustness checks

To capture effects of real manipulation methods, the three individual proxies of real account manipulation (A\_CFO, A\_PROD and A\_DISX) are combined together to generate three comprehensive measures of real earnings management activities. Starting with RM\_1, abnormal discretionary expenditures (A\_DISX) measure is multiplied by negative one (higher values indicate greater suppression of discretionary expenditures to overstate reported earnings) and added to abnormal production costs (A\_PROD). Higher values of the aggregate measure RM\_1 indicate greater propensity to engage in real-based earnings management methods. This measure is computed in consistency with Zang (2012).

For RM\_2 measure, and consistent with Cohen and Zarowin (2010), abnormal discretionary expenditures (A\_DISX) and abnormal cash flows from operations (A\_CFO) measures are both multiplied by negative one separately (higher values indicate greater suppression of discretionary expenditures as well as greater acceleration of sales to upwardly manipulate real-based earnings) and then summed up into one measure.

It is worth noting that A\_CFO cannot be added to A\_PROD because abnormally high production costs and subsequent abnormally low CFO can result from the same kind of activities. Thus combining these two amounts could lead to confounding results (Roychowdhury, 2006; Cohen and Zarowin, 2010)

To account for the three individual proxies of real account manipulation, a single variable RM\_PROXY is computed as the sum of A\_CFO times negative one, A\_DISX times negative one and A\_PROD (Cohen et al., 2008).

Table 4.5 panel A shows mean and median estimates of the three comprehensive measures for the entire sample of SEOs. The three measures RM\_1, RM\_2 and RM\_PROXY exhibit significant figures at the 1%. These findings corroborate prior evidence that shows that Canadian SEO firms engage in income-increasing real account manipulations in the year prior to the offering.

Still, prevalence of real-based earnings management methods remains evident even after dividing the whole sample into pre- and post-CSOX subsamples. For instance, table 4.5 panel B shows



higher mean and median values for RM\_1, RM\_2 and RM\_3 and significant at the 1% in the pre- and post-CSOX periods. This could be explained by the strong effect of low discretionary expenditures in both periods, previously shown in table 4.4 panel B. In this regard, Lee and Swenson (2011) state that Canadian firms have great chances to manipulate earnings through discretionary capitalization or expensing of research and development (R&D) along with the discretionary expensing of SG&A and advertising.

Moreover, pre-post mean and median differences in table 4.5 panel B provide further evidence of higher levels of real-based earnings management activities following the enactment of CSOX. For instance, mean and median differences for RM\_2 are -0.049 and -0.042 respectively (both statistically significant at the 5% level). This captures the effects of greater reduction in discretionary expenditures (A\_DISX) as well as greater acceleration of sales (A\_CFO) in the post-CSOX period. RM\_PROXY also shows a mean difference of -0.065 (statistically significant at the 10%) indicating more engagement in real account manipulation methods in the post CSOX period.

Cohen and Zarowin (2010) however state that the three comprehensive measures of real account manipulation (RM\_1, RM\_2 and RM\_PROXY) may dilute the different implications the three individual variables (A\_CFO, A\_PROD, A\_DISX) have on reported earnings. And therefore, results corresponding to individual proxies have to be reported primarily. For robustness checks aggregated measures can be used.

**Table 4.5: Real-based Earnings Management Comprehensive Measures**

The following table shows real-based earnings management comprehensive measures for SEOs in the year prior to the announcement dates. Panel A reveals real comprehensive measures for SEO observations in all years. Panel B shows real comprehensive measures for SEO observations in the Pre- and Post-CSOX periods. The results are based on parametric (t-tests for the means) and nonparametric (Wilcoxon signed-ranks test for the medians) tests. P-values are given in parentheses and significant results are marked in bold. \*\*\*, \*\*, \* denote one-tailed significance at 1%, 5%, and 10% level respectively.

**Panel A: Real Comprehensive Measures Results for the Entire Sample**

All SEOs		
	Mean	Median
RM_1	<b>0.064***</b>	<b>0.037***</b>
P-Value	(0.000)	(0.000)
No. of Obs.	304	
RM_2	<b>0.067***</b>	<b>0.040***</b>
P-Value	(0.000)	(0.000)
No. of Obs.	351	
RM_PROXY	<b>0.076***</b>	<b>0.048***</b>
P-Value	(0.000)	(0.000)
No. of Obs.	277	

**Panel B: Real Comprehensive Measures Results for the Pre- and Post-CSOX Subsamples**

	Pre-CSOX		Post-CSOX		Difference Pre-Post	
	Mean	Median	Mean	Median	Mean	Median
RM_1	<b>0.068***</b>	<b>0.031***</b>	<b>0.059***</b>	<b>0.047***</b>	0.009	-0.016
P-Value	(0.000)	(0.000)	(0.003)	(0.006)	(0.746)	(0.558)
No. of Obs.	162		142			
RM_2	<b>0.046***</b>	<b>0.034***</b>	<b>0.095***</b>	<b>0.076***</b>	<b>-0.049**</b>	<b>-0.042**</b>
P-Value	(0.000)	(0.000)	(0.000)	(0.000)	(0.028)	(0.022)
No. of Obs.	200		151			
RM_PROXY	<b>0.049**</b>	<b>0.033**</b>	<b>0.114***</b>	<b>0.075***</b>	<b>-0.065*</b>	-0.042
P-Value	(0.011)	(0.012)	(0.000)	(0.000)	(0.059)	(0.125)
No. of Obs.	161		116			

RM\_1 = abnormal discretionary expenditures multiplied by negative one and added to abnormal production costs,

RM\_2 = abnormal discretionary expenditures and abnormal cash flows from operations are both multiplied by negative one and then summed up into one measure,

RM\_PROXY = sum of abnormal cash flows from operations times negative one, abnormal discretionary expenditures times negative one and abnormal production costs

#### 4.5 Discussion of the Results

This section discusses the results of the previous section and links them to the hypotheses developed in chapter three as well as to the findings of earlier studies. Starting with aggregate level, evidence of significant positive abnormal accruals indicates that Canadian SEO firms engage in income-increasing accrual manipulation in the year preceding SEO announcement dates. Besides, results reveal that Canadian SEO firms also engage in income-increasing real account manipulation in the year prior SEOs through accelerated sales levels (through significant negative abnormal cash flows from operations) and reduced discretionary expenditures (through significant negative abnormal discretionary expenditures). These findings are in support of hypotheses  $H_1$  and  $H_2$  and the findings of Cohen and Zarowin (2010) and Ibrahim et al. (2011) who report SEO firms' engagement in both accrual and real-based earnings management activities in the year prior to the offering. Notably, the main incentive that drives managers to overstate earnings prior the issue is the fact that such behavior can improve the price at which their firm's SEOs are sold to investors.

Earnings management activities, however, exhibited new trends after the passage of CSOX in 2003. Though, year 2004 witnessed the whole transition since it incorporated the introduction of the corporate governance reforms closely resembling those assigned by the U.S. SOX. More precisely, Canadian SEO firms have shown a decline in mean abnormal accruals (insignificant values) in the post-CSOX period after it was significantly positive in the pre-CSOX period. In fact, this decline has created a mean difference between the pre-and post-CSOX periods. Obviously, this mean differential has proven to be statistically significant. This empirical evidence gives support to hypothesis  $H_{3a}$ , showing that accrual-based earnings management has been restrained following the passage of CSOX. Thus, it can be inferred that new corporate governance mechanisms and codes of CSOX have been effective in monitoring levels of abnormal accruals and reducing them. This improvement in accruals quality can be explained by the favorable enhanced governance atmosphere created after the act. In this context, Nui (2006) show that new regulatory provisions of CSOX have been successful in reducing accrual manipulation and subsequent managerial opportunism. Consistently, Cohen et al. (2008) and Ibrahim et al. (2011) find that managers engage less in accrual-based earnings manipulation

following the passage of U.S. SOX in 2002. Notably, Ibrahim et al (2011) provide this evidence within the context of seasoned equity offerings.

Furthermore, a major focus of the study's empirical investigation was on variations of real account manipulation between pre- and post-CSOX periods. In the pre-CSOX period, it was evident that Canadian firms engage in real account manipulation in the year prior SEOs through lower discretionary expenditures. This is in line with the findings of Ibrahim et al. (2011) who report the prevalence of both accrual-based and real-based earnings management methods in the period preceding the passage of U.S. SOX. In fact, real account behavior of abnormal reduction in discretionary expenditures persisted even after the enactment of CSOX provisions (statistically significant figures). Additionally, post-CSOX period has been characterized by a greater propensity to engage in real account manipulation methods in the year prior SEOs through accelerated sales. For instance, pre-post-CSOX mean and median differences for abnormal cash flows from operations are statistically significant. This creates partial support to hypothesis H<sub>3b</sub> indicating that the overall level of real-based earnings management activities for SEO firms is higher in the post-CSOX era. High levels of real account manipulations have been accompanied by low insignificant levels of abnormal accruals post-CSOX, thus indicating a shift from accrual-based earnings management to real-based earnings manipulation after the passage of CSOX Act. These findings are consistent with Cohen et al. (2008) who report similar shift in the period following U.S. SOX in 2002. Cohen et al. (2008) attribute the shift to the fact that real methods, despite being costly, are less likely to be detected. Therefore, it could be stated that U.S. SOX and Canadian SOX-like legislation (CSOX) may have created additional governance and hence, impacted managerial choices of accounting practices. Similarly and within the context of SEOs, Ibrahim et al. (2011) suggest that accrual-based and real-based earnings management methods act as substitutes for they detect further evidence of a shift to real-based methods in the post-SOX period.

#### **4.6 Conclusion**

This chapter reports and explains the empirical findings of this research through descriptive and inferential statistics. It also discusses the outcomes and relates them to the findings of earlier studies. The descriptive statistics reports values for mean, median, standard deviation, minimum,

maximum, kurtosis and skewness for the entire sample and pre- and post-CSOX sub-samples. Pearson correlation coefficients show levels of correlation between studied variables.

Findings showed that Canadian SEO firms use more than one method to engage in income-increasing earnings manipulation. Accordingly, results have supported hypotheses  $H_1$  and  $H_2$  that Canadian SEO firms engage in both accrual and real income-increasing manipulation in the year preceding SEO announcement dates. More precisely, they upwardly manipulate earnings in the year prior SEOs through abnormal accruals, accelerated sales levels (through lower levels of cash flows from operations) and reduced discretionary expenditures.

Results have also supported hypotheses  $H_{3a}$  and  $H_{3b}$  that overall level of accrual-based earnings management activities by Canadian SEO firms is significantly lower in the post-CSOX era while that of real-based earnings management activities is significantly higher. This significant difference of earnings management activities by SEO firms indicates a possible shift from accrual-based to real-based earnings manipulation in the post-CSOX period. Hence, there is evidence that CSOX has impacted aggressive accounting practices known as earnings management and contributed to enhancing the quality of financial reporting. This evidence has been clear within the context of Canadian seasoned equity offering.

## **Chapter 5: Conclusion**

### **5.1 Introduction**

This research aims at studying Canadian SEO firms' propensity to manipulate earnings in the year prior to the offering in a pre- versus post-CSOX comparative approach. This final chapter reviews the results and provides avenues for future research. Section two summarizes the findings of this study and compares them with the findings of earlier studies. Section three discusses the validity of results. The limitations of the study are highlighted in chapter four. The theoretical and practical implications are explained in section five. Section six suggests avenues for future research.

### **5.2 Summary of the Findings**

This study investigates the prevalence of accrual and real-based earnings management for a sample of Canadian SEO firms in two phases. In the first phase, results are reported for the entire sample of Canadian SEOs over the entire study period (1993-2008). In the second phase, results are reported for two separate periods, the pre- and post-CSOX periods.

Results reported in the first phase show that Canadian SEO firms use more than one method to engage in income-increasing manipulation. Particularly, they engage in both accrual-based and real-based earnings management activities in the year preceding SEO announcement dates through abnormal accruals, accelerated sales levels (shown as lower levels of cash flows from operations) and reduced discretionary expenditures. These findings are in line with the findings of Cohen and Zarowin (2010) and Ibrahim et al. (2011) who report SEO firms' engagement in both accrual and real-based earnings management activities in the year prior to the offering.

Results reported in the second phase show an improvement in earnings quality after the passage of CSOX. This is demonstrated by the substantial decline of abnormal accruals in the year prior to the announcement of SEOs. This finding might be explained by the enhanced favorable governance environment created after the passage of the CSOX provisions. However, lower level of accrual manipulation has been accompanied by higher levels of real account manipulations post-CSOX, thus indicating a shift from accrual-based earnings management to real-based earnings manipulation in the post-CSOX period. These findings are consistent with the findings

of Cohen et al. (2008) and Ibrahim et al. (2011) who report similar shift in the period following the enactment of U.S. SOX in 2002. Therefore, it could be stated that CSOX has impacted managerial choices of accounting practices and contributed in enhancing the quality of financial reporting.

The summary of findings associated with the tested hypotheses is illustrated in Table 5.1.

Hypothesis	Theory	Statistical Test	Empirical Results	Findings
<b>H<sub>1</sub></b> : Canadian SEO firms engage in positive accrual-based earnings management in the accounting year prior to SEO announcements.	Agency Theory	One-Sample parametric and non-parametric Tests	Significant	Supported
<b>H<sub>2</sub></b> : Canadian SEO firms engage in positive real-based earnings management in the accounting year prior to SEO announcements.	Agency Theory	One-Sample parametric and non-parametric Tests	Significant	Supported
<b>H<sub>3a</sub></b> : The magnitude of positive accrual-based earnings management by Canadian SEO firms is lower in the post-CSOX period than in the pre-CSOX period.	Agency Theory	Independent Samples parametric and non-parametric Tests	significant	Supported
<b>H<sub>3b</sub></b> : The magnitude of positive real-based earnings management by Canadian SEO firms is higher in the post-CSOX period than in the pre-CSOX period.	Agency Theory	Independent Samples parametric and non-parametric Tests	Significant	Partially Supported

### 5.3 Validity

Researchers must always express mechanisms that reflect the quality and value of a good research, and this basically depends on validity of its results. In fact, there are several forms of validity: construct validity, external validity, internal validity and conclusion validity (Trochim, 2008). This section will discuss the forms of validity that are relevant to this research topic.

Construct validity refers to the extent to which conducted tests measure what they claim to be measuring (Brown, 1996). In more explicit terms, it refers to whether adopted variables and proxies actually reflect the concepts and theories of a research study (Trochim, 2008). Provided

that this study aims at investigating trends of earnings management methods for SEOs before and after enactment of CSOX, it is of interest to compute proxies that capture both accrual and real-based earnings management methods. In fact, activities of accrual and real accounting are solely related to financial reporting and serve as favorable instruments to manipulate reported earnings. To account for accrual-based earnings management, discretionary accruals based on the cross-sectional version of the Jones model (Jones, 1991; Dechow et al., 1995) with Kothari et al. (2005) modifications was computed. For instance, majority of earlier studies focus mostly on using discretionary accruals as a proxy for accrual-based earnings management (e.g. Teoh et al., 1998a; Rangan, 1998; Shivakumar, 2000 and others). Recently, there has been an increased attention to real-based earnings management as an alternative to accrual management, especially after the enactment of Sarbanes-Oxley Act (SOX) in 2002. Graham et al. (2005) and Roychowdhury (2006) were the first to prove the pervasiveness of real activities manipulation through accelerated sales levels, overproduction and reduced discretionary expenditures. Therefore, to account for real account management, the three real manipulation metrics by Roychowdhury (2006) was adopted. Similarly, these proxies have been widely used by a significant number of influential studies such as Cohen et al. (2008), Cohen and Zarowin (2010) and Ibrahim et al. (2011). The wide usage of accrual and real account manipulation measures by researchers and their ability to reflect earnings management activities of Canadian firms prior the announcement of SEOs are considered a strong evidence of their validity. Notably, the literature exhibits different measures of earnings quality especially those concerned in measuring the quality of accruals. One concept focusses on measuring the magnitude of accrual estimation error (Dechow and Dichev, 2002). Another concept considers using the magnitude of accruals that is equivalent to computing the ratio of a firm's accruals to the value of its cash flow from operations (e.g. Leuz et al., 2003). Lobo and Zhou (2006) use measures of accounting conservatism to compute levels of managerial discretion over accounting numbers. However, these proxies have not been as widely studied as discretionary accrual and real account manipulation measures

Conclusion validity is another form of validity that is applicable in this research. It refers to the degree to which the conclusions about the hypotheses are correct or reasonable. In fact, on the first level of analysis, where the study is conducted on the entire sample of Canadian SEOs over the entire study period (1993-2008), the results are consistent with the findings of other well-



known studies such as Rangan (1998), Toeh et al. (1998a), Shivakumar (2000), Cohen and Zarowin (2010), Ibrahim et al. (2011) and Kothari et al. (2016). This consistency in results is considered as evidence on validity of conclusions reached by this study. On the second level of analysis, where changes in earnings management activities after CSOX are reported, the significant shift from accrual manipulation to real account manipulation can be considered complementary to previous research that has reported enhanced earnings and governance quality in the post-SOX period (Cohen et al., 2008 and Ibrahim et al., 2011). This can be considered as further evidence on validity of conclusions reached. Furthermore, in an attempt to assure the validity of conclusions, this study used the cash-flow approach of total accruals and three comprehensive measures of real earnings management activities (RM\_1, RM\_2 and RM\_PROXY) for comparison reasons and as a robustness check for the results.

#### **5.4 Limitations of the Research**

Like any other research, this research has faced some limitations which placed certain constraints on its methodology and conclusions. First of all, this research focuses on a particular setting, seasoned equity offerings, regardless of any other corporate setting. Besides, the empirical investigation of this study focuses primarily on accrual and real-based earnings management of Canadian SEO firms around reforms in the Canadian corporate governance system brought by CSOX. Accordingly, it is obvious that the findings associated with this study might not be generalized to other corporate settings and other countries.

Furthermore, given that financial data necessary to compute discretionary accruals metrics incorporated more missing records than data necessary to compute real earnings management proxies, final sample for accrual-based methods became smaller in size with 212 observations as compared to the 470 observations for real-methods. This sample size reduction was also due to implementation of several criteria during sampling selection procedure. Finally, it is worth noting that like in any other earnings management study, magnitude and quality of manipulation may not be fully captured by earnings manipulation measures and that results strongly depend on the construct validity of models proved in section three.

### **5.5 Theoretical and Practical Implications**

The results of this study generate significant theoretical and practical implications. As mentioned earlier, recent trends of earnings management around reforms in the corporate governance regime draws attention to the need to examine variables that can detect such acts and reflect changes in quality of financial reporting. Therefore, theoretically, evidence of a decline in earnings management activities after the implementation of CSOX might act as a keystone for future research investigating the causal effect relationship between CSOX corporate governance mechanisms (including internal control structure, board composition, independent auditor oversight, extent of disclosure of corporate governance practices etc...) and the change in forms of financial reporting. This significant change would also highlight the possibility that CSOX have reduced some agency problems raised by agency theory. Notably, earnings management has been perceived as being utilized opportunistically by managers at the expense of shareholders (Jiraporn et al., 2008). Strictly speaking, this study draws attention to the implications of agency theory within new setting, Canadian seasoned equity offerings, before and after the CSOX Act.

On the practical level, findings of this study could be of interest to equity investors as well as to policy makers. For instance, these findings make them aware about the engagement of Canadian SEO firms in earnings management activities. Furthermore, since the results of this study prove the effectiveness of CSOX in curbing earnings management activities and enhancing the quality of financial reporting, whereby investors will no longer fear problems arising from information asymmetry and subsequent moral hazard and opportunism. This is crucial in the light of recent trend of earnings management activities in public firms, which can eventually disturb investors who refer frequently to financial statements in their decision-making process. Accordingly, investors will regain confidence in their financial system and make more efficient decisions in their investments. As for policy makers, evidence on the potency of their corporate governance legislation could help them propose and achieve further future reforms and improvements in rules and regulations.

## **5.6 Suggestions for Future Research**

This study investigates accrual and real-based earnings management by Canadian SEO firms around reforms in the Canadian corporate governance system, brought by CSOX. Another avenue for future research is to investigate the causal-effect relationship between CSOX corporate governance mechanisms and different forms of earnings manipulation. In more explicit terms, accrual and real-based earnings management could be regressed on individual measures of governance features such as internal control structure, board composition, independent auditor oversight, extent of disclosure of corporate governance practices etc.

Another avenue for future research is to examine accrual and real-based earnings management for other Canadian corporate events such as initial public offerings (IPOs) and merger and acquisitions (M&As). Finally, similar studies with similar scenario of analysis could be conducted to examine the impact of U.S. SOX-like legislations in countries other than Canada.

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