Three Essays on Financial Information Disclosure

Bo Zhang

A Thesis

In

The John Molson School of Business

Presented in Partial Fulfillment of the Requirements

For the Degree of

Doctor of Philosophy (Business Administration) at

Concordia University

October 2017

CONCORDIA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

This is to certify that the thesis prepared

By: Bo Zhang

Entitled: Three Essays on Financial Information Disclosure

And submitted I partial fulfillment of the requirement for the degree of

Doctor of Philosophy (Business Administration)

Complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the final examining committee:

_____ Chair
Dr. Seth Spain

_____ External Examiner
Dr. Anne Jeny

_____ Examiner to Program
Dr. Bryan Campbell

_____ Examiner
Dr. Steve Fortin

_____ Examiner
Dr. Li Yao

_____ Thesis Supervisor
Dr. Michel Magnan

Approved by _____
Dr. Kathleen Boies, Graduate Program Director

November 30, 2017
Date of Defense

_____
Dr. Anne-Marie Croteau, Dean, John Molson School of Business

Abstract

Three Essays on Financial Information Disclosure

Bo Zhang, Ph.D.

Concordia University, 2017

This thesis is comprised of three essays on informational issues that revolve around financial reporting, governance, and disclosure. The first essay focuses on how International Financial Reporting Standards (IFRS) adoption by the Canadian fund industry impacts the funds' reported performance and managers' behavior. When Canada implemented IFRS for publicly accountable enterprises (PAEs) in 2011, it received much attention from international researchers, professionals, and regulators mainly for three reasons: (1) IFRS were more mature when adopted in Canada as nine amendments had been made from 2005 through 2010, and issues and uncertainties faced by earlier adopters such as firms from EU members may or may not exist in Canada; (2) pre-IFRS Canadian accounting standards were very close to that of the US, and thus, the Canadian experience has strong implication to the largest capital market which has not accepted IFRS as primary standards yet; (3) Canadian accounting and financial regulations have been shown to be more effective in controlling risks during the 2008 financial crisis compared to those of other major economies; how IFRS can strengthen such a tight system is to be examined and is important to IFRS proponents and standard setters. In 2014, Canada took the lead by being the first common law jurisdiction mandating IFRS for investment funds while most other countries hold up IFRS adoption in this particular industry due to various complications. This paper shows that IFRS adoption does affect the funds' outcomes and managers' behavior in Canadian closed-end investment funds, and voluntary disclosure of cash flows also strongly affects fund managers' return and valuation discretion. The implication is that if a country is

not ready to fully implement IFRS in the fund industry because of complications at the accounting and financial levels, mandatory disclosure of cash flows could lead to better accounting quality as well, since one major difference between IFRS and GAAP is the disclosure of cash flows which constrains manager's discretion on asset appraisals.

The second essay studies the implications from outside directors' turnover. Outside directors have been extensively studied as a governance factor, but their behaviors are not well documented in the literature, partly because most agency theory-based research concentrates on the behavior of managers, not that of directors. While the majority of studies in the governance literature analyze characteristics of directors in a static way, I look at this question in a dynamic way which considers directors' behaviors. This paper studies S&P 500 companies that have boardroom turnovers due to outside directors' unexpected departures. The departures of these non-executive directors usually do not trigger investors' concerns. However, our results show that when they do not provide concrete reasons, the firms from which they resigned experience underperformance afterward. This result suggests that directors may have resigned ahead of sub performance because of information they became privy to. The implication is strong to both regulators and investors. While governance regulations require a certain proportion of outside directors on compensation and audit committees with the intention of achieving efficient governance and releasing timely and reliable information, such mechanisms are substantially affected if outside directors do not fulfill their responsibilities when firms face challenges. Investors who take long positions should be alerted about outside directors' unexplained departure, and investors who take short positions may find opportunities when a company has boardroom turnover.

The third essay examines a financial question around mergers and acquisitions announcements. In a tender offer, the bidder contacts shareholders of a target firm directly by announcing a public offer to tender their shares. The risk arises because the acquisition may or may not go through. Insiders typically have a better appreciation of the likelihood of a successful acquisition than outsiders, who have very limited access to strategic and private information. As a result, outsiders are at the disadvantageous position during mergers

and acquisitions. This paper documents that besides official and public releases, outsiders can also rely on stock returns around announcements to infer private information to reduce information asymmetry. While current regulations and reporting standards do not have effective ways to minimize information asymmetry during mergers and acquisitions, this study highlights an avenue that indirectly mitigates outsiders' information disadvantage.

Keywords: *IFRS, return management, closed-end funds, outside directors, future performance, mergers and acquisitions, abnormal returns.*

Acknowledgement

This thesis represents not only my work: it is an accomplishment that would not have been achievable without the invaluable support from my advisor, committee members, other faculties of the Department of Accountancy, and the Ph.D. Program Office at the John Molson School of Business at Concordia University.

First and foremost, I owe my deepest gratitude to my advisor, Dr. Michel Magnan, who has been supportive since the days I began my Ph.D. program at Concordia University. Dr. Magnan's continuous encouragement and direction have always been an immeasurable support to my doctoral journey in the accounting area. I gratefully appreciate his time, patience, ideas, expertise, and funding that bring me to this achievement. His knowledge, professionalism, and personality define an image for me to pursue in my career as a teacher and researcher.

My thesis committee guided me through all the years since my preparation for the Comprehensive Exam. I am grateful to Dr. Steve Fortin and Dr. Li Yao for being my committee members whose effort substantially increased the value of my work. Dr. Fortin started to advise my study in accounting research since my attendance at his seminar at McGill University and provided insightful feedbacks to my thesis since the proposal. Dr. Yao has been a mentor for me since he joined my committee, and I appreciate his valuable advice on research, Ph.D. life, and job hunting.

I remain indebted for the financial support from Stephen A. Jarislowsky Chair in Corporate Governance, the Institute for the Governance of Private and Public Organizations, Lawrence Bloomberg Chair in Accountancy, Social Sciences and Humanities Research Council of Canada, and Concordia University. I would also like to thank Dr. Marion Brivot, Dr. Michel Magnan, Dr. Claudine Mangen, Dr. Byron Song, and Dr. Li Yao for financial support from the funding that they investigate.

The Ph.D. life at the John Molson School of Business is full of enrichment and joy. I am very grateful to everyone at the Department of Accountancy for maintaining an active and diversified research hub where

a broad range of ideas are exchanged and encouraged. The friendship with my Ph.D. colleagues will be forever cherished.

I dedicate this thesis to my beloved wife, Jia Zhou, whose endless love and unconditional support have always been standing by me. I owe my achievement to her companion and sacrificed professional career in China. Finally, I would not have been able to continue my journey to this milestone without my parents who instilled confidence and courage in me, and the endeavor and perseverance of my father shown in his life have strongly encouraged me to fulfill my goal during the time of challenges.

Table of Contents

Chapter 1 – Introduction

Information content and disclosure quality are the core of financial reporting systems. Professional accounting bodies, researchers, and regulators globally have been seeking better reporting quality and striving to reduce information asymmetry by various ways such as stronger professional codes, theoretical and archival studies, amendments, new regulations, and tighter laws. So far, regulatory changes have been one of the most extensively studied areas in the literature, and regulations aiming to enhance governance and enhanced information disclosure are also widely discussed by accounting scholars. However, some gaps do exist in the literature. For instance, IFRS adoption in the Canadian investment fund industry is one of the new regulatory changes which has not been studied so far, despite the fact that it has implications beyond Canada's borders since the investment fund industry is global but has yet to adopt IFRS in almost all countries.

The International Accounting Standards Committee (IASC) was formed in 1973 through an agreement among professional accounting bodies from the UK, the Netherlands, Ireland, France, Germany, the USA, Canada, Mexico, Australia, and Japan. In 1997, the IASC saw a need to bring about convergence between domestic accounting standards and global accounting standards and the IASC's governance was completely overhauled. This paved the way for the creation of the International Accounting Standards Board (IASB) in 2001 for the purpose of having a global set of accounting standards. With the efforts by the IASB and global regulatory bodies, more than 100 countries currently require or permit companies to comply with IASB standards which are International Financial Reporting Standards (IFRS) (De Georege, Li, and Shivakumar [2016]). The implementation of IFRS is one of the major efforts made by professionals, academia, and regulators jointly since the new millennium, and the impact and implications of IFRS have been the focus of academic interest for about two decades since the voluntary adoption of IFRS in major economies. While public accountable enterprises have been embracing IFRS in a voluntary manner for two decades and a mandatory status for one decade, investment funds remained exempt from IFRS adoption in

most countries. Currently, full adoption of IFRS is not widespread as only Canada and four EU members require IFRS for their investment fund industries.

One major difference between IFRS and Canadian GAAP with respect to investment funds is the mandatory disclosure of cash flows, which is optional under Canadian GAAP and other local standards. IAS 7, Statement of Cash Flows, sets out the requirements for presenting such financial information without exemption. While the debate on IFRS adoption has not reached a single conclusion because of various factors that could lead to either more accurate valuation or more discretional appraisals, the investment fund industry rules out many of the competing factors by its relative simplicity of financial reports compared to other financial institutions and public firms. Moreover, IFRS adoption is usually accompanied by other regulatory reforms (Daske et al. [2008]; Kim, Liu, and Zheng [2012]; Christensen, Hail, and Leuz [2013]; Florou and Kosi [2015]) and it is not clear if the outcome results from accounting standards or other reforms, but the Canadian regulator implemented a two-stage adoption for publicly accountable enterprises in the first stage and investment funds in the second stage. As a result, the fund industry is affected purely by IFRS adoption as other institutional changed have been completed during the first stage when public firms were affected. For instance, the Canadian Auditing Standards (CAS) that comply with the International Standards on Auditing became effective since December 14, 2010. The new CAS establish new requirement on the risk assessment, internal control, and board's participation in auditor' report. In the same year, the Office of the Superintendent of Financial Institutions (OSFI) established a dedicated Corporate Governance Division to oversee the governance practice of Canadian financial institutions and ensure the compliance with OSFI's Corporate Governance Guidelines. These two regulatory reforms accompanied the adoption of IFRS and led to combined outcomes of financial reporting in Canada. However, when the Canadian investment fund industry welcomed IFRS, no other major regulatory changes that can affect accounting quality were made simultaneously in Canada. This unique setting makes Canadian fund industry ideal for the study of IFRS impact. In this paper, I employ Canadian closed-end fund and study the return and valuation management of these financial entities before and after IFRS adoption. Results show that IFRS,

in general, reduce return management, but voluntary disclosure of cash flows before mandatory requirement by IFRS also play an important role in limiting manager's discretional valuations. While this paper contributes to the existing IFRS literature by studying the investment fund industry under the international accounting system, it also has implications for regulators that are not ready to mandate IFRS for their local investment funds. Without having to implement IFRS fully, a regulatory body can simply mandate the disclosure of cash flows as an effective way to constrain managers' discretionary appraisal of assets values: this paper reports that the disclosure of cash flows is a significant factor reducing discretion in the fund industry. This paper also contributes to the literature by being one of the first studies linking IFRS adoption with Net asset value (NAV) discount: investments measured at Fair Value Level 2 exhibit greater association with NAV discount in Canadian investment funds after the adoption of IFRS.

Besides accounting standards changes, regulatory bodies and lawmakers have also pushed for stronger governance and better reporting quality as ways to lower information asymmetry. Following the financial scandals of the past two decades, regulations such as the SOX set more definite requirement for the presence of outside directors to oversee manager's opportunistic behavior. However, outside directors also have their opportunistic behaviors, but regulations seem limited and inefficient in reducing directors' opportunistic behaviors. The second essay examines the turnover of outside directors in S&P 500 firms. Results show that when firms are likely to underperform, many outside directors choose to leave the company with an excuse or without any explanation. When firms face potential troubles, outside directors are supposed, by both regulators and investors, to perform two major tasks: first, overseeing the manager to prevent any untimely disclosure of information or intentional distort of information; second, working with other board members and management to solve the problem that may exist or arise. However, many outside directors appear to shirk their responsibility and evade being associated with underperforming companies. Such behavior substantially reduces governance efficiency and potentially affects reporting quality. While most studies focus on manager's behavior and believe that governance factors such as the presence of outside directors reduces manager's opportunistic behavior, this study looks from a different perspective and warns

regulators and investors that outside directors are also subject to opportunistic behavior and that oversight and regulation on outside directors should also be established or reinforced. Otherwise, governance failure may occur when governance is most needed.

Besides the routine financial reports, there are several circumstances that regulated disclosures do not provide timely and sufficient information. In the United States, in situations of mergers and acquisitions, bidders are required by the Williams Act to file schedule TO with the SEC, but the outcome of the offer relies heavily on private information which is not reflected in public filings. Since disclosure regulations have a very limited effect on reducing information asymmetry during acquisitions, outsiders and small investors are at a severe information disadvantage during such corporate activities. With the given regulatory reality, this paper examines if outsiders can rely on alternative public information to infer what they do not have access to. By examining abnormal returns around tender announcements and offer closures, this study presents evidence that insider information is reflected in abnormal returns and outside investors can capture such inferred information to mitigate their disadvantageous position. Since disclosure regulations have not required effective ways to reduce information asymmetry during tender offer periods, I suggest that outside investors use indirect ways to obtain information and protect themselves.

To summarize, this dissertation as a whole raise and answers the following questions.

1. When accounting standards change, how is reporting quality affected? More specifically, when IFRS replace GAAP as the reporting standards, how is the investment fund industry impacted regarding its return management and asset valuation?

2. While a governance mechanism is supposed to mitigate agency problem and prevent manager's opportunistic behaviors, what if a governance mechanism can also be subject to opportunistic behavior? If this opportunistic behavior happens in a governance mechanism, what are the consequences and how can investors detect governance ineffectiveness?

3. In practice, disclosure cannot be complete and thorough. When disclosure is limited, what are other sources of information and how can investors at an information disadvantage reduce their information gap?

This dissertation provides evidence that IFRS adoption reduces return management in Canadian closed-end funds, and voluntary disclosure of cash flows also contributes to less return management. NAV discount is also affected by IFRS adoption, and Level 2 assets contribute to a larger proportion of NAV discount as discretion in the valuation of Level 3 assets is more constrained under IFRS. While the presence and work of outside directors improve governance quality, in a dynamic context outside directors may shirk their responsibilities by quitting a firm that has potential troubles. Such behavior exacerbates a company's situation by impairing governance efficiency when the company and investors need it. Finally, during mergers and acquisitions when disclosure is limited, outside investors can infer private information by analyzing stock returns around offer announcement so as to achieve better information position.

This dissertation is organized as follows. Chapter 2 presents Essay I which investigates the implication and impact of IFRS adoption in Canadian closed-end funds. Chapter 3 presents Essay II which analyzes a governance issue caused by outside directors shirking their responsibilities when firms are potentially in trouble. Chapter 4 presents Essay III which discusses the information asymmetry and inferred private information during tender offer for mergers and acquisitions. Chapter 5 summarizes the findings and discuss the contributions and concerns of this dissertation.

Chapter 2

Discretion in Assets Valuation in Canadian Investment Funds after the Adoption of IFRS

2.1 Abstract

Since 2011, Canadian publicly accountable enterprises have been required to use International Financial Reporting Standards (IFRS). However, this requirement did not apply to investment funds until 2014. Among the earliest adopters of IFRS for the fund industry, Canada is a developed market and has institutional factors that resemble many other major capital markets. This study examines the pre-IFRS and post-IFRS assets appraisals by Canadian investment funds to assess if the adoption of IFRS leads fund managers to engage in more or less return management. Results show that after the adoption of IFRS the discretionary part of the unrealized gain is more aligned with its non-discretionary part, indicating reduced valuation and return management on assets which valuation is more discretionary, i.e., assets which are measured at fair value Level 2 and Level 3. This paper also finds that voluntary disclosure of Cash Flows before IFRS adoption has a significant constraining impact on valuation and return management. Moreover, while prior research documents that NAV discount is more associated with Level 3 assets than it is with Level 2 assets, this paper shows that Level 2 assets contribute more to the NAV discount after IFRS adoption.

2.2 Introduction

Since the adoption of IFRS in the European Union (EU) on January 1st, 2005, much attention has been given to the implications and consequences of IFRS for publicly accountable firms. IFRS now have been implemented in more than 100 countries around the world, but most regulators globally hold up their applications arising from the consolidation of investments in firms controlled by funds. Hence, in most countries, the investment fund industry keeps reporting under domestic Generally Accepted Accounting Principles (GAAP), and how IFRS impact the fund industry remains an unanswered question due to the lack of empirical facts. However, Canada's Accounting Standards Board (AcSB) took a step ahead by requiring Canadian investment funds, including mutual fund companies, EFT, and hedge fund providers, following IFRS starting January 2014. Canada's adoption of IFRS for investment funds thus provides a unique opportunity to assess if and how IFRS affect the quality of valuation figures reported by those funds.

The question being addressed in this paper is whether IFRS adoption in the Canadian fund industry reduces fund managers' discretion on fund returns and asset valuation. Similar to the concept of earnings management, it is possible for fund managers to manage the valuation of assets to smooth the reported performance of investment funds for their individual benefits. Investment funds typically hold financial assets that are reported at fair value. While the valuation of actively traded securities is constrained by public information, the valuation of unquoted securities is subject to some discretion. Therefore, the discretionary component in the valuation of financial assets measured at Level 2 or 3, more or less determines the accounting of reported returns. In this regard, prior research documents that investment funds are, like publicly traded firms, subject to manager's opportunistic behavior due to individual incentives (Nissim 2003).

One key change brought forward with IFRS adoption is that the statement of Cash Flows became mandatory. Moreover, net assets attributable to holders of redeemable shares are classified as equity under GAAP, whereas net assets attributable to holders of redeemable shares are classified as liability under IFRS. While

both IFRS and GAAP require funds to value assets at fair value, there is a minor difference between the two standards: instruments classified as equity of the entity are carried at cost under GAAP, but such instruments are carried at redemption value under IFRS, and changes in this redemption value should be recorded through the income statement. IFRS 7 requires investment funds to disclose the concentrations of risk quantitatively through the Schedule of Investments, but GAAP do not specify the disclosure of such detail. IFRS also require details such as the portion of the profit and loss attributable to the minority interest to be disclosed separately in the income statement. The amendment on Investment Entities issued in 2012 converges one major difference between IFRS and GAAP regarding consolidation of controlled investees. The new standard, effective from January 1, 2014, requires investment funds to only measure investees at fair value, which is the same method under GAAP. In general, IFRS require greater disclosure compared to GAAP.

Using a sample of Canadian closed-end investment funds from 2012 to 2017, this study compares the pre- and post-IFRS reported book returns. Results are to the effect, in general, that the reported performance of securities which fair value measurement is more discretionary (Level 2 and Level 3) to be more aligned with the reported performance of securities which fair value measurement is non-discretionary (Level 1) after the implementation of IFRS. Such increased alignment suggests that due to the enhanced disclosure and additional constraints, the fair value of Level 2 and Level 3 assets in closed-end investment funds reflects more faithfully the underlying performance of the securities under IFRS than under GAAP.

This study contributes to the existing literature in the following ways. First, it is one of the few empirical studies on how IFRS impact the reporting quality and managerial behavior in investment funds. Because regulatory bodies around the world are conservative on implementing IFRS in the investment fund industry, even the earliest IFRS-adopting economies have not mandatorily required IFRS for investment funds. However, Canada had decided to be ahead of its peers starting January 1st 2014, and it is now possible to employ Canadian data for an archival research to examine how IFRS impact fund industry which has not been included in prior IFRS literature. Although there are studies examining how the adoption of IFRS

attracts foreign mutual funds (DeFond, Hu, and Li [2011]; Shima and Gorden [2011]; Florou and Pope [2012]), investment funds as reporting entities have not been studied in the extant literature. This paper contributes to the literature by examining the implication of IFRS to investment funds' financial reporting outcomes, and evidence of this paper supports the argument that IFRS reduce fund manager's discretionary valuation of investment securities. Second, besides IFRS themselves, this study also sheds some light on disclosure questions such as if increased disclosure effectively constrains managers' opportunistic behavior. In the Canadian context, domestic GAAP had not required disclosure of cash flows on a mandatory basis. Since the adoption of IFRS, Canadian funds began to disclose cash flows and, thus, the information content of their financial reports has increased. This particular setting broadens the implication from the study in the sense that for countries not ready to adopt IFRS for the fund industry, consideration could be given to the mandatory disclosure of cash flows for increased reliability and relevance. Third, this study also brings new elements into the stream of studies on Net Asset Value (NAV) discount which has not been linked with IFRS and disclosure level. By comparing the pre- and post-IFRS NAV discount in Canadian closed-end funds, it is observed that the NAV discount is highly associated with the unrealized gain on Level 3 assets which is consistent with several recent papers. Fourth, IFRS studies usually combine the effect of other changes in the reporting infrastructure (Daske et al. [2008]; Kim, Liu, and Zheng [2012]; Christensen, Hail, and Leuz [2013]; Florou and Kosi [2015]), leading to both challenge and opportunities for future research (Leuz and Wysochi, 2016). The Canadian setting of two-stage implementation separates the institutional changes from the second stage when IFRS was adopted in the fund industry. This unique setting resolves the challenge brought up by Leuz and Wysochi (2016) that "*IFRS were often adopted amidst a series of other institutional reforms, making it difficult to identify the effects of IFRS adoption separately from other concurrent institutional changes*". While all the institutional reforms have been completed at the first stage when IFRS was adopted among Canadian public firms, the transition in fund industry is only affected by IFRS standards itself as other institutional changes have been completed by 2011. This setting ideally matches the research context visualized by Leuz and Wysochi (2016) that "*rules could be implemented in a staggered fashion.*"

The remainder of this paper is organized as follows. Section 2.3 reviews the institutional background of IFRS, Canadian setting, and practice of the closed-end funds. Section 2.4 reviews the literature pertaining to IFRS and closed-end funds. Section 2.5 describes the hypothesis and research design. Section 2.6 presents the sample selection and summary of data. Section 2.7 presents the results and Section 2.8 concludes the findings of this study.

2.3 IFRS and Institutional background in Canada

The International Accounting Standards Board (IASB), and its predecessor the International Standards Committee (IASC), have been developing a set of accounting standards with the purpose of international application since 1971 (De George, Li, and Shivakumar [2016]). A major impetus for the dissemination of the International Financial Reporting Standards (IFRS) was their adoption by the European Union in 2002, with implementation in 2005. IFRS adoption is associated with two main objectives: (1) increased reporting quality and (2) improved cross-country comparability. Hence, since January 1, 2005, prominent capital markets outside North American such as London, Paris, and Frankfurt began to require publicly traded firms to present financial statements in conformity with IFRS, while voluntary adoption of IFRS was permitted before 2005. Other major markets introduced IFRS into their regimes in the subsequent years, such as China in 2007 (Chinese GAAP is broadly in line with IFRS), Japan in 2010, Canada in 2011, India 2015, and Singapore in 2018.

For the application of IFRS to investment funds, the IASB recognized a potentially significant accounting issue regarding the consolidation of controlled entities and made revisions in 2012 to largely resolve this issue. Consolidation has always been an issue for private equity funds as most professionals do not consider it meaningful. Investment funds invest only for the purposes of income and capital appreciation, and accessing the investee's assets and debts are not the purposes of this type of entity. Therefore a detailed consolidation representing the underlying assets and liabilities of their investments would not be a

reasonable and relevant presentation of the investment funds' financial position. Investors would also face complex information to judge the value of investment funds. The *Investment Entities* amendments (amendments to IFRS 10, Consolidated Financial Statements; IFRS 12, Disclosure of Interests in Other Entities; and IAS 27, Separate Financial Statements on Investment Entities) released in 2012 provide an exception to the consolidation requirements in IFRS 10 and require investment entities to measure particular subsidiaries at fair value through profit or loss, rather than consolidate them. In 2013, the Canadian Accounting Standard Board (AcSB) and Canadian Securities Administrators (CSA) adopted these amendments and required investment funds to apply IFRS for financial years beginning on or after January 2014, which is three years deferred from 2011 when IFRS began to be effective for all other Canadian publicly accountable enterprises. The deferral of the mandatory changeover to January 1, 2014 is intended to allow the IASB's proposed exemption from consolidation for investment entities to be in place prior to the adoption of IFRS by investment companies in Canada.

Before 2004, one of the Canadian Accounting Standard Board's (AcSB) primary objectives was to eliminate or minimize differences between Canadian GAAP and US GAAP, and its primary focus was to harmonize Canadian GAAP with U.S. GAAP (AcSB 2004). Canadian economy has long been strongly tied to the US market, as "*Over 80% of its exports being US-bound, and over 60% of its foreign equity portfolio investment coming from the United States*"(Ramanna 2013), and Canadian accounting rules thus became detailed like the US rules before IFRS adoption (Milburn and Skinner [2001]; Chlala and Fortin [2005]; Blanchette et al. [2011]). However, Canada's US-converging objective lost its focus on May 31, 2004, when the AcSB sought comment as to whether Canada would be better off adopting IFRS, US GAAP, or keeping Canadian GAAP. After a year of consideration, on February 10th, 2005, the AcSB proposed adopting IFRS to the Accounting Standards Oversight Council, and on March 31st, 2005, the AsSB sought only comment on IFRS adoption, not considering US GAAP anymore. The AcSB formally adopted IFRS in 2006, with full-fledged implementation to start in January 2011 onwards, thus providing a five-year transition period for a larger scope of investors globally and provide better access to international capital,

funding, and investment opportunities. Burnett et al. (2015) show evidence confirming that Canadian firms prefer IFRS when operating in more globalized industry or regions with less US presence. “It has become increasingly difficult to make foreign investors comfortable, in the sense of understanding, the Canadian accounting system that we have in place. It is very expensive to educate others. The choices are simple: it’s either US GAAP or international standards” (Paul Cherry [2006]). Although Canada’s economic reliance on the US remained overwhelming, its dependence on the United States had been decreasing in recent years largely due to growing commerce and investment flows with and from the EU and China (Ramanna [2013]), where IFRS have either been adopted or received the commitment of convergence. Burnett et al. (2015) document that Canadian firms are more willing to report under IFRS when they have less US shareholders, although AcSB noticed “a generally lower level of satisfaction” about IFRS in 2014.

While IFRS have been adopted or pledged to be adopted with full conformity in approximated 100 reporting jurisdictions, only five countries do not exempt investment funds from such conformity. Croatia, Cyprus, Malta, and Turkey have mandated the use of IFRS in the fund industry since 2005. The reticence to adopt IFRS for investment funds by most adopting countries led the IASB to recognize a potentially significant accounting issue for investment funds. Accordingly, it made revisions in 2012 to resolve this issue. To accommodate the timing of the IASB revisions, the Canadian Accounting Standards Board (AcSB) issued a deferral of the mandatory IFRS transition for investment funds. The Canadian Securities Administrators (CSA) finally required Canadian investment funds must report in accordance with IFRS beginning on or after January 1, 2014. Hence, Canada has been the first common-law regime (La Porta et al. 1998) mandating IFRS for investment funds, and this legal setting is crucial for international regulators looking for empirical evidence, as legal origin and country-level governance are key determinants of accounting outcomes (Ball et al. 2000; Burnet et al. 2015; Bonetti, Magnan, and Parbonetti, 2016). The Canadian experience has particularly high applicability to other major capital markets such as those in the US, the UK, Hong Kong, Singapore as they are classified into the British-American system (Hung [2000]). For instance, Canadian GAAP generate no difference in reporting quality compared to the US GAAP (Webster

and Thornton [2005]), showing that Canadian experience with regard to accounting standards is more likely to carry over to a US setting because of two countries' same legal origin and converged accounting and auditing practices.

The impact of the changeover from GAAP to IFRS in Canada may not be as large as in other jurisdictions. First, Canadian GAAP are considered principles-based as opposed to rules-based (Webster and Thornton [2005]), although they also contain a certain level of detailed rules (Chlala and Fortin [2005]). Second, for the fund industry in particular, the difference could be even smaller. Canadian GAAP have adapted to the Canadian reality that a large proportion of Canadian listed firms are in the mining and natural resources industry (Blanchette and Desfleurs [2011]) as " *57% of the global mining financings were done on TSX and TSXV in 2016*" (TSX publication [2017]), whereas IFRS aimed for global adoption does not have as many special considerations. However, Canadian GAAP has not particularly made adaption for the fund industry so that the transition to IFRS is not associated with changes as great as that in public firms. Nevertheless, IFRS generally require more disclosure than Canadian GAAP (Deloitte [2009]), and in the case of the Canadian fund industry, IAS 1 clearly mandates, without exemption, the disclosure of cash flows which was voluntary under Canadian GAAP. Although Canadian GAAP have its similarities with IFRS at a conceptual level, this increased disclosure accentuates the difference between Canadian GAAP and IFRS which are both principles-based though. Moreover, reporting entities face increased competition for capital in domestic markets (Tan et al. 2011; DeFond et al. [2011]) after the adoption of IFRS because of enhanced cross-country comparison. As a result, managers have higher incentives to increase the level if not the quality of information contained in financial reports (Biddle, Hilary, and Verdi [2009]; Gordon et al. [2012]). These combined effects translate into greater information content among investment funds after the transition to IFRS.

2.4 Literature Review

2.4.1 IFRS adoption

Being the world's largest capital market, there is much academic interest in the US regulatory and accounting changes, with each US change being studied extensively (Leuz and Wysocki [2016]). However, other countries have received increased attention during the IFRS adoption process. The introduction of IFRS provided an unprecedented experiment to study the consequences of changing an accounting standard setting and how these consequences vary across institutional and legal regimes (De George, Li, and Shivakumar [2016]; Leuz and Wysocki [2016]). Since the governance of IASB was overhauled, IFRS have been applied in the European Union and other prominent capital markets such as Hong Kong, Brazil, and Australia. The debates over IFRS initially started from conjectural statements due to lack of data (Schipper [2003]; Ball [2006]) but expanded to a larger body of competing empirical results. Soderstrom and Sun (2007) and Pope and McLeay (2011) review the empirical IFRS studies and discuss the implementation of IFRS in the EU. Empirical evidence supports the view that the events associated with the adoption of IFRS improve the information environment by reducing information asymmetry and improving comparability of financial statements (Byard, Li, and Yu [2011], DeFond et al. [2011], Tan, Wang,and Welker [2011], Horton, Serafeim, and Serafeim [2013])

Barth et al. (2008) explain why IFRS could improve accounting quality. First, IFRS eliminate certain accounting alternatives which might be selected by managers for discretionary purposes (Ashbaugh and Pincus [2001]). Second, principle-based IFRS reduce managers' opportunity to play with standards (Ewert and Wagenhofer [2005]). Third, IFRS permit measurements that better reflect economic values of assets. For these reasons, Barth et al. (2008) find evidence that is consistent with IFRS-adopting firms showing an improvement in accounting quality between the pre- and post-adoption periods. In contrast, Ahmed et al. (2013) show evidence that among countries with strong legal enforcement, post-IFRS accounting quality is lower. Ahmed et al. (2013) employ non-IFRS benchmark countries which include Canada as strong legal enforcement, and after Canada became an IFRS adopter, Liu and Sun (2015) find no significant evidence that post-IFRS accounting quality is higher than pre-IFRS accounting quality, echoing with Jeanjean and Stolowy (2008) who find no change in earnings management after IFRS adoption in Australia and UK,

countries that have legal enforcement regimes similar to Canada. Aussenegg, Inwinkl, and Schneider (2008) find that the adoption of IFRS has no impact on earnings management in Ireland which is also of British legal origin.

Lang and Stice-Lawrence (2015) go beyond the usual analysis of reported financial numbers and extend the IFRS literature to encompass qualitative disclosures in financial reports. They find that IFRS reports tend to be significantly longer and contain less boilerplate language than non-IFRS annual reports. Based on these results, they conclude that mandatory IFRS adoption has also increased the quality of textual disclosures.

2.4.2 Reporting incentive literature

The extant literature (Fan and Wong [2002]; Ball, Robin, and Wu [2003]; Leuz et al. [2003]; Leuz, Nanda, and Wysocki [2003]; Burgstahler, Hail, and Leuz [2006]; Barth et al. [2008]; Hail and Leuz [2009]; Ahmed, Neel, and Wang [2013]; Hansen, Pownall, Prakash, and Vulcheva [2013]; Daske, Hail, Leuz, and Verdi [2013]) document that reporting incentives play a significant role in reporting outcomes. In Canada, there are funds voluntarily disclosing cash flows before being required by IFRS. Funds that did voluntarily disclose cash flows prior to IFRS adoption express their incentives to provide more information and be transparent, and this incentive factor may have implication to and impact on the reporting outcome after the transition to IFRS. Accounting standards, principles-based or rules-based, give managers a certain extent of discretion because the application of standards and choice of methods involve considerable judgment. As a result, managers are able to hide information to avoid debt covenant violations (Watts and Zimmerman [1986]), distort information to meet earnings goal (Cohen et al. [2008]), or produce a more informative report to reflect better performance (Tucker and Zarowin [2006]). The subjective judgment means that under the same reporting standards, entities with different incentives may present financial outcomes of different quality. This difference of incentive could be bi-dimensional: (1) unconditional incentives: firms that consistently produce more informative financial reports due to certain governance and industry factors; (2) conditional incentives: firms that produce more or less informative financial reports

in response to the performance or financial needs of that fiscal year. Therefore, how IFRS shape firms' reporting quality may differ according to many firm-level variables (Ball et al. [2003]; Ball and Shivakumar [2005]; Burgstahler et al. [2006]; Lang et al. [2006]). However, if firm-level factors have not changed after IFRS, the new standards may not have a significant impact (Ball [2006]; Soderstrom and Sun [2007]; Hail et al. [2010]; Bruggemann et al. [2012]). Taking into account the incentives at the firm level, Daske et al. (2013) classify firms into "label" and "serious" adopters of IFRS, showing evidence that reporting outcomes diverge with different incentives.

2.4.3 Closed-end fund and return management

Fund managers' compensation is also linked to relative performance (Brown et al. [1996]; Kempf et al. [2009]), and they have the same incentive to report maximized performance. Chandar and Bricker (2002) argue that "closed-end funds are eminently suited for studying earnings management, particularly because the assessments of both managerial incentives and valuation discretion are far clearer and simpler than in operating companies." Pontiff (1995) states that "closed-end funds are the simplest of corporations." Lawrence, Siriviriyakul, and Sloan (2015) set forth the advantage of closed-end funds as a research subject that "we can directly observe both the market prices and the fair values for the same underlying portfolio of assets." Bollen and Pool (2009) document that hedge fund managers distort reported earnings "when fund returns are at their discretion and when their reported returns are not closely monitored." Cassar and Gerakos (2011) document that hedge fund managers intentionally smooth self-reported returns. Patton, Ramadorai, and Streatfield (2015) find that underperforming hedge funds routinely revise earlier reported earnings, whereas outperforming hedge funds do not revise this number. Many of the fund-related earnings studies are based on hedge funds, partly because hedge funds report returns in a more frequent manner. However, managers in other types of investment funds also have the ability to manipulate reported earnings and returns. For example, Cici, Gibson, and Merrick (2011) find that the fair value of the same bond is estimated differently across different mutual funds, and the marking patterns are related with managers' return-smoothing behavior. Together, all these papers suggest that earnings management exists in the fund

industry as it does in listed companies. Nevertheless, to study earnings management in depth, we typically need cash flow numbers that have just been required for Canadian investment funds. The question did not have available data to be examined before and elsewhere. IFRS requires funds to report the statement of cash flow which provides necessary information that earnings management studies need. Therefore, the Canadian context provides a great setting to look at the impact of IFRS on the earnings management behavior among investment funds. In summary, earnings management in the investment fund industry which has not been studied can now receive some attention through the Canadian setting.

2.4.4 NAV discount and IFRS

Closed-end funds are unique in that they do not continuously sell or redeem shares with investors. Instead, they engage in an initial public offering, after which their shares trade on a stock exchange at the prevailing market price. Fund boards are required by regulations (e.g., the Investment Company Act in the US and the National Instruments NI 81-102 in Canada) to determine the fair values of their underlying investments and to use these fair values to compute the fund's net asset value per share (NAV). Thus, a closed-end fund has both a market-determined share price and an accounting-determined NAV that is based on the estimated fair value of its security holdings. The premium (discount) of the fund is the resulting difference between the share price and the NAV. It has long been established in the finance literature that closed-end funds frequently trade at premiums or discounts. The difference between NAV and unit price is referred as a "puzzle" by Lee, Shleifer, and Thaler (1991) and by the extant literature for the reason that the causes of NAV discount have not been fully explained. This puzzle has been the subject of significant attention from both academics and professionals. One stream of study tries to explain the discount with more concentration on the nature of closed-end funds. Dimson and Minio-Kozerski (1999) theoretically sort out four categories: (1) Biases in NAV; (2) Agency costs; (3) Tax timing; and (4) Market segmentation. Berk and Stanton (2007) argue that investors discount fund assets if manager's ability turns out to be less than expected. They also infer that when manager's ability turns out to be better than expected, the increasing demand for compensation will eventually cause the premium to revert to a discount. The other stream of studies explains

the NAV discount by the imperfect reliability of accounting and factors that lead to reduced reliability. Coles, Suay, and Woodbury (2000) show the correlation between NAV discount and agency efficiency such as compensation sensitivity to performance. Barclay, Holderness, and Pontiff (1993), Khorana, Wahal, and Zenner (2002), and Del Guercio, Dann, and Partch (2002) also report evidence of relations between fund discounts and agency problems. Johnson, Lin, and Song (2006) document that NAV discount is reduced among funds with minimum dividend payout policy, which signals lower agency cost (Ross [1977]; Bhattacharya [1979]; John and Williams [1985]). Cherkes, Sagi, and Wang (2015) corroborate this theory with empirical evidence that dividend commitment contributes to fund's wealth transferring from manager's control to shareholders' claim. Accounting reliability also matters as discounts are more pronounced for Level 2 and Level 3 measurements than for Level 1 measurements (Cullinan and Zheng [2013]; Hammami [2014]).

Investment funds hold primarily financial assets that are being measured and reported at fair values, and the concept of value relevance in accounting directly corresponds to the association between NAV and unit price. Aharony, Barniv, and Falk (2010) examine the impact of IFRS adoption on value relevance in European countries, and they find that IFRS adoption has increased the value relevance of asset revaluation. Landsman et al. (2012) examine the market reactions to earnings announcement and show that information content of released earnings is increased after IFRS adoption. Agostino, Drago, and Silipo (2011) also find that IFRS adoption has improved the value relevance of earnings and book value with a sample of European banks. Barth et al. (2014) document that value relevance after IFRS has increased for financial firms which hold primarily investment securities as investment funds do. As for the Canadian context, Cormier and Magnan (2014) document that IFRS enhance the value relevance of earnings in publicly accountable firms. Khan, Anderson, Warsame, and Wright (2015) also document improved value relevance of TSX firms after IFRS adoption, as exhibited by greater return volatility and trading volumes during the announcement period. Now that accounting values are more relevant to the determination of stock prices, the difference between NAV and unit price should reflect this increased relevance.

Nellessen and Zuelch (2011) study property companies which hold primarily real estate that is reported at fair value although such assets are not financial instruments like that held by investment funds. In this setting, they are the first to link NAV discount with IFRS adoption. They employ a sample of 76 European property companies over the 2005-2007 period to present a negative correlation between NAV discount and the reliability of fair value which were adopted after IFRS. In other words, when properties are appraised by external entities, which proxy for higher reliability of fair value, the NAV discount is smaller. Nellessen and Zuelch (2011) do not compare between pre-IFRS and post-IFRS periods, as property companies did not report real estate at fair value under GAAP. Therefore, the Canadian setting is unique and the first to provide archival data for a comparison between the pre-IFRS and post-IFRS periods with regard to how NAV is impacted by IFRS adoption, because (1) the Canadian fund industry, ahead of investment funds in other reporting regimes, has adopted IFRS; (2) the fund industry holds financial assets that have been reported at fair value pre-IFRS, meaning that in this industry valuation is comparable before and after IFRS adoption, whereas European properties companies do not provide such a comparable setting.

Jurek and Stafford (2015) argue that managerial discretion contributes to the magnitude of the NAV. Cao et al. (2013) document that managerial discretion in NAV is associated with fund returns, while Bollen and Pool (2008) document that managerial discretion in NAV is conditional on fund performance. Considering the evidence that IFRS reduces managerial discretion (Barth et al. [2008]; Hamberg, Paananen, and Novak [2011]), NAV is also supposed to be reduced by IFRS adoption.

However, there is counter evidence that managerial discretion does not change after IFRS adoption (Jeanjean, and Stolowy [2008]) or that even greater discretion has been observed (Ahmed, Neel, and Wang [2013]). When carrying over the implications of IFRS adoption from listed firms to the investment fund industry, the same caution should be applied. Moreover, how IFRS impact managerial discretion in the fund industry is unclear so far in the literature. While fund manager's discretion on fund returns and assets valuation after IFRS adoption is yet to be studied, the NAV which reflects valuation quality of a fund is also an unexamined subject in IFRS literature.

Yip and Young (2012) examine a sample of firms in EU member countries and document that IFRS improve information comparability. Brochet, Jagolinzer, and Riedl (2013) put forward the position that for countries of high accounting quality, IFRS are less likely to affect core information quality, but increased cross-country comparability is the driving factor of changes in capital market benefits. Canada GAAP also exhibit high quality like the UK in Brochet, Jagolizer, and Riedel's (2013) study, indicating that core information quality may not change after Canada's adoption of IFRS. However, Canada is so far one of the only five countries mandating IFRS on investment funds. Consequently, cross-country comparability has a reduced scope for Canada. Moreover, the other four countries are not likely to be compared by international investors when making decisions in Canadian capital market due to the different legal system, capital market development, and investor protections. Therefore, how IFRS impact cost of capital for Canadian investment funds may differ from what is documented for public firms in other countries.

To summarize, the IFRS literature has not been clear on how the new reporting standards affect manager's discretion due to the mixture of changing factors. As for the case of Canadian fund industry, IFRS also have mixed effects such as the limited improvement of reporting quality over GAAP, limited improvement of comparability (in fund industry only), but a material change in the requirement of disclosure of cash flows.

2.5. Hypothesis

2.51. IFRS vs Canadian GAAP

IAS 7, Statement of Cash Flows, sets out the requirements for presenting such financial information without exemption, and full adoption of IFRS in the fund industry, therefore, means investment funds are no longer exempted from disclosing the information of cash flows. The transition to IFRS from GAAP for investment funds does not trigger substantial changes, but the differences may give fund managers higher discretion on the estimation of net asset value (NAV). While reversal of impairment on assets was prohibited by CICA HB 3051, 3025, 3063, 3064, 3475, 3862 under GAAP, it became permitted and required when reasonable by IAS 36, IAS 39 (replaced by IFRS 9), and IAS 40 under IFRS. Moreover, the reversal of impairment on

financial assets and financial instruments should not be greater than the original impairment itself according to CICA HB 3855 and HB 3856 under GAAP, whereas IFRS does not have the same restriction. Under GAAP, investments were measured at fair value, with changes in fair value recorded at profit or loss in the period in which it arose. According to IFRS 6 and IFRS 7, under certain cases financial instrument may not be measured at fair value and managers, therefore, acquires discretion on between the two choices. Ahmed et al. (2013) compared the firms under mandatory adoption of IFRS regimes with a benchmark group of firms from countries that did not adopt IFRS and find that IFRS firms exhibit significant increases in income smoothing and aggressive reporting of accruals, and a significant decrease in timeliness of loss recognition (conditional conservatism), especially for firms in strong enforcement countries. Ball et al. (2015) also point out that "IFRS adoption could be viewed …. as affording greater discretion to opportunistic managers, because its standards are perceived to be more principles-based than many prior domestic rules-based standards and give borrowers greater choice among alternative accounting policies as well as greater discretion in their implementation".

While a proportion of literature documents that IFRS tend to increase earnings management or smoothing for operating firms due to relaxed rules on earnings recognition in many countries, investment funds on the other hand would be affected by a counter factor that constrains earnings management, which is the disclosure of cash flow that was not required under Canadian GAAP and other local standards. Therefore, besides that fact that literature has not provided evidence how IFRS impact investment funds' earnings management, the mixed effect of relaxed rules and constraints by the Statement of Cash Flows makes the post-IFRS behavior of fund managers more complicated and the gap in the literature in this area is augmented. Ashaugh and Pincus (2001) find that IFRS typically requires greater disclosure than domestic standards, and in the case of Canadian fund industry increased disclosure is particularly true for IFRS because of the statement of cash flows.

2.5.2. Return management and disclosure of cash flows

An investment fund does not operate businesses such as manufacturing and services, and its performance is measured by the increase or decrease in the value of the financial assets it holds and manages. For assets that have quoted prices in active markets, there is no possibility of discretion otherwise investors should be informed by auditors. However, for assets that do not have quoted prices, the selection of valuation references are subject to manager's discretion whereby many of the valuation inputs are not verifiable. Level 2 assets involve selection of similar assets in an active market, and Level 3 assets involve valuation techniques based on inputs that are not observable in the market. Song, Thomas, and Yi (2010) document that stock market investors price each dollar of Level 1, 2, and 3 assets at $0.98, $0.97, $0.68, suggesting the significantly reduced reliability of Level 3 assets that are subject to managers' discretion. Goh et al. (2015) also document that Level 3 fair value are typically priced lower due to manager's discretion. Financial analysts are not confident in the valuation of Level 3 assets either, as Magnan, Menini, and Parbonetti (2015) document increased earnings forecast dispersion when Level 3 assets represent a greater proportion of a bank's assets.

While investment funds did not have to disclose cash flow under GAAP, managers could manipulate the fair value of assets reported at Level 2 and Level 3 more freely due to lack of efficient constraint. For example, if a fund holds private bond A and values it at price X assuming cash flows as contracted, there was no way of verification on the assumed cash flow from financial reports under GAAP, if the fund chooses not to disclose cash flows voluntarily. In case the borrower had any unfulfilled payment but the fund manager decided not to inform unit holders, there is no efficient evidence to challenge the valuation of bond A. Similarly, if a fund holds loans that could not produce the cash flow as contracted, the Statement of Cash Flows functions as the restraint in hiding information. Therefore, investment funds that hold private fixed-income assets are less likely to manipulate of the fair value of such assets because of the required disclosure of cash flows under IFRS after 2014. About $8 billion of private debt deals were done in Canada in 2016, in contrast to about $60.3 billion of corporate debt raised in the public markets (according to Financial Post Data Group). An estimated 9% of total bond investment are placed privately, and IFRS

should have an observable impact on the fair value measurement of this asset class. Meanwhile, large market players such as TD, Manulife, Sun Life, Mackenzie, and Ridgewood are increasing holdings of private fixed income securities in their portfolios, as a response to the decreasing yield on public bonds. Investments in the private bonds are primarily held by life insurance, mortgage and real estate, and high-yield bond funds in Canada, which represent about 8% of the Canadian closed-end fund industry.

For example, *RBC Private Canadian Corporate Bond Pool* was not a voluntary reporter of cash flows before 2014, while it held primarily private bonds (97% of its total assets). Investors of this fund had no access to information such as cash flows from private bonds and their concentration of risks which is also required later by IFRS. Investors are generally aware of the opacity of privately placed bonds, but the increased disclosure imposed by IFRS in the investment fund industry may mitigate the informational asymmetry between investors and fund managers. On the other hand, *Marret Investment Grade Bond Fund* which did voluntarily disclose cash flows before 2014 also conveys more information to its investors as "Interest received" is separately disclosed in the mandatory statement of cash flows, whereas its voluntary disclosure before 2014 did not include this detail which is a source of verification of the fund's performance and assets valuation. Therefore, whether a fund did or did not voluntarily disclose the statement of cash flows before the adoption of IFRS, the mandatory statement of cash flows contributes to increased financial disclosure that is accessible to investors.

Riedl and Serafeim (2011) provide evidence that investors suspect the overestimating of future cash flows from Level 3 assets. Under both GAAP and IFRS, the Statement of Investment Transactions is not mandatory. However, after 2014, funds have to report cash flows paid for the purchase of investments and received from proceeds of investments. This additional information also contributes to the better reliability of assets reported at fair value Level 2 and Level 3, for the reason that if an investment fund consistently overestimates its asset value, the Cash Flow of next year should consistently be lower than expectation based on Fair Value of unquoted assets. Therefore, knowing that the cash flow from proceeds of investments

will be disclosed in the upcoming year, managers have less incentive to optimistically appraise the value of assets in the current year, resulting in more prudent appraisal every year under IFRS.

A fund's unit price is also affected by the risk factor of itself. When an investment fund holds a Forward Contract and has increased its leverage, a payment to the creditor is required to maintain the agreed leverage. This payment is only reported in the Statement of Cash Flows, and the increased leverage, which implies a higher risk of the fund, was not disclosed in financial reports under GAAP. As they are usually considered to be a Level 2 asset, forward contracts were more prone to value manipulation under manager's discretion until IFRS required the statement of cash flows which informs investors whether the fund has increased its leverage due to change of asset value. Without the repayment of leverage from the Statement of Cash Flows, investors can only see a leverage ratio that is always no greater than a certain threshold such as 25% in many cases, giving the impression that the fund's risk is under control. However, when investors see that the fund paid millions to the creditor to maintain this ratio from the Statement of Cash Flow, a more reliable image of the fund is revealed. In this scenario, a manager has less incentive to manipulate fair value because of the verification effect of cash payments for leverage.

The Statement of Cash Flows increases disclosure in the fund industry and imposes further restraints to managers' discretion, and when comparing between manager's discretion before and after IFRS, a reduction of such discretionary appraisal is expected. Hence, the first hypothesis:

H1: closed-end funds have lower discretionary appraisal after the adoption of IFRS.

According to prior research (Song, Thomas, Yi [2010]; Ettredge, Xu, and Yi [2014]; Christensen and Nikolaev [2013]; Christensen, Glover, and Wood [2012]), level 2 assets rely strongly on observable market inputs and are hence less prone to discretion whereas level 3 assets involve unobservable inputs and are hence subject to greater possibility of discretion for the purpose of return management. However, under IFRS, a new circumstance could be that level 3 (usually private placements and illiquid bonds) assets are more accurately valued than before because of the disclosure of cash flows (H1), managers now have to

give level 2 assets greater weights for return adjustments. In other words, to achieve the same return target, managers can adjust Level 3 assets less than before so that they have to manage the valuation of Level 2 assets more than before.

Although in general Level 2 assets are more precisely valued than Level 3 assets, IFRS could impact the precision of Level 3 assets more than it does on the precision of Level 2 assets. Since most Level 2 assets rely on similar securities for valuation purposes, IFRS have no direct impact on the valuation and return of Level 2 assets. On the other hand, most Level 3 assets are private placements of which the valuation model involves cash flows that were not disclosed before IFRS, so the disclosure of cash flows under IFRS has a direct impact on the valuation of and return on Level 3 assets with an increased constraining effect. As a result, Level 3 assets are less prone to managers' discretion under IFRS, but if a manager still wanted to overstate assets value, he/she had to give Level 2 assets more weight compared with his/her options under GAAP. To summarize, although the valuation of Level 2 assets typically includes less discretion than Level 3 assets, the indirect impact of IFRS may cause fund managers to focus more on Level 2 assets for return management because the fair value measurement of Level 3 assets is not as discretionary as it was under GAAP. Hence, the following hypotheses:

> **H2a**: Closed-end funds have greater valuation/return management on Level 2 assets after the adoption of IFRS.

Return management is proxied by the difference between the returns on unquoted assets and quoted assets. Assuming fund managers have the same investing competence in quoted and unquoted assets, the more the deviation between the reported returns on these two categories of assets, the greater discretion is captured. For example, if a manager can earn -5% on public traded securities, his/her investments in private placements should earn -5% as well. Otherwise, if his/her true ability can earn 5% from private placements, he/she would have made all investments in private placements or work in a fund that holds solely private placements so as to make 5% instead of an aggregated return somewhere between -5% and 5%. In other words, if a manager reports a -5% return on quoted securities and a 5% return on unquoted securities, a

return overstatement on unquoted securities is suspected. Therefore, return management is measured as the difference between the return on Level 2 or Level 3 assets and return on Level 1 assets.

On average, investment funds hold most of their assets in Level 1 and the least proportion in Level 3. As a result, Level 3 assets represent 4.66% of the total fair value, whereas Level 1 assets represent 79.8% of the total value among Canadian investment funds that hold different levels of financial assets (data 2012 to 2016). This allocation of assets results in managers not typically adjusting the valuation of level 3 assets to offset the losses in Level 1 assets because of the disproportioned amount of investment. As for Level 2 assets that represent 15.6% of an average fund's total fair value, the loss from this category of assets can easily be filled by optimistically appraised value in Level 3 assets. Because the fair value of Level 2 assets is determined based on the market price of similar securities that are traded in active markets, the loss and profit on Level 2 assets, in general, are less likely to be manipulated by managers with significant alteration. However, when appraising the value of Level 3 assets, managers might take into consideration the performance of Level 2 assets and report a favorable aggregated return on total unquoted securities which includes both Level 2 and Level 3 assets. Under the assumption that a manager has the same competence across all levels of financial assets, a deviation and negative correlation between the returns of Level 2 and Level 3 assets is also considered a signal of discretion. This negative correlation can be reduced by IFRS as the mandatory disclosure of cash flows put stronger restraints on the valuation of Level 3 assets to fill the losses from Level 2 assets.

With the reallocated weight of focus between Level 2 and Level 3 assets, managers may exercise greater discretionary judgment in the selection of reference securities for the valuation of Level 2 assets while exercising less discretion for the selection of the inputs for the valuation of Level 3 assets. Chander and Bricker (2002) and Bollen and Pool (2009) separate funds' returns into two components: the non-discretionary returns from liquid assets and discretionary returns from illiquid securities. When funds' discretionary returns are adjusted upward and conditionally on the underperformance of non-discretionary securities, Chandar and Bricker (2002) interpret such conditional deviation of discretionary and non-

discretionary returns as return management. Assuming Level 1 assets are not subject to any sort of discretion and that managers have to raise discretionary returns to offset losses from non-discretionary (Level 1) assets, Level 2 return is expected to have a stronger negative association with Level 1 return, whereas Level 3 return is expected to have a weaker negative association with Level 1 return, compared to the situation under GAAP. However, it is not clear how the returns of Level 2 and Level 3 are correlated. One hypothesis is that Level 2 return and Level 3 return are both adjusted in the same direction for a positive association, and another hypothesis is that Level 2 return and Level 3 return move differently as one is used to neutralize the losses from the other.

> **H2b**: Closed-end funds have a greater negative association between the returns of Level 1 and Level 2 assets after IFRS.

Bushman, Piotroski, and Smith (2011) argue that investors discount less reliable accounting information when valuing securities, but the reliability of information on the same type of assets may vary when managers manipulate its valuation according to different targets. For example, when a manager over appraises a security X by 5% in year t but 3% in year t+1 due to different market conditions and earnings objectives, the reliability of the accounting information on this particular asset X is not constant from year t to year t+1 even in the same fund's portfolio. In this company's financial report, security X has lower reliability in year t when its value is overstated by 5% but better reliability in year t+1 when its value is overstated by 3%. As a result, the reliability of securities is contingent on external factors such as regulatory and industry changes and internal factors such as current performance and earnings objective that may affect the securities' valuation bias. In the Canadian context following IFRS adoption, the reliabilities of Level 2 and Level 3 assets among investment funds can change due to accounting standards transition after 2014. While the disclosure of cash flows reduces the discretion of return on Level 3 assets, Level 2 assets receive more weight when managers manipulate reported performance. To summarize, Level 2 assets are expected to be less reliable after the adoption of IFRS but Level 3 assets are expected to have increased reliability, and this change of reliability is translated to a greater association between Level 2 return and

NAV discount but a reduced association between Level 3 return and NAV discount. Hence, the following hypothesis:

> **H3**: NAV discount has a greater association with the return of Level 2 assets after the adoption of IFRS.

2.6. Research design

2.6.1 Sample and Data

The sample of this paper includes the closed-end funds actively listed on Toronto Stock Exchange (TSX) from 2012 to 2016 (for funds with the fiscal year ending before the 31st of December, this requirement extends to 2017). The sample initially covers 231 closed-end funds actively traded on TSX as of December 31 of 2016. However, after excluding funds that restructured during 2012 to 2016, funds that were formed after 2014, funds that do not have annual financial reports available at SEDAR filing system, the sample finally consists of 183 closed-end funds trading at TSX. However, not every fund provides enough details to identify. There are funds that labeling each security with its fair value level in the statement of the investment portfolio, but many funds list securities without their valuation methods. For how to identify a security's fair value level if such information is not disclosed in the fund's report, **Appendix 1** describes how fair value levels are identified in this paper using linear programming method.

Financial data are entered from annual reports of Canadian closed-end funds downloaded from SEDAR filing system. Cash is excluded if a fund report cash as level 1 assets. However, cash equivalents of which the fair values change over time remain included in Level 1 assets. Closing prices of each closed-end fund at its end-of-fiscal-year day are retrieved from Canadian Financial Markets Research Centre (CFMRC).

2.6.2 Measurements

a) Asset appreciation and returns

Investment funds' boards are required by regulations (e.g., Investment Company Act in the US and National Instruments NI 81-102 in Canada) to determine the fair values of their underlying investments, and the book returns are calculated by the change of self-reported investments values. Here I use two metrics to measure the returns. First, the differential between the fair value and the book value (cost) of securities, i.e., the unrealized gain or loss, provides an indication of return on investment and is thus used as a proxy. Second, I use the book return, which is the period-to-period change in the fair value of total or pertaining securities. Following Chandar and Bricker (2002), the discretionary return is calculated as the unrealized return from Level 2 and Level 3 assets, and non-discretionary return is calculated by subtracting the discretionary return from the total return. They argue that realized gains are not subject to manager's discretion, and they use unrealized gains to infer manager's discretion on restricted securities. Realized gains capture the real economic performance on the fair market, no manager's discretion can affect the realized gains. However, unrealized gains are calculated on manager's appraised valuation of investments, change in unrealized gains from year to year captures manager's estimate of performance. Philips, Pincus, Rego, and Wan (2004) report that unrealized gains and losses, alongside several other measurements, can be used to detect earnings management. With a post-IFRS sample from Hong Kong, Chen and Tang (2017) document that executive compensation in property companies incorporates unrealized gains, and it can be inferred that managers have the incentive to raise unrealized gains for higher compensation.

$$gain_t = (FV_t - HC_t)/HC_t$$

$$L1\_Gain_t = Liqd\_Appr_t = (L1\_FV_t - L1\_HC_t)/L1\_HC_t$$

$$L2\_Gain_t = (L2\_FV_t - L2\_HC_t)/L2\_HC_t$$

$$L3\_Gain_t = (L3\_FV_t - L3\_HC_t)/L3\_HC_t$$

$$Illq\_Gain_t = (L2\_FV_t + L3\_FV_t - L2\_HC_t - L3\_HC_t)/(L2\_HC_t + L3\_HC_t)$$

Where $Gain$ is the unrealized gain or loss of securities, *FV* is the fair value of securities, and *HC* is the historical cost of securities. *L1*, *L2*, and *L3* represent Level 1, Level 2, and Level 3 securities respectively.

Lidq and *Illq* represent liquid securities with active market price and illiquid securities without active market price, respectively.

$$Ret_t = (FV_t - FV_{t-1})/FV_{t-1}$$

$$L2\_Ret_t = (\text{L2}\_FV_t - \text{L2}\_FV_{t-1})/\text{L2}\_FV_{t-1}$$

$$L3\_Ret_t = (\text{L3}\_FV_t - \text{L3}\_FV_{t-1})/\text{L3}\_FV_{t-1}$$

Where Ret_t is the book return of a fund's total investments, $L2\_Ret_t$ is the return of Level 2 securities, L2_FV_t is the fair value of Level 2 securities excluding that are sold and acquired in year t, and L2_FV_{t-1} is the fair value of Level 2 securities excluding that are sold in year t. Therefore, $L2\_Ret_t$ and $L3\_Ret_t$ capture the returns on the same Level 2 and Level 3 securities from year t-1 to year t.

Total return from illiquid securities is calculated as follows:

$$Illq\_Ret_t = L2\_Ret_t + L3\_Ret_t;$$

And total non-discretionary return, according to Chandar and Bricker (2002), is calculated by subtracting return of illiquid securities from total return:

$$NDisc\_Ret_t = Liqd\_Ret_t = Ret_t - Illq\_Ret_t$$

b) Valuation and Return Management

Chandar and Bricker (2002) theoretically separate return on illiquid securities into two components: discretionary part and non-discretionary part. Since illiquid securities involve manager's judgment, their reported return consists of underlying return that is determined by economic reasons and manipulated return that is resulted from manager's discretion. However, both the discretionary part and non-discretionary parts are not observable, so Chandar and Bricker (2002) use the return from liquid securities as a proxy for, and a reasonable expectation of, the non-discretionary part of illiquid securities. Therefore, the difference between the reported returns of illiquid securities and the proxy measures discretionary return, which is

also interpreted as return management. Similar to the idea by Chandar and Bricker (2002), the discussion in this paper illustrates that if a fund manager can make more return in illiquid securities than he/she can do in liquid securities, the equilibrium should be such manager investing all assets in illiquid securities or working in a fund holds solely illiquid securities to earn the maximum return. Otherwise, when a fund reports different return rates in liquid and illiquid securities, the difference is a proxy for return management. The management of valuation on Level 2 and Level 3 assets are calculated in the same way as that of the management of returns.

$$L2\_Gain\_Mngmt = L2\_Gain - L1\_Gain$$

$$L3\_Gain\_Mngmt = L3\_Gain - L1\_Gain$$

L2_$Gain$_Mngmt is the management in unrealized gain or loss on Level 2 securities, and it equals to the difference between unrealized gain or loss on Level 2 and Level 1 securities. Similarly return management is calculated as follows:

$$L2\_Ret\_Mngmt = L2\_Ret - Liqd\_Ret$$

$$L3\_Ret\_Mngmt = L3\_Ret - Liqd\_Ret$$

c) NAV Discount

The last dependent variable is NAV discount representing the difference between fund's closing price at the end of a fiscal year compared to NAV reported in the financial statement of the same fiscal year. The discount for each fund is calculated as follows:

$$NAV_{Disc} = NAV - P;$$

where NAV is the net asset value per common share of a fund and P is the closing price per share on the last day of a fiscal year. A positive value produced by this equation is a discount, whereas a negative value produced by this equation is a premium which exists in practice but not in a large amount of cases.

2.6.3 Regression Specifications

a) To test **H1** the following model is used.

$$Illq\_Gain_t = Liqd\_Appr_t + Vol\_Cash + IFRS + Vol\_Cash * IFRS + Liqd\_Appr_t * Vol\_Cash + Liqd\_Appr_t * IFRS * Vol\_Cash$$

$Illq\_Gain_t$ is the unrealized gain or loss (scaled) rate of illiquid securities consisted of Level 2 and Level 3 assets;

$Liqd\_Gain_t$ is the unrealized gain or loss (scaled) of liquid securities consisted of Level 1 assets;

Vol_Cash equals to 1 if a fund voluntarily disclosed cash flows before IFRS adoption;

IFRS equals to 1 if the fiscal year if after the adoption of IFRS.

This model tests how the valuation of illiquid securities (Level 2 and Level 3) is correlated with the valuation of liquid securities (Level 1) under the impact of IFRS adoption. In this paper, IFRS adoption is predicted to contribute to better alignment between unrealized gain or loss on illiquid securities and that of liquid securities. Moreover, voluntary disclosure of cash flows is also supposed to enhance such alignment.

b) To test **H2a** the following models are used.

$$L2\_Appr\_Mngmt = Incentive + Vol\_Cash + IFRS + Vol\_Cash * IFRS + Incentive * Vol\_Cash + Incentive * IFRS * Vol\_Cash$$

$$L2\_Ret\_Mngmt = Incentive + Vol\_Cash + IFRS + Vol\_Cash * IFRS + Incentive * Vol\_Cash + Incentive * IFRS * Vol\_Cash$$

Incentive is the relative performance of a fund compared to the industry average or its previous annual performance in each specification. These models test how valuation and return discretions are related with

Incentive and the adoption of IFRS. In this paper, *Incentive* is predicted to have a negative association with valuation and returns management after the adoption of IFRS and disclosure of cash flows.

To test **H2b** the following models are used.

$$L2\_Ret_t = Liqd\_Ret_t + Vol\_Cash + IFRS + Vol\_Cash * IFRS + Liqd\_Ret_t * Vol\_Cash + Liqd\_Ret_t * IFRS * Vol\_Cash$$

$$L3\_Ret_t = Liqd\_Ret_t + L2\_Ret_t + Vol\_Cash + IFRS + Vol\_Cash * IFRS + L2\_Ret_t * Vol\_Cash + L2\_Ret_t * IFRS * Vol\_Cash$$

These models test how valuation and returns of Level 2 and Level 3 assets are related to Level 1 assets with the impact of IFRS adoption. In this paper, IFRS is predicted to contribute to a negative association between the valuation and returns of Level 1 assets and those of Level 2 assets. Moreover, IFRS is also predicted to contribute to a negative association between the valuation and returns of Level 2 assets and those of Level 3 assets.

c) To test **H3** the following models are used:

$$NAV\_Disc = L1\_Appr + L2\_Appr + L3\_Appr + Vol\_Cash + IFRS + Vol\_Cash * IFRS + L2\_Appr * Vol\_Cash + L2\_Appr * IFRS * Vol\_Cash$$

$$NAV\_Disc = Liqd\_Ret_t + L2\_Ret_t + L3\_Ret_t + Vol\_Cash + IFRS + Vol\_Cash * IFRS + L2\_Ret_t * Vol\_Cash + L2\_Ret_t * IFRS * Vol\_Cash$$

This model measures how NAV discount is related with valuation and returns with the impact of IFRS. Prior research document that NAV discount is increased with the use of Level 2 and Level 3 valuation, but a link between the valuation and returns of Level 2 and Level 3 assets have not been established in the literature. In this paper, NAV discount is predicted to be positively related to the valuation and returns of Level 2 and Level 3 assets, and the association with Level 2 assets is predicted to increase with the adoption of IFRS.

2.7. Results

2.7.1 Descriptive statistics

[Insert Table 1 about here]

[Insert Table 2 about here]

In general, compared with unrealized gains from Level 2 and Level 3 securities, unrealized gains from Level 1 securities have less variance across Canadian investment funds. Level 3 securities exhibit the most dispersed book return rate, as the valuation of such securities relies on more subjective inputs. After the adoption of IFRS, the unrealized gain is higher for Level 2 securities and lower for Level 3 securities, which is in line with the argument that IFRS have a greater impact on the valuation of Level 3 securities than on Level 2 securities. The industry average NAV discount does not show an obvious difference before and after IFRS adoption.

2.7.2 Preliminary Descriptions

a) Return Management on Assets of Different Fair Value Levels:

[Insert Chart 1 about here]

From Chart 1, we can see strong evidence of return management, especially among level 2 and level 3 assets, in Canadian fund industry. When level 2 assets have higher unrealized gain through fair value, level 3 assets are reported at lower value to reserve unrealized gain for next year. When level 2 assets have lower unrealized gain through fair value, level 3 assets are reported at a higher value to offset the loss in level 2. In the year when both level 1 and level 2 assets are reporting reduced returns, Level 3 assets are appraised at a higher value. Hence, this suggests that total returns hold steady. To summarize, while the year of 2014 welcomed the adoption of IFRS which requires enriched disclosure, the return management among Level 2 and Level 3 investments is more profound under the new regulation.

b) Return management and NAV discount

[Insert Chart 2 about here]

Although the adoption of IFRS is supposed to increase disclosure quality and value relevance, market prices of fund units suggest differently: on average, NAV discount has increased from 2.67% in 2012 to 4.45% in 2015, indicating that the valuation of fund assets becomes less precise. Interestingly, the movement of NAV discount has a similar pattern to Level 3 asset returns (Chart 1). This pattern echoes with the argument that when Level 2 assets experience losses, managers possibly overstate the value of Level 3 assets to maintain a positive return on total unquoted financial assets. As a result, the overstated fair value of Level 3 assets leads to greater NAV discount which represents investors' lower valuation of managers' optimistic appraisal. The strong co-movement between return on Level 3 assets and the NAV discount is consistent with the argument made by Hammami (2014) that the relative amount of Level 3 assets increases the discount. However, in this paper the link is not between the amount of Level 3 assets and NAV discount but between the return of Level 3 assets and NAV discount, because not all level 3 assets have the same level of overvaluation which is a determinant of NAV discount, and the overvaluation can be more precisely captured by the discretionary return of Level 3 assets.

c) Hypothesis tests

[Insert Table 3 about here]

In general fair values of liquid and illiquid securities move in the same direction, as shown in Table 3 Panel A. However, Canadian closed-end funds that hold both actively-traded (liquid)securities and not-actively-traded (illiquid) securities show a higher rate of unrealized gain in the latter category. For each 1% unrealized gain reported in liquid securities, a fund reports 1.79% (t=3.81, P=0.0002) unrealized gain in illiquid securities. The voluntary disclosure of cash flows weakly reduce the unrealized gain on illiquid securities.

Table 3 Panel B does not show a strong correlation between the total book returns of liquid and illiquid securities. IFRS do not strongly impact the association between *Illq_ret* and *Liqd_ret* in all investment funds, but their strongest effect is on the funds that did voluntarily disclose cash flows, shown by the significance of *Liqd_ret* interacted with *Vol_Cash* and *IFRS* (coefficient=-1.8351, t=-2.51, and p=0.0131). Daske et al. (2013) define "serious" adopters of IFRS as firms that have individual characteristics for more transparent disclosure. Those with firm-level factors leading to more transparent reporting features benefit more from IFRS adoption, and those with firm-level factors leading to less transparent reporting features benefit less from IFRS adoption. Bonetti, Magnan, and Parbonetti (2016) confirm the firm-level factors on the effect of IFRS from a governance perspective. Similarly, the Canadian context also shows that an individual firm-level factor, which is voluntary disclosure of cash flows, affects the consequences of IFRS adoption among the investment funds.

To summarize, Canadian investment funds report a higher unrealized gain on illiquid securities than that on liquid securities. The voluntary disclosure of cash flows reduces such deviation, and IFRS adoption enhances the reducing effect among "serious" adopters that did voluntarily disclose cash flows.

[Insert Table 4 about here]

Table 4 Panel A shows that return management on Level 2 assets among Canadian investment funds does exist, as when a fund is underperforming compared to last year's results, managers try to reverse the underperformance by raising Level 2 unrealized gain. Return management measured by the unrealized gain (*Gain_Mngmt*) is significant (t= 3.49 and p=0.0007) regardless of the accounting system being GAAP or IFRS. However, return management is reduced by voluntary disclosure of cash flows (t=-3.36 and p=0.0011). The adoption of IFRS also constrains return management, as shown by the negative association between return on Level 2 assets and Incentive combined with IFRS (t=-1.81 and p=0.0729).

When proxying *Incentive* by a fund's performance relative to industry average as shown in Table 4 Panel B, return management is also significantly related with *Incentive* (t=2.69 and p=0.0079). In accordance to

the argument that disclosure of cash flows constrains the valuation of Level 3 securities, *Vol_Cash* leads to higher return management in Level 2 securities (t=2.16 and p=0.0322). However, IFRS require more disclosure besides the Statement of Cash Flows, such as quantitative concentrations of risk for investment securities by IFRS 7, and such disclosure reduces manager's discretion in the selection of fair value inputs.

[Insert Table 5 about here]

Similar to Level 1 assets, Level 2 assets are also based on market inputs and less prone to manager's discretion. Moreover, Level 2 assets make up a much smaller proportion of a fund's total assets, so managers do not have effective ways to use Level 2 assets to compensate losses on Level 1 assets. In a precisely disclosed financial report, Level 1 and Level 2 assets are expected to have similar returns because the fund manager has similar ability in investing in different categories of assets, otherwise he/she would have made all the investments in the category that he/she has the knowledge to earn more or worked in a fund that holds solely the category of assets that he/she has better knowledge. Results from Table 5 support the argument that Level 2 and Level 1 assets are in general determined by similar market inputs, and, as a result, their returns are strongly correlated in a positive manner (coefficient=1.5245; t=3.78; p=0.0002). However, Level 2 securities show higher return compared with Level 1 securities as for each 1% of the unrealized gain on Level 1 securities, Canadian investment funds report 1.52% of the unrealized gain in Level 2 securities. In accordance with the prediction, IFRS shift more discretion from Level 3 assets to Level 2 assets so that unrealized gains in Level 2 assets become less aligned with the unrealized gain in Level 1 assets (coefficient=-1.4985; t=-3.26; p=0.0013). "Serious adopters" that did voluntarily disclose cash flows under GAAP show an additional divergence between unrealized gain from Level 1 and Level 2 assets after the adoption of IFRS. Although IFRS adoption has a stronger effect in "serious adopters" than in "label adopters", the effect may lie mainly on Level 3 securities as discussed before. As a result, those "serious adopters" shift more discretion to Level 2 securities that are not well constrained by IFRS, and the post-IFRS unrealized gain on Level 2 securities is more affected by the discretionary valuation of Level 2 securities and less aligned with the unrealized gain in Level 1 securities.

[Insert Table 6 about here]

With regard to Level 3 assets (e.g., private debt) which involve less verifiable inputs from public sources, the disclosure of cash flows adds one of the most reliable information pieces into a fund's financial reports. For this reason, the return of Level 3 assets (*L3_Gain*) is expected to be better aligned with the return of Level 1 assets, but this hypothesis is not well supported as IFRS adoption has no significant impact on the correlation between returns from Level 1 and Level 3 investments. However, the strongest factor is the voluntary disclosure (t=-4.05 and p=0.0004). Investment funds that did voluntarily disclose cash flows under GAAP show a significant reduction in the unrealized gain on Level 3 securities (*L3_Gain*). These results suggest that funds that did not voluntarily disclose cash flows have information to hide for the purpose of optimistically appraising the fair value of Level 3 assets.

[Insert Table 7 about here]

NAV_Discount is significantly associated with unrealized gain from Level 2 assets if a fund did voluntarily disclose cash flows. However, the association is not in the direction as I predict that voluntary disclosure of cash flows shifts managers' discretion from Level 3 securities to Level 2 securities so that voluntary disclosure of cash flows increases the positive association between Level 2 valuation and NAV discount. The other variable of interest, which is IFRS adoption, does increase the positive association as predicted between Level 2 valuation and NAV discount, but for "serious adopters" only. This diverted effect of IFRS adoption on funds that did and did not voluntarily disclose cash flows again sheds light on the stream of studies emphasizing firm-specific factors that affect the outcome of IFRS adoption. Although IFRS have increased disclosure compared to GAAP, the change is more effectively translated into value relevant information among the investment funds that have had the intention for more transparent reports, as proxied by voluntary disclosure of cash flows.

2.8. Conclusion and summary of results

Discretionary and non-discretionary assets are supposed to have similar returns given they are managed by the same fund. However, Canadian investment funds that did not voluntarily disclose cash flows under GAAP show a pattern of deviated returns between discretionary and non-discretionary assets, implying that these funds raise (lower) the return of Level 2 and Level 3 assets to neutralize losses (gains) from Level 1 assets. This negative association between discretionary and non-discretionary assets is reduced after the adoption of IFRS among non-voluntary reporters because of the additional restraint of cash flow disclosure. Canadian funds in general, regardless of their voluntary disclosure of cash flows, show significantly aligned returns from discretionary and non-discretionary assets after IFRS, supporting my argument that with precise valuation discretionary and non-discretionary assets should have similar returns as managers do not have to invest in assets that they have less knowledge while they can invest in other assets that they have better knowledge.

Discretionary assets include Level 2 and Level 3 investments, and the following steps decompose discretionary assets to see if Level 2 and Level 3 investments have different changes after IFRS adoption. Under the assumption of similar returns of discretionary and non-discretionary return, the difference between discretionary returns and non-discretionary returns is defined as a proxy for return management. A fund's underperformance strongly increases the incentive for return management, and return management is higher among funds that did not voluntarily disclose cash flows. However, return management on Level 2 assets is also higher after IFRS, for which the explanation is that Level 2 assets gain more focus of manager's discretion when Level 3 assets are restrained by the disclosure of cash flows under IFRS. Return management on Level 3 assets is also higher among fund that did not voluntarily disclose cash flows, but no reduction is observed after the adoption of IFRS whereas a reduction effect of IFRS on Level 3 returns is expected.

Although discretionary assets include both Level 2 and Level 3 investments, they may not have the same direction of discretion. Using Level 1 return as a proxy of underlying performance, evidence shows that Level 2 and Level 3 assets are generally moving towards different directions among funds that did not

disclose cash flows. This divergence is interpreted as discretionary adjustment of the valuation of Level 2 and Level 3 assets. IFRS do not have significant impact to reduce this discretion, but the new accounting policy results in fund managers giving Level 3 less weight after IFRS and focusing more on Level 2 investments for return management, as evidence shows a divergence between Level 1 and Level 2 returns emerges after IFRS, which was not a significant fact before IFRS.

Due to the fact that many countries exempt investment funds from reporting under IFRS, the fund industry has not been empirically studied by the IFRS literature. This paper documents that, in the Canadian context, IFRS adoption leads to reduced discretion in the investment fund industry's financial report in general, while IFRS adoption also shifts more discretion from Level 3 securities to Level 2 securities. Moreover, voluntary disclosure of cash flows before required by IFRS also contributes to less biased valuation of investment securities. Implications from this study are relevant to accounting profession and regulation. First, while regulators across different countries have concerns for full adoption of IFRS in the investment funds, mandatory disclosure of cash flows can increase transparency and reduce discretion. For instance, US GAAP only requires an investment company to present the statement of cash flows when it holds above 10% of securities in Level 3 investments. However, Level 3 investments account for 2% of an average US closed-end fund's total assets (Hammami [2014]). As a result, most US closed-end funds are exempt from disclosing cash flows which constrains fund managers' discretion. Second, while IFRS in general reduce discretion among investment funds, regulators need to be cautious about the different effects on Level 2 and Level 3 assets. The disclosure of cash flows and adoption of IFRS have a stronger constraint on Level 3 assets, but this uneven effect leads to relatively more discretion on Level 2 assets. How to increase disclosure on the determinants of valuation on Level 2 assets is a question worth future research by academics and cogitation by standard setters.

Chapter 3

Why Do Outside Directors Leave in Good Time?

3.1 Abstract

This paper follows a sample of 231 outside directors who retired, resigned, or stepped down during 2009 through 2011 from 145 of S&P 500 firms. The main finding of this paper is that unless the director has a disagreement with the rest of board or there is another kind of obvious trouble, firm's cumulative abnormal return around the director's notification of leave is to my surprise positive, although a director's leave does not sound good to investors. However, the decreasing long-run return of these firms may say something. I conjecture that directors who have known negative inside information might time their notifications of departure decision to avoid being involved in an adverse situation, and evidence for this hypothesis are presented from different angles.

Keywords: outside director, retire, resign, step down, performance, market timing

3.2 Introduction

To mitigate the conflict between principals and agents, shareholders entrust board of directors to oversee a firm's operation and to meet in a more frequent manner than shareholders are able to. Outside directors that have no connection with management ensure the independence of board which consists of both inside and outside directors. Directorships are attractive positions in the sense that a director receives multiple sorts of benefits from the seat in the boardroom. In the labor market of directors, vigilant directors establish their reputations by stewarding shareholders' wealth and secure their directorships with durative good reputation. Reputable directors get reelected by shareholders and also get rewarded with positions on the boards of other firms. As for the rewards, although outside directors do not have a material relationship with the company and do not receive any bonus from good performance, they can obtain benefits such as business connections, diversity of experience, fame, and monetary compensation for directorships. An inside director is usually a top executive of a firm in which he/she spend a great amount of time, whereas an outside director has much less time commitment to one firm and is hence possible to serve on the boards of different firms in the same year.

Although Interlocking directorate in companies competing in the same industry has been prohibited by *The Clayton Antitrust Act* since 1914, multiple directorships of outside directors are very common across industries. The demand for outside directors has been increasing whereas the supply remains very limited, resulting in the situation that about 83% of board members are outside directors and about 17% directors hold two-or-more firms' board positions (PwC, 2009). After the dot-com crisis and audit scandals, *Sarbanes-Oxley Act* (SOX) of 2002 requires the entire audit committee of all public companies to consist of independent directors. Since 2003, NYSE has required that all firms listed on NYSE to establish audit, nominating, and compensation committees composed entirely of independent directors. Nasdaq in the same year started to require that a majority of the board of directors of a listed company are independent. As the regulations strongly increased the demand for outside directors, post-SOX boards are larger and more

independent (Linck et al. [2009]), and over-boarding consequently exists in virtually all public firms as the supply of directors does not increase correspondingly.

While outside directors in modern corporations usually hold positions on more than one board, the likelihood of relinquishing one of the positions also increased because they have more positions left in the pocket. In addition, multiple directorships imply over commitment and reduced attention to each firm. When a reputable business expert holds positions on boards of several companies, he/she faces the exaggerated challenge of time allocation among companies each requires a large amount of time commitment in geographically different locations. If a director cannot allocate enough time and diligence to monitor a firm, he/she may encounter higher potential risk on individual reputation if either the manager exploits shareholder's wealth or shareholders question the director's diligence. Consequently, the cost (including opportunity cost) from one directorship increases with each additional position a director takes while the benefit does not makeup accordingly, because an outside director does not receive any bonus from the firm performance. As a result, an outside director may give up the position which makes the least sense in terms of potential, if not existing, extra cost including workload, risk, and liability. For an outside director who has no other material connection with the company, relinquishing the directorship would only result in a small amount of loss compared to what he/she can retain from other positions, and the likelihood of departure is relatively higher than that of inside directors when firm underperformance is advent. This means that an outside director can make the decision of resigning or stepping down almost purely based on his/her own contemplation on future performance because of the limited detriment to personal wealth and relatively loose contract, whereas an inside director who decides to leave the board usually also has to resign from the executive position that he/she holds. I consider the departure of outside directors to be less affected by factors other than the potential risk in the firm and a more timely reflection of inside information regarding future performance. To summarize, an outside director can lose substantial human capital if good reputation is not maintained, but he/she also has more flexibility in terms of time chosen to leave the board. Therefore, when anticipating underperformance of any kind in the future, an outside director's rational

decision is to relinquish the riskiest board seat so as to protect other profitable positions and announce the decision at a time to the best interests of himself/herself.

When an outside director foresees adverse circumstances of a firm at some point, the decision of departure does not have to be announced immediately as long as the departure can take effect before the possible adverse situation with a reasonable safety margin. For example, if an outside director anticipates the business of a company to be declining in the year of t+1, he/she may announce the decision of resignation a few months ahead of the end of year t to stay clear from the underperformance of year t+1. To prevent media and investors from suspecting anything, the director can choose a day around which there is no unfavorable news about the firm released to pretend that the resignation is not associated with anything about the firm but is a purely personal decision. A director can even choose a day around which the stock performance is on the rise and pretend that the resignation decision is so reluctantly made because the firm is doing well, but by doing so a director can shirk the latent responsibility of overseeing a troubled firm while maintaining the image of conscientious watchdog so that the seats in other boardrooms are secured.

To test this conjecture, this paper follows a sample of S&P 500 firms in which at least one outside director quit the board during 2009 through 2011, and this turnover involves 231 individuals and 145 firms. With a focus on the announcement of departure decisions which include earlier retirement, resignation, and stepping down, this paper examines the pre-event market condition, immediate market impact, and long-run consequence. Results of this paper suggest that many outside directors time the market to leave at the favorable window when the stock return is on the rise but after when some trouble emerges.

RiskMetrics on WRDS is employed first to figure out a list of outside directors who are recorded in a given year but not in the following year, I consider them as having left the board in that given year. In the second step, Factiva News Database is used to search for the names of each “disappeared” director and the corresponding firm to obtain the detailed information about the reason of, and explanation for, the director’s leave as well as the date when the director notified his/her decision to leave. There is a pervasive missing of the report for non-S&P 500 firms, so this paper finally focuses on S&P 500 firms only. Eventus is used

to calculate the abnormal return around the event date, and CRSP data are used to calculate the two-year buy-and-hold return of those sample firms. A model based on that designed by DeAngelo et al. (2010) is employed to test if those directors selected a favorable market opportunity to evade loss of human capital before the bad news became public.

It is surmised that market would react negatively to outside directors' departures, but the result from the preliminary event study reject this intuitive guess. Going behind the phenomenon by looking at more factors and longer window, this paper shows evidence that directors who quit but hide the reason are probably sly: they choose a time when stock prices were rising, quit without giving any concrete explanation, and run away from the upcoming adverse time. The market timing test model that was developed in this paper shows limited support to the timing hypothesis.

The findings of this paper contribute to the literature in the following ways. First, the evidence raises question about the efficiency of outside directors in certain circumstances. The governance literature show an increased interest in the recent decade on outside directors as the Sarbanes-Oxley Act strengthens the oversight role and the independence of the board of directors. While the extant literature generally document that the presence of outside directors leads to increased accounting quality, such as more conservative earnings (Ahmed and Duellman [2007]), higher accruals quality (Dhaliwal, Naiker and Navissi [2010]), less earnings management (Jaggi, Leung, and Gul [2009]), little caution has been given to the mechanism of outside directors. From a behavioral perspective, this paper documents that, like managers, outside directors also have individual incentives to entrench themselves when firms are under potential troubles. Second, while the literature supports the notion that outside directors are introduced into the boards to restrict the production of misleading financial information, this paper documents that outside directors also release misleading information for the reasons of their departures, urging researchers, investors, and regulators to pay extra attention to the turnovers in the boardrooms. Finally, this paper contributes to the recent stream of studies on directors' turnover. Results of this paper show that while directors' departure predicts firm performance, which is consistent with Fahlenbrach, Low, and Stultz's (2017) finding, how

directors explain the reasons and how fast they want to leave the firms are also informative about firm performance. This paper also documents that market-timing opportunities can affect when directors announce their decisions of departure, contributing to explain why directors turnover occur before financial fraud is discovered, as reported by Gao et al. (2017).

The remainder of this paper is structured as follows. Section 3.3 summarizes the literature with regard to outside directors and their behaviors. Section 3.4 discusses two recent cases of industry leaders with unusual boardroom turnover. Section 3.5 outlines the development of hypotheses and the design of the methodology for five research questions. Section 3.6 and 3.7 illustrates the sample and empirical analyses. Section 3.8 draws conclusion from the evidence, and Sections 3.9 discusses alternative explanations.

3.3 Literature Review

As posited by Fama and Jensen (1983) in the conflict between managers and shareholders, the board of directors serves as a mechanism of corporate governance to mitigate the agency cost by monitoring the agent on behalf of principals. While top executives are also elected to the board and this duality reduces the effectiveness of governance, the introduction of outside directors reinforces the role of the board with their independence from the management. Since agency theory is heavily based on the monitoring mechanism, the theory and a large body of agency-problem literature emphasize the importance of board independence. In practice, regulations across economies globally have specific requirements on the independence of board compositions.

However, evidence on the relationship between corporate performance and board independence are inconsistent (Choi, Park, and Yoo, 2007). Rosenstein and Wyatt (1990) find that each time a firm appointing additional outside director its value increases, but Hermalin and Weisbach (1991), Mehran (1995), Yermack (1996), Klein (1998), and Dalton et al. (1998) find no association between the presence of outside directors and firm performance. Nevertheless, Duchin, Matsusaka, and Ozbas (2010) explain this inconsistency with

their evidence that performance increases with the number of outside directors only when the cost of acquiring information is low.

The effect of board structure on firm performance seems not directly clear, but prior studies from accounting side have found an association between independent directors and information qualities. Klein (2002) finds that higher proportion of independent director is related to lower level of discretionary accruals. Ahmed and Duellamn (2007) find more timely recognition of bad news is related to a higher proportion of independent directors. Additionally, Ajinkya, Bhojraj, and Sengupta (2005) document that higher proportion of independent directors is associated with more frequent earnings forecast from managers, and the forecast is less likely to be optimistically biased. Karmanou and Vafreas (2005) report consistent results. Gul and Leung (2004) document that board independence has a positive link with the frequency of voluntary disclosures, which contain more comprehensive information as compared to earnings forecast. Since corporate disclosure reduces the cost of capital (Clarkson, Guedes, and Thompson [1996]; Botosan [1997]; Botosan and Plumlee [2000]; Richardson and Welker [2001]), these studies from accounting side help to unveil the linkage between board independence and cost of capital. Accordingly, provided that the correlation between board independence and disclosure quality and frequency are both positive, losing independent directors may result in a decrease of information quality and availability. The decreased information then may raise the cost of capital faced by investors (Easley and O'Hara [2004]).

Apart from the cost of equity aspect, the departure of independent director can hint conflict with management or concern of decreasing corporate performance (Dewally and Peck [2010]; Fahlenbrach, Low, and Stulz [2017]). Fama and Jensen (1983) propose that outside directors' motivation to monitor the management is their desire to maintain a reputation as ethical business experts and if outside directors find it difficult to monitor the management, they are very likely to resign to stay away from any foreseeable stigma that can mar their valuable reputations. Fahlenbrach, Low, and Stulz (2017) show that outside directors tend to leave ahead of troubles proxied by underperformance and restatements, and in their paper, Fahlenbrach, Low, and Stulz (2017) call this evading behavior the "dark side" of outside directors because

they leave when they are most needed. Gilson (1990) documents higher turnover of outside directors for financially distressed firms, and Yermack (2004) finds that director turnover is related to firm's low performance. Therefore, it is not prudent to conjecture that the departure of outside directors implies a higher possibility of adverse news in the future. However, not all directors give the true reason for their decisions to relinquish board positions.

According to the extant literature of outside directors, the primary reason why a director leaves boardroom is the concern of reputation risk associated with negative news and unsatisfied performance. Fama and Jensen (1983) argue that preserving and enhancing reputation in the labor market for directorships is a primary motivation of directors and that directors want to build a reputation as a diligent monitor of management because otherwise it destructively affects the value of their human capital and the likelihood of obtaining future directorships. Fama and Jensen (1983) also argue that there is a substantial devaluation of human capital when directors neglect their monitoring duties. Directors have a strong incentive to maintain a good reputation which is the major assets that can secure his/her seats on other boards in the future, and the reputation is closely related to the performance of each firm during his/her tenure. If a company falls into financial distress (Gilson [1990]), gets acquired (Harford [2003]), underperforms (Yermack [2004]), experiences accounting restatements (Srinivasan [2005]), or is sued for financial fraud (Fich and Shivdasani [2007]), its directors are more likely to lose directorships of other companies because of devalued reputation.

However, survey results from consulting industry show something different from what we know in the literature, namely the foremost importance of reputation. PwC (2009) reports that reputation concern is only the third important reason for directors' resignations, whereas about five times more directors say time constraint is the primary reason for resignation than the number of directors say reputation concern is. What can be inferred from this survey is that, in reality, the decision of director's departure can be more attributed to time over-commitment than to name protection, resulting in the complexity of true implications for firm future performance as the actual reason may or may not be reputation risk associated with potential

underperformance or trouble of any type. Besides the fact that time constraint pressures directors to resign, the trend of multi-directorship in recent decade has raised a question among researchers and investors on busy directors' workload and distraction caused by over-boarding. Research shows that from 1996 to 2010, the number of directorships per person has increased (Bar-Hava et al. [2013]) while the responsibility of directors required by regulation has also increased. Bar-Hava et al. (2013) cite from *The Wall Street Journal* (February 29 [2012]) that there is "*a substantial increase in the time devoted by directors to a board from an annual mean of 150 hours in 2003 to 227 hours in 2011*", which is an increase of 51%. As a result, on average a director's total workload has soared to about double the amount of a decade ago when SOX was underway. Linck et al. (2009) confirm this increase in workload with evidence that audit committees meet more than twice as often post-SOX as they did pre-SOX, while their evidence also shows that the risk for directorships surged as Director and Officer (D&O) insurance increased to more than twice the premium of pre-SOX. According to the results of PwC's 2009 Annual Board of Directors Survey, 29% of directors decided or seriously thought about resigning from one of the boards they serve, and 3/8 of the decision or deliberation were due to time constraints and 1/4 were due to personal liability and reputational concerns. Therefore, it is known as a fact that time constraint is now number one reason for resignation. What is not known though is why a director chooses to resign or step down from one firm rather than another firm in his/her positions pool.

In the year of 2012, about 59% of audit committee members are financial expert (Ernst and Young, 2017), and, from 2012 through 2017, 41% of the audit committee chairs have been changed and the turnover of audit committees of the five-year period is astonishingly high at 85% (Ernst and Young, 2017). Among those audit committees that had turnovers, 49% of the committee members are newly added. Kachelmeier, Rasmussen, and Schmidt (2016) report that 13% of S&P 1500 audit committee members experience turnover from the board within two years following the 2007 annual meeting, due to factors such as firm performance and ineffective oversight. Gal-Or, Hoitash, and Hoitash (2015) also report an average of 12% turnover from 2004 to 2010 among "accounting financial experts" (AFE) in their larger sample.

Although earlier studies suggest a positive association between over-boarding and perceived director quality (Gilson [1990]; Kaplan and Reishus [1990]; Shivdasani [1993]; Brickley et al. [1999]), the reality of recent decade may not be as optimistic. Ferris et al. (2003) report no relationship between the presence of busy directors and performance, and Fich and Shivdasani (2006) report that firms with higher over-boarding are associated with weaker governance quality and firm performance. Given the phenomenon that over-boarding is prevalent across industries and the fact that investors do not like distracted directors (Masulis and Mobbs [2011]), it is a rational choice for a director with inadequate time to resign from one boardroom to avoid being blamed for unsuccessful monitoring. However, the reason why resigning from one particular firm while keeping the positions in other firms has not been addressed. Multi-directorship is not only an excuse for resignation due to time constraint, it is actually a catalyst: if all directors serve only on the board of one firm, they may not feel as relieved to resign because that means losing all the benefit, such as business connection, experience, media presence, and compensation from the sole directorship, but busy directors only give up a small proportion of what they obtain from directorships when resigning from one firm.

3.4 Recent cases

Wells Fargo & Company was named the world's most valued bank brand for the year of 2013 when, however, two directors (including one financial expert) announced stepping down whilst the company released no expectation of turnovers in 2012. It was actually 9 months after the announced stepping-downs that *Los Angles Times* published an investigation in December of 2013 against the most valued bank of the year, and one month after the publishing another director who is also a financial expert resigned in January 2014 citing health-related reasons after just 13 months of election into the board of Wells Fargo as the chair of the audit and examination committee.

Wells Fargo had an outstanding performance in 2012 with 18.9 billion of net income which was a 19% of growth compared to 2011, and the CEO of this bank was named Banker of the Year in 2013 by *American*

Banker in November 2013. "*No bank is better run than Wells Fargo, and no bank is better sticking to what it does best,*" says *Euromoney* in July 2013. While every outsider recognized Wells Fargo's excellence in the financial industry, two insiders decided to look for opportunities in new boards other than that in Wells Fargo. Little suspicion was triggered outside the company and there was virtually no media follow up on the two cases of director departure except the company's proxy statement release.

Back to as early as 2009 when the bank was recovering its performance from the crisis with an ambitious strategy, regional employees started to be stressed by the company's sales target. Two cases were cited by the *Los Angles Times* publication in which the employees quit Wells Fargo due to unreasonable daily sales quota, plus another two lawsuits in 2010 filed by former employees claiming that the bank forced them to open unauthorized accounts and failed to pay overtime for evening telemarking. These small cases must have been ignored by most outsiders compared to the banks' performance from 2009 through 2010 when its stock price tripled and regained its pre-crisis high. The CEO of Wells Fargo conclude that "*In 2010 Wells Fargo saw solid growth in a variety of businesses, with record net income for the full year…*". Nonetheless, two independent directors quitted the company in 2009 and another two did so in 2010, such proportion of boardroom turnover did not happen even during the crisis. Beginning September 2010, two months after the announced early retirement of an outside director, Wells Fargo underperformed S&P 500 until January 2012 when the company's revenue growth began. Between 2010 and 2011 while the company's stock had been defeated by peers, Wells Fargo initiated the sales boost program which was cited as "pressure cooker" by the Los Angles Times in its 2013 release. Although from February 2009 to April 2010 Wells Fargo saw a constant recovery from the crisis, three outside directors left from April 2010 through December 2011, as later we know, prior to the stock underperformance and sales-target conflict.

The boardroom of Wells Fargo delivered a signal of red flag again from 2012 through 2013. While Wells Fargo's branches had been beating sales targets and the bank presented record revenue, three directors decided to quit the boardroom in San Francisco headquarter while none of them said any reason about their early retirement until outsiders could infer a little from a media report that lawsuits might be in

the wind. By May 2015 when L.A. City Attorney sued Wells Fargo, alleging 'unlawful and fraudulent conduct', another two outside directors had departed from the bank.

This case suggests a signaling effect of directors' turnovers, especially clustered departures, when a company seems doing fine. The even more interesting aspect of Wells Fargo case is that no director left the company when its performance was diving, such as during the financial crisis and during the lawsuits and regulatory investigations. Since leaving the company when it is among manifest trouble such as underperformance or governance issues may affect a director's reputation by indicating incompetence or irresponsibility to guide the company out of trouble, quitting before the trouble emerges is preferred by most directors who want to leave with an intact reputation. Although outside directors may be less informed than CEO, their access to board meetings enables them to forecast more accurately than analysts and the public to take steps in advance. This non-financial action, which is resignation or retirement, secures exactly what directors care most: their reputation as human capital (Fama and Jensen [1983]) which is worth the compensation of $277.237/year for 2.1 directorships per person multiplied by an average tenure of 8.5 years (E&Y [2013]; Spencer Stuart Board Index [2015]; WSJ [2016]), resulting in 4.9 million dollars of expected total earnings for being qualified for directorship in S&P 500 companies. On the other hand, the average shareholding by an S&P 500 outside director is only 0.57 million dollars on average (Anderson, Mansi, and Reeb [2004]; Bhagata and Tookes [2005]; Ahmed and Duellman [2007]; dollar value based on market cap as of February 28, 2017) which is about 1/10 of a directors' reputation value. Therefore, an outside director can best protect his/her assets by shifting positions without legal risk rather than trading shares that can be subject to latent litigation liabilities.

Although time constraint, age concern, and personal reasons are usually given as explanations for the decision of departure, directors at Wells Fargo seemed not to have such constraint and concerns with other firms that they worked with at the time they left Wells Fargo. Among the ten directors who relinquished Wells Fargo seats, only two also stepped down from at least one other public companies. Although none of them said Wells Fargo had anything leading to their "personal" decisions, their departures only happened

in this bank. Of the seven outside directors who retired from Wells Fargo during 2009 through 2016, six remained active as outside directors in other public companies, while of the three outside directors who resigned from Wells Fargo, two retained their seats in other companies.

[Insert Figure 3 about here]

Wells Fargo is not the only case in which directors quit without giving concrete reasons, but investors see underperformance or legal issues after their departures. A traditional manufacturer that also attracted investor's attention in the past few years was P&G of which the stock price dived for 24% in 2015 after year-long unstable fluctuations in 2014. Although the board of P&G seemed peaceful in 2015, the fact might be that insiders have already taken steps in 2013 as one insider resigned during a 4-month hike and another insider retired during a 6-month rise in stock price. One insider, the CEO of the company, surprised investors by resigning from the company after realizing 25% increase in the stock price for the past year of his management. There would have been less surprise if the other insider ,who announced his decision to retire four months before the CEO resigned, had released some concrete reasons for his departure in January 2013, but the fact was no reason was given and nothing wrong on the stock market was seen associated with his departure. The public didn't see this anomaly as a red flag as they accepted the explanation of age and time concerns, but investors were later astounded by the CEO's resignation and eventually the diving of stock price in 2015. There was a lesson in fact for P&G investors back in 2010. On the 12th of January 2010, an outside director retired immediately from P&G with the explanation of age concerns after the investors gained a 30% return in the past year, but starting from the next month P&G released earnings expectations lower than forecasts. P&G stock return was virtually 0% from February 2010 through July 2012 while S&P 500 increased by 25%. In fact, citing age concern as the reason to retire did not mean this is the concern for every directorship in her positions pool, and her position in AT&T was definitely not affected by that reason. If P&G investors had just automatically followed this director's position and exchanged all P&G shares into AT&T shares, they would have gained a return of 39% for the same period when they gained 0% at P&G where "age" is an issue.

[Insert Figure 4 about here]

These two cases attracted much market-wide attentions in recent years. When out directors quit without any negative reason pointing to the companies, there could be something hiding behind the stage. A different true story may or may not exist, but ignoring these turnovers in the boardroom is not a wise choice for investors according to these cases. To study if there are systematical correlations between independent directors' turnover and stock performance changes, this paper extends the study to S&P 500 companies with regard to their out director's unexpected turnovers in terms of resignation, retirement, or stepping down, and statistical tests are designed in Section 3.5 and performed in Section 3.6.

3.5 Hypotheses and Research Design

An outside director's unexpected departure such as resignation or early retirement signals that the cost - reputational risk which is detrimental to one's seats on multiple boards - increases. Since directors are usually experienced business experts, they are able to differentiate sunk cost from potential cost and opportunity cost. Sunk cost is the underperformance or any other type of adverse circumstances of the company in the past, and this is not a major factor in the equation of a director's cost-benefit calculation. Therefore this paper does not consider past performance of a company to be strongly informative to a director's departure decision, although past performance can in many cases be continuous and its inertia in the future rather than past underperformance itself is the economic reason for a director's departure. Moreover, if an outside director anticipates recovery from underperformance in the following year, he/she may choose to stay in the firm for the reason that guiding a troubled firm back on track contributes to one's reputation and experience as a qualified director. In a short summary, past performance of a firm is sunk cost to a director and is therefore not directly suggestive of an outside director's departure decision. What leads to resignation is the prospective underperformance as a potential cost that the director foresees in the company or time conflict as opportunity cost that the director faces among his/her multiple positions.

Besides reputation protection and job preference, directors may also decide to leave a board before the end of the term to avoid potential excessive workload or even legal liability in the case of an audit committee member. When an outside director foresees business trouble in the future, an increasing amount of work can be predicted on various issues such as reviewing new proposed projects, reformatting compensation plan, searching for new CEO, monitoring more activities within the company as requested by shareholders, and even restructuring the firm's operation or ownership, but the increased workload will not be proportionally compensated. Consequently, a rational decision in front of uncompensated commitment and liability is to quit as soon as possible. However, leave a firm's board may signal bad news to investors who discount the firms' stock price for potential underperformance. Hence, the following hypothesis:

H1*: The announcement of outside director's departure is taken as negative news to the firm and stock return following the announcement is negative.*

In practice, there are mainly three types of director departure: retirement, resignation, and automatic stepping down via the annual re-election mechanism. Retirement is usually not a shock to market since it could be expected according to the company's age policy, but considering that investors are not necessarily familiar with firm's retirement policy, retiring could thus be a sort of new information which may not have a significant impact on stock price though. Resignation is however unexpected especially when the company does not currently have observable trouble. Automatic quit, which means not seeking re-election after one year of the mandate, is also an unexpected sort of departure, because directors usually sit on board for multiple years (directors' average tenure is 8.5 years, E&Y [2013]) and are not willing to step down unless they have to. Many directors notify the board their intention of not seeking re-election before the end of their annual mandates, so this is unexpected information as it can happen at any time in the year. But compared with resignation, stepping down is less surprising because it is partly decided by the mechanism. Therefore I predict that market is more surprised by resignation than by automatic stepping down than by retirement in a negative way. Hence, the following hypothesis:

H2*: As retirement, stepping down, and resignation cause increasing level of surprise to the market, the magnitude of negative return following the three types of leave increases with the level of surprise.*

As for the reasons given for leaving, age concern is the most moderate one, whereas vague reasons such as personal choice and time commitment seem less verifiable and forceful. Not giving any reason may raise market suspicion, and disagreement with other board members would definitely be a shock to the stock price. Hence, the following hypotheses:

H3*: As age concern, personal reason, hiding reason, and disagreement have an increasing level of negative implication, the magnitude of negative return following the leave of outside directors increases with the level of negative implication.*

Outside investors are usually notable people in business circles, and they care about their reputation as valuable human capital. On the one hand, since they are non-executives who do not have direct financial interest in the firm, there seems no reason for them to be involved in any adverse situation of the firm. On the other hand, outside directors have access to private information as inside directors do, so they know before the public where the firm's performance is going. Therefore, outside directors may want to quit when they learn any potential and major drop in performance, as documented by Dewally and Peck (2010) and as called by Fahlenbrach et al. (2010) the "dark side" of outside directors. In this sense, I predict that when a firm's outside director leaves, the firms' operating performance would drop in the current or upcoming fiscal year. Since resignation is the most rapid way and stepping down needs to wait, I predict that whether a director wants to resign or step down depends on the severity of the anticipated situation. Also, when the anticipated performance is more pessimistic, the director is more likely to leave before he/she can find an excuse. Hence, the following hypothesis:

H4: *A firm's net income is negatively related with the suddenness of an outside director's leave, the concealment of the reason for leaving, and the existence of disagreement with the rest of board.*

$$NI_t = NI_{t-1} + IndustryNI + CAR + Assets + Debt + Type + Hide + Type * Hide$$

NI is the net income of a given fiscal year, *Assets* and *Debts* control for the size effect in two ways. Prior earnings and the industry's average earnings capture the relative performance. *NI*, *Assets*, and *Debt* are deflated by taking the logarithmic values. *Type* is assigned to be 1 when a director retires, 2 when a director steps down, and 3 when a director resigns. The increasing ordinal number accounts for the suddenness of a director's leave. Dummy *Hide* indicates if the reason for leave is concealed or given. I predict the signs of *Type*, *Hide*, and $Type * Hide$ to be negative. Cumulative abnormal return before the director's notification of the decision to leave is included to control for possible market timing effect, which will be more specifically tested in the next hypothesis.

Since directors do not want to quit during a firm's adverse situation in which case they might be questioned, I conjecture that directors time the market to quit in an opportunity that looks good to the firm to avoid rumor. On the other hand, a director must leave before stock return goes down. Therefore, a director is more likely to notify his/her decision to leave in a month preceded by a month with increasing return and succeeded by a month when he/she anticipates the trouble to emerge. The *ex-post* measurement of stock return is used to proxy a director's anticipation.

When a director cannot find an excuse for leaving, he/she has to be more careful for the time compared to others who have one, so the timing effect is more profound when the reason for leaving is not to be given. Gao et al. (2017) document that directors of fraud firms exhibit abnormal turnovers before frauds are detected, indicating that directors have the incentive and ability to dissociate themselves from firms before market knows the fraud. Hence, the following hypothesis:

H5*: The probability that an outside director leaves the board is more correlated with stock return after the departure announcement when the director is going to hide the reason for leaving.*

DeAngelo, DeAngelo, and Stulz (2010) use P/B ratio and abnormal stock returns as proxies for market-timing opportunity to test the relation between firm's SEO decision and the market-timing opportunity. In

their paper, whether a firm issues SEO in a given year is determined by the firm's current P/B ratio, stock performance in the prior year, and stock performance in the next year. They find that a firm's SEO probability is increased when prior stock performance is high and later performance is low, which means that firms are more likely to issue equity when their stock prices are rising and before their stock prices fall. Loughran and Ritter (1995, 1997) and Baker and Wurgler (2002) use the same approach for market timing test in equity issuing and repurchase. This paper follows the idea of DeAngelo DeAngelo, DeAngelo, and Stulz (2010) to conduct a quantitative test for outside director's market timing behaviors.

An assumption of this paper is that when an outside director plans to quit before some negative information is publicly known, he/she can choose from a five-month window to announce the decision of leave. This five-month window includes two months before the actual announcement month and two months after the actual announcement month, as well as the announcement month itself. Since the two-month flexibility is discretionary, I also use one-month and three-month flexibility for concern of sensitivity, but only the two-month flexibility is used as an example in the following discussion. Although the distribution of notification probability within the flexibility window is unknown, I assume that the distribution is at least symmetric, because firms face a random walk of stock returns so that the best market opportunity should not be skewed to either earlier or later time. This assumption of symmetric distribution is why the window includes two months before the notification and two months after the notification.

A dummy variable Pr equals to 1 if director's decision to leave is notified in a month and 0 if not notified in that month. Monthly market-adjusted returns before, during, and after that month are employed as predictors. Monthly returns are interacted with the dummy of hiding reason because, as discussed before, the timing effect is predicted to be more profound for directors who do not have an excuse.

$$Pr(leave = 1)_t = \alpha + \boldsymbol{\beta R} + \boldsymbol{\gamma R} * Hide$$

$$\boldsymbol{R} = (return_{t-1}, return_t, return_{t+1}, return_{t+2}, return_{t+3})^T$$

$$\boldsymbol{\beta} = (\beta_1, \beta_2, \beta_3, \beta_4, \beta_5)$$

$$\boldsymbol{\gamma} = (\gamma_1, \gamma_2, \gamma_3, \gamma_4, \gamma_5)$$

For t-1 and t, β and γ are predicted to be positive because higher previous and current stock return means better market opportunity; for t+2 and t+3, β and γ are predicted to be negative because lower approaching stock return means it might be the last chance now. The prediction for t+1 is neutral as there are two possibilities: if the director is really ahead of time, month t+1 is not yet the adverse month, but if the director has waited until the last chance, t+1 is then the turning point. My prediction for the signs of interaction terms are same as those of monthly returns, because signs in the same direction mean that director who do not have an excuse are more sensitive to market timing opportunities.

3.6 Sample and Results

RiskMetrics is the database to obtain a list of outside directors who are recorded in the in a given year but not in the year after. These directors are considered to have left the company, so their names are then searched on Factiva New Database to confirm that these directors did quit the boards and to trace the details such as when and why they left the boards. There are three types of leave: retirement, resignation, and not seeking re-election. As for the reasons being given for leave, there are three groups: age, personal reason, disagreement with the board and other kinds of obvious trouble, and giving any reason is treated as the fourth group. Accounting data are retrieved from Compustat and return data are from CRSP. Eventus is employed to calculate abnormal return around the event dates.

The final sample covers 231 directors from 145 firms of which all are in the S&P 500 index, and the sample period is from 2009 to 2012. Of this sample, 88 of them retired, 57 of them would not stand for re-election, and 86 of them resigned. **Table 8** provides the distribution of the reasons for leaving.

[Insert Table 8 about here]

[insert Table 9 about here]

[Insert Table 10 about here]

3.6.1 Abnormal return around the news of director's decision to leave, whole sample

As illustrated in **Figure 5**, the CAR around director's notification of the decision of leave is positive. The stock price before six days of the event is relatively normal, but it starts to increase since day -5 and keeps the trend till day 27. **In Table 11** which gives the significance level of several windows, the CAR is significant in both most pre-event and post-event windows except for the window of (0, +5). However, since the post-event inertia lasts for nearly 30 days, it is not likely that the abnormal return is caused by the event. Rather, it might be that the event happens to be during a time when the stock return is continuously rising.

[Insert Figure 5 about here]

[Insert Table 11 about here]

3.6.2 Abnormal return around the news of director's decision to leave, subsamples with respect to type of leave

Figure 6 shows the abnormal returns of the retirement group, the stepping-down group, and the resignation group. Although there is a separation of the three of curves, the trend remains unchanged. Stock performance goes up regardless of the type of a director's leaving. Moreover, there are two noteworthy facts: resignation is preceded by a small drop around 10 days ahead of the event, and the event day of stepping down is succeeded by a drop after 20 days, indicating differences may exist between the two groups.

[Insert Figure 6 about here]

[Insert Table 12 about here]

Patell Z test in **Table 12** shows that the pre-event abnormal return for the resignation group is not significant, whereas post-event abnormal return for the retirement group is not significant. The retirement group has a longer significant post-event window, and the stepping-down group has a shorter significant

post-event group. From an overall point of view, the significance of abnormal return is substantially reduced after separating the sample by the type of leaving.

3.6.3 Abnormal return around the news of director's decision to leave, subsamples with respect to the reason of leave.

A difference can be observed when separating the sample by the reasons of leaving. In **Figure 7**, directors who have a disagreement and other kinds of troubles show a curve that is consistent with this paper's prediction. Leaving for age concern and other personal reasons maintain their increasing trends at different speeds though. However, the group with hidden reason seems to have a story to say: the graph suggests that the hidden reason might be unveiled 20 days later as a drop in the stock returns begins to emerge.

[Insert Figure 7 about here]

[Insert Table 13 about here]

3.6.4 Buy-and hold return before and after the event, whole sample

I follow these firms' 2-year buy-and-hold return using S&P 500 portfolio as a benchmark, and the long-run performance of these firms seems to suggest that directors who left the firm had already anticipated some unfavorable situation. **Figure 8** shows that the directors notify their intention to quit during when the firm's monthly return has been climbing, and the long-run stock return from the 10th month afterward drops dramatically. I consider this change in long-run monthly return as evidence that directors leave before the adverse situation in the firms, which is consistent with my observation in short run for the concealment group. Patell Z test and Sign Z from **Table 14** show limited and weak support for the significance of the graphed returns though.

[Insert Figure 8 about here]

[Insert Table 14 about here]

3.6.5 Buy-and-hold return before and after the event, subsamples by type of leave

According to the evolution of monthly return in **Figure 9**, those who resign are tactful as they quit in a time that is just right. These directors resign during the firm's best time, and it seems that they must be leaving for really personal concerns and their leaving has nothing to do with the firm, but the truth might be that dark is rising and they have fled ahead of time. On the other hand, those who retire and step down do not show the pattern of pre-notification rise and post-notification drop. Significance test in **Table 15** reinforces implications of the different patterns.

[Insert Figure 9 about here]

[Insert Table 15 about here]

3.6.6. Buy-and-hold return before and after the event, subsamples by reasons of leave

As for the effect of reasons being given for the departures, those who do not even give the reason have left the firms just in time as shown in **Figure 10**. They notify their decision to leave right at the end of a hiking interval, and the post-notification stock return seems not too bad, but one year later the real problem appears and stock return goes down continuously. Significance test in **Table 16** provides weak for this hypothesis support though.

[Insert Figure 10 about here]

[Insert Table 16 about here]

3.6.7 Results: operating performance

In line with Fahlenbrach, Low, and Stulz (2017) argument, firm's operation performance can be implied by outside director's departure. Linear regression for these 145 firms' performance after outside director's departure shows that hiding the reason for leave has significantly negative implication on firms' recent earnings (both year t and year t+1). Three specifications are presented in **Table 17**. The type of leaving

significantly affects firm's next-year but not current-year net income. Whether a director hides his/her reason for leaving also matters: concealment of the reason significantly (coeffecient=-0.4176; t=-3.45; P<0.01) indicates less net income in the next year, although such concealment weakly (coeffecient=0.1219; t=1.68; P<0.10) indicates higher net income in the current year. However, when a director resigns and hides the reason (Type*Hide), the company's net income in the next year is higher (coefficient=0.2210; t=4.11; P<0.01). This is against my prediction that the combined effect of resignation and concealment indicates underperformance in the following year.

[Insert Table 17 about here]

3.6.8 Results: market timing test

Following DeAngelo et al.'s (2010) approach, the logistic regression for the probability that a director leaves in a given month uses monthly stock returns around that given month as independent variables. It is predicted that the signs of pre-event and of-event returns are positive and show that directors have a better opportunity to leave when the stock has been going up, and it is also predicted that the signs of post-event returns are negative and show that directors are more likely to leave when they anticipate dark to be rising.

The dummy for concealment of reason measures its additional effect on the director's market timing behavior. It is hypothesized that directors who do not have an excuse would be more sensitive to market-timing opportunity, so the signs for interaction terms are predicted to be same as those of each corresponding monthly returns.

[Insert Table 18 about here]

Table 18 presents the results of the logistic test. As predicted, a monthly return in the first post-event month (month t+1) is negatively related with the probability that a director notifies his/her intention to leave. Monthly return in the second post-event month (month t+2) is not in line with my prediction. Results are similar across assumptions on different flexibility windows from ± 1 to ± 3.

The interaction terms represent whether directors are timing the market more sensitively when they plan to leave without given an explanation. The coefficient of 5.05 (t=3.04) for Hide*Return(t-1) means that when a director plans to leave without an excuse, he/she is more likely to announce the decision after a month of positive stock return, but the significance level is weak (10%) and the conclusion holds only on the assumption that he/she has ±two months flexibility to notify the decision. The coefficient of Hide*Return(t) is negative and opposite to my prediction, regardless of assumption on flexibility window. The positive signs of coefficients of Hide*Return(t+1) are acceptable because it means that directors prefer to announce their decisions during a longer increasing period than doing so until the last chance. The coefficient of -10.04 (t=4.55) for Hide*Return(t+2) supports my hypothesis that directors who do not have an excuse for leaving are more likely to notify their decisions before performance decline is starting, but this conclusion holds only for the assumption of ±1 month flexibility. Generally, the market timing hypothesis receives limited evidence.

3.7 Conclusion and Summary

The prediction that market negatively reacts to all kinds of leave of outside directors is rejected. This finding is surprising but interesting, and it enhances the motivations of the next steps. After the sample is separated by different dimensions, results suggest that the type of leave does not matter, but what matters is the reason being given for the decision of leave. Directors who leave without giving a reason are tactful: they notify their intention to leave when the firms are doing well in the stock market, but the stock prices coincidently begin to fall after they have left.

The long-run study shows a similar trend. After about 12 months following directors' resignation, firm value declines dramatically, and after about 10 months following directors' leaving without explanation, the firm value drops continuously. The regression analysis shows that the suddenness of director's leave is negatively related with firm's current- and next- year accounting earnings, and the concealment of the

reason for leave indicates 0.7 billion dollar decrease in current-year earnings and more than 3 billion dollar decrease in next-year earnings.

Limited evidence is documented for market timing behavior of outside directors. Generally speaking, there is moderate evidence for market timing in months that are relatively far from (both before and after) the event time, but there are also mixed evidence in months that are close to the event time. However, the mixed evidence can be reasonable, because some directors may take actions earlier and some may take actions later, so the aggregated effect around the event time could be mixed up.

To summarize, the findings of this paper suggest that investors should be alerted by outside directors' turnovers, especially when the departure is not well founded. As for regulators, evidence from this paper suggests that increased disclosure for directors' turnover could be imposed to reduce investors' information disadvantage. Moreover, mechanisms that can protect directors from reputational losses subsequent to firm underperformance should be established to discourage directors from shirking their responsibilities. Jiang, Wan, and Zhang (2015) document that the Chinese mandatory disclosure rule on directors' voting record rewards directors dissenting with proposals with more directorships and lower risk of regulatory sanctions as their effort to protect investors' interest are publicly known. However, the voting record is not publicly disclosed in the United States. As a result, when a firm is underperforming, investors cannot observe directors' effort but only see a company's underperformance during the directors' tenure.

3.8 Discussion of alternative aspects

One alternative explanation for the decline of long-run performance is that a qualified director's departure from the board results in lower governance quality which is later reflected in the stock and operating performance. Nonetheless, the new director's competence is not expected to be skewed to the lower side and the leaving director's competence is not expected to be skewed to the higher side either, so even if there are differences in directors' qualification, the change is random and the pooled sample should not present systematic lower qualification of new directors compared to the leaving directors.

However, actually 585 outside directors are originally figured as leaving directors by sorting out RiskMetrics data, but only 231 of them have been found in Factiva News Database. The 50% reduction and the resulted gap are non-ignorable. It is possible that only big firms receive extensive media coverage and the sample of this paper is biased to industry leaders. If this is the case, it might be true that director for the giant firms are not easy to find and a veteran with the same qualification is not immediately available. The firm, if not lucky enough, hence has to either wait for a longer time with the position being left vacant or invite someone who is busy on other positions. Consequently, the reduced governance quality due to the vacant position or busy director could be a valid reason for the decline of the performance captured by this paper. However, with the magnitude of performance changes in the findings being considered: it is not likely that a vacant position of outside director or a new busy outside director can result in a total reverse in both stock (-3.41%) and operating performances.

Chapter 4

Inferred Information around Merger and Acquisition Announcements

4.1 Abstract

In a tender offer, the bidder contacts shareholders of a target firm directly by announcing a public offer. Insiders typically have a better appreciation of the likelihood and valuation of a successful acquisition than outsiders, who have limited access to strategic and private information. This paper shows that using pre-announcement stock returns as a hint of insiders' judgment, an investor can take advantage of insiders' private information reflected in stock prices to earn abnormal return up to 1.82% in a period of only 10 trading days prior to the expiration of the tender offer. Information inferred from pre-announcement return reduces outsider's disadvantage and protects outsider's wealth when public disclosure is limited during the tender offer period.

4.2 Introduction

Takeovers are one of the most researched topics in finance (Holmstrom and Kaplan [2001]; Betton Eckbo, and Thorburn [2008]). In a takeover bid, investors' risk arises from the possibility of the deal failing to go through, and due to the risk, or that the possibility of the deal being successful is lower than 100 percent, the stock price of the target is usually below the offered price during the offer period. Risks typically derive from the failure to obtain the requisite shareholder approval or failure to receive antitrust and regulatory clearances.

After a tender offer, the trading volume increases dramatically and arbitrageurs take long positions in the target stock (Cornelli and Li [2002]), and the substantial increase in stock return provides a tempting

trading opportunity to corporate insiders (Agrawal and Nasser [2012]) and other informed investors (Ashraf and Jayaraman [2007]; Bodnaruk, Massa, and Simonov [2009]; Campbell, Ramadorai, and Shwartz [2009]; Daouk and Li [2011]). Larcker and Lys (1987) find that arbitrageurs are able to acquire private information to infer merger success before the public information is released, and by doing so risk arbitrageurs earn substantial returns. Hsieh and Walking (2005) document that the increased number of arbitrageurs has a positive implication on the probability of offer success, indicating that risk arbitrageurs have superior information about the results of deals. "*Through the actions of the arbitrageur it is possible to……infer the probability that an acquisition will ultimately take place……the market can nonetheless be useful in helping to assess the resolution of an uncertain acquisition.*" (Brown and Raymond, 1986). These studies make evident that arbitrageurs are in an advantageous information position where they can foresee whether a deal is going to be successful or not.

Since studies assert that arbitrageurs have private information about deal result and a substantial part of price change around merger announcement is due to price pressure caused by arbitrage demand (Mitchell, Pulvino, and Stafford, 2004), it can be inferred that arbitrageurs' advantageous information on deal result can be reflected in stock prices through their informed trading when the conclusion day is approaching. From an angle without looking at the arbitrageurs, Samuelson and Rosenthal (1986) investigate the price movements as indicators of tender offer's success. They find that a larger increase of relative stock price leads to a greater chance of tender offer success. This is consistent with arbitrage studies that informed investors can correctly predict takeover result and incorporate their predictions into stock prices by trading.

Provided that stock prices move as informed investors are trading, uninformed investors do not need to gamble and wait to earn profit from bidders. A simpler strategy to buy target stocks several days before offer expiration and sell them right before expiration regardless of the deal results can also make a positive return. A similar route has been found for stock repurchase offer by Lakonishok and Vermaelen (1990). They report more than 9 percent of abnormal return can be earned over a period shorter than one week prior to offer expiration. To capture the pre-expiration profit, the question is, nevertheless, how can we know

which target's price is going to rise (or rise more) if we do not assess the possibility of success? Now that the movement of stock price in offer period is affected by arbitrageurs and other informed investors' trading activities, we might be able to predict the movement by detecting other aspects of insider information, e.g. insider trading before the public announcement. While institutional factors determine largely the country-level information asymmetry (Hope [2003]; Ball, Kothari, and Robin [2003]; Bushman [2004]), firm-specific factors also affect each firm's information disclosure and transparency (Abdooy and Lev [2000]; Hope [2003]). This paper argues that trading based on private information has firm-specific magnitude and stock returns caused by such informed trading have a pattern that can be captured to infer private information and protect outside investors from being exploited by insiders.

The remainder of this paper is organized as follows. Section 4.3 reviews that institutional background and the literature pertaining to takeover offers. Section 4.4 develops the hypothesis of how to infer the pre-event insider information and take advantage of this inferred knowledge to make avprofit. Section 4.5 presents empirical tests with historical data to examine the hypotheses. Finally, the conclusive summary is presented in Section 4.6.

4.3 Literature reviews

4.3.1 The disclosure in mergers and acquisitions

The disclosure literature on mergers and acquisitions mainly focuses on how bidders convey acquisition decisions to investors to justify the rationale of the proposed merger. Kimbrough and Louis (2011) cite the argument made by former president of Goldman Sachs, Wayne Moore, that "*It is critical that the announcement of a transaction be well received and that the bidder's stock reacts favorably. As a result, the time, effort, and care that goes into announcing a deal has increased significantly. And the content—the description of the strategic rationale and the quantification of the synergies and future earnings effects—has as well*." Kimbrough and Louis (2011) conclude that effectively communicating a merger plan to investors involves disclosing specific and verifiable details about the integration plans, financial

projections including whether the merger is accretive or dilutive to earnings, the management team type, key assumptions underlying the anticipated success, and the basis for the purchase price. Conference calls and press releases are the main channels of information disclosure. While the firms typically announce their acquisitions through press releases, conference calls convey more details and are more informative (Kimbrough and Louis [2011]).

Significant stock price run-ups for target firms in the week preceding takeover announcements have been documented since Keown and Pinkerton (1981), and Arshadi and Essell (1993) report cumulative abnormal returns ranging from 14.04 to 32.35% over the pre-announcement period. Two explanations for the pre-announcement run-ups have been widely discussed and tested. The first explanation is that stock price run-ups reflect investors' anticipation of the takeover based on press releases and mandated disclosures (Gupta and Misra [1989]; Jarrell and Poulsen [1989]; Pound and Zeckhauser [1990]; Sanders and Zdanowicz [1992]). The second explanation is that price run-ups are driven by the trading of insiders who have private information about the acquisition and the information leakage from the insiders' trading (Keown and Pinkerton [1981]; Meulbroek [1992]; Arshadi and Eyssell [1993]). SEC requires the filing of Schedule 13D by anyone who acquires beneficial ownership of more than 5% of any class of publicly traded securities in a public company. The acquisition or disposition of 1% or more of the class of securities is the subject of the filing. Insider trading is regulated, but it does exist (Collin-Dufresne and Fos [2015]).

4.3.2 informed trading in pre-announcement period

The extant literature documents that insider trading in pre-announcement period lead to and is reflected in pre-announcement stock price run-ups (Jarrell and Poulsen [1989]; Arshadi and Eyssell [1993]; Cornell and Sirri [1992]; Meulbroeck [1992]; Sanders and Zdanowicz [1992]; Barclay and Warner [1993]; Schwert [1996]; King [2009]). Bodnaruk, Massa, Simonov (2009) report that investment banks take positions in the targets before M&A announcements either directly or through affiliated financial entities. Griffin, Shu, and Topaloglu (2012) document that wealthy individuals (i.e., those trading via full-service brokerages) buy target stocks before takeover announcements. Chen, Harford, and Li (2007) explore the trading of

independent long-term institutions (ILTIs) and report that ILTIs reduce their stakes in advance of the worst (bottom quintile) acquisition announcements and increase their stakes in advance of acquisitions with positive announcement returns. Agrawal and Nasser (2012) find that insiders increase net purchase before takeover announcements, and their net purchases are more pronounced in sub-samples with less uncertainty about takeover completion, such as friendly deals, deals of less regulated targets, or deals with a single bidder. Chan, Ge, and Lin (2015) document that informed option trading during pre-announcement period predicts post-announcement returns, and that informed option holders trade more actively than stock investors before M&A announcements. Augustin, Brenner, and Subrahmanyam (2015) also report that abnormal options trading volume for both target and acquirer is pronounced prior to M&A announcements. Barraclough et al. (2012) exploit the join information set of stock and option prices and document that the increase in trading volume from the pre-announcement period to the announcement day is most dramatic for target call options.

4.3.3 The information-learning literature

Hayek(1945)'s theory provides a base premise that financial markets collect the private information and beliefs of many different people who trade in firms' securities and hence provide an efficient mechanism for information production and aggregation. The aggregation of information occurs through the trading that transmits knowledge of traders(Grossman and Stiglitz, 1980). Based on this fundamental theory, studies in the financial literature mainly focus on that managers can learn from the information in stock prices about the prospects of their firms since Dow and Gorton (1997) and Subrahmanyam and Titman (1999) bring the theory into corporate finance. Jennings and Mazzeo (1991) study the learning during M&As but do not find supporting evidence for the occurrence of learning. They investigate the relationship between the bidder's stock return around the initial M&A announcement and the bidder's later closing or revision decisions but do not find any consistent association. They conclude that managers of the bidders are under the influence of hubris which obliterate the incentive to learn from investors' reactions. Dye and Sridhar (2002) point out the two-way information flows between capital market and firms with the comment that information need

not "be just from firms to capital markets (as recognized in the extant literature), but also be from capital markets to firms."

Luo (2005) revisits bidder's learning process and outcomes. Evidence reported in this paper shows that negative bidder stock returns following initial bid announcements increase the chance of subsequent bid withdrawal. Bond, Goldstein, and Prescott (2010) argue that "Many economic agents take corrective actions based on information inferred from market prices of firms' securities", and a theoretical connection between information inferred from market prices and reactions of economic agents is established in their paper. From the empirical perspective, managers are documented to learn from market to revise corporate investments (Chen, Goldstein, and Jiang 2007; Bakke and Whited 2010). Foucault and Gehrig (2008) extend this learning process to an international perspective by documenting that cross-listed firms learn from global investors about growth opportunities, and Foucault and Frésard (2012) report cross-listed firms learn from international investors about investment efficiencies. Kau, Linck and Rubin (2008) also report that managers listen to the market to consummate or discontinue announcement investment projects. As Bond, Goldstein, and Prescott (2010) do not only discuss manager's learning process, Paul (2007) contributes to the literature with evidence that independent board members also take corrective measures when the market reacts negatively to firms' acquisition bids. Loureiro and Taboada (2015).

4.4 Hypothesis Development

To illustrate my analysis, I suppose a scenario where bidder's offer price is $\boldsymbol{K_i}$ dollars per share of firm $\boldsymbol{i}$. In day $\boldsymbol{t}$ that is before the conclusion comes out, investors' estimation of the probability of deal being successful is $\boldsymbol{\rho_{it}}$, and the uncertainty of this probability is $\boldsymbol{\sigma_{it}^2}$ (I use the squared form to guarantee constant positive sign of uncertainty). Assuming expected utility maximization and risk aversion, the price that investors want to pay for firm $\boldsymbol{i}$ in day $\boldsymbol{t}$ increases with $\boldsymbol{\rho_{it}}$ and decreases with $\boldsymbol{\sigma_{it}^2}$. To simplify the mathematics, I adopt linear form to express $\mathbf{P_{it}}$ which is the price that investors are willing to pay for firm $\boldsymbol{i}$ in day $\mathbf{t}$ as:

$$\mathbf{P}_{it} = \boldsymbol{K}_i * \boldsymbol{\rho}_{it} - \boldsymbol{\gamma} * \boldsymbol{\sigma}_{it}{}^{\mathbf{2}}$$

(γ is investors' average risk-aversion parameter and $\boldsymbol{\gamma} > 0$)

$\boldsymbol{K}_i$ is locked by the offer, whilst both $\boldsymbol{\rho}_{it}$ and $\boldsymbol{\sigma}_{it}{}^{\mathbf{2}}$ are conditional on the status of insider information in day **t**. The content of private information affects the probability $\boldsymbol{\rho}_{it}$, whereas the quantity and quality of private information (hereafter the level of inside information, noted as $\boldsymbol{I}_{it}$ for firm $\boldsymbol{i}$ in day $\boldsymbol{t}$) determines the grade of uncertainty $\boldsymbol{\sigma}_{it}{}^{\mathbf{2}}$.

We have $\frac{\mathbf{d}\rho_{it}}{\mathbf{d}I_{it}} = \mathbf{0}$ and $\frac{\mathbf{d}\sigma_{it}{}^{2}}{\mathbf{d}I_{it}} < \mathbf{0}$, because the level of private information does not affect the expectation, but the uncertainty decreases with the level of private information.

So we know $\frac{\mathbf{dP}_{it}}{\mathbf{d}I_{it}} = \boldsymbol{K}_i \frac{\mathbf{d}\rho_{it}}{\mathbf{d}I_{it}} - \boldsymbol{\gamma} \frac{\mathbf{d}\sigma_{it}{}^{2}}{\mathbf{d}I_{it}} > \mathbf{0}$, which means that target price increases with the quality and quantity of inside information. The economic implication of this inequality is that when investors have more private information, the uncertainty becomes lower and he is thus willing to pay more for target stock because of the reduced risk.

As time goes forward, insiders obtain more amount of private information, so we have $\frac{\mathbf{d}I_{it}}{\mathbf{dt}} > \mathbf{0}$. Therefore $\frac{\mathbf{dP}_{it}}{\mathbf{dt}} = \frac{\mathbf{dP}_{it}}{\mathbf{d}I_{it}} * \frac{\mathbf{d}I_{it}}{\mathbf{dt}} > \mathbf{0}$. The economic implication of this inequality is that the closer to expiration day, the less risk there is, and the higher price insiders are willing to pay for target shares.

So far we have not considered the content, or say the direction, of private information that changes the anticipated probability $\boldsymbol{\rho}_{it}$. Since the direction of private information does not have fixed correlation with time $\boldsymbol{t}$, we assume the expectation of change in $\boldsymbol{\rho}_{it}$ is zero, which means with a large sample the average stock price only moves with the gradually reduced uncertainty $\boldsymbol{\sigma}_{it}{}^{\mathbf{2}}$, but the random changes of individual firms' probability $\boldsymbol{\rho}_{it}$ are offset by each other.

H1: *As a result of reduced uncertainty, an increase of abnormal return exists in the pre-expiration period.*

Lakonishok and Vermaelen (1990) documented that it is possible to earn a profit by purchasing target stock as long as the price is lower than the stock repurchase offer price. Similarly, an investor could make money simply by joining in the game before tender offer expiration day, as there is a systematic move up of stock prices. However, I think that pre-expiration profit can be predicted more precisely, and concentrating investment in the most valuable stocks can generate abnormal returns above average. I resort to the proxy of insider information to distinguish targets with higher potentials from those with lower.

Insiders are probably always insiders throughout the deal, and firms with characteristics of a greater level of private information probably remain so throughout the deal, so if we can measure the level of private information in phases other than the pre-expiration period, we might be able to infer the level of private information in the pre-expiration period. Higher level of private information means greater reduction of uncertainty $\boldsymbol{\sigma_{it}^2}$ and thus larger increase of stock price $\mathbf{P_{it}}$, according to my early discussion on the relation between $\mathbf{P_{it}}$ and $\boldsymbol{\sigma_{it}^2}$.

We go back to pre-announcement time when only insiders know about the offer in advance. A series of paper link private information to stock price run-up in pre-announcement period. By studying the daily stock price movements, Keown and Pinkerton (1981) find that the abnormal returns observed prior to the announcement of 194 mergers were due to trading on private information. Barclay and Warner (1993) document that price movements in pre-announcement period are results of trading by well-informed investors, and Chakravarty (2001) report that these informed investors and institutions. Golbe and Schranz (1994) show that bidding firms have an incentive to tip arbitrageurs with private information prior to public announcement of the tender offer, so the stock return prior to public announcement can reflect private information obtained from bidding firms. Arshadi and Eyssell (1993) suggest with evidence that pre-announcement run-ups are largely due to trading by SEC-registered insiders. Meulbroek (1992) analyzes illegal insider trading cases detected and prosecuted by SEC and finds that as large as 44% of the pre-bid price run-ups occurred on insider trading days.

Therefore, we can use pre-announcement abnormal returns as an indicator of the degree of private information. Higher pre-announcement abnormal return indicates a greater level of private information with the firm and the insider trading on the firm, and a greater level of private information means a larger reduction of uncertainty and thus larger inflation of stock price during the pre-expiration period. The caution, however, is that we have to assume constant probability to access private information for each firm throughout the deal: the higher (lower) chance of private information in pre-announcement time is succeeded by higher (lower) chance of private information in pre-expiration time.

H2a*: Targets with greater pre-announcement run-ups also have greater pre-expiration returns.*

The purpose in this study is to use *ex ante* measurements to infer the pre-expiration returns, because we are thus able to propose an investment strategy based on *ex-ante* predictors to capture the pre-expiration returns without knowing the *ex-post* deal results, although the return is mainly determined by whether the deal is going to be successful or not.

H2b*: Purchasing targets with higher pre-announcement run-ups can earn greater abnormal return than purchasing targets with lower pre-announcement run-ups can.*

4.5 Data and Research Design

In order to have an obvious conclusion day, this paper needs to focus on targets received tender offers which means the deal result is known on expiration day of the offer. Therefore I use SDC Platinum to retrieve successful merger and acquisition deals that use tender offer as bidding method. The targets must be public firms as we study their abnormal returns. I focus on US market from the beginning of 2000 through the end of 2012. Under these selection criteria, the final sample includes 547 firms. Eventus is employed to estimate each firm's alpha and beta in a period between 46 days before the announcement to up to 263 days backward, and each firm's alpha and beta estimated by Eventus are used to calculate pre-announcement and pre-expiration abnormal returns with daily return data from CRSP.

Specifically, the market model is adopted to calculate the abnormal return of each firm:

$$\boldsymbol{AR_i = R_i - \alpha_i - \beta_i * R_m}$$

The association between the abnormal returns from two pre-event periods is tested by the model below:

$$\boldsymbol{Pre\_Exp\_CAR = Pre\_Anc\_CAR + CashPay + Friendly + Horizontal + LnSize}$$

The dependent variable Pre_Exp_CAR is pre-expiration cumulative abnormal return, and the first independent variable Pre_Anc_CAR is pre-announcement cumulative abnormal return. The method of payment is controlled by $CashPay$ which equals to 1 if payment includes cash only and 0 otherwise, deal attitude is controlled by $Friendly$, target's size is controlled by its market value 4 weeks before announcement as $LnSize$, and industrial classification is controlled by $Horizontal$ which equals to 1 if bidder and target's SIC codes are same in the first two digits.

Although the anticipated possibility of deal being able to go through is a major determinant of pre-expiration stock price and deal result seems a convenient *ex-post* proxy for the probability, whether the deal turns out successful or not is not controlled because this paper performs an *ex-ante* study which sticks to the fact that the result is unknown at the moment. The post-announcement return is not controlled either, because some firms have a very short length of the offer period and there is potential overlap between post-announcement and pre-expiration periods.

I predict a positive sign for Pre_Anc_CAR as support for my hypothesis that higher level of inside information reflected in pre-announcement return indicates higher pre-expiration return. I expect $CashPay$ to have a negative sign because cash deals involve less uncertainty and private information thus have lower influence. Similarly, I conjecture that $Friendly$ has negative sign because when the deal is more likely to go through due to the friendly attitude, there is less uncertainty and therefore less impact by private information. $Horizontal$ is expected to function in a similar logic and thus have however a positive sign: when the merger is horizontal, uncertainty increases because concern about anti-trust investigation rises

and private information is therefore more influential. I predict $LnSize$ has a negative sign because larger firms are not as easy as smaler firm to probe for private information.

4.6 Results

I first present cumulative abnormal return around announcement for all targets in **Figure 11**. The result from the graph shows that stock returns begin to rise gradually since around 30 days prior to the announcement. Keown and John M. Pinkerton (1981) documented with data from 1975 to 1978 that insider trading problem is more serious since 12 days before the announcement. One possible explanation for the difference between their finding and my Figure 11 is that as regulation becomes more severe, insiders have to spread their trades into a much wider time span. This is consistent with Kyle's (1985) finding that informed investors are more likely to camouflage their information by spreading trades over time.

The graph shows a very typical pattern of merger and acquisition: abnormal return suddenly rockets at day -1 relative to the public announcement. Therefore I consider abnormal returns prior to day -1 as results of insider information whereas abnormal returns in and after day -1 as results of public information. Private information drives the abnormal return up for around 1/3 of that driven by public information.

[Insert Figure 11 about here]

[Insert Table 19 about here]

Cumulative abnormal returns prior to the offer expiration are presented in **Figure 12**. The graph shows that positive abnormal return begins to emerge since 13 days before offer expiration day. I select 3 windows to conduct significance test in **Table 2**. Although the abnormal returns in holding periods are only up to 1.86%, the annualized return, however, can be dozens of them because the longest window is just 15 trading days. Consistent with my prediction, these abnormal returns are positive and statistically significant. The results fully support my first hypothesis that as expiration day is approaching, target stock return in general increases.

[Insert Figure 12 about here]

[Insert Table 2 about here]

I then perform OLS regression for the second hypothesis regarding the association between pre-announcement return and pre-expiration return. **Table 21** provides a description of the sample and variables before the regression is presented. Most deals are offered by cash only, and most deals receive friendly attitude from target management. Industrial classification is approximately 4 horizontal to 6 vertical and conglomerate. Size of the target does not seem skewed.

[Insert Table 21 about here]

Regression results in **Table 22** support the second hypothesis that higher pre-announcement return precedes higher pre-expiration return. Throughout the 3 specifications with respect to the different selection of pre-announcement windows, the sign remains positive and significance level remains at 1%. However, the predictions for control variables are neither significant. Although I think the control variables affect uncertainty that discounts price, the results do not suggest so. I also performed regression for pre-expiration windows of (-10,0) and (-5,0) for sensitivity concern, and results in terms of significance and sign are same to those in Table 4, so I do not present them in the paper.

[Insert Table 22 about here]

Given that the regression in specification (3) has the highest R square, overall F test, as well as t value for pre-announcement CAR, I use the pre-announcement CAR in window (-10,-2) relative to the announcement to sort the sample firms. I call the group in the lowest quartile as "low insider information group" and the group in the highest quartile as "high insider information group", and I present the pre-expiration cumulative abnormal return of the two groups in Figure **13**.

[Insert Figure 13 about Here]

Figure 13 suggests that the abnormal returns of the two groups begin to move apart from each other since 10 days before offer expiration day. T-test and independent-samples test in **Table 23** show that the 15-day abnormal returns, prior to expiration, of the high-insider-information group and the low-insider-

information group are significantly different from each other, and the significance level decreases from 1% to 5% to 10% as the window shrinks from 15 days to 10 days to 5 days prior to expiration.

[Insert Table 23 about Here]

As for the abnormal returns of each group, only the high-insider-information group has significantly positive pre-expiration CAR. High-insider-information group in window (-10,0) has the greatest abnormal return and significance level. Accordingly, if an investor purchases the stocks of the high-insider-information group at 10 days prior to offer expiration, she can earn 1.82% in a 10-day period. However, if an investor purchases the stocks of the low-insider-information group no matter in which day, she is unlikely to end with a return that is different from zero as long as she sells them in the market than to the bidder.

4.7 Conclusion

This paper finds evidence that, in accordance with prior research, stock returns increase gradually prior to expiration day. According to a theoretical analysis, the increase is possibly due to reduced uncertainty resulted from increased private information. I consider firms associated with higher level of private information leakage maintain this feature throughout the deal due to firm-level factors, and I also assume informed investors following the deal can obtain private information throughout the deal. As a result, there is a significantly positive relation between pre-announcement return and pre-expiration return, of which both are prior to the release of public information and both are driven by private information. Supposing a situation that uninformed investors have observed targets' pre-announcement returns and want to take a position during the tender offer period whereas they do not have superior information to predict deal results, simply by purchasing the high-pre-announcement-return stocks at 10 days before offer expiration they can earn 1.82% in 99% chances.

This study proposes and finds evidence that positive abnormal return exists in the pre-expiration period, while the extensive M&A literature studies the return around offer announcement only. A tactic is also

developed as using stock return in stage 1 to infer the constant level of private information which can predict the stock return in stage 2. Without having to have access to the content itself of private information, an uninformed investor can take a free ride simply because of the private information reflected in stock returns by insiders' trading prior to public announcement.

To summarize, the current disclosure regulations have a very limited effect on reducing information asymmetry during acquisitions, outsiders and small investors are at a severe information disadvantage during such corporate activities. With the given regulatory reality, this paper examines if outsiders can rely on alternative public information to infer what they do not have access to. By examining abnormal returns around tender announcements and offer closures, this study presents evidence that insider information is reflected in abnormal returns and outside investors can capture such inferred information to mitigate their disadvantageous position. Since disclosure regulations have not required effective ways to reduce information asymmetry during tender offer periods, I suggest that outside investors use indirect ways to obtain information and protect themselves.

Chapter 5 Conclusion and Discussion

This dissertation visits several issues in disclosure and information that are related to reporting standards, governance, and corporate restructurings. First, the adoption of IFRS in the Canadian investment fund industry provides an ideal setting for the study of the how the new standards impact investment funds' outcomes and fund managers' behavior. From the results, I document that IFRS reduce fund manager's discretion on assets appraisal and reported returns in financial statements. Moreover, the fact that many funds did voluntarily disclose cash flows before IFRS also show less return management. A practical implication of this study is that for countries not ready to mandate IFRS for investment funds can require the disclosure of cash flows first, as such single factor can also improve reporting quality of the investment funds. NAV discount is also impacted by IFRS as Level 2 securities contribute to more NAV discount under IFRS. While this study is the first archival work linking IFRS and closed-end fund because of the Canadian context, a few cautions remain for the following reasons. The Canadian fund industry is relatively small as only 231 closed-end funds are actively traded on the TSX. After excluding funds that were just recently formed and funds that have restructured, the sample size is reduced to 183. However, the industry of closed-end fund is not large in any country. The US market has less than 600 closed-end funds, and prior studies are able to construct samples ranging from 300 to 500 closed-end funds. However, the investment funds in other jurisdictions also have the option to voluntarily disclose cash flows. Therefore, before bringing Canadian experience to a more general conclusion, it is necessary to examine if the disclosure of cash flows has the same positive effect in other countries.

Second, although the aim of adding outside directors to the boards is to strengthen governance and reduce opportunistic behaviors of managers, directors themselves are also subject to opportunistic behavior for individual benefits. The second essay provides evidence that current governance policies have not paid enough attention to outside directors' behaviors. Regulations may have certain requirements on the presence, numbers, and expertise of outside directors, but the consequences are not as effective as lawmakers expect. Investors and regulators should be alerted when outside directors quit a firm while

remaining the positions in other firms, as such behavior is a signal of directors shirking their responsibilities of firms with potential troubles according to the evidence of this paper. On the other hand, before regulations effectively limit directors opportunistic choices, investors can take short positions to manage potential risk. According to this study, the risk is associated with directors not giving concrete or definite reasons for their departure. This urges regulators to require more details to disclose the reasons for directors' departures and list other positions that a director is not leaving. When investors learn that a director is leaving firm A but staying in firm B and C, they are more likely to be concerned because this decision looks more firm-specific than being personal.

Third, during corporate restructurings like mergers and acquisitions, public disclosure is limited after the offer is tendered until the offer is closed. During this period, a bidder directly contacts shareholders so that shareholders with larger ownership have more private information than smaller shareholders about the potential outcome of the acquisitions. While current public disclosure requirements do not mandate shareholders to release their decisions, small and outside investors are more uncertain about the outcome of acquisition offers. The third essay of this thesis shows that under the current limitation of public disclosure, investors can infer private information from abnormal returns around offer announcement. This paper also contributes to filling the gap in the literature since Luo (2005), who documents that insiders learn from outsiders by observing stock returns during M&A announcement, by looking form a reverse angle that outsiders can learn from insiders.

References

Agostino, Mariarosaria, Danilo Drago, and Damiano B. Silipo. "The value relevance of IFRS in the European banking industry." Review of quantitative finance and accounting 36.3 (2011): 437-457.

Agrawal, Anup, and Tareque Nasser. "Insider trading in takeover targets." Journal of Corporate Finance 18.3 (2012): 598-625.

Aharony, Joseph, Ran Barniv, and Haim Falk. "The impact of mandatory IFRS adoption on equity valuation of accounting numbers for security investors in the EU." European Accounting Review 19.3 (2010): 535-578.

Ahmed, A.S., Duellman, S., 2007. Accounting conservatism and board of director characteristics: an empirical analysis. Journal of Accounting and Economics 43, 411-437.

Ahmed, Anwer S., Michael Neel, and Dechun Wang. "Does mandatory adoption of IFRS improve accounting quality? Preliminary evidence." Contemporary Accounting Research 30.4 (2013): 1344-1372.

Ajinkya, Bipin, Sanjeev Bhojraj, and Partha Sengupta. The association between outside directors, institutional investors and the properties of management earnings forecasts. Journal of Accounting Research 43.3 (2005): 343-376.

Anderson, Ronald C., Sattar A. Mansi, and David M. Reeb. "Board characteristics, accounting report integrity, and the cost of debt." Journal of accounting and economics 37.3 (2004): 315-342.

Arshadi, N., Eyssell, T. (1993). Insiders, outsiders, or trend chasers? An investigation of pre-takeover transactions in the shares of target firms. Journal of Financial Research, 16, 49–59

Ashbaugh, Hollis, and Morton Pincus. "Domestic accounting standards, international accounting standards, and the predictability of earnings." Journal of accounting research 39.3 (2001): 417-434.

Augustin, Patrick, Menachem Brenner, and Marti G. Subrahmanyam. "Informed options trading prior to M&A announcements: Insider trading?." (2015).

Baker, Malcolm and Jeffrey Wurgler,2002, Market Timing and Capital Structure, The Journal of Finance • Vol. LVII, No. 1 • FEB. 2002

Ball, Ray. "International Financial Reporting Standards (IFRS): pros and cons for investors." Accounting and business research 36.sup1 (2006): 5-27.

Ball, Ray, S. P. Kothari, and Ashok Robin. "The effect of international institutional factors on properties of accounting earnings." Journal of accounting and economics 29.1 (2000): 1-51.

Ball, Ray, Ashok Robin, and Joanna Shuang Wu. "Incentives versus standards: properties of accounting income in four East Asian countries." Journal of accounting and economics 36.1 (2003): 235-270.

Ball, Ray, and Lakshmanan Shivakumar. "Earnings quality in UK private firms: comparative loss recognition timeliness." Journal of accounting and economics 39.1 (2005): 83-128.

Ball, Ray, Xi Li, and Lakshmanan Shivakumar. "Contractibility and transparency of financial statement information prepared under IFRS: Evidence from debt contracts around IFRS adoption." Journal of Accounting Research 53.5 (2015): 915-963.

Bar—Hava, Keren, G. Feng, and Baruch Lev. Busy directors are detrimental to corporate governance. Working paper, 2013.

Barclay, Michael J., Clifford G. Holderness, and Jeffrey Pontiff. "Private benefits from block ownership and discounts on closed-end funds." Journal of Financial Economics 33.3 (1993): 263-291.

Barclay, M., Warner, J. (1993). Stealth trading and volatility. Which trades move prices? Journal of Financial Economics, 34, 281-305.

Barone-Adesi, Giovanni, Keith Cates Brown, and W. V. Harlow. On the use of implied stock volatilities in the prediction of successful corporate takeovers. Rodney L. White Center for Financial Research, The Wharton School, 1994.

Barraclough, Kathryn, et al. "Using option prices to infer overpayments and synergies in M&A transactions." The Review of Financial Studies 26.3 (2012): 695-722.

Barth, Mary E., Wayne R. Landsman, and Mark H. Lang. "International accounting standards and accounting quality." Journal of accounting research46.3 (2008): 467-498.

Barth, Mary E., et al. "Relevance of differences between net income based on IFRS and domestic standards for European firms." Journal of Business Finance & Accounting 41.3-4 (2014): 297-327.

Baysinger, B. D., R. D. Kosnik and T. A. Turk (1991). Effects of board and ownership structure on corporate R&D strategy, Academy of Management Journal, 34, pp. 205–214.

Beekes, Wendy, Peter Pope, and Steven Young. The link between earnings timeliness, earnings conservatism and board composition: evidence from the UK. Corporate Governance: An International Review 12.1 (2004): 47-59.

Berk, Jonathan B., and Richard Stanton. "Managerial ability, compensation, and the closed-end fund discount." The Journal of Finance 62.2 (2007): 529-556.

Bhagat, Sanjai, Dennis C. Carey, and Charles M. Elson. "Director ownership, corporate performance, and management turnover." The Business Lawyer (1999): 885-919.

Bhattacharya, Sudipto. "Imperfect information, dividend policy, and" the bird in the hand" fallacy." The Bell Journal of Economics (1979): 259-270.

Bhagat, Sanjai, and Heather Tookes. "Voluntary and mandatory skin in the game: understanding outside directors' stock holdings." The European Journal of Finance 18.3-4 (2012): 191-207.

Biddle, Gary C., Gilles Hilary, and Rodrigo S. Verdi. "How does financial reporting quality relate to investment efficiency?." Journal of accounting and economics 48.2 (2009): 112-131.

Blanchette, Michel, and Aurélie Desfleurs. "Critical Perspectives on the Implementation of IFRS in Canada." Journal of Global Business Administration 3.1 (2011).

Bodnaruk, Andriy, Massimo Massa, and Andrei Simonov. "Investment banks as insiders and the market for corporate control." The review of financial studies 22.12 (2009): 4989-5026.

Bollen, Nicolas PB, and Veronika K. Pool. "Do hedge fund managers misreport returns? Evidence from the pooled distribution." The Journal of Finance 64.5 (2009): 2257-2288.

Botosan, Christine A. "Disclosure level and the cost of equity capital." Accounting review (1997): 323-349.

Botosan, Christine A., and Marlene A. Plumlee. "A re‐examination of disclosure level and the expected cost of equity capital." Journal of accounting research40.1 (2002): 21-40.

Brickley, James A., James S. Linck, and Jeffrey L. Coles. "What happens to CEOs after they retire? New evidence on career concerns, horizon problems, and CEO incentives." Journal of Financial Economics 52.3 (1999): 341-377.

Brochet, Francois, Alan D. Jagolinzer, and Edward J. Riedl. "Mandatory IFRS adoption and financial statement comparability." Contemporary Accounting Research 30.4 (2013): 1373-1400.

Brochet, Francois, and Suraj Srinivasan. "Accountability of independent directors: Evidence from firms subject to securities litigation." Journal of Financial Economics 111.2 (2014): 430-449.

Brown, Keith C., W. Van Harlow, and Laura T. Starks. "Of tournaments and temptations: An analysis of managerial incentives in the mutual fund industry." The Journal of Finance 51.1 (1996): 85-110.

Brown, Keith C., and Michael V. Raymond. "Risk arbitrage and the prediction of successful corporate takeovers." Financial Management (1986): 54-63.

Burgstahler, David C., Luzi Hail, and Christian Leuz. "The importance of reporting incentives: Earnings management in European private and public firms." The accounting review 81.5 (2006): 983-1016.

Burnett, Brian M., et al. "Earnings Quality: Evidence from Canadian Firms' Choice between IFRS and US GAAP." Accounting Perspectives 14.3 (2015): 212-249.

Bushman, Robert M., Joseph D. Piotroski, and Abbie J. Smith. "Capital allocation and timely accounting recognition of economic losses." Journal of Business Finance & Accounting 38.1-2 (2011): 1-33.

Byrd, John W., and Kent A. Hickman. "Do outside directors monitor managers?: Evidence from tender offer bids." Journal of financial Economics 32.2 (1992): 195-221.

Cao, Charles, et al. "Can hedge funds time market liquidity?." Journal of Financial Economics 109.2 (2013): 493-516.

Carter, Mary Ellen, and Billy S. Soo. "The relevance of Form 8-K reports."Journal of Accounting Research 37.1 (1999): 119-132.

Cassar, Gavin, and Joseph Gerakos. "Hedge funds: Pricing controls and the smoothing of self-reported returns." The Review of Financial Studies 24.5 (2011): 1698-1734.

Chan, Konan, Li Ge, and Tse-Chun Lin. "Informational content of options trading on acquirer announcement return." Journal of Financial and Quantitative Analysis 50.5 (2015): 1057-1082.

Chandar, Nandini, and Robert Bricker. "Incentives, Discretion, and Asset Valuation in Closed–End Mutual Funds." Journal of Accounting Research40.4 (2002): 1037-1070.

Chen, Xia, Jarrad Harford, and Kai Li. "Monitoring: Which institutions matter?." Journal of financial Economics 86.2 (2007): 279-305.

Chen, Kevin CW, and Feng Tang. "Post‐IFRS Revaluation Adjustments and Executive Compensation." Contemporary Accounting Research (2017).

Chlala, Nadi, and Anne Fortin. "Skinner's Thoughts on Professional Judgment and Recent Developments in Canadian Financial Reporting" Accounting Perspectives 4.2 (2005): 213-228.

Choi, Jongmoo Jay, Sae Won Park, and Sean Sehyun Yoo. The value of outside directors: Evidence from corporate governance reform in Korea. Journal of Financial and Quantitative Analysis 42.4 (2007): 941.

Christensen, Brant E., Steven M. Glover, and David A. Wood. "Extreme estimation uncertainty in fair value estimates: Implications for audit assurance." Auditing: A Journal of Practice & Theory 31.1 (2012): 127-146.

Christensen, Hans B., and Valeri V. Nikolaev. "Does fair value accounting for non-financial assets pass the market test?." Review of Accounting Studies18.3 (2013): 734-775.

Christensen, Hans B., Luzi Hail, and Christian Leuz. "Mandatory IFRS reporting and changes in enforcement." Journal of Accounting and Economics 56.2 (2013): 147-177.

Cici, Gjergji, Scott Gibson, and John J. Merrick. "Missing the marks? Dispersion in corporate bond valuations across mutual funds." Journal of Financial Economics 101.1 (2011): 206-226.

Clarkson, Pete, Jose Guedes, and Rex Thompson. "On the diversification, observability, and measurement of estimation risk." Journal of Financial and Quantitative Analysis 31.1 (1996).

Cohen, Daniel A., Aiyesha Dey, and Thomas Z. Lys. "Real and accrual-based earnings management in the pre-and post-Sarbanes-Oxley periods." The accounting review 83.3 (2008): 757-787.

Coles, Jeffrey L., Jose Suay, and Denise Woodbury. "Fund advisor compensation in closed-end funds." The Journal of Finance 55.3 (2000): 1385-1414.

COLLIN‐DUFRESNE, P. I. E. R. R. E., and Vyacheslav Fos. "Do prices reveal the presence of informed trading?." The Journal of Finance 70.4 (2015): 1555-1582.

Cormier, Denis, and Michel Magnan. "Does IFRS adoption in Canada reduce the information gap between managers and investors?." Available online at (April 2014): https://www. cpacanada. ca/en/connecting-and-news/ cpa-magazine/articles/2014/April/does-ifrs-adoption-in.

Cornell, Bradford, and Erik R. Sirri. "The reaction of investors and stock prices to insider trading." The Journal of Finance 47.3 (1992): 1031-1059.

Cornelli, Francesca, and David D. Li (2002). Risk arbitrage in takeovers. Review of Financial Studies, 15(3), 837-868.

Cullinan, Charles P., and Xiaochuan Zheng. "Valuation scepticism, liquidity benefits and closed-end fund premiums/discounts: evidence from fair value disclosures." Accounting & Finance 54.3 (2014): 729-751.

Daske, H., Hail, L., Leuz, C., & Verdi, R. (2008). Mandatory IFRS reporting around the world: Early evidence on the economic consequences. Journal of accounting research, 46(5), 1085-1142.

Daske, H., Hail, L., Leuz, C., & Verdi, R. (2013). Adopting a label: Heterogeneity in the economic consequences around IAS/IFRS adoptions. Journal of Accounting Research, 51(3), 495-547.

DeFond, Mark, et al. "The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability." Journal of Accounting and Economics 51.3 (2011): 240-258.

De George, Emmanuel T., Xi Li, and Lakshmanan Shivakumar. "A review of the IFRS adoption literature." Review of Accounting Studies 21.3 (2016): 898-1004.

Del Guercio, Diane, Larry Y. Dann, and M. Megan Partch. "Governance and boards of directors in closed-end investment companies." Journal of Financial Economics 69.1 (2003): 111-152.

DeAngelo , Harry, Linda DeAngelo , Rene´ M. Stulz ,2008, Seasoned equity offerings, market timing, and the corporate lifecycle, Journal of Financial Economics 95 (2010) 275–295

Dimson, Elroy, and Carolina Minio-Kozerski. "Closed-End Funds: A Survey." Financial Markets, Institutions & Instruments 8.2 (1999): 1-41.

Dow, James, and Gary Gorton. "Stock market efficiency and economic efficiency: Is there a connection?." The Journal of Finance 52.3 (1997): 1087-1129.

Duchin, Ran, John G. Matsusaka, and Oguzhan Ozbas. When are outside directors effective? Journal of Financial Economics 96.2 (2010): 195-214.

Dye, Ronald A., and S. Sridhar. "Resource allocation effects of price reactions to disclosures." Contemporary Accounting Research 19.3 (2002): 385-410.

Easley, David, and Maureen O'hara. Information and the cost of capital. The journal of finance 59.4 (2005): 1553-1583.

Ernst & Young, Audit committee reporting to shareholders in 2017

Ettredge, Michael L., Yang Xu, and Han S. Yi. "Fair value measurements and audit fees: Evidence from the banking industry." Auditing: A Journal of Practice & Theory 33.3 (2014): 33-58.

Ewert, Ralf, and Alfred Wagenhofer. "Economic effects of tightening accounting standards to restrict earnings management." The Accounting Review 80.4 (2005): 1101-1124.

Fahlenbrach, Rüdiger, Angie Low, and René M. Stulz. Do Independent Director Departures Predict Future Bad Events?, The Review of Financial Studies, Volume 30, Issue 7, 1 July 2017, Pages 2313–2358.

Falato, Antonio, Dalida Kadyrzhanova, and Ugur Lel. "Distracted directors: Does board busyness hurt shareholder value?." Journal of Financial Economics 113.3 (2014): 404-426.

Fama, Eugene F., and Jensen, Michael C. Separation of Ownership and Control. Journal of Law and Economics 26 (1983): 301–25.

Fan, Joseph PH, and Tak Jun Wong. "Corporate ownership structure and the informativeness of accounting earnings in East Asia." Journal of accounting and economics 33.3 (2002): 401-425.

Ferris, Stephen P., Murali Jagannathan, and Adam C. Pritchard. "Too busy to mind the business? Monitoring by directors with multiple board appointments." Journal of Finance (2003): 1087-1111.

Fich, Eliezer M., and Anil Shivdasani. "Are busy boards effective monitors?."The Journal of finance 61.2 (2006): 689-724.

Florou, Annita, and Urska Kosi. "Does mandatory IFRS adoption facilitate debt financing?." Review of Accounting Studies 20.4 (2015): 1407-1456.

Gal-Or, Ronen, Rani Hoitash, and Udi Hoitash. "The Efficacy of Shareholder Voting in Staggered and Non-Staggered Boards: The Case of Audit Committee Elections." Auditing: A Journal of Practice & Theory 35.2 (2015): 73-95.

Gao, Y., Kim, J. B., Tsang, D., & Wu, H. (2017). Go before the whistle blows: an empirical analysis of director turnover and financial fraud. Review of Accounting Studies, 22(1), 320-360.

Gilson, Stuart C. "Bankruptcy, boards, banks, and blockholders: Evidence on changes in corporate ownership and control when firms default." Journal of Financial Economics 27.2 (1990): 355-387.

Gordon, Jeffrey N. "The rise of independent directors in the United States, 1950-2005: Of shareholder value and stock market prices." Stanford law review (2007): 1465-1568.

Goh, Beng Wee, et al. "Market pricing of banks' fair value assets reported under SFAS 157 since the 2008 financial crisis." Journal of Accounting and Public Policy 34.2 (2015): 129-145.

Golbe, D. and Schranz, M. (1994). Bidder incentives for informed trading before hostile tender offer announcements. Financial Management, 23, 57-68.

Gomes, Armando. Takeovers, freezeouts, and risk arbitrage. Rodney L. White Center for Financial Research, The Wharton School, 2001

Gordon, Lawrence A., Martin P. Loeb, and Wenjie Zhu. "The impact of IFRS adoption on foreign direct investment." Journal of Accounting and Public Policy 31.4 (2012): 374-398.

Griffin, John M., Tao Shu, and Selim Topaloglu. "Examining the dark side of financial markets: Do institutions trade on information from investment bank connections?." The Review of Financial Studies 25.7 (2012): 2155-2188.

Grossman, Sanford J., and Joseph E. Stiglitz. "On the impossibility of informationally efficient markets." The American economic review 70.3 (1980): 393-408.

Gul, Ferdinand A., and Sidney Leung. "Board leadership, outside directors' expertise and voluntary corporate disclosures." Journal of Accounting and Public Policy 23.5 (2004): 351-379.

Gupta, Atul, and Lalatendu Misra. "Public information and pre-announcement trading in takeover stocks." Journal of economics and business 41.3 (1989): 225-233.

Hail, Luzi, and Christian Leuz. "Cost of capital effects and changes in growth expectations around US cross-listings." Journal of financial economics 93.3 (2009): 428-454.

Hamberg, Mattias, Mari Paananen, and Jiri Novak. "The adoption of IFRS 3: The effects of managerial discretion and stock market reactions." European Accounting Review 20.2 (2011): 263-288.

Hammami, Ahmad. Fair Values of Securities and Closed-End Fund Discounts. Diss. McGill University, 2014.

Hansen, Bowe, et al. "Earnings changes associated with relaxing the reconciliation requirement in non-US firms' SEC filings." Journal of Accounting and Public Policy 33.5 (2014): 424-448.

Hayek, Friedrich August. "The use of knowledge in society." The American economic review (1945): 519-530.

Henriksson, R. D., and Merton, R. C. 1981. On market timing and investment perfor-mance. II. Statistical procedures for evaluating forecasting skills. Journal of Business 54 (October): 513-33.

Hsieh, J. and Ralph A. Walkling (2005). Determinants and implications of arbitrage. Journal of Financial Economics, 77, 605-648.

Hung, Mingyi. "Accounting standards and value relevance of financial statements: An international analysis." Journal of accounting and economics30.3 (2000): 401-420.

Jarrell, Gregg A., and Annette B. Poulsen. "The returns to acquiring firms in tender offers: Evidence from three decades." Financial management (1989): 12-19.

Jeanjean, Thomas, and Hervé Stolowy. "Do accounting standards matter? An exploratory analysis of earnings management before and after IFRS adoption." Journal of accounting and public policy 27.6 (2008): 480-494.

Jennings, Robert H., and Michael A. Mazzeo. "Stock price movements around acquisition announcements and management's response." Journal of Business (1991): 139-163.

Jiang, Wei, Hualin Wan, and Shan Zhao. "Reputation concerns of independent directors: Evidence from individual director voting." The Review of Financial Studies 29.3 (2015): 655-696.

John, Kose, and Joseph Williams. "Dividends, dilution, and taxes: A signalling equilibrium." the Journal of Finance 40.4 (1985): 1053-1070.

Johnson, Shane A., Ji-Chai Lin, and Kyojik Roy Song. "Dividend policy, signaling, and discounts on closed-end funds." Journal of Financial Economics 81.3 (2006): 539-562.

Jurek, Jakub W., and Erik Stafford. "The cost of capital for alternative investments." The Journal of Finance 70.5 (2015): 2185-2226.

Kachelmeier, Steven J., Stephanie J. Rasmussen, and Jaime J. Schmidt. "When do ineffective audit committee members experience turnover?." Contemporary Accounting Research 33.1 (2016): 228-260.

Kaplan, Steven N., and David Reishus. "Outside directorships and corporate performance." Journal of Financial Economics 27.2 (1990): 389-410.

Karamanou, Irene, and Nikos Vafeas. The association between corporate boards, audit committees, and management earnings forecasts: An empirical analysis. Journal of Accounting Research 43.3 (2005): 453-486.

Kempf, Alexander, Stefan Ruenzi, and Tanja Thiele. "Employment risk, compensation incentives, and managerial risk taking: Evidence from the mutual fund industry." Journal of Financial Economics 92.1 (2009): 92-108.

Keown, Arthur J., and John M. Pinkerton. "Merger announcements and insider trading activity: An empirical investigation." The journal of finance 36.4 (1981): 855-869.

Khan, Shahid, et al. "Do IFRS-Based Earnings Announcements Have More Information Content than Canadian GAAP-Based Earnings Announcements?." Accounting Perspectives 14.3 (2015): 276-302.

Khorana, Ajay, Sunil Wahal, and Marc Zenner. "Agency conflicts in closed-end funds: The case of rights offerings." Journal of Financial and Quantitative Analysis 37.2 (2002): 177-200.

Kim, Jeong-Bon, Xiaohong Liu, and Liu Zheng. "The impact of mandatory IFRS adoption on audit fees: Theory and evidence." The Accounting Review 87.6 (2012): 2061-2094.

Kimbrough, Michael D., and Henock Louis. "Voluntary disclosure to influence investor reactions to merger announcements: An examination of conference calls." The Accounting Review 86.2 (2011): 637-667.

King, Michael R. "Prebid Run‐Ups Ahead of Canadian Takeovers: How Big Is the Problem?." Financial Management 38.4 (2009): 699-726.

Klein, A., 2002. Audit committee, board of director characteristics, and earnings management. Journal of Accounting and Economics 33, 375-400.

Kumar, Praveen, and K. Sivaramakrishnan. "Who monitors the monitor? The effect of board independence on executive compensation and firm value."Review of Financial Studies 21.3 (2008): 1371-1401.

La Porta, Rafael, et al. "Law and finance." Journal of political economy 106.6 (1998): 1113-1155.

Lakonishok, Josef, and Theo Vermaelen (1990). Anomalous price behavior around repurchase tender offers. The Journal of Finance, 45(2), 455-477.

Lambert, Richard, Christian Leuz, and Robert E. Verrecchia. "Accounting information, disclosure, and the cost of capital." Journal of Accounting Research 45.2 (2007): 385-420.

Landsman, Wayne R., Edward L. Maydew, and Jacob R. Thornock. "The information content of annual earnings announcements and mandatory adoption of IFRS." Journal of Accounting and Economics 53.1 (2012): 34-54.

Lang, Mark, Jana Smith Raedy, and Wendy Wilson. "Earnings management and cross listing: Are reconciled earnings comparable to US earnings?." Journal of accounting and economics 42.1 (2006): 255-283.

Lang, Mark, and Lorien Stice-Lawrence. "Textual analysis and international financial reporting: Large sample evidence." Journal of Accounting and Economics 60.2 (2015): 110-135.

Larcker, David F., and Thomas Lys. "An empirical analysis of the incentives to engage in costly information acquisition: The case of risk arbitrage." Journal of Financial Economics 18.1 (1987): 111-126.

Lawrence, Alastair, Subprasiri Siriviriyakul, and Richard G. Sloan. "Who's the fairest of them all? Evidence from closed-end funds." The Accounting Review91.1 (2015): 207-227.

Lee, Charles, Andrei Shleifer, and Richard H. Thaler. "Investor sentiment and the closed-end fund puzzle." The Journal of Finance 46.1 (1991): 75-109.

Leuz, Christian, Dhananjay Nanda, and Peter D. Wysocki. "Earnings management and investor protection: an international comparison." Journal of financial economics 69.3 (2003): 505-527.

Leuz, Christian, and Peter D. Wysocki. "The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research." Journal of Accounting Research 54.2 (2016): 525-622.

Lightner, Renee and Theo Francis. "Inside America's Boardrooms", January 19, 2016 The Wall Street Journal.

Linck, James S., Jeffry M. Netter, and Tina Yang. "The effects and unintended consequences of the Sarbanes-Oxley Act on the supply and demand for directors." Review of Financial Studies 22.8 (2009): 3287-3328.

Liu, Guoping, and Jerry Sun. "Did the mandatory adoption of IFRS affect the earnings quality of Canadian firms?." Accounting Perspectives 14.3 (2015): 250-275.

Magnan, Michel, Andrea Menini, and Antonio Parbonetti. "Fair value accounting: information or confusion for financial markets?." Review of Accounting Studies 20.1 (2015): 559-591.

Marcel, Jeremy J., and Amanda P. Cowen. "Cleaning house or jumping ship? Understanding board upheaval following financial fraud." Strategic Management Journal 35.6 (2014): 926-937.

Masulis, Ronald W., and Shawn Mobbs. "Independent director incentives: Where do talented directors spend their limited time and energy?." Journal of Financial Economics 111.2 (2014): 406-429.

Merton, Robert C., 1981, On market timing and investment performance, I: An equilibrium theory of value for market forecasts, Journal of Business 54, 363-406.

Meulbroek, Lisa K. "An empirical analysis of illegal insider trading." The Journal of Finance 47.5 (1992): 1661-1699.

Milburn, J. A., and R. M. Skinner. "Accounting Standards in Evolution." (2001).

Mitchell, Mark, Todd Pulvino, and Erik Stafford (2004). Price pressure around mergers. The Journal of Finance, 59(1), 31-63.

Nissim, Doron. "Reliability of banks' fair value disclosure for loans." Review of Quantitative Finance and Accounting 20.4 (2003): 355-384.

Nellessen, Thomas, and Henning Zuelch. "The reliability of investment property fair values under IFRS." Journal of Property Investment & Finance29.1 (2011): 59-73.

Patton, Andrew J., Tarun Ramadorai, and Michael Streatfield. "Change you can believe in? Hedge fund data revisions." The Journal of Finance 70.3 (2015): 963-999.

Pope, Peter F., and Stuart J. McLeay. "The European IFRS experiment: Objectives, research challenges and some early evidence." Accounting and business research 41.3 (2011): 233-266.

Price Waterhouse Coopers (PwC), 2009. What do Directors Think 2009: Annual Board of Directors Survey. Available at www.pwc.com

Ramanna, Karthik. "The international politics of IFRS harmonization." Accounting, Economics and Law 3.2 (2013): 1-46.

Ravina, Enrichetta, and Paola Sapienza. "What do independent directors know? Evidence from their trading." Review of Financial Studies 23.3 (2010): 962-1003.

Richardson, Alan J., and Michael Welker. "Social disclosure, financial disclosure and the cost of equity capital." Accounting, Organizations and Society 26.7 (2001): 597-616.

Riedl, Edward J., and George Serafeim. "Information risk and fair values: An examination of equity betas." Journal of accounting research 49.4 (2011): 1083-1122.

Rosenstein, Stuart, and Jeffrey G. Wyatt. Outside directors, board independence, and shareholder wealth. Journal of Financial Economics 26.2 (1990): 175-191.

Ross, Stephen A. "The determination of financial structure: the incentive-signaling approach." The bell journal of economics (1977): 23-40.

Samuelson, William, and Leonard Rosenthal. "Price movements as indicators of tender offer success." The Journal of Finance 41.2 (1986): 481-499.

Sanders, Ralph W., and John S. Zdanowicz. "Target firm abnormal returns and trading volume around the initiation of change in control transactions." Journal of Financial and Quantitative Analysis 27.1 (1992): 109-129.

Schellenger, M. H., D. Wood and A. Tashakori (1989). Board of directors composition, shareholder wealth, and dividend policy, Journal of Management, 15, pp. 457–467.

Schipper, Katherine. "Principles-based accounting standards." Accounting horizons 17.1 (2003): 61-72.

Schwert, G. William (1996). Markup pricing in mergers and acquisitions. Journal of Financial economics, 41(2), 153-192.

Shivdasani, Anil. "Board composition, ownership structure, and hostile takeovers." Journal of accounting and economics 16.1 (1993): 167-198.

Soderstrom, Naomi S., and Kevin Jialin Sun. "IFRS adoption and accounting quality: a review." European Accounting Review 16.4 (2007): 675-702.

Song, Chang Joon, Wayne B. Thomas, and Han Yi. "Value relevance of FAS No. 157 fair value hierarchy information and the impact of corporate governance mechanisms." The Accounting Review 85.4 (2010): 1375-1410.

Subrahmanyam, Avanidhar, and Sheridan Titman. "The going ‐ public decision and the development of financial markets." The Journal of Finance 54.3 (1999): 1045-1082.

Tan, Hongping, Shiheng Wang, and Michael Welker. "Analyst following and forecast accuracy after mandated IFRS adoptions." Journal of Accounting Research 49.5 (2011): 1307-1357.

Tucker, Jennifer W., and Paul A. Zarowin. "Does income smoothing improve earnings informativeness?." The Accounting Review 81.1 (2006): 251-270.

Watts, Ross L., and Jerold L. Zimmerman. "Positive accounting theory." (1986).

Webster, Erin, and Daniel B. Thornton. "Earnings Quality under Rules-versus Principles-based Accounting Standards: A Test of the Skinner Hypothesis" Accounting Perspectives4.2 (2005): 167-192.

Yermack, David. "Remuneration, retention, and reputation incentives for outside directors." The Journal of Finance 59.5 (2004): 2281-2308.

Yip, Rita WY, and Danqing Young. "Does mandatory IFRS adoption improve information comparability?." The Accounting Review 87.5 (2012): 1767-1789.

Zahra, S. A. and J. A. Pearce (1989). Boards of directors and corporate financial performance: A review and integrative model, Journal of Management, 15, pp. 291–334.

Zeckhauser, Richard J., and John Pound. "Are large shareholders effective monitors? An investigation of share ownership and corporate performance." Asymmetric information, corporate finance, and investment. University of Chicago Press, 1990. 149-180.

Appendices

Appendix I

Linear programming for identifying the fair value level of securities

Below is the fair value hierarchy of Macquarie Emerging Markets Infrastructure Income Fund in its 2015 annual report.

Table 9

Assets at fair value as at December 31, 2015	Level 1	Level 2	Level 3	Total
Equities	$ 18,242,189	$ 1,625,403	$ –	$ 19,867,592
Foreign currency forward contracts	–	47,299	–	47,299
Total	**$ 18,242,189**	**$ 1,672,702**	**$ –**	**$ 19,914,891**

According this schedule in Table 9, the fund holds a total of $1,625,403 securities measured at Level 2 Fair Value. However, in the Statement of Investment Portfolio which lists 25 securities held by the fund, no details is given to investors to know which securities are measured at Level 2. To identify each securities that are measured at Level 2, this paper employs linear programming for solution.

Objective: $FV_1 * x_1 + FV_2 * x_2 + \cdots FV_i * x_i + FV_{25} * x_{25} = 1{,}625{,}403$

Subject to: $x_i = \text{binary } (0, 1)$

By reaching the solution that $x_5 = 1$ and $x_{24} = 1$, securities in line 5 and line 24 are identified as Level 2 securities.

$FV_5 + FV_{24} = 843{,}784 + 781{,}619 = 1{,}625{,}403$

Therefore, the cost of Level 2 securities is the sum of cost of securities in line 5 and line 24 from Table 2, the Statement of Investment Portfolio.

As at December 31, 2015

No. of Shares/Units		Average Cost ($)	Fair Value ($)
	Australia		
26,025	APA Group	216,146	228,301
	Bermuda		
719,560	COSCO Pacific Ltd.	1,061,897	1,101,408
1,006,000	Yuexiu Transport Infrastructure Ltd.	722,221	876,310
92,000	China Resources Gas Group Ltd.	279,052	381,735
	Brazil		
252,963	Prumo Logistica SA	827,997	843,784
180,800	CCR SA	1,178,338	796,697
179,100	EDP - Energias do Brasil SA	898,590	757,134
198,800	Arteris SA	1,032,497	673,588
	Canada		
25,101	Veresen Inc.	306,899	222,398
	Chile		
677,280	Inversiones Aguas Metropolitanas SA	1,196,302	1,326,827
294,552	Empresa Nacional de Electricidad SA/Chile	479,113	507,330
	China		
2,200,500	Qinhuangdao Port Co. Ltd.	1,421,084	1,443,530
1,127,000	China Longyuan Power Group Corp.	1,443,861	1,181,689
2,234,000	Huadian Fuxin Energy Corp. Ltd.	1,180,788	888,914
908,000	Datang International Power Generation Co Ltd.	648,464	384,080
	Mexico		
585,000	OHL Mexico SAB de CV	1,273,556	848,799
	Poland		
185,686	Energa SA	1,158,811	825,617
	Singapore		
2,228,800	Hutchison Port Holdings Trust	1,735,267	1,640,895
	Spain		
16,671	Abertis Infraestructuras SA	348,185	362,501
	Thailand		
1,985,100	BTS Rail Mass Transit Growth Infrastructure Fund	668,312	781,619
	United States		
1,600	Sempra Energy	192,168	208,943
	Total equities	21,564,281	19,867,592

Appendix II

Definition of Variables

1. Variables in Chapter 2

Vol_Cash: voluntary disclosure of cash flows before IFRS. This variable equals to 1 if a fund did report cash flows in annual financial statement, and otherwise 0;

IFRS: post-IFRS indicator. This variable equals to 1 if the year of observation is after the pertaining fund's financial report is prepared after the adoption of IFRS. For funds with fiscal years ending with December 31, this variable is 1 for the years on and after 2014. For fund with fiscal years ending before December 31, this variable is 1 for the years on and after 2015.

Discount: NAV discount is calculated by subtracting NAV from the closing price of a fund at the date of fiscal-year end. If the fiscal-year end is not a trading day, the latest day before fiscal-year end is used.

L1_Gain: unrealized gain or loss in Level 1 securities;

L2_Gain: unrealized gain or loss in Level 2 securities;

L3_Gain: unrealized gain or loss in Level 3 securities;

Liqd_Gain: unrealized gain or loss in liquid securities, identical to Level 1 securities;

Illqd_Gain: unrealized gain or loss in illiquid securities, equals to the aggregated gain in Level 2 and Level 3 securities;

L1_Ret: book return in Level 1 securities, computed by the fair-value change rate of the same portfolio of Level 1 securities, excluding items sold and acquired during year t;

L2_Ret: book return in Level 2 securities, computed by the fair-value change rate of the same portfolio of Level 2 securities, excluding items sold and acquired during year t;

L3_Ret: book return in Level 3 securities, computed by the fair-value change rate of the same portfolio of Level 3 securities, excluding items sold and acquired during year t;

Liqd_Ret: book return in liquid securities, computed by the fair-value change rate of the same portfolio of Level 1 securities, excluding items sold and acquired during year t, identical to Level 1 securities;

Illqd_Ret: book return in illiquid securities, computed by the fair-value change rate of the same portfolio of Level 2 and Level 3 securities, excluding items sold and acquired during year t;

2. Variables in Chapter 3

NI: the net income of a firm;

IndustryNI: the average net income of the industry where a firm is;

Leave: indicating if a director announces the decision of departure;

Type: being assigned to be 1 when a director retires, 2 when a director steps down, and 3 when a director resigns;

Hide: indicating if the reason for a director's departure is concealed;

Disagree: indicating if a disagreement with management or other kind of trouble is cited by the director;

AT: the total assets of a firm;

LT: the total liabilities of a firm;

CAR: the cumulative abnormal return in a given window around the announcement of tender offer;

Return: the abnormal return of a firm in a given month.

3. Variables in Chapter 4

Pre_Anc_CAR: pre-announcement cumulative abnormal return of a firm;

Pre_Exp_CAR: pre-expiration cumulative abnormal return of a firms;

Cash_Offer: equals to 1 if the tender offer uses cash as payment method; and 0 otherwise;

Friendly: equals to 1 if the deal is endorsed by the board; and 0 otherwise;

LnSize: logarithmic size of the target firm;

Horizontal: equals to 1 if the target and bidders are in the same industry; and 0 otherwise;

Tables and Graphs

Figure 1

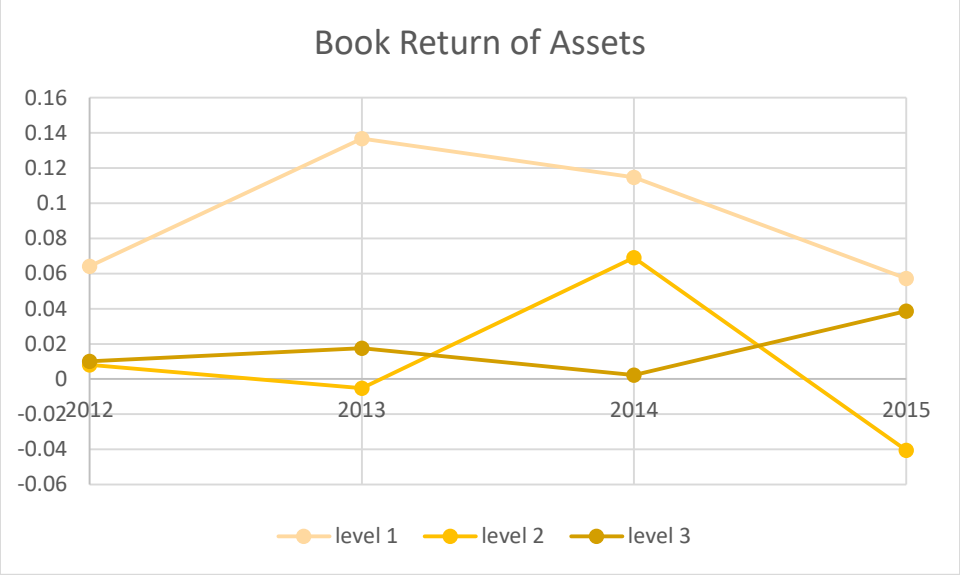


Figure 2

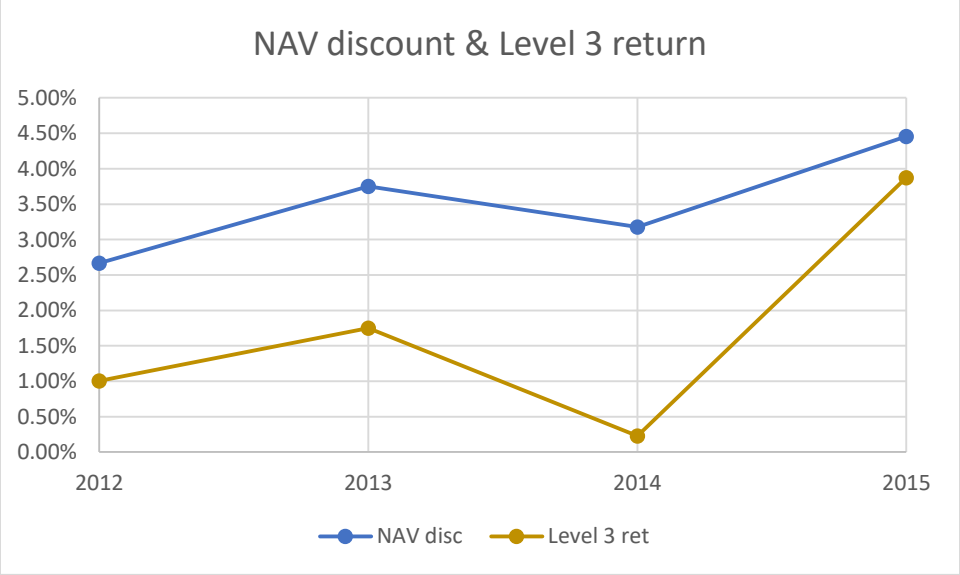


Table 1 Descriptive Statistics

Panel A – Canadian closed-end funds from 2012 through 2016 fiscal years

Variable	Mean	Median	N	Std Dev	Maximum	Minimum
vol_Cash	0.7527	1.0000	930	0.4317	1	0
IFRS	0.6000	1.0000	1155	0.4901	1	0
L1_Gain	0.2164	0.1055	596	1.5162	43.5896	-0.9994
L2_ Gain	0.2782	0.0168	283	2.6449	29.2335	-14.6544
L3_ Gain	3.8894	0.0000	65	11.1918	68.9511	-1.1398
NAV_disc	0.0267	0.0341	657	0.3089	-3.8333	0.9623
Liqd_ret	0.2164	0.1055	596	1. 5162	43.5896	-0.9994
Illq_ret	0.7212	0.0231	295	3.8849	29.5558	-14.6544

Panel B – Canadian closed-end funds from 2012 through 2013 fiscal years (Pre-IFRS)

Variable	Mean	Median	N	Std Dev	Maximum	Minimum
vol_Cash	0.7527	1.0000	372	0.4320	1	0
IFRS	0.0000	0.0000	462	0.0000	0	0
L1_ Gain	0.1101	0.0991	249	0.2599	1.5169	-0.8961
L2_ Gain	0.3377	0.0101	139	3.3380	29.2335	-14.6544
L3_ Gain	3.2587	0.0059	29	13.6643	68.9511	-1.1398
NAV_disc	0.0183	0.0316	327	0.2890	-3.0303	0.9114
Liqd_ret	0.1105	0.1015	248	0.2603	1.5169	-0.8961
Illq_ret	1.0106	0.0170	140	7.0827	69.7486	-14.6544

Panel C- Canadian closed-end funds from 2014 through 2016. fiscal years (Post-IFRS)

Variable	Mean	Median	N	Std Dev	Maximum	Minimum
vol_Cash	0.7527	1	558	0.4318	1	0
IFRS	1.0000	1.0000	693	0.0000	1	1
L1_ Gain	0.2891	0.1086	350	2.4229	43.5896	-0.9994
L2_ Gain	0.2208	0.0218	144	1.7426	16.8883	-4.2049
L3_ Gain	4.3975	0.0000	36	8.8923	29.5558	-0.7439
NAV_disc	0.0350	0.0369	330	0.3277	-3.8333	0.9623
Liqd_ret	0.2927	0.1086	347	2.4324	43.5896	-0.9994
Illq_ret	1.0311	0.0329	155	4.4998	29.5558	-4.2049

Table 2 Correlations

	vol_Cash	IFRS	L1_ Gain	L2_ Gain	L3_ Gain	NAV_disc	Liqd_ret	Illq_ret
vol_Cash	1	0	0.02488	0.00552	0.04543	0.04796	0.025	0.02149
		1	0.5499	0.9268	0.7109	0.221	0.5482	0.7141
	930	930	580	279	69	653	579	293
IFRS	0	1	0.04746	0.06956	0.11047	-0.02702	0.04728	0.08127
	1		0.2462	0.2401	0.3662	0.4894	0.2483	0.1596
	930	1155	599	287	69	657	598	301
L1_ Gain	0.02488	0.04746	1	-0.02978	0.10272	-0.05093	1	-0.0296
	0.5499	0.2462		0.6755	0.4642	0.2566	<.0001	0.672
	580	599	599	200	67	498	598	207
L2_ Gain	0.00552	0.06956	-0.02978	1	-0.0225	0.00187	-0.02982	0.45177
	0.9268	0.2401	0.6755		0.8875	0.977	0.6759	<.0001
	279	287	200	287	66	241	199	275
L3_ Gain	0.04543	0.11047	0.10272	-0.0225	1	0.18799	0.10272	0.99998
	0.7109	0.3662	0.4642	0.8875		0.1614	0.4642	<.0001
	69	69	67	66	69	67	63	65
NAV_disc	0.04796	-0.02702	-0.05093	0.00187	0.18799	1	-0.06616	0.00735
	0.221	0.4894	0.2566	0.977	0.1614		0.1408	0.9085
	653	657	498	241	67	657	497	247
Liqd_ret	0.025	0.04728	1	-0.02982	0.10272	-0.06616	1	-0.02964
	0.5482	0.2483	<.0001	0.6759	0.4642	0.1408		0.6723
	579	598	598	199	63	497	598	206
Illq_ret	0.02149	0.08127	-0.0296	0.45177	0.99998	0.00735	-0.02964	1
	0.7141	0.1596	0.672	<.0001	<.0001	0.9085	0.6723	
	293	301	207	275	65	247	206	301

Table 3 Panel A

H1: Illq_Gain=Liqd_Gain+ Vol_Cash + IFRS + Vol_Cash*IFRS + Liqd_ Gain*Vol_Cash + Gain_Appr *IFRS + Liqd_ Gain*Vol_Cash*IFRS

Variable	Parameter	std	t Value	Pr > |t|
Intercept	0.2681	0.1746	1.54	0.1266
Liqd_ Gain	1.7904***	0.4705	3.81	0.0002
vol_Cash	-0.3548*	0.1966	-1.80	0.0730
IFRS	0.1646	0.2742	0.60	0.5492
Vol_Cash*IFRS	0.0290	0.3020	0.10	0.9237
Liqd_Gain*Vol_Cash	-1.7894***	0.5368	-3.33	0.0011
Liqd_Gain*IFRS	1.0754	0.8526	1.26	0.2090
Liqd_Gain*Vol_Cash*IFRS	-1.8556**	0.8951	-2.07	0.0398
N	169			
F	7.95		Pr>F	<0.0001
R	0.4438		Ajusted R	0.4196

Table 3 Panel B

H1: Illq_ ret=Liqd_ret + Vol_Cash + IFRS + Vol_Cash*IFRS + Liqd_ret *Vol_Cash + Liqd_ret *IFRS + Liqd_ret *Vol_Cash*IFRS

Variable	Parameter	std	t Value	Pr > |t|
Intercept	-1.5594***	0.5350	-2.91	0.0040
Liqd_ret	0.1195	0.6037	0.20	0.8433
vol_Cash	1.0197	0.6186	1.65	0.1009
IFRS	1.6722**	0.6452	2.59	0.0103
Vol_Cash*IFRS	-1.2923*	0.7454	-1.73	0.0845
Liqd_ret*Vol_Cash	0.6611	0.6220	1.06	0.2891
Liqd_ret*IFRS	0.8607	0.6768	1.27	0.2050
Liqd_ret*Vol_Cash*IFRS	-1.8351**	0.7326	-2.51	0.0131
N	223.0000			
F	7.0600		Pr>F	<0.0001
R	0.1870		Ajusted R	0.1605

Table 4 Panel A

H2a: Gain_Mngmt (Level 2) = ***Incentive*** + Vol_Cash + IFRS + Vol_Cash* IFRS + ***Incentive****Vol_Cash ***+ Incentive****IFRS ***+ Incentive****Vol_Cash*IFRS, where ***Incentive*** is relative performance compared with year t-1 measured at appreciation rate.

Variable	Parameter	Stderr	t Value	Pr > |t|
Intercept	-0.5816*	0.31747	-1.83	0.0697
Incentive	5.5896***	1.60278	3.49	0.0007
vol_Cash	0.5205	0.35403	1.47	0.1444
IFRS	0.4636	0.43846	1.06	0.2927
vol_Cash*IFRS	-0.3437	0.48211	-0.71	0.4774
Incentive*Vol_Cash	-5.5077***	1.64083	-3.36	0.0011
Incentive*IFRS	-3.2846*	1.81299	-1.81	0.0729
Incentive*Vol_Cash*IFRS	2.4845	1.92525	1.29	0.1997
N	114			
F	3.26		Pr>F	0.0035
R	0.1773		Ajusted R	0.1229

Table 4 Panel B

H2a: Ret_Mngmt (Level 2) = ***Incentive*** + Vol_Cash + IFRS + Vol_Cash* IFRS + ***Incentive****Vol_Cash ***+ Incentive****IFRS ***+ Incentive****Vol_Cash*IFRS, where ***Incentive*** is relative performance compared with industry average performance measured at book return.

Variable	Parameter	Stderr	t Value	Pr > |t|
Intercept	-0.5735	0.31201	-1.84	0.068
Incentive	0.7969***	0.29596	2.69	0.0079
vol_Cash	0.7844**	0.36277	2.16	0.0322
IFRS	0.5781	0.38164	1.51	0.1319
vol_Cash*IFRS	-0.7876*	0.44031	-1.79	0.0756
Incentive*Vol_Cash	-0.5937	0.78139	-0.76	0.4485
Incentive*IFRS	-0.2148	0.34284	-0.63	0.5318
Incentive**Vol_Cash*IFRS	0.2708	0.90467	0.3	0.7651
N	158			
F	2.25		Pr>F	0.0528
R	0.095		Ajusted R	0.8281

Table 5

H2b: L2_Gain = L1_Gain + Vol_Cash + IFRS + Vol_Cash* IFRS + L1_Gain *Vol_Cash+ L1_Gain *IFRS + L1_Gain *Vol_Cash*IFRS

Variable	Parameter	Standard	t Value	Pr > |t|
Intercept	0.0219	0.13865	0.16	0.8746
L1_Gain	1.5245***	0.40288	3.78	0.0002
vol_Cash	-0.0747	0.15762	-0.47	0.6359
IFRS	0.0802	0.20392	0.39	0.6943
Vol_Cash*IFRS	0.1166	0.22947	0.51	0.6117
L1_Gain *Vol_Cash	1.1964*	0.71949	1.66	0.0981
L1_Gain *IFRS	-1.4985***	0.45954	-3.26	0.0013
L1_Gain *Vol_Cash*IFRS	-1.9931***	0.75636	-2.64	0.0091
N	190			
F	21.17		Pr>F	<0.0001
R	0.4488		adjusted R	0.4276

Table 6

H2c: L3_Gain = L1_Gain + L2_Gain + Vol_Cash + IFRS + L2_ Gain *Vol_Cash + L2_ Gain *IFRS + L2_ Gain *Vol_Cash*IFRS

Variable	Parameter	Standard	t Value	Pr > |t|
Intercept	1.5439***	0.44734	3.45	0.0019
L1_ Gain	-0.2942	0.91169	-0.32	0.7495
L2_ Gain	0.0039	0.93734	0	0.9967
vol_Cash	-1.9315***	0.47688	-4.05	0.0004
IFRS	0.1745	0.43297	0.4	0.6901
L2_Gain*vol_cash	0.9559	1.51219	0.63	0.5328
L2_Gain*IFRS	1.3131	1.10957	1.18	0.2473
L2_Gain*vol_cash*IFRS	-1.6396	1.95113	-0.84	0.4084
N	64			
F	10.2799		Pr>F	0.0021
R	0.5482		Adjusted R	0.4265

Table 7

H3: NAV_Discount = L1_Gain + L2_Gain + L3_Gain + Vol_Cash + IFRS + L2_Gain*Vol_Cash+ L2_Gain*IFRS

+ L2_ Gain *Vol_Cash*IFRS

Variable	Parameter	Standard	t Value	Pr > |t|
Intercept	0.1059	0.0393	2.69	0.0127
L1_Gain	0.0204	0.0663	0.31	0.7613
L2_Gain	-0.0737	0.0681	-1.08	0.2898
L3_Gain	-0.0201	0.0142	-1.41	0.1704
vol_Cash	-0.0463	0.0444	-1.04	0.3069
IFRS	-0.0200	0.0323	-0.62	0.5423
L2_Gain *Vol_Cash	-0.3691***	0.1107	-3.34	0.0028
L2_Gain *IFRS	0.0648	0.0827	0.78	0.4412
L2_Gain *Vol_Cash*IFRS	0.5984***	0.1437	4.17	0.0003
N	64.0000			
F	5.1300		Pr>F	0.0008
R	0.6310		adjusted R	0.5081

Figure 3

WFB stock quotes / timeline and turnover of outside directors

3/18 ret 3/18 ret 3/21 ret 3/15 ret 3/14 ret 1/31 res 3/16 ret

7/23 res 7/31 res * 3/14 ret

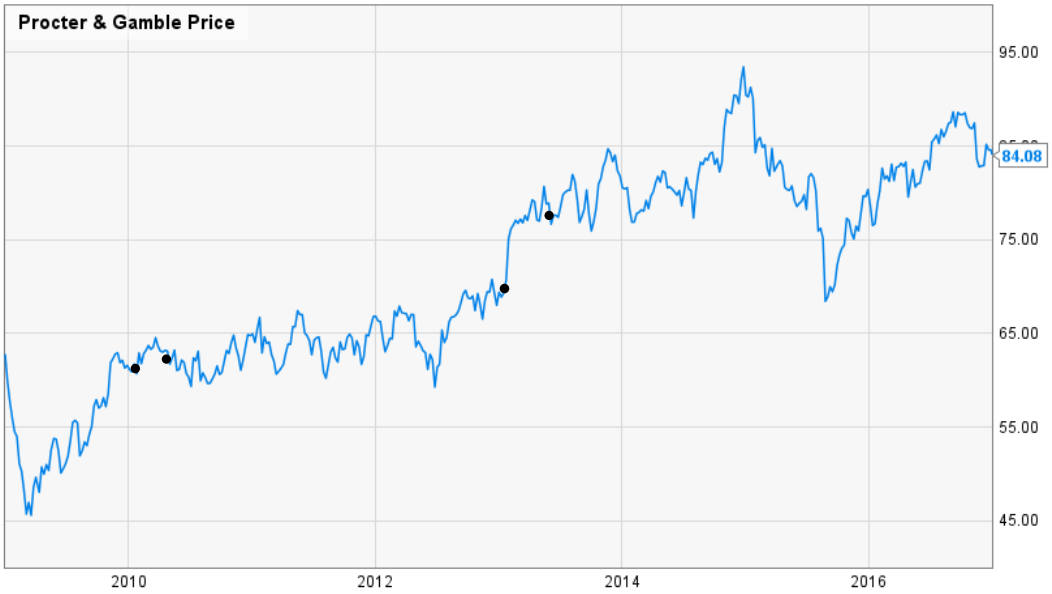
* Howard I. Atkins resigned as CFO on February 8, 2011 and retired on August 6, 2011.

Mark C. Oman retired as Senior Executive VP on December 1, 2011.

Mr. Atkins and Mr. Oman are inside directors as per SEC definitions and the company's declaration.

Figure 4

P&G stock quotes / timeline and turnover of outside directors



1/15/2010 1/8/2013

4/20/2010 5/23/2013 (CEO)

Figure 5

±30 days abnormal return around director's notification of leave

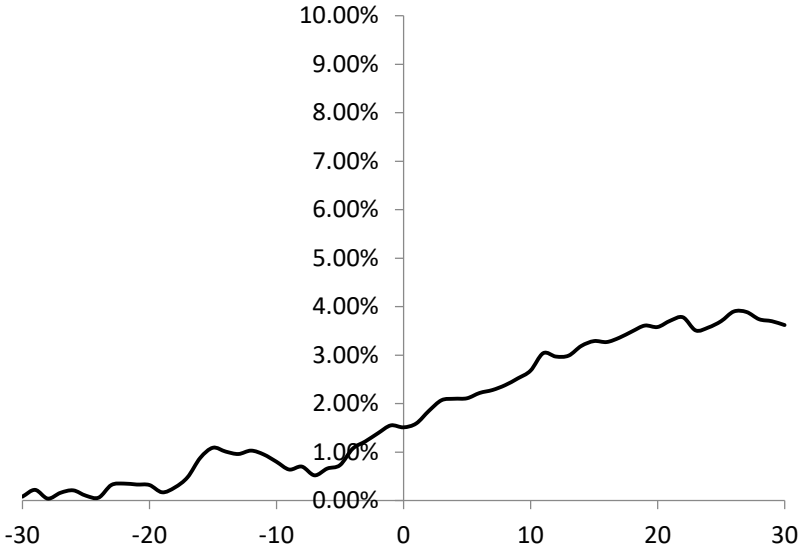


Figure 6

±30 days abnormal return around director's notification of leave

subsamples by type of leave

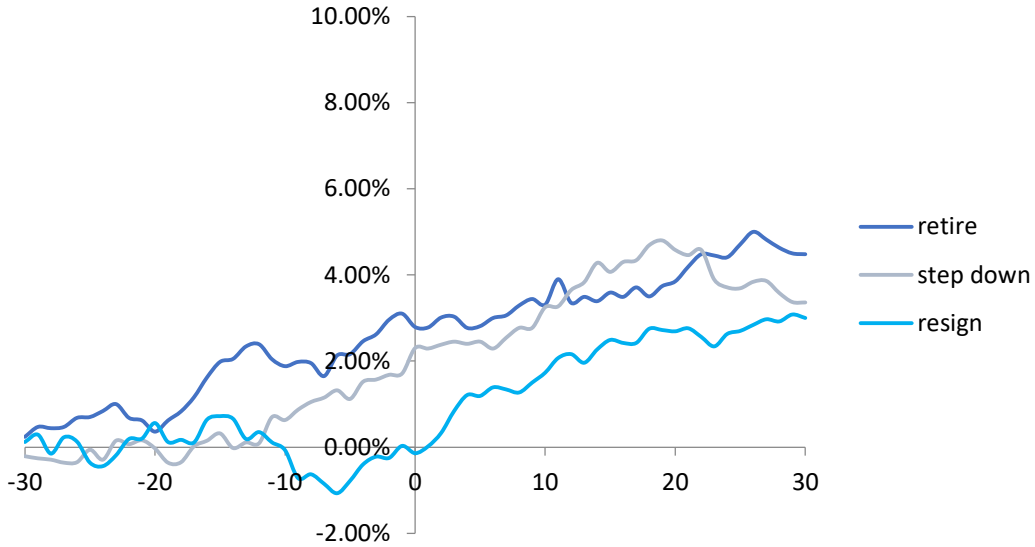


Figure 7

±30 days abnormal return around director's notification of leave

subsamples by reason of leave

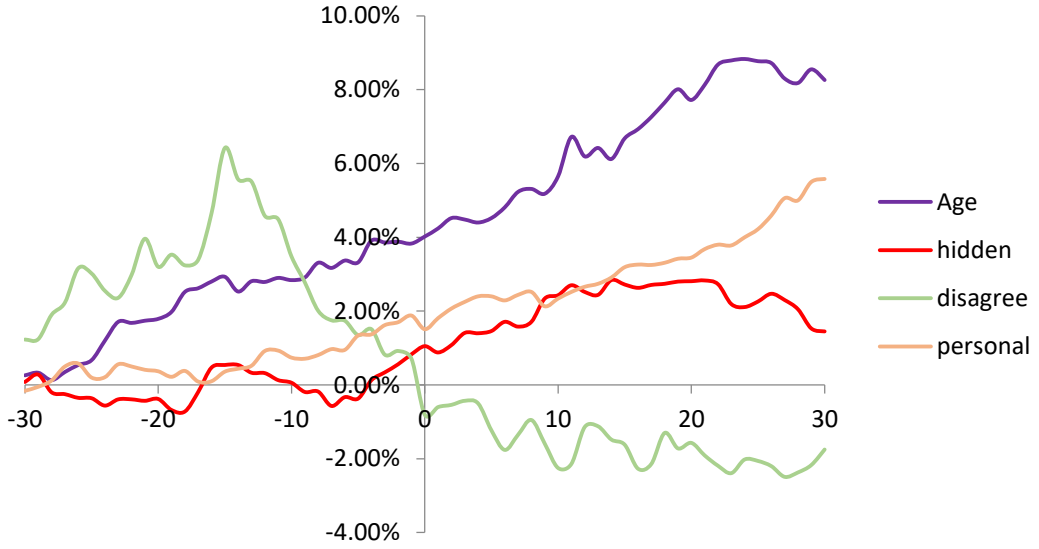


Figure 8

6 months before and 24 months after the notification of leave

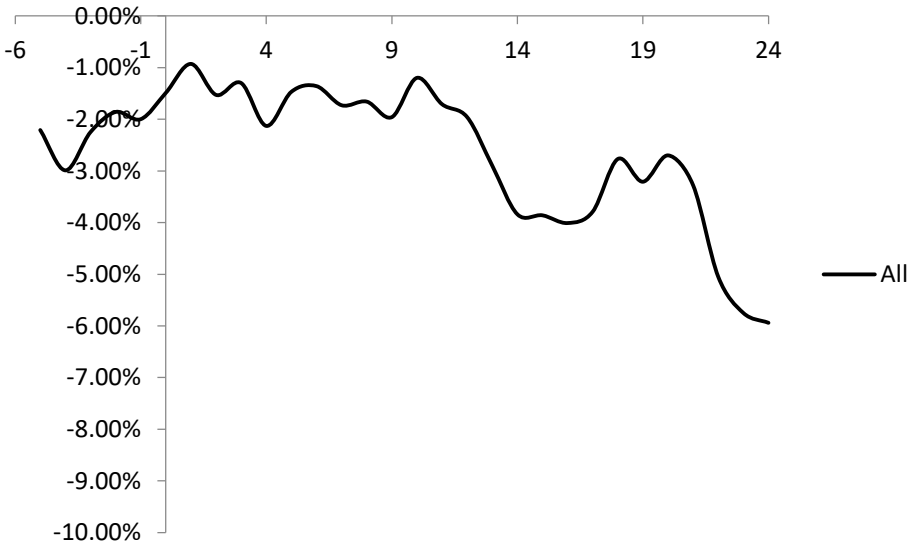


Figure 9

6 months before and 24 months after the notification of leave

subsamples by type of leave

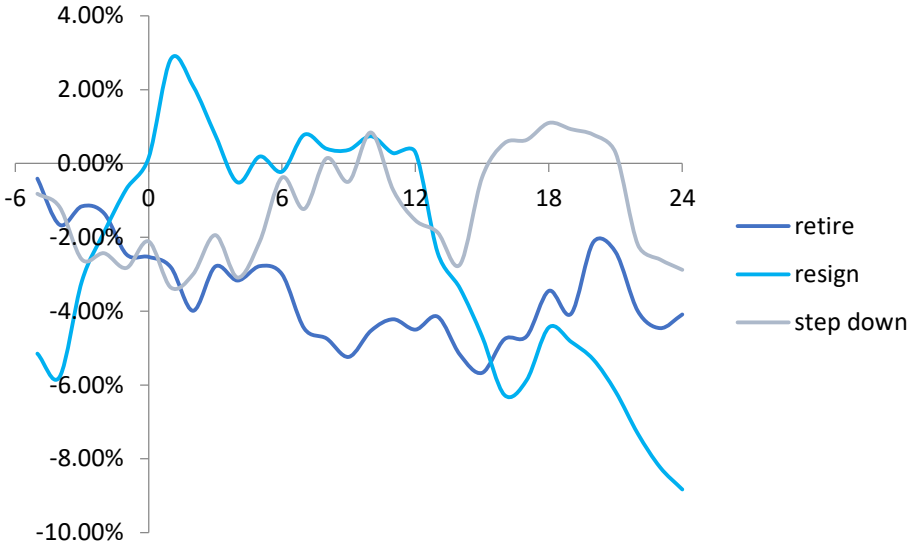


Figure 10

6 months before and 24 months after the notification of leave

subsamples by reason of leave

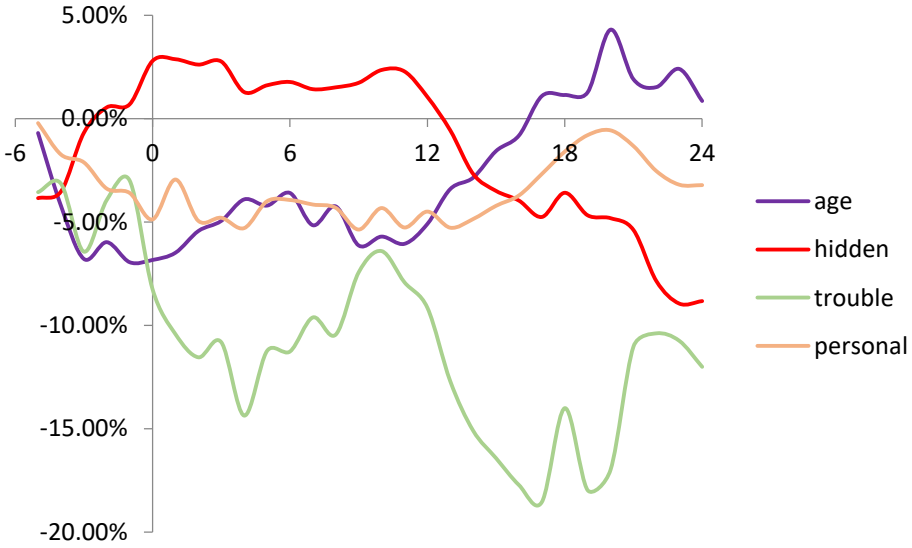


Table 8 Panel A

Description of outside directors' leave and details

	retire	step down	resign	total
age	29	4	1	**34**
personal	9	14	48	**71**
hidden	50	35	32	**117**
disagree	0	4	6	**10**
Total	**88**	**57**	**86**	**231**

Table 9 Panel B

Descriptive Statistics

Variable	N	Mean	Median	Std Dev	Maximum	Minimum
NI	855	1965.01	715	3769.6	17798	-12650
AT	855	104302.2	17983.51	316669.4	2264909	1311.84
LT	855	86724.79	11639	285739.9	2036661	254.873
CAR(-10,+1)	855	0.009172	0.003531	0.071153	0.417973	-0.23226
CAR(-1,+10)	855	0.016213	0.01244	0.060883	0.251406	-0.22557
CAR(-30,+1)	855	0.027742	0.016999	0.104242	0.391942	-0.26771
CAR(-1,+30)	855	0.040457	0.032484	0.09603	0.47521	-0.22991

Table 10

Correlation of Variables

	<.0001	**<.**0001	**<.**0001	**<.**0001	**0.0005**	**<.**0001
1506	1506	1495	1506	1506	1506	1506
0.19288	1	0.99896	-0.34203	-0.00853	-0.24412	-0.14774
<.0001		<.0001	<.0001	0.7408	<.0001	<.0001
1506	1506	1495	1506	1506	1506	1506
0.15987	0.99896	1	-0.34708	-0.01148	-0.24311	-0.15024
<.0001	<.0001		<.0001	0.6574	<.0001	<.0001
1495	1495	1495	1495	1495	1495	1495
-0.12245	-0.34203	-0.34708	1	0.39696	0.70548	0.31296
<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
1506	1506	1495	1530	1530	1530	1530
-0.15882	-0.00853	-0.01148	0.39696	1	0.2821	0.52571
<.0001	0.7408	0.6574	<.0001		<.0001	<.0001
1506	1506	1495	1530	1530	1530	1530
-0.08947	-0.24412	-0.24311	0.70548	0.2821	1	0.22014
0.0005	<.0001	<.0001	<.0001	<.0001		<.0001
1506	1506	1495	1530	1530	1530	1530
-0.1262	-0.14774	-0.15024	0.31296	0.52571	0.22014	1
<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
1506	1506	1495	1530	1530	1530	1530

Table 11

±30 days abnormal return around director's notification of leave

Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	1.52%	0.63%	0.85%	0.55%	1.72%	2.06%
patell Z	3.006**	2.160*	2.397**	1.452	2.743**	3.054**
Sign Z	2.599**	0.958	2.326*	1.505	2.873**	2.736**

Table 12

±30 days abnormal return around director's notification of leave

subsamples by type of leave

Panel A: Retire						
Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	2.79%	1.18%	0.67%	-0.30%	0.49%	1.38%
patell Z	2.819**	1.388	1.163	-0.251	0.703	1.297
Sign Z	2.131*	-0.315	3.020**	-0.537	0.797	1.019
Panel B: Step down						
Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	2.32%	2.15%	0.99%	0.74%	2.35%	1.64%
patell Z	2.469**	3.064**	2.101*	1.237	2.599**	1.138
Sign Z	1.995*	3.116***	0.874	1.435	1.995*	1.155
Panel C: Resign						
Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	-0.12%	-0.77%	0.93%	1.15%	2.45%	2.96%
patell Z	0.175	-0.207	1.045	1.454	1.588	2.713**
Sign Z	0.616	-0.495	-0.051	1.728*	2.173*	2.395**

Table 13

±30 days abnormal return around director's notification of leave

subsamples by reason of leave

Panel A: Age						
Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	4.00%	1.22%	0.65%	0.68%	2.84%	4.44%
patell Z	2.417**	1.355	1.672*	1.199	2.769**	3.171***
Sign Z	1.288	0.591	1.636	0.939	2.680**	2.680**
Panel B: Personal						
Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	1.51%	1.41%	0.55%	0.52%	1.30%	3.71%
patell Z	0.796	0.861	0.32	0.782	0.722	2.261*
Sign Z	1.124	-0.107	-0.846	0.631	1.124	3.094***
Panel C: Hidden						
Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	1.04%	0.57%	1.38%	0.64%	1.90%	0.63%
patell Z	2.494**	2.228*	2.510**	0.999	1.896*	0.818
Sign Z	2.044*	1.653*	3.411***	1.067	1.848*	0.286
Panel D: Disagreement or other trouble						
Window	(-30,0)	(-15,0)	(-5,0)	(0,+5)	(0,+15)	(0,+30)
CAR	-0.82%	-5.46%	-2.55%	-1.93%	-2.32%	-2.45%
patell Z	-0.442	-1.700*	-1.014	-1.273	-0.672	-0.249
Sign Z	0.503	-1.500	-1.500	-0.165	-0.833	-1.500

Table 14

6 months before and 24 months after the notification of leave

Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	-2.74%	1.50%	0.70%	0.64%	0.04%	-3.41%
patell Z	-2.495**	0.501	0.369	0.727	0.326	-0.748
Sign Z	-2.033*	-0.065	0.46	1.378	2.822**	1.903*

Table 15

6 months before and 24 months after the notification of leave

subsamples by type of leave

Panel A: Retire						
Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	-2.57%	-0.88%	-0.32%	-0.53%	-2.03%	-1.51%
patell Z	-1.555	-0.802	-0.169	0.216	-0.07	0.227
Sign Z	-1.423	0.498	-0.783	0.498	1.352	0.712
Panel B: Step down						
Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	-0.61%	-0.92%	0.90%	2.47%	1.30%	0.80%
patell Z	-0.497	-0.259	0.297	0.748	0.099	-0.282
Sign Z	-2.024*	-1.229	0.361	0.89	0.625	1.155
Panel C: Resign						
Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	-4.23%	5.92%	1.46%	0.46%	0.98%	-7.78%
patell Z	-2.047*	2.016*	0.474	0.339	0.502	-1.091
Sign Z	-0.269	0.597	1.246	1.03	2.761**	1.463

Table 16

6 months before and 24 months after the notification of leave

subsamples by reason of leave

Panel A: Age						
Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	-7.44%	-2.63%	1.99%	3.35%	1.86%	8.30%
patell Z	-1.749*	-0.979	0.501	1.024	0.274	1.046
Sign Z	-1.591$	0.467	0.124	0.467	1.153	1.839*
Panel B: Personal						
Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	-4.28%	-3.13%	-1.20%	-0.33%	-0.90%	0.58%
patell Z	-1.543	-1.351	-0.625	0.106	0.053	0.229
Sign Z	-1.927*	-1.927*	-0.73	-0.251	0.706	1.425
Panel C: Hidden						
Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	0.37%	6.32%	2.07%	1.08%	0.36%	-8.47%
patell Z	-0.652	2.834**	1.099	0.653	0.356	-1.606
Sign Z	-0.247	1.605	1.420	2.160*	2.531**	0.123
Panel D: Disagreement or other trouble						
Window	(-6,0)	(-3,0)	(0,+3)	(0,+6)	(0,+12)	(0,+24)
CAR	-11.60%	-5.11%	-7.82%	-8.27%	-6.16%	-8.67%
patell Z	-2.264*	-1.393	-1.428	-0.98	-0.364	-0.404
Sign Z	-0.971	-0.971	-0.971	-0.971	0.935	1.571

Table 17

Annual net income before and after outside director's departure

$$NI_t = NI_{t-1} + IndustryIN + CAR + Assets + Debt + Type + Hide + Type * Hide$$

NI	year t	year t+1	year t+1
Intercept	-0.5147***	0.2210***	1.3217***
	(-3.79)	(5.68)	(6.05)
Assets	0.4908***	0.0891	0.0953
	(10.27)	(0.42)	(1.08)
Liabilities	-0.3373***	-0.0599	-0.0311
	(-8.66)	(-0.85)	(-1.38)
IndustryNI	0.1169***	-0.0212	-0.0302
	(8.54)	(-1.49)	(-1.55)
NI(t-1)	0.7523***	0.2104***	
	(46.59)	(-3.95)	
NI(t)		0.7078***	0.8569***
		(15.20)	(29.11)
CAR	-0.6306***	0.0978	-0.0006
	(-3.9)	(0.40)	(-0.01)
Type	0.0282	-0.1403*	-0.0823**
	(1.30)	(-4.06)	(-2.46)
Hide	0.1219*	-0.4176***	-0.4085***
	(1.68)	(-3.45)	(-3.38)
Type*Hide	-0.1396***	0.2210***	0.2053***
	(-4.15)	(4.11)	(3.85)
F-value	933.91	324.14	359.26
R-square	0.8573	0.7808	0. 7726
N	855	829	829

Table 18

Director's leave and market timing opportunity (logistic regression)

Pr(leave=1)	assumption on notification time flexibility		
	±1 month	±2 months	±3 months
Intercept	0.13	1.21***	1.65***
	(0.85)	(100.98)	(209.21)
Return (t-1)	-1.94	-2.66	-1.05
	(0.78)	(2.23)	(0.39)
Return (t)	0.86	2.27	1.99
	(0.17)	(1.60)	(1.40)
Return (t+1)	-6.84**	-4.59**	-4.29**
	(4.82)	(6.25)	(6.17)
Return (t+2)	12.99***	6.26***	4.86**
	(12.86)	(6.74)	(4.94)
Return (t+3)	-3.54	2.22	1.50
	(1.07)	(0.89)	(0.52)
Hide*Return (t-1)	3.45	5.05*	2.41
	(0.83)	(3.40)	(0.92)
Hide*Return (t)	-3.38	-4.73**	-4.22**
	(1.63)	(4.48)	(4.55)
Hide*Return (t+1)	11.22***	6.58**	5.36**
	(7.85)	(5.20)	(4.01)
Hide*Return (t+2)	-10.04**	-1.94	-1.34
	(4.55)	(0.36)	(0.20)
Hide*Return (t+3)	0.71	-4.29	-2.68
	(0.02)	(1.94)	(0.90)

* All return variables are monthly returns using S&P 500 Index as benchmark.

Figure 11. Pre-Announcement Cumulative Abnormal Return of Targets

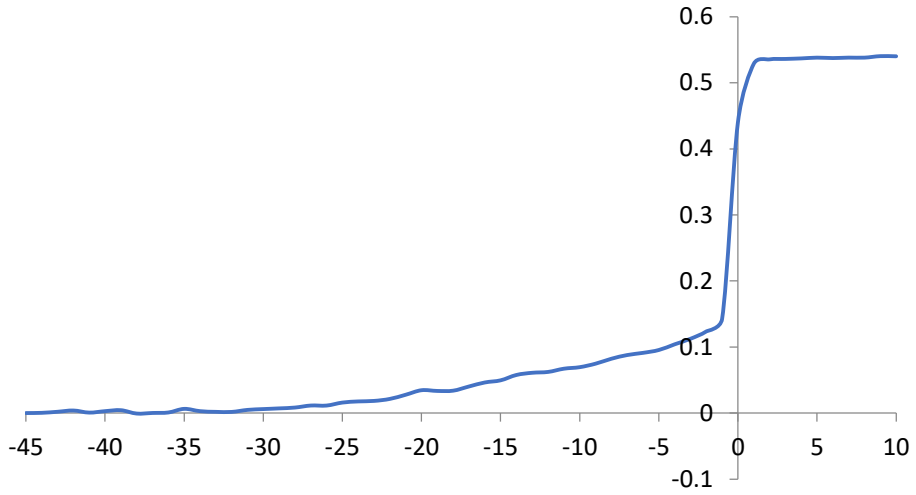


Table 19. Pre-Announcement Cumulative Abnormal Return of Targets

Window	(-30,-2)	(-25,-2)	(-20,-2)	(-15,-2)	(-10,-2)
CAR	10.79%	10.17%	8.58%	6.72%	4.78%
t	56.73	55.52	50.56	46.36	33.75
P>|t|	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Figure 12. Pre-Expiration Cumulative Abnormal Return of Targets

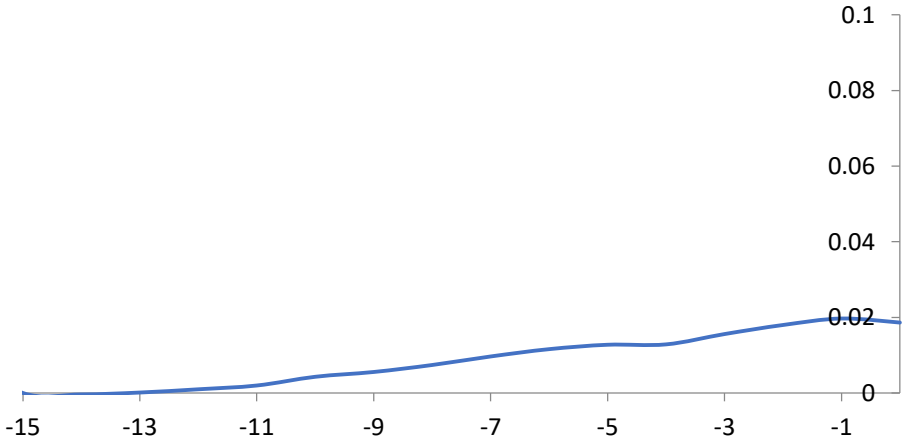


Table 20. Pre-Expiration Cumulative Abnormal Return of Targets

Window	(-15,0)	(-10,0)	(-5,0)
CAR	1.86%	1.66%	0.70%
t	12.31	13.04	5.42
P>|t|	<0.0001	<0.0001	<0.0001

Table 21 Descriptive Statistics

Variables	Mean	Median	Min	Max	Std Dev
Pre-Anc-CAR (-30,-2)	0.1079	0.0687	-0.6504	1.7553	0.2693
Pre-Anc-CAR (-20,-2)	0.0858	0.0359	-0.5686	1.7929	0.2440
Pre-Anc-CAR (-`0,-2)	0.0478	0.0182	-0.8834	2.2948	0.1992
Pre-Exp-CAR (-15,0)	0.0186	0.0056	-0.5012	0.5548	0.1101
Pre-Exp-CAR (-10,0)	0.0166	0.0051	-0.3418	0.6576	0.0933
Pre-Exp-CAR (-5,0)	0.0070	0.0029	-0.4707	0.6470	0.0678
Cash Offer	0.9068	1	0	1	0.2910
Friendly	0.9250	1	0	1	0.2636
LnSize	5.2037	5.1386	1.2173	9.1414	1.6334
Horizontal	0.4077	0	0	1	0.4919

Table 22. OLS Regression for Pre-Expiration CAR (-15,0)

Variable	Estimates		
	(1)	(2)	(3)
Intercept	-0.0028	-0.0034	0.0027
	(-0.10)	(-0.12)	(0.10)
Pre-Anc_CAR (-30,-2)	0.0394***		
	(2.23)		
Pre-Anc_CAR (-20,-2)		0.0626***	
		(3.26)	
Pre-Anc_CAR (-10,-2)			0.0889***
			(3.80)
Cash Pay	0.0180	0.0173	0.0172
	(1.09)	(1.05)	(1.05)
Friendly	0.0248	0.0281	0.0236
	(1.37)	(1.43)	(1.31)
LnSize	-0.0030	-0.0032	-0.0037
	(-1.02)	(-1.11)	(-1.30)
Horizontal	-0.0096	-0.0090	-0.0096
	(-1.00)	(-0.94)	(-1.01)
F value	2.54	3.68	4.45
R square	0.0230	0.0330	0.0397

Figure 13. Comparing Pre-Expiration CAR

high vs. low insider information groups

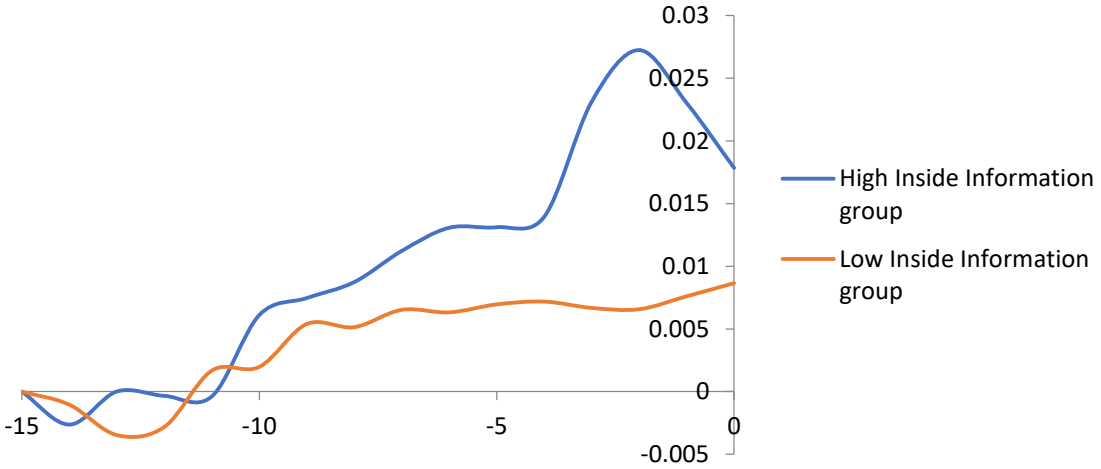


Table 23. Comparing Pre-Expiration CAR

high vs. low insider information groups

Window	(-15,0)	(-10,0)	(-5,0)
H-group	1.78%**	1.82%***	0.48%
L-group	0.87%	0.70%	0.23%
Difference	0.91%***	1.12%**	0.25*