MODERATING EFFECTS OF INFORMATION ASYMMETRY ON RELATIONSHIP AMONG FUTURE FIRM PERFORMANCE, CORPORATE GOVERNANCE AND INSIDER TRADING

By

JAMADAR YASMIN

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

June 2022

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DEDICATION

TO MY BELOVED PARENTS

Abdul Malek Jamadar and Fatema Begum

TO MY PRECIOUS BROTHERS

Mohammad Ripon Jamadar and Al-Amin Jamadar

TO MY LOVING HUSBAND & DAUGHTER

Mohammad Imtiaz Hossain and Maanha

My ultimate source of love, affection and motivation.
May Allah strengthen our family bond.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

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June 2022

Chairman : Professor Ong Tze San, PhD
School : Business and Economics

Corporate insiders have privileged access to the private information of their own firms. Therefore, insiders are driven by superior information about firms' future earnings in order to earn abnormal returns. In addition, insider generates significant abnormal returns in companies with weak corporate governance rules. This study investigates the relationship between future firm performance and insider trading using a sample of 4060 US non-financial firms from 2010 to 2018. Also, this study examines the relationship between corporate governance and insider trading. Moreover, using the signalling theory, this study investigates the relationship between future firm performance and insider trading with the moderating effect of information asymmetry. Next, the relationship between corporate governance and insider trading with the moderating effect of information asymmetry using the agency theory is also examined. This study examines whether insiders earn more profit in an asymmetric information environment from their informed trades and whether the moderating information asymmetry influences the relationship between future firm performance and insider trading. The findings reveal that insiders use the information on future firm performance not known to the market to engage in trading. The abnormal returns earned from insiders' trades are primarily tied to preferential and favoured access to superior private information about firms' future performance. Moreover, the findings contend that information asymmetry leads to greater uncertainty and more insiders trading. Insiders engage in more trading because of higher information, confirming the moderating role of information asymmetry.

Further, this study reveals that corporate governance mechanisms decrease the profitability of insider trading. This study also finds that governance mechanisms that encourage the monitoring of managers are inversely related to information asymmetry. Specifically, the board independence and compensation committee are significantly and inversely related to the information asymmetry and play an essential role in reducing the

profitability of insider trading. An independent board of directors encourages the monitoring of managers, thereby making it difficult for managers to conceal shirking personal perquisite consumption. On the other hand, an optimal compensation structure restricts insider trading under agency theory, suggesting that good corporate governance plays a critical role in reducing the informational advantage for mitigating the profitability of insider trading. Hence, the incremental effect of information asymmetry is prevalent in both of these relations, confirming the moderating effect of information asymmetry. The findings have significant implications for insider trading in the US market. The findings will benefit regular shareholders who lack insider information and must depend solely on publicly available data because the study focuses on publicly available data. Furthermore, this study will help companies and regulators to monitor and control insider knowledge and insider trading activities by strengthening the corporate governance structure. The findings will also help to set up a fair trading market to promptly disclose relevant information to outsiders to maintain and protect minor shareholders' equal access to information.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

KESAN MODERASI MAKLUMAT ASIMETRI TERHADAP HUBUNGAN ANTARA PRESTASI MASA DEPAN FIRMA, TADBIR URUS KORPORAT, DAN DAGANGAN DALAMAN

Oleh

JAMADAR YASMIN

Jun 2022

Pengerusi : Profesor Ong Tze San, PhD
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Pihak dalaman korporat mempunyai akses istimewa kepada maklumat sulit firma mereka sendiri. Oleh itu, pihak dalaman didorong oleh kelebihan terhadap maklumat tentang pendapatan masa depan firma untuk memperoleh pulangan yang luar biasa. Di samping itu, pihak dalam menjana pulangan luar biasa yang ketara dalam syarikat yang mempunyai peraturan tadbir urus korporat yang lemah. Kajian ini menyiasat hubungan antara prestasi masa hadapan firma dan dagangan pihak dalaman menggunakan sampel sebanyak 4060 firma bukan kewangan Amerika Syarikat untuk tempoh 2010 hingga 2018.. Penyelidikan ini juga mengkaji hubungan diantara tadbir urus korporat dan dagangan pihak dalaman. Seterusnya, dengan menggunakan teori isyarat, kajian ini menyiasat kesan moderasi asimetri maklumat terhadap hubungan antara prestasi masa hadapan firma dan dagangan pihak dalaman. Selanjutnya, perkaitan antara tadbir urus korporat dan dagangan pihak dalaman dengan kesan moderasi asimetri maklumat turut dikaji menggunakan teori agensi. Kajian ini meneliti sama ada pihak dalaman memperoleh lebih banyak keuntungan dalam persekitaran maklumat asimetri daripada perdagangan yang dimaklumkan kepada mereka, dan sama ada asimetri maklumat adalah moderasi yang mempengaruhi hubungan antara prestasi masa hadapan firma dan dagangan pihak dalaman. Hasil kajian mendedahkan bahawa pihak dalaman menggunakan maklumat mengenai prestasi masa depan firma yang tidak diketahui oleh pasaran untuk membuat dagangan. Akses terhadap maklumat utama dan terpilih tentang prestasi masa hadapan firma boleh menjadi penyebab kepada pulangan luar biasa yang diperolehi oleh dagangan pihak dalaman.Selain itu, penemuan mendapati bahawa asimetri maklumat boleh membawa kepada ketidakpastian yang lebih tinggi dan lebih banyak dagangan pihak dalaman. Pihak dalaman melibatkan diri dalam lebih perdagangan kerana maklumat yang lebih banyak, lalu mengesahkan peranan moderasi asimetri maklumat. Selanjutnya, kajian ini mendedahkan bahawa mekanisme tadbir urus korporat mengurangkan keuntungan dagangan pihak dalaman. Hasil kajian ini juga mendapati bahawa mekanisme tadbir urus yang menggalakkan pemantauan pengurus

mempunyai hubungan songsang dengan asimetri maklumat. Khususnya, kebebasan jawatankuasa dan lembaga pampasan adalah berkaitan secara signifikan dan songsang dengan asimetri maklumat dan memainkan peranan penting dalam mengurangkan keuntungan perdagangan pihak dalaman. Lembaga pengarah yang bebas mendorong pemantauan pengurus, sekaligus menyukarkan pengurus untuk menyembunyikan penggunaan perkuisit peribadi. Pada masa yang sama, struktur pampasan yang optimum boleh menyekat dagangan menguntungkan oleh pihak dalaman mengikut teori agensi, ia mencadangkan bahawa tadbir urus korporat yang baik memainkan peranan penting dalam mengelakkan kelebihan maklumat demi mengurangkan keuntungan dagangan pihak dalaman. Oleh itu, kesan tambahan dan moderasi asimetri maklumat adalah lazim dalam kedua-dua hubungan ini, mengesahkan kesan moderasi penggunaan asimetri maklumat. Hasil kajian ini mempunyai implikasi yang ketara untuk dagangan pihak dalaman di pasaran AS. Penemuan turut memberi manfaat kepada pemegang saham biasa yang tidak memiliki maklumat seperti pihak dalaman dan mesti bergantung semata-mata kepada data yang tersedia secara umum kerana kajian berfokus pada data umum. Tambahan pula, kajian ini akan membantu syarikat dan pengawal selia untuk memantau dan mengawal pengetahuan pihak dalaman serta aktiviti dagangan pihak dalaman melalui pengukuhan struktur tadbir urus korporat. Penemuan ini turut akan membantu untuk menubuhkan pasaran dagangan yang adil untuk mendedahkan maklumat relevan dengan segera kepada pihak luar demi mengekalkan dan melindungi akses sama rata pemegang saham kecil kepada maklumat.

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This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

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I hereby confirm that:

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Aud_com	The Audit Committee
BM	Book-to-Market ratio
BodInd	Board Independence
BodSize	Board Size
CAR	Cumulative Abnormal Return
CEO	Chief Executive Officers
CFO	Chief Financial Officers
CG	Corporate governance
Com_com	The Compensation Committee
EPS	Earnings per Share
FCF	Free cash flow
FEM	Fixed Effects Model
FFP	Future Firm Performance
GAAP	Generally Accepted Accounting Principles
GFC	The Global Financial Crisis
IA	Information Asymmetry
IPR	Insider Purchase Ratio
IT	Insider Trading
MV	Market Value of Equity
NASDAQ	National Association of Securities Dealers Automated Quotations
NPR	Net Purchase Ratio
NYSE	New York Stock Exchange

Optn_Ex	Option Exercise
POLS	Pooled Ordinary Least Square
RD	Research & Developments
REM	Random Effects Model
ROA	Return on Asset
ROE	Return on Equity
SEC	The Securities and Exchange Commission
SG	Sales Growth
SOX	The Sarbanes-Oxley Act
US	United States

CHAPTER 1

INTRODUCTION

1.1 Introduction

This introductory chapter covers the brief background of the study. It discusses the extent to which future firm performance and the corporate governance system influence insider trading via the moderating effect of information asymmetry. It also outlines the problem statement, research objectives, research questions, the scope of the study, and significance. The organization of this thesis is explained at the end of the chapter.

1.2 Background of the Study

Insider trading refers to the buying and selling of shares as well as other securities, bonds, and stock options with material information not in the public realm. Chief Executive Officers (CEOs), Chief Financial Officers (CFOs), directors from the board, and managers compose the distinctive category of traders who possess, relative to others, privileged access to confidential private information (Jiang and Zaman, 2010; Chowdhury et al., 2018). These insiders primarily exploit their advanced knowledge and contrarian beliefs to trade in order to earn abnormal returns. The phrase "insider trading" is sometimes misleading since some individuals apparently even correlate it with criminal behaviour. In reality, based on the type of non-public information, insider trading may be legal or illegal. In most parts of the world, trade by business insiders (such as executives, board members, and beneficial owners) is usually valid as long as it is not reliant on secret or confidential information (Dayanandan et al., 2014; Cline et al., 2019). In fact, insiders legally buy and sell stock in their own company all the time with provided disclosed material information. Specifically, legal insider trading happens when an insider utilizes legal information about a company for transactions of listed shares. In the United States (US), transactions by corporate insiders must be filed with the US Securities and Exchange Commission (SEC) within two business days (sec.gov, 2020).

Corporate insiders are a class of investors who, by nature of their position in the firm, have access to information not available to outside investors; they thus reap further benefits through their position at the expense of dispersed shareholders (Rosensand and Karlsson, 2019; Antoniadis et al., 2019). Regulations in the US also treat shareholders with a stake exceeding 10% as insiders, potentially harmful (Cohen et al., 2012). Since insiders can trade based on private information and earn abnormal returns from their trade, the SEC regulates insider trading in the US (Ke et al., 2003; Piotroski and Roulstone, 2005; Lenkey, 2019; Cziraki et al., 2019). Previous studies support that insider trading activity generates abnormal returns (Chowdhury et al., 2018; Kallunki et al., 2018, Esen et al., 2019; Katselas, 2018).

Insider trading has also been recognized as a significant source of private information about firms. Insiders' activities are assumed to be informative by external investors since the executives of the company, primarily CFOs and managers, are well aware of their companies' operational and financial aspects (Chang and Watson, 2015; Wang et al., 2012; Jiang and Zaman, 2010; Lakonishok and Lee, 2001). The literature also acknowledges insider trading as both a contrarian belief (i.e., trade against investors' existing sentiments) and superior information (i.e., private information access) about firms' future cash flow realizations (Piotroski and Roulstone, 2005; Jiang and Zaman, 2010).

Further, Lakonishok and Lee (2001) and Biggerstaff et al. (2020) find that insiders of small businesses forecast future performance better than large business transactions and that insider are contrarian traders who buy stocks with weak historical performance. Meanwhile, Ball and Brown (1968) and Chowdhury et al. (2018) suggest that insiders reflect a propensity to trade based on internal details regarding the firm's future earnings, as long as changes influence stock prices in a firm's unexpected earning performance. Thereon, the whole concept of corporate insider trading has long been a source of controversy in financial market research, with most empirical works focusing on the effect of insider trading on the efficiency of the market and the ordinary investor.

There is also evidence that insider trading activities reflect insiders' information superiority to investors amid legal and political barriers. Insiders appear to have direct connections to obtain confidential information that other stock market investors cannot. They trade shares of their own company based on that information for their exclusive personal benefit. The common public perception is that such superiority is vital because of the company's confidential information, which enables insiders to derive notable abnormal returns on their trade (Delaet, 2020; Mazza and Ruh, 2022). The underlying assumption of information asymmetry and insider trade is that if the information benefit of an insider is greater, the excess return after purchasing is also significantly higher, and the abnormal return after a sale is lower, everything else being equal (Huddart and Ke, 2009; Ali and Hirshlefier, 2017). Thus, information asymmetry significantly influences insider trading behaviour.

However, looking deeper into this phenomenon, insider trading weakens the trust of liquidity investors and demotivates outsiders from investing. When liquidity transactions are substantially decreased, informed agents control the market – leading to market incompetence (Ali and Hirshleifer, 2017; Kallunki et al., 2018). Corporate insider trading thus means that information is concentrated around a select few individuals who have an informational advantage at the expense of others. Albada et al. (2019) indicate that asymmetric information, by which this concept is known, has a detrimental effect on the enthusiasm of less-informed investors, which leads to a drop in their trading. Moreover, several Chinese investors and analysts share the view that "insider trading has adversely affected retail shareholders' rights for decades", based on their review of more than 40 insider trading issues in 2011, which enforced penalties of ¥335 million and prohibited eight market buyers. Fundamentally, insider trading is more of a concern among shareholders due to the existence of higher levels of information asymmetry and a greater profit motive. Hence, insider traders have done greater damage by defiling their reputation. For this reason, the US, European Union, China, Hong Kong, and other developing countries are cracking down on insider trading (Montagano, 2012; Weiping, 2018), and many can combat it successfully.

However, some studies postulate that the concurrent attack on insider trading by major markets across the globe reflects governments' common belief that strengthening regulations for insider trading may boost their economic growth. Policymakers worldwide have consequently implemented regulations to ban material non-public information disclosures and related insider trading. It is also widely believed that strict enforcement of insider trading restrictions promotes investment in capital markets by curbing investor uncertainty. Moreover, greater participation in the stock market facilitates the development of the financial system and hence, the growth of the economy (Batten et al., 2020; Kwabi and Boateng, 2020; Merl et al., 2022).

Many studies suggest that corporate governance as insider trading regulations significantly impact the profitability of insiders' trade (Kamal et al., 2018; Dai et al., 2016; Opiyo, 2013; Bhabra and Hossain, 2015). Accordingly, research proves that in companies with poor governance, insiders are privileged to access the firm's superior information and generate substantial abnormal returns (Dai et al., 2016; Czirak et al., 2015). As a result, there is a discrepancy in profits between insiders' transactions and trades of external investors in companies with weak corporate governance regulations and poor information disclosure (Antoniadis et al., 2019; Tessema, 2020).

Correspondingly, based on Table 1.1, insider trade tends to be followed by positive abnormal stock price performance (Delaet, 2020). For example, Lakonishok et al. (2001) revealed that stocks with a positive net purchase ratio earn a significantly abnormal return. On the other hand, Cohen et al. (2012) found that opportunistic trades make an abnormal return as they are more informative. Interestingly, CFOs earn higher abnormal returns than CEOs since they are more exposed to the firm's financial details (Wang et al., 2012). Ravina and Sapienza (2010) further exposed that trade in poorly governed firms (low score on Governance Index) earns significantly higher returns than the best-governed firms as insiders from the former are better able to exploit superior information in their trading.

Table 1.1: Insider Outperformance

Annualized outperformance		**Researcher**	**Sample Period**	**Explanation**
Insider purchase: 2%	Sales: -.2%	Lakonishok et al.	1976-1995	Insider purchases earn abnormal returns, and insiders have many reasons to sell a stock while only buying stock to make money.
CFOs: 7.4%	CEO:2.4%	Wang et al.	1992-2002	CFOs earn higher abnormal returns than CEOs as they are more exposed to the firm's financial details.
Opportunistic trade: 5.8%	Routine trades: 2.2%	Cohen et al.	1986-2007	Routine trades happen in the same month for three years and have worse future event predictions.
Highest FCF yield stocks: 9.09%	Lowest FCF yield stocks: -6.09%	Robbe Delaet	2015-2020	The highest FCF yields indicate that the stock is undervalued and that there could be an agency problem.
Worst governed: 21%	Best governed: 0%	Ravina and Sapienza	1986-2003	Insiders in weak governance environments are able to exploit information better in their trading.

(Source: Delaet 2020)

Reducing information inequity has long been a regulatory goal in the US. Indeed, the desire to reduce information asymmetry guided the 1934 Securities, which championed that all investors (big and small), insiders, and outsiders should have equal access to relevant information (Shabestari and Sarath, 2020). Since greater information asymmetry implies more insider trading profits, it is crucial to reduce asymmetry to strengthen markets.

Based on the present scenario, the current research complements and expands the literature by adding insights and understanding of the associations of future firm performance, corporate governance, and information asymmetry with insider trading. Specifically, the effect of future firm performance on insider trading, with the moderating effect of information asymmetry, is explained in the context of the signalling theory. Further, corporate governance's impact on insider trading through the moderation of information asymmetry is discussed in the agency theory context. By pinpointing the role of the corporate governance mechanisms in monitoring and limiting information-driven trade by insiders, this study examines whether corporate governance limits insider trading profits by reducing information asymmetry. From both the signalling and agency perspectives, insider trading is closely associated with information asymmetry. This study also observes patterns in key corporate insiders' trading behaviour, abnormal returns, trading volume, and corporate finance and investment decisions.

1.3 Problem Statement

Corporate insiders in the US are the most successful in trading. The research argues that insider trading is everywhere, and most Americans today believe the stock market is rigged (White, 2020). In recent times, insiders around the US have been shedding their own shares of their businesses at a fast pace. According to the S&P 500 Index report, as shown in Figure 1, August 2020 was the month with the largest number of insider sales in the last five years, while the total shares sold by company managers amounted to $6.7 billion (Diakov, 2020).

Figure 1.1 : Insider Sales from 2015 to 2020
(Source: Smart Insider (Diakov, 2020)

Likewise, executives are loading up on their company shares. For example, Independent Director Charles Moorman purchased the biggest insider acquisition of $972 billion shares at around $5 million. On the other hand, the founder and CEO of DELL acquired over $800,000 worth of shares for $26.4 million, while Blackstone purchased Cheniere energy stock for more than $50 million. In comparison, JAB purchased Keurig Dr Pepper stock for almost $200 million (Fitzgerald, 2020). These indecencies ultimately weaken investors' confidence as they feel that the dice are loaded against them in stock market investments as insider trading adversely affects market liquidity and increases transaction costs, reducing investor returns.

Moreover, since many people have a stake in financial markets – most of the executives of the companies own stocks either directly or indirectly – this behaviour hurts most Americans. Research shows that insider trading is common and profitable yet notoriously hard to prove and prevent (Vaughan, 2021; Blau et al., 2022; Mazza and Ruh, 2022). Cziraki and Gider (2017) reported that the average US insider earns roughly $12,000 abnormal profits per year because of superior information. Moreover, in 2021

Insider Threat Report states that 98% of organizations feel vulnerable to insider attacks. Privilege abuse is a fraudulent or malicious variety of privilege misuse. According to the Anisa Threat Landscape 2021 report, 34% of business environment respondents suffered from insider privilege abuse (Kurov, 2022).

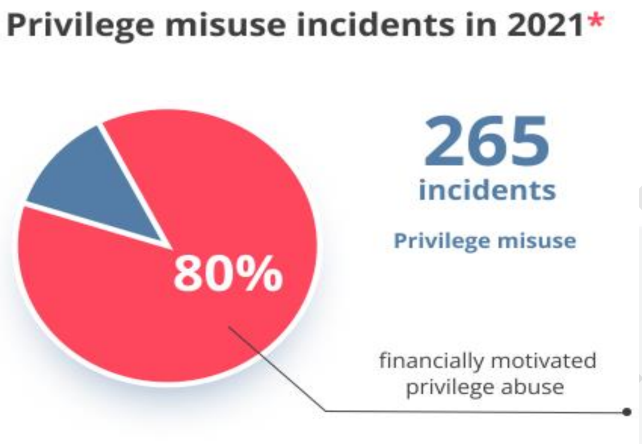

Figure 1.2 : Privilege misuse incidents by insiders
(Source: Kurov, 2022)

In many cases, the damage from insider trading is more drastic. Recently, this spike in insider trading in the US has been highlighted by the collapse of prominent companies and has raised questions about insider trading activities (White, 2018; Henderson, 2018). These firms include Galleon Group, Pequot Capital Management Inc., Enron Corporation, Highbridge Capital Management LLC, and ImClone Systems. The history of Enron Corp. illustrates a firm that reached incredible peaks only to fall because of insider trading. The notable insider trading scandals have involved some of the leading figures in New York. These high-profile insider trading cases, as well as cases like the government's investigation of the Galleon Group (i.e., the largest case of hedge fund insider trading in the history of the US in late 2009), indicate that the SEC needs to continue spending considerable resources to combat this challenging issue (Cohen et al., 2012).

Referring to insider trading behaviour based on firms' future performance, previous studies explicate that insiders are driven by private information about firms' future earnings news in order to earn abnormal returns (Piotroski and Roulstone, 2005; Katselas, 2018). Additionally, insider traders engage in mispricing on a temporal basis and possess superior information on the company's prospects (Rozeff and Zaman, 1988). Hence, private information accessed by insiders allows them to outperform the market, thereby enabling them to obtain abnormal returns by trading their own firms' shares. Moreover, insiders also are incentivized to use their preferential access to confidential information to achieve maximum trading gain by timing their purchases and sales (Akbas et al., 2020; Shin and Wang, 2011). Thus, information asymmetry significantly influences insider trading behaviour.

While profitable trade is concentrated in firms with higher levels of information asymmetry, an absence of strong corporate governance also promotes insiders' persistent use of their relative information advantages (Cline et al., 2017; Albu et al., 2022). Bhabra and Hossain (2015) evidenced that insiders can glean more information and extract private benefits from companies with poor corporate governance. Consequently, abnormal activities, such as substantial trading volumes, abnormal returns and a formal investigation of illegal insider trading are potential scenarios (Jung et al., 2018). Research also showed that insider trades are highly profitable in companies where shareholder rights are not constrained by anti-shareholder mechanisms and weak internal control over financial reporting (Skaife et al., 2013). Therefore, companies started developing better corporate governance structures to deal with insider trading. To be more precise, after the corporate governance scandals of the early 2000s, policymakers around the world have responded by creating codes to improve ethical standards in business (e.g., the Sarbanes-Oxley Act in the US and the Cadbury Report and the Smith Report in the United Kingdom) where the main theme is the independence of the boards of directors that oversee corporate managers. For example, in 2002, the New York Stock Exchange (NYSE) and the National Association of Securities Dealers Automated Quotations (NASDAQ) stock exchanges submitted proposals that required boards to have a majority of independent directors with no material relationships with the company to reduce information asymmetry and limit insiders' profiteering (Ravina and Sapienza, 2010). Better governed companies are supposed to prohibit their insiders from using sensitive knowledge, reducing insiders' profitability. Moreover, shareholders are attracted to companies with strong corporate governance, increasing their reliance on them.

Earlier studies about insider trading in the US market also show that in the presence of information asymmetry, insiders supposedly hold more information; resultantly, their buying of shares triggers significantly higher abnormal returns (Rozzef and Zaman, 1988; Wang et al., 2012, Aboody and Lev, 2000; Huddart and Ke, 2007; Piotroski and Roulstone, 2005; Ravina and Sapienza, 2010; Esen et al., 2019; Cline et al., 2017; Dai et al., 2016; Merl et al., 2022). One example is how Kluger from NASDAQ used the merger and acquisition information from Wilson Sonsini Goodrich and Rosati clients to reap approximately $32 million in profits (Liu & Miller, 2019). Previously, trading by US corporate insiders has also been typically profitable; research has shown that insiders beat the market by approximately 4% per year when trading in their firms' stock (Wang et al., 2012). Recent research has also identified the types of insider trades that tend to be more profitable, such as unplanned trade (Cohen et al., 2012; Alldredge and Cicero, 2015), which earns high abnormal returns of approximately 18% per year (White, 2020). The discussion mentioned above indicates how good US insiders are at timing trades, and an environment of asymmetric information leads to greater involvement in insider trading to earn abnormal profits. Thus, it is widely and justifiably believed that corporate insiders possess private information, given the relatively modest abnormal returns earned by US insiders.

In summary, insider trading is the outcome of information asymmetry; therefore, concern about insider trading has been growing in recent years. Insider trading corresponds to larger degrees of information loss. The increase in insiders' abnormal returns is more substantial when their private information drives trade. Insiders who have accumulated large positions in their own firm are more likely to take advantage of the increase in information asymmetry through purchases as well as sales. Finally, corporate governance enforcement can help restrain insiders from exploiting higher information asymmetry, as the growth in insiders' abnormal returns is much lower during periods characterized by more intense corporate governance enforcement.

Accordingly, this study examines the moderating effect of information asymmetry on the relationship between future firm performance, corporate governance and insider trading in publicly listed companies in the US. The study examines insiders' trade that is consistent with companies' future earnings and corporate governance using the signalling theory and agency theory.

1.4 Research Gap

It is noted that existing insider trading research has primarily focused on contrarianism or future performance, corporate governance and litigation risk (Ke et al., 2003; Piotroski and Roulstone, 2005; Lenkey, 2019; Cziraki et al., 2019; Cline et al., 2019; Chowdhury et al., 2018; Kallunki et al., 2018, Esen et al., 2019; Katselas, 2018; Chang and Watson, 2015; Wang et al., 2012; Jiang and Zaman, 2010; Lakonishok and Lee, 2001). In reality, insiders are more actively involved in trading by exploiting increased information asymmetry. When information asymmetry is high, insiders have more access to relevant information. As such, information asymmetry has an incremental chain effect on insider trading and future firm performance relations, whereby firms with higher information asymmetry eventually leads to greater engagement in insider trading. On the other hand, this study postulates that corporate governance significantly reduces information asymmetry, suggesting that efficient corporate governance mechanisms play a more active role in limiting the profitability of insider trading and lowering abnormal returns. Therefore, this study highlights the role of information asymmetry as a crucial determinant of insiders' abnormal profits and trading behaviour. So, unlike previous studies, this study measures information asymmetry by the bid-ask spread as a moderating term. However, most prior literature has theoretically acknowledged information asymmetry but did not control it empirically. Accordingly, this study fills this gap by assessing the moderating effect of information asymmetry. This study complements and extends this literature further and provides some new insights into insider trading, future firm performance and corporate governance relationships from different aspects. This study further argues that these relationships might not exhibit plausible evidence based on confounding effects without controlling for information asymmetry. Moreover, this study provides a comprehensive sample of buy and sell trades of major insiders in US listed firms, including the trades of key insiders including CEOs, COOs, CFOs, Presidents, Vice Presidents, Chairman of the Board, Directors, and Officers, whereas previous literature has concentrated solely on the CEO and CFO roles (Jiang et al., 2010; Shin and Wang, 2011; Wang et al., 2012).

Further, applying OLS with a Fixed effect and Random effect model, this study is clearly distinguished from prior studies through the introduction of the cumulative abnormal returns (CAR) insiders earn from their trading and the moderating effect of information asymmetry on the relationship between future firm performance, corporate governance and insider trading.

To the best of the author's knowledge, no prior research has examined the relationship between future firm performance corporate governance and insider trading with the moderating effect of information asymmetry. Thus, this study is different from the existing insider trading literature.

1.5 Research Objectives

1. To evaluate the effect of future firm performance on insider trading.
2. To investigate the effect of corporate governance on insider trading.
3. To examine the moderating effect of information asymmetry on the relationship between future firm performance and insider trading.
4. To examine the moderating effect of information asymmetry on the relationship between corporate governance and insider trading.

1.6 Research Questions

1. Does future firm performance affect insider trading?
2. Does corporate governance affect insider trading?
3. Does information asymmetry play a role in the relationship between future firm performance and insider trading?
4. Does information asymmetry play a role in the relationship between corporate governance and insider trading?

1.7 Scope of Study

This research aims to examine the impact of future firm performance and corporate governance on the insider trading of US-listed companies with the moderating effect of information asymmetry. Insiders are defined as a unique class of traders because of their favoured access to superior information regarding the firm. Therefore, insiders are prone to enhanced scrutiny, enforcement, and limits on their trading practices. Many major corporations in the US have policies limiting documented insider trade because of abnormal returns from such trade. Thus, this study sought to determine the effects of future firm performance and corporate governance on insider trading and the role of information asymmetry in these relationships. For this purpose, data on the stock transactions of insiders at publicly traded US firms from 2010 to 2018 was obtained. The post-Global Financial Crisis (GFC) period was chosen since the market's performance was at its worst and stock prices fluctuated during that period, thus avoiding time-sensitive findings in the analysis.

Further, the US stock market was chosen because the NYSE and NASDAQ are home to a wide range of domestic and international securities, comprising stocks, bonds, and other publicly listed financial instruments for sale and purchase by investors. In addition, the database has the most extensive collection of US insider trading data, as reported by the SEC. Further, US equity market data is highly regulated by the SEC. Therefore, this study focuses on insider trading behaviour in the US stock market.

1.8 Significance of the Study

Corporate insiders have special access to important information about the firm due to superiority in investment decisions over stock market investors. Although some insiders' trades are for liquidity and portfolio rebalancing purposes, a component of insiders' trade is driven by information advantage over other market participants. Many prior studies have argued that corporate insiders earn abnormal returns on the trade of corporate stock, primarily through purchasing (Piotroski and Roulstone, 2005; Ravina and Sapienza, 2010; Esen et al., 2019; Cline et al., 2017) based on the existing information gap between insiders and outside investors. Insiders hold exclusive information about the firm's future cash flows; trade with better timing results in superior returns. Consequently, insider trading could have a negative impact on the trustworthiness of the market.

It is generally believed that insider trading gains profit at the cost of other investors, meaning it is necessary to find out what mechanism can mitigate insider trading and protect the integrity of the capital market. Hence, this study examines insider trading behaviour based on the firm's future performance, corporate governance mechanisms, and information asymmetry.

This study extends the literature on the relationships of insider trading with future firm performance and corporate governance from different aspects. Using the signalling theory, the findings highlight patterns of abnormal returns, insider trading volume, and corporate buying and selling decisions made by insiders based on their knowledge of future earnings in their trading. This study also provides new insights into the trading behaviour of insiders and the impact of corporate governance variables in the context of the agency theory. From the agency context, insider trading is closely associated with information asymmetry when informed parties' interests are not aligned with uninformed parties' interests. Thus, this study helps to demonstrate the requirement for regulatory attention on corporate insiders’ transactions, especially those associated with high levels of information asymmetry. As a result, the findings of this study contribute to positive change by building confidence in capital markets, which ultimately enhances economic growth.

1.9 Limitations of the Study

This research, however, does possess several drawbacks. Companies restrict insider sales by making their own rules regarding blackout periods and retention times for stock acquired by insiders. Further, companies often encourage their top executives and directors to buy company stock to increase other investors' confidence. Similarly, over time, companies switch their compensation plans. For instance, many firms have avoided using stock options and now use stock grants. In addition, the effect of recent regulatory changes on the informational value seen in insider trading might also be taken into account and act as a limitation of this study.

1.10 Definitions of Terms

For this research, the following definitions are provided to ensure a common understanding of terms used within this research that commonly have varied definitions.

Insider Trading: A person who participates in trading his/her own company's stock is known as an insider. When corporate executives, directors, and managers trade their corporate shares as insiders, it is known as insider trading (Katselas, 2018; Jiang and Zaman, 2010). Insiders possess special insights into their own company securities and, therefore, trade on the basis of that confidential information to generate profits (Hodgson et al., 2018).

Information asymmetry assumes that at least one party to a transaction has relevant information whereas the other(s) do not (Wu, 2019). Information asymmetry**,** defined as the gap in information between insiders and the market, is therefore considered the most crucial factor behind insiders' abnormal returns (Chowdhury et al., 2018). The research argues that the profitability of insider trading increases with the level of information asymmetry between insiders (i.e., informed traders) and outsiders (i.e., uninformed traders) (Cline et al., 2017; Esen et al., 2019). Information asymmetry increases litigation risk, harming shareholders' interests (Dai et al., 2016). It can also potentially lead to a breakdown in the functioning of the capital market (Healy and Palepu, 2003; Elbadry et al., 2015).

Abnormal returns or CAR: An abnormal return defines the excessive income earned by shares or portfolios for a particular period. Cumulative Abnormal Return (CAR) is the total of all abnormal returns (Khan and Kallunki, 2019). Since insiders have privileged access to confidential information regarding the company, they make abnormally profitable trades (Chowdhury et al., 2018; Esen et al., 2019).

Firm Performance: A measure of the performance of a business that may depend not only on the company's efficiency but also on the market in which it operates. It is also called financial stability or financial health (Hossain et al., 2016). In order to determine a company's performance, several financial metrics can be used: revenue, return on equity, return on assets, earnings per share, among others. Based on a company's industry, some financial ratios may be more significant than others (Mysková and Hájek, 2017).

Future Firm Performance: Firm performance shows the financial analysis results of a business organization, which depicts how effectively an entity uses its resources to enhance shareholder capital and profitability (Naz and Ijaz, 2016). In this regard, future firm performance is measured for the subsequent year. One financial measure of future firm performance is next year's earnings (Piotroski and Roulstone, 2005; Katselas, 2018).

Corporate Governance: Corporate governance comprises flow connections between the organization and its stakeholders, involving material, human, and financial capital to maximize value for the business (Yermack, 2017). Boards of directors are accountable for the regulation of their businesses. In governance, the responsibility of shareholders is to nominate directors and auditors and to assure that an effective governance system is in place. Corporate governance mechanisms are used to control agency problems by changing managers' behaviour, who are shareholders' agents (Chen et al., 2017; Agrawal and Cooper, 2015; Elbadry et al., 2015).

NYSE: The New York Stock Exchange (NYSE) is an American stock exchange and the largest equities-based exchange in the world. It is a collection of domestic and international securities comprising stocks, bonds, and other publicly listed financial instruments for investors to purchase and sell (nyse.com).

NASDAQ: The National Association of Securities Dealers Automated Quotations (NASDAQ) is a range of domestic and international securities, comprising stocks, bonds, and other publicly listed financial instruments, for purchasing and selling by investors (nasdaq.com).

GAAP: Generally Accepted Accounting Principles is the accounting standard adopted by the US Securities and Exchange Commission (SEC) (Jewell and Mankin, 2016).

1.11 Organization of Chapters

This thesis is structured into five chapters. **Chapter 1** consists of a discussion on the background of the study, which is composed of the introduction, problem statement, research objectives and questions, significance of the study, the scope of the research, and definition of key terms. **Chapter 2** presents the literature review of insider trading, future firm performance, corporate governance, and information asymmetry. The chapter also describes the underpinning theories and explains the relationships among the variables. In concluding this chapter, the research framework and research hypotheses are presented. The research methodology is elaborated in **Chapter 3,** where the data, method of data collection, and statistical analysis are all discussed. **Chapter 4** presents the analysis results, and finally, **Chapter 5** summarizes and concludes the study.

1.12 Chapter Summary

The analysis of insider trading is not uncommon in accounting and finance. There has been a long practice of firm insiders receiving abnormal returns from their transactions. Previous analysis reveals that many insiders' behaviours are directly linked to the extraction of unusually high returns across several sources based on their superior knowledge of the company. Not surprisingly, the widespread interest in insider trading has spawned extensive empirical literature, most of which has investigated the forecasting ability of insider trade aggregated at the firm level. In addition, insiders derive more personal benefits from companies with poor corporate governance. Better governed companies are supposed to prohibit their insiders from using sensitive knowledge, reducing insiders' profitability. Hence, this study aims to examine the influence of future firm performance and corporate governance mechanisms on insider trading with the moderating effect of information asymmetry. Figure 1.2 provides a summary of Chapter 1.

Introduction

Background of Study

-Insider traders buy and sell the company's shares and other securities, bonds, and stock options through their potentially privileged access to non-public information about that company.
-In the US, trade by corporate insiders must be filed with the US SEC within two business days.
-Insider trading is recognized as an important source of information, and outsiders expect insider transactions to be informative because company directors, in particular executives, are better informed about their firms' operating and financing characteristics.
-Internal corporate governance policies are more critical in restricting insider returns.

Problem Statement

- Insider trading is the outcome of information asymmetry.
-The collapse of prominent companies due to insider trading activities.
-Gaining abnormal returns at the expense of the outsiders.
- Causing noise in the share prices due to information asymmetry, thus negatively affecting market efficiency.
-Information asymmetry results in conflicts of interest between corporate insiders (i.e., more informed parties) and outsiders (i.e., less informed parties).
- Earn abnormal returns of approximately 18% per year.
- Insider trading affects the company's performance and the financial market's integrity.
-Investors glean more information from insider trade in poorly governed firms.

Research Objectives/ Questions

-Effect of future firm performance on insider trading
- Effect of corporate governance on insider trading
-Moderation of information asymmetry between future firm performance and insider trading
- Moderation of information asymmetry between corporate governance and insider trading.

Scope of the study

- Investigate the impacts of future firm performance and corporate governance on insider trading of US-listed companies with the moderating effect of information asymmetry.

Significance of Study

- Complements and extends the literature by providing new insights into insider trading in relation to future firm performance and corporate governance from different aspects.

Organization of Research

Chapter 1: Introduction
Chapter 2: Literature review
Chapter 3: Methodology
Chapter 4: Results and discussion
Chapter 5: Conclusion and recommendations

Figure 1.3 : Summary of Chapter One

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