Jenni Kallunki

CORPORATE INSIDERS’ PERSONAL CHARACTERISTICS AND INSIDER TRADING
JENNI KALLUNKI

CORPORATE INSIDERS’ PERSONAL CHARACTERISTICS AND INSIDER TRADING

Academic dissertation to be presented with the assent of The Doctoral Training Committee of Human Sciences, University of Oulu for public defence in the Arina auditorium (TA105), Linnanmäki, on 19 June 2019, at 12 noon

UNIVERSITY OF OULU, OULU 2019
Abstract

Many studies explore how firm-level characteristics affect the returns that corporate insiders earn when they trade the stocks of their own firms, but little is known about the role of insiders’ personal characteristics. This dissertation contributes to the literature by expanding our understanding of how corporate insiders’ personal characteristics affect their decisions to exploit private information in insider trading.

The first essay of the dissertation examines whether insiders who have shown noncompliance with the tax law are more prone to exploit their information advantage in insider trading than other insiders. Our empirical results from analyzing archival data of all insider trades in Sweden show that the noncompliant insiders use more of their information advantage to trade their insider stocks shortly before significant stock price changes than other insiders.

The second essay explores why insiders engage in informed insider trading, given the surprisingly small average insider returns reported in the literature and the potential costs involved. Using archival data of corporate insiders in Sweden, we show that less wealthy insiders are more likely to time their insider selling, and sell in greater magnitudes, prior to abnormal price declines than wealthy insiders. We also find that less-wealthy insiders with lower risk-aversion as measured by their criminal behavior are particularly prone to timing their selling to avoid price declines.

The third essay examines what type of insiders are willing to violate their own company’s restrictions on insider trading by trading on their private information during blackout periods when the firm prohibits trading by its insiders. Using archival data of corporate insiders in Finland, I find that less-wealthy insiders avoid economically significant insider losses by selling their insider stocks during the prohibited blackout period. These insider sales also predict negative earnings surprises.

Keywords: blackout periods, income, insider trading, tax noncompliance, wealth
Tiivistelmä

Tämä väitöskirja laajentaa aikaisempaa tutkimuskirjallisuutta tarkastelemalla, miten yritysten sisäpiiriläisten henkilökohtaiset ominaisuudet vaikuttavat sisäpiirin kaupankäynnin tuottoihin. Väitöskirjan ensimmäisessä osatutkimuksessa tutkitaan, voidaankö sisäpiirin kaupankäynnin tuottoja selittää sisäpiiriläisten verottajalta saamien hallinnollisten sanktioiden avulla. Osatutkimuksen empiiristen tulosten mukaan verottajalta hallinnollisia sanktioita saaneet sisäpiiriläiset ansaitsevat merkittävästi suurempia sisäpiirin kaupankäynnin tuottoja kuin muut sisäpiiriläiset.

Aikaisemmissa tutkimuksissa havaitut sisäpiirin kaupankäynnin tuotot vaikuttavat verrattain pieniltä, kun huomioidaan sisäpiiritiedon hyödyntämiseen liittyvää maine- ja juridinen riski. Toisessa osatutkimuksessa tutkitaan, miksi jotkut sisäpiiriläiset kuitenkin päättävät hyödyntää sisäpiiritietoan käydessään kauppaa yhtiöiden osakkeilla. Tulosten mukaan matalamman varallisuuden sisäpiiriläiset ansaitsevat merkittävästi suurempia sisäpiirin kaupankäynnin tuottoja muilla sisäpiiriläisillä.

Väitöskirjan kolmannessa osatutkimuksessa tutkitaan, millaiset sisäpiiriläiset eivät noudata yhtiöiden asettamia rajoituksia sisäpiirin kaupankäynnin ja käymällä kauppaan ns. suljetun ikkunan aikana, jolloin yhtiö asettamia rajoituksia kielletään sisäpiirin kaupankäynnin. Tämän osatutkimuksen empiirisen tulosten mukaan matalamman varallisuuden sisäpiiriläiset ansaitsevat suljetun ikkunan aikana toteuttamat osakemyynnit myös ennustavat yrityksen julistamaa tulevaa negatiivista tulosyllästystä.

Asiasanat: sisäpiirin kaupankäynti, suljettu ikkuna, tulot, varallisuus, verottajan hallinnolliset sanktioit
Acknowledgements

I would like to express my gratitude to all those people who have supported and encouraged me during this thesis project. First of all, I am very grateful to my supervisor Professor Petri Sahlström who has always had time for me and my questions whenever needed, and to Professor Mikko Puhakka and Professor Henrik Nilsson who have been of great help during the project. Looking back, it has been a privilege of having all of you supporting my research.

I also owe my gratitude to the official pre-examiners of my thesis, Professor Thomas Plenborg from Copenhagen Business School and Professor Jussi Nikkinen from the University of Vaasa. The final version of my thesis benefited from their comments and suggestions.

The support of the whole faculty of the Department of Economics, Accounting and Finance has been important during this project. My special thanks go to my current and former colleagues in the accounting team, including MSc. Bianca Beyer, MSc. Jenni Jääskö, MSc. Ermela Bufi, MSc. Marjo Väisänen, Dr. Anna Rossi, Dr. Sinikka Moilanen, Dr. Tiina Henttu-Aho, Dr. Hannele Kantola, MSc. Erkki Lassila, MSc. Van Tran, and Dr. Alexandra Middleton. Thank you all for being such wonderful colleagues and for creating a friendly atmosphere at the workplace.

I gratefully acknowledge the financial support from Finnish Cultural Foundation, OP Group Research Foundation, Marcus Wallenberg Research Foundation, Finnish Savings Banks Group Research Foundation, Tauno Tönning Foundation, Suomen Arvopaperimarkkinoiden Edistämissäätiö, Pörssisäätiö, University of Oulu Graduate School, and Academy of Finland [Project #277055].

Finally, but definitely not lastly, I owe my warmest thanks to my parents Kaisu and Anttu, to my loving husband Juha-Pekka, and to my dear son Elias.

May 2019

Jenni Kallunki
List of original essays

This dissertation is based on the following essays, which are referred throughout the text by their Roman numerals:


The dissertation contains two essays that are co-authored with Professor Mikko Puhakka, Professor Juha-Pekka Kallunki, Professor Henrik Nilsson and Ph.D. Hanna Setterberg. Jenni Kallunki’s contributions to the co-authored essays were substantial and clearly identifiable. Specifically, Jenni Kallunki contributed in all phases of research by planning and designing the essays, analyzing and interpreting the empirical results, and writing the manuscript. She also had the main responsibility for the review processes of the essays.
Contents

Abstract
Tiivistelmä
Acknowledgements 7
List of original essays 9
Contents 11
1 Introduction 13
2 Relevant literature 17
   2.1 Restricting insider trading......................................................... 17
   2.2 Returns to insider trading.......................................................... 20
3 Summary of original essays 23
   3.1 Essay 1: Tax noncompliance and insider trading ...................... 23
   3.2 Essay 2: Do an insider’s wealth and income matter in the
decision to engage in insider trading?.............................................. 24
   3.3 Essay 3: Insiders’ personal characteristics and informed insider
   trading during blackout periods ...................................................... 25
References 27
Original essays 31
1 Introduction

Corporate insiders’ trading on the stocks of their firm, that is, the reported stock transactions of the officers, directors, and large shareholders of a firm, has long been of special interest to regulators, stock market participants, and the academic community.\(^1\) By virtue of their position, corporate insiders routinely have access to valuable private information about their firms’ prospects, which gives them a superior information advantage over other investors in the stock market. Because of this preferential access, regulatory authorities, firms as insiders’ employers, and the general public monitor insiders’ trading. Specifically, insider trading is restricted by legislation, by comply-or-explain-based corporate governance codes, by company-specific policies and procedures and by the reputational and political costs that may arise if insider trading is regarded as opportunistic by the employer or public media. All insiders have an individual responsibility to comply with insider trading restrictions.

Despite the various restrictions and monitoring of insider trading, a common finding in the insider trading literature is that insiders are able to use their information advantage to earn insider trading gains (e.g. Seyhun 1986, Rozeff & Zaman 1998, Lakonishok & Lee 2001, Jeng et al. 2003, Huddart et al. 2007, Huddart & Ke 2007, Cohen et al. 2012). Insider trading is often considered beneficial for efficient capital markets, because insiders’ trading activity is informative regarding future stock returns. Piotroski and Roulstone (2005) suggest that insider trading helps to push prices towards fundamental value. On the other hand, insiders’ trading shortly before significant changes in the firm’s stock price can be perceived opportunistic or even illegal. When opportunistic trading behavior by insiders is detected and revealed, the negative publicity likely damages the reputation of both the insider and their firm, and can also increase the likelihood of scrutiny by the regulator (Dai et al. 2015).

Many studies examine the determinants of insiders’ trading behavior and the abnormal returns following their trades aggregated at the firm level (e.g. Seyhun 1986, Rozeff & Zaman 1998, Lakonishok & Lee 2001, Piotroski & Roulstone 2005, 2005).

---

\(^1\) Corporate insiders refer to legally defined persons who have access to material nonpublic information about a given firm by virtue of their position, employment, responsibilities, or because of their holdings of the firm’s shares. The terms “corporate insiders” and “insiders” are used interchangeably in this dissertation. Corporate insiders’ trades refer to their trades on the stocks of their own firms, which must be reported to the regulatory authority. These reported insider trades should not by definition be based on material, nonpublic information because corporate insiders cannot legally trade on such information and hence are likely to refrain from reporting illegal transactions to the regulatory authority (Meulbroek 1992, p. 1663). Hence, this dissertation does not directly address the issue of illegal insider trading.

By contrast, only a few papers focus on the individual insiders themselves and try to identify which insiders are likely to be trading on their private information and which are not. While some insiders’ trades are obviously due to their personal liquidity need, tax considerations, and portfolio-rebalancing reasons (Jin & Kothari 2008, Kallunki et al. 2009), a significant portion of them is explained by the exploitation of private information (e.g. Huddart & Ke 2007, Hillier et al. 2015). However, little is known about how insiders’ personal characteristics or traits influence their decisions to exploit private information when trading the stocks of their own firms, given the regulatory and reputational risks involved.

This dissertation expands the insider trading literature by examining how corporate insiders’ personal characteristics or traits affect their decisions to exploit private information in trading their insider stocks. The dissertation consists of three separate essays seeking answers to the following main questions: Are insiders with adverse personal traits more prone to exploit their superior information advantage when trading insider stocks? Given the surprisingly small average insider returns reported in the prior literature and the potential costs of informed trading, why do some insiders decide to engage in informed trading? Are less wealthy insiders more likely to engage in informed trading? Finally, what type of insiders violate their own firms’ trading restrictions by trading on private information during explicit blackout periods during which insiders are not allowed to trade in the shares of their firm?

The first essay of the dissertation contributes to the insider trading literature by analyzing large archival data to explore whether insiders with adverse personal traits as measured by their tax noncompliance behavior exploit their information advantage when trading insider stocks. This study shows that insiders who have shown noncompliance with the tax law use more of their information advantage to trade their insider stocks shortly before significant stock price changes, compared to other insiders.

The second essay contributes to the insider trading literature by exploring an important, yet largely unsolved question of why some insiders decide to engage in informed insider trading, given the small average abnormal returns documented in prior studies and the potential costs involved. We address this question by arguing that less wealthy insiders are more likely to trade on private information, because
their returns to such trading are large enough to compensate for the potential costs involved, compared to wealthier insiders. We begin by presenting a theoretical model of how the level of an insider’s wealth and income affects their trade-off between the financial benefit and costs of informed insider trading, and consequently, leads to differential trading behavior by less-wealthy and wealthy insiders. We then empirically test the model’s predictions by using reported insider trades. Consistent with the model, we find that less-wealthy insiders are more likely to time their insider selling, and to sell in greater magnitudes, prior to abnormal price declines than wealthy insiders.

The third essay contributes to the insider trading literature by shedding more light on the question of what type of insiders violate their own firms’ restrictions on insider trading by trading on their private information during explicit blackout periods, given the surprisingly high amounts of insider trading occurring during these periods documented in prior studies (e.g. Bettis et al. 2000, Jagolinzer et al. 2011). While prior studies have examined the effect of voluntary firm-level insider trading restrictions on the abnormal profits earned by insiders (Bettis et al. 2000, Jagolinzer et al. 2011, Lee et al. 2014), this study is the first to investigate what type of insiders are willing to violate these self-restrictions to earn insider returns. Specifically, I examine whether insiders’ wealth and income, education, and age affects the profitability of their insider trades made during prohibited blackout periods and the predictive ability of these trades for future earnings surprises. This essay shows that less-wealthy insiders avoid economically significant insider losses by selling their insider stocks during the prohibited blackout periods. These insider sales also predict negative earnings surprises.

Collectively, this dissertation contributes to the insider trading literature by expanding our understanding of how insiders’ personal characteristics or traits influence their insider trading behavior. This dissertation also contributes to the growing body of recent literature that focuses on the role of individuals and their personal traits, as opposed to firm- or industry-level factors, in shaping corporate behavior and outcomes (e.g. Bertrand & Schoar 2003, Kaplan et al. 2012, Malmendier & Tate 2008, Cronqvist et al. 2012, Custódio & Metzger 2014, Benmelech & Frydman 2015, Sunder et al. 2017, Cline et al. 2018, Phua et al. 2018). This dissertation shows that corporate insiders’ personal characteristics play a role not only in shaping corporate decisions, but also in their decisions related to stocks of their own firm. The rest of the dissertation is structured as follows. Section 2 briefly describes the various restrictions that insiders face when trading the stocks of their own firms and some prior empirical research related to insiders’ trading
behavior and the abnormal returns following their trades. Section 3 reviews the empirical essays. Finally, the original essays are presented at the end of the dissertation.
2 Relevant literature

2.1 Restricting insider trading

Economic models of informed trading describe insiders’ trading behavior as being driven by their desire to maximize financial gains from their superior information advantage (Kyle 1985). In practice, insider trading restrictions limit insiders’ desire to exploit their information advantage when trading the stocks of their own firms. Knowledge of the regulations and other restrictions governing the legal and illegal insider trading is important in understanding and interpreting insiders’ trading behavior (Seyhun 1998, p. 23). This section briefly discusses the insider trading regulations in the U.S. because the U.S. regulations stood as a model for many other jurisdictions and the vast majority of academic research on insider trading has also been conducted on the U.S. stock market. The empirical analyses of this dissertation are based on reported insider trading from the Swedish and Finnish stock markets and a discussion of the main differences in the insider trading regulations between the U.S. and Sweden (essays 1 and 2) or Finland (essay 3) is provided in each essay.

The U.S. was the first country to adopt insider trading regulations under the Securities Exchange Act of 1934. These regulations were adopted in response to the widespread market abuse during the stock market crash of 1929 and were intended to encourage liquid stock markets where small, uninformed investors could safely invest (Seyhun 1998, p. 25). However, the regulations were not enforced until 1961 (Bhattacharya & Daouk 2002). The U.S. Securities and Exchange Commission (SEC) has the primary responsibility for enforcing these regulations. The Securities Exchange Act of 1934 imposes several restrictions on trading by corporate insiders, legally defined in Section 16(a) of the Securities Exchange Act of 1934 as company officers, directors, and large shareholders owning more than ten percent of any equity class of the firm’s securities (Seyhun 1992, p. 149).

First, Section 10 of the Securities Exchange Act of 1934 prohibits corporate insiders from buying or selling securities of their firms while in possession of material, nonpublic information about the firm (Seyhun 1992, p. 152). Insiders must either disclose the material information or refrain from trading (Meulbroek 1992, p. 1664). The SEC and the U.S. courts have refrained from providing an exact definition for the legal term “material” (Seyhun 1998, p. 24). However, some earlier court rulings suggest that information is material if a substantial likelihood exists.
that a reasonable investor would consider it important in making a decision to buy or sell a security (Meulbroek 1992, p. 1664, Bainbridge 2013, p. 12). Under U.S. law, insiders’ trading based on material, nonpublic information is both a criminal offense punishable by monetary penalties and imprisonment and a civil offense requiring disgorgement of the profit gained or loss avoided by the insider trader and payment of civil penalties (Ahern 2017). Thus, the regulations are intended to prevent insiders from trading on the basis of material corporate information not available to the general public, not to prohibit or prevent all insider trading per se (Seyhun 1992, p. 152).

Second, Section 16(a) of the Securities Exchange Act of 1934 requires corporate insiders to disclose all their transactions in their own firms in a timely manner, thereby providing opportunities to detect and punish violations (Seyhun 1998, p. 24). Corporate insiders must report all their transactions to the SEC within two business days from the day of the transaction (Brochet 2010). Failure to report insider transactions is a violation of the securities laws punishable by monetary penalties and imprisonment (Seyhun 1998, p. xxviii). The SEC disseminates the reported insider trades to the general public through its online EDGAR system on a daily basis. These insider trading reports represent all publicly known insider trading activity in the U.S., and consequently, are of special interest to outside investors, security analysts, policy makers, regulators, and the academic community. The reported insider trades should by definition not be based on material, nonpublic information because corporate insiders cannot legally trade on such information and hence are likely to refrain from reporting illegal transactions to the SEC (Meulbroek 1992, p. 1663).

The public disclosure of corporate insiders’ trades is likely to restrict insiders’ trading behavior because insiders are concerned about the adverse effects of informed insider trading on their reputational capital and personal wealth (Dai et al. 2015, Kallunki et al. 2018). In particular, outside investors and the business press screen insider trades on a regular basis for signs of opportunistic behavior and for signals about future firm prospects (Cohen et al. 2012). Insider trades considered to generate excessive private gains are likely to capture negative investor and media attention, thereby damaging insiders’ reputational capital as well as potentially increasing the probability of regulatory scrutiny (Cohen et al. 2012, Gao et al. 2014, Dai et al. 2015). Classical theoretical settings with incomplete contracts and

---

2 An investor can access SEC’s EDGAR system here: [https://www.sec.gov/edgar/searchedgar/webusers.htm](https://www.sec.gov/edgar/searchedgar/webusers.htm).
informational asymmetries (e.g. Klein & Leffler 1981, Kreps & Wilson 1982, Shapiro 1983) indeed suggest that reputation serves as an informal enforcement mechanism against opportunistic corporate behavior, such as informed insider trading. Karpoff (2012) notes that opportunism against business counterparties such as investors can lead to reputational losses that are much larger than any legal penalties.

Third, the short-swing rule of Section 16(b) of the 1934 Act prohibits corporate insiders from profiting from short-term stock price movements by making round-trip transactions (a buy followed by a sale or vice versa) within six months. Profits from such transactions are called short-swing profits and must be returned to the firm upon demand by the firm, any shareholder, or the SEC. The short-swing profit restriction aims to remove any incentives for insiders to manipulate stock prices to benefit themselves. Finally, Section 16(c) of the 1934 Act prohibits insiders from short selling the shares of their firms and thus reduces insiders’ ability to exploit negative information. (Seyhun 1998, p. xxxi-xxxii, 24-25.)

In addition to the legally defined insider trading restrictions, insider trading is also restricted by the firms themselves. Prior research suggests that firms take an active role in restricting their employees’ trading on the shares of the firm because firms can face reputational and legal costs if employees trade on their insider stocks before significant stock price changes (Bettis et al. 2000, Roulstone 2003, Jagolinzer et al. 2011, Lee et al. 2014). Moreover, in the U.S., the Insider Trading and Securities Fraud Enforcement Act of 1988 (ITSFEA) made firms and their top management partially liable for any employee’s failure to comply with insider trading regulations (Garfinkel 1997, Lee et al. 2014). To minimize these costs, many firms voluntarily adopt internal policies and procedures governing the timing of insider transactions. Bettis et al. (2000) survey a sample of listed U.S. firms and find that over 90 percent of their sample firms had implemented their own policies restricting trading by insiders, and nearly 80 percent had explicit blackout periods during which insiders are not allowed to trade in the shares of their firm. Firms may also require all insiders to obtain permission from the firm’s compliance officer to execute an insider transaction (Jagolinzer et al. 2011) or to use a program trading plan whereby all insider transactions are made according to a fixed schedule (Jagolinzer 2009). All insiders have an individual responsibility to comply with these company-level trading restrictions.

In summary, corporate insiders’ desire to maximize profits from their superior information advantage over other investors is limited by direct insider trading regulations, by company policies and procedures, and by the reputational and
political costs that may arise if the trading is considered opportunistic or self-serving by the employer or by the public media. Reputational concerns play an important role in insiders’ trading decisions because insiders are required to publicly disclose their trading activities. Therefore, it is the combined threats of regulatory scrutiny, litigation, and negative publicity that limit insiders’ desire to exploit their private information when trading the stocks of their firm.

2.2 Returns to insider trading

Despite the various restrictions and the monitoring of insider trading, many studies show that corporate insiders’ trades predict future abnormal stock returns, suggesting that insiders generally exploit their information advantage about firm prospects to make trading decisions (e.g. Lorie & Niederhoffer 1968, Jaffe 1974, Finnerty 1976, Seyhun 1986, Seyhun 1992, Aboody & Lev 2000, Jeng et al. 2003, Huddart & Ke 2007, Cohen et al. 2012). In accounting, finance, and economics literature, much research effort has been devoted to investigating the determinants of insiders’ trading behavior and the abnormal stock returns following their trades. Most of the literature has focused on firm-level characteristics and it is now widely accepted that insider trading behavior and returns vary with the firm’s size and book-to-market ratio (Seyhun 1986, Rozeff & Zaman 1998, Lakonishok & Lee 2001, Piotroski & Roulstone 2005, Jenter 2005). Prior studies have also linked the cross-sectional variation in the abnormal returns earned by insiders to a wide range of other firm characteristics such as R&D expenditures (Aboody & Lev 2000), analyst coverage (Frankel & Li 2004), the quality of earnings (Aboody et al. 2005), corporate social responsibility (Gao et al. 2014), antitakeover provisions (Ravina & Sapienza 2010), the role of general counsel (Jagolinzer et al. 2011), and the effectiveness of internal control systems (Skaife et al. 2013).

This stream of literature has treated corporate insiders as homogeneous in their personal characteristics or traits, although we know that people are different. According to the upper echelons theory by Hambrick and Mason (1984), corporate executives’ experiences, values, and personalities affect their choices and consequent corporate decisions. Consistent with the notion that individual heterogeneity matters in corporate behavior, Bertrand and Schoar (2003) find economically and statistically significant executive fixed effects related to corporate investment behavior, financial policy, organizational strategy, and performance. Since Bertrand and Schoar’s study, a growing number of papers have reported that corporate decisions and performance vary with specific managerial
characteristics such as overconfidence (Malmendier & Tate 2005, Malmendier & Tate 2008, Schrand & Zechman 2012), sensation-seeking (Sunder et al. 2017), risk-aversion (Graham et al. 2013, Hvide & Panos 2013), military background (Benmelech & Frydman 2015), and attitude towards social norms and laws (Davidson et al. 2015).

Insider trading decisions are made individually by insiders, who need to balance their desire to gain from insider transactions on the one hand, with legal and reputational costs due to trading restrictions on the other hand. Hence, insiders’ personal characteristics are likely to play an important role in their willingness to exploit their information advantage in insider trading. Consistent with this view, Hillier et al. (2015) show that a significant amount of the cross-sectional variation in insider returns remains unexplained after controlling for observable and unobservable firm characteristics. However, the empirical evidence on the likely heterogeneity among individual insiders in their trading behavior is surprisingly limited. A few exceptions include Hillier et al. (2015), Kallunki et al. (2009), and Davidson et al. (2014). Hillier et al. (2015) show that insiders systematically vary in their willingness to exploit their private information in insider trading, given the regulatory and reputational risks. In particular, they find that insider fixed effects explain up to a third of the variability of insider returns and have up to three times more explanatory power than firm fixed effects. They also find some evidence that insider returns are related to the insider’s gender and education. Kallunki et al. (2009) show that insiders’ portfolio rebalancing objectives, tax considerations and behavioral biases play an important role in their trading decisions. They also show that insider selling is informative for future returns among those insiders who have the greatest proportion of their wealth allocated to insider stocks. Finally, Davidson et al. (2014) find that executives with legal records, and those with highly materialistic tendencies, have a higher propensity to use inside information when trading their insider stocks. Despite these insights, the question of what the specific factors are that drive the observed variation in individual insiders’ willingness to trade on their private information is still largely open.
3 Summary of original essays

3.1 Essay 1: Tax noncompliance and insider trading

The first essay contributes to the insider trading literature by exploring whether insiders who have been charged with administrative penalties by the tax authorities due to noncompliance with the tax law (‘noncompliant insiders’) are more prone to exploit their information advantage in insider trading, compared to other insiders (‘compliant insiders’). Extensive literature on tax noncompliance shows that individuals who decide not to comply with the tax law are prone to ethical misconduct, and to make personal gains at the expense of others (e.g. Reckers et al. 1994, Ghosh & Crain 1996, Henderson & Kaplan 2005, Kaplan et al. 1997). Moreover, informed insider trading is widely perceived as unethical conduct (Moore 1990, Beams et al. 2003, Kaplan et al. 2009). Therefore, we hypothesize that by being prone to commit ethical misconduct to achieve personal gains, insiders who have shown noncompliance with the tax law are more prone to use their information advantage to earn also insider gains, compared to compliant insiders.

Our empirical analyses are based on a large archival data set on 3,392 corporate insiders from all Swedish listed firms, and 14,706 insider transactions by these insiders over the period from 2000 to 2008. We find that a non-trivial proportion (4.2 percent) of insiders have violated the tax law (Taxation Act 1990:324) in the year preceding their insider trades, and consequently, have been charged with a penalty by the Swedish Tax Agency, with the average penalty being SEK 54,000 and the maximum being SEK 3,828,000. Consistent with our hypothesis, we find that these noncompliant insiders earn both statistically and economically greater insider returns, compared to compliant insiders. In particular, the mean one-month abnormal (market-adjusted) stock return after noncompliant insiders’ sales is −3.3 percent, which is 3.3 percentage units lower than the mean return for compliant insiders. Accordingly, the mean one-month abnormal stock return after noncompliant insiders’ purchases is 6.3 percent, which is 4.3 percentage units greater than the mean return for compliant insiders. These results remain after controlling for various likely insider- and firm-specific determinants of insider returns, including insiders’ liquidity needs, portfolio rebalancing objectives, capital gain taxation considerations, and firm and year fixed effects. As for policy implications, our results imply that the regulatory authorities monitoring insider trading may benefit from sharing information on insiders with
the tax authorities in order to identify insiders who are likely to trade their insider stocks before significant price changes.

3.2 Essay 2: Do an insider’s wealth and income matter in the decision to engage in insider trading?

An important, yet largely unsolved question in the insider trading literature is why some insiders decide to engage in informed trading, given the small average abnormal returns documented in prior studies and the potential costs of trading. In the second essay, we address this question by arguing that less-wealthy insiders are more likely to trade on private information, because their returns to such trading are large enough to compensate for the potential costs involved, compared to wealthier insiders.

We begin by proposing a model of an insider’s decision to engage in informed insider trading. In the model, the risk-averse insider maximizes their expected utility by trading off between the financial gain and costs of informed insider trading, both of which include a fixed component and a variable component related to the insider’s wealth and income level through the volume of insider trading. We show that an increase in the insider’s wealth and income level decreases their willingness to trade on private information, as long as the trading is subject to a relatively low risk of legal enforcement and therefore not likely to incur large fixed costs such as criminal fines or jail time for the insider. The reason is that, compared to a wealthy insider, a less-wealthy insider would be willing to accept a lower probability that their informed trading will not be detected and punished by outsiders. We also show that this effect is greater in magnitude when the variable costs of trading on private information such as personal reputational damages and other costs related to the volume of insider trading are larger and the insider has lower risk-aversion.

We empirically test the model’s predictions using data from Sweden, where archival data on individual wealth, income, and many other demographic variables are available for all insiders of listed firms. Our data set covers 3,388 corporate insiders from all Swedish listed firms and 14,672 reported insider trades by these insiders over the period from January 2000 to December 2008. Consistent with our model, the empirical results based on reported insider trades show that less-wealthy insiders are more likely to time their selling, and to sell in greater magnitudes, prior to abnormal stock price declines than wealthy insiders. The mean buy-and-hold abnormal (market-adjusted) stock return over a one-month period following a
single sale transaction by less-wealthy insiders is –1.70 percent, which translates into an economically significant annualized return of –18.6 percent. In contrast, the mean abnormal returns following the sales by wealthy insiders are not significantly negative. We also find that conditional on being less wealthy, insiders who are more risk-prone as measured by their criminal convictions are more likely to time their selling to avoid stock price declines, compared to non-convicted insiders. We do not observe similar selling behavior for wealthy risk-prone insiders.

Interestingly, we do not find the same contrasting patterns for insiders’ purchases, which they time prior to stock price increases regardless of the level of their wealth and income or attitude towards risk. The asymmetry of this finding is consistent with the argument in prior research that the reputational and legal risk associated with being detected trading on private information is significantly higher for insider sales compared to purchases (e.g. Cheng & Lo 2006, Piotroski & Roulstone 2008, Brochet 2010, Dai et al. 2015, Alldredge & Cicero 2015).

We also examine the risk-adjusted post-trade returns earned by insiders with different levels of wealth and income by calculating the intercept from the Capital Asset Pricing Model (CAPM) and the Fama and French three-factor and four-factor calendar-time portfolios. We confirm that, on average, less-wealthy insiders earn superior returns from selling their firms’ shares after controlling for various risk factors, compared with wealthy insiders. We also find some evidence that less-wealthy insiders earn superior risk-adjusted returns from their purchases.

3.3 Essay 3: Insiders’ personal characteristics and informed insider trading during blackout periods

Many companies voluntarily restrict their insiders from freely trading their stock by having corporate policies and procedures, which typically include explicit blackout periods during which insiders are not allowed to trade in the shares of their firm (Bettis et al. 2000, Roulstone 2003, Jagolinzer et al. 2011, Lee et al. 2014). Firms adopt these policies to reduce their own legal and reputational risks in the case of opportunistic or even illegal insider trading. Interestingly, prior studies find surprisingly high amounts of insider trading (as much as 24 percent of all insider trading) occurring during these blackout periods, suggesting that some insiders are willing to violate their own company’s trading restrictions (Bettis et al. 2000, Jagolinzer et al. 2011). The purpose of the third essay is to shed more light on the question of what type of insiders are willing to violate their own company’s trading restrictions by trading on their private information during blackout periods.
Specifically, the third essay examines whether insiders’ wealth and income, education, or age affect the profitability of their trades on insider stocks made during explicit blackout periods and the predictive ability of these trades for future earnings surprises.

I conduct my study using data from Finland for two reasons. First, in Finland archival data on individual wealth, income, education, and age are available for all insiders of listed firms. Second, during the sample period, Finnish legislation, like the U.S. federal legislation, did not require firms to adopt policies that prohibit or discourage insider trades at specific periods, but many companies had voluntarily adopted such policies, i.e. blackout periods. Combined, these characteristics of the Finnish setting allow tracing the wealth, income, education, and age of 353 corporate insiders from 98 Finnish listed firms, and 687 insider sales and 1,107 insider purchases by these insiders over the period from August 2010 to July 2014.

The empirical results show that the extent to which insiders use their private information when trading their insider stocks during blackout periods increases as the level of their wealth and income decreases. Specifically, after sorting insiders’ trades into two groups based on the level of their wealth and income, I find that the mean buy-and-hold abnormal (market-adjusted) stock return over a six-month period following sale transactions made during blackout periods by less-wealthy insiders is –29.27 percent, which is 23.02 percentage units lower than that following the sales made during allowed periods, the difference being both statistically and economically significant. These insider sales also predict negative earnings surprises, as they are followed by a significantly negative mean three-day earnings announcement period abnormal market-adjusted return of –4.43 percent.

In contrast, the mean six-month abnormal returns following the sales made during blackout periods by wealthier insiders are not significantly negative, and these sales are also not followed by negative earnings announcement period returns. These results continue to hold after controlling for various insider- and firm-specific determinants of stock returns and firm-, year-, and quarter-fixed effects. I do not find the same contrasting patterns for insider purchases made during blackout periods, which are followed by statistically insignificant six-month abnormal returns and earnings announcement period abnormal returns regardless of the level of insiders’ wealth and income. Regarding the level of education and age of insiders, I do not find evidence that these insider characteristics are consistently associated with the future six-month abnormal returns following insider trades made during blackout periods or with the predictive ability of these trades for future earnings surprises.
References


Original essays


Reprinted with permission from Elsevier B.V. (I and II).

Original publications are not included in the electronic version of the dissertation.
95. Haapanen, Lauri (2017) Firms’ resource allocation between R&D and marketing in their international expansion : a functional level analysis
97. Oikarinen, Eeva-Liisa (2018) Perspectives on humor in recruitment advertising on the Internet
98. Atkova, Irina (2018) From opportunity to business model : an entrepreneurial action perspective
100. Tan, Irene (2018) Essays on the effects of investor protection and financial structure on firm decisions and outcomes
101. Pikkujärvi, Paulina (2018) Place marketing and foreign direct investments in the changing ICT era
104. Alpeggeri, Anna (2018) The effects of using English as a business lingua franca on spoken brand co-creation communication : a discursive approach
109. Brahman, Paskaran (2019) Cultural practices in the project based construction companies : its impact on information system implementation

Book orders:
Granum: Virtual book store
http://granum.uta.fi/granum/
Jenni Kallunki

CORPORATE INSIDERS’ PERSONAL CHARACTERISTICS AND INSIDER TRADING