

Director Gender and Social Status in White-Collar Crime: Evidence from Accounting and Enforcement Releases from the SEC

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Declaration

I hereby certify that this material is entirely my own work and has not been taken from the work of others save to the extent that such work has been cited and acknowledged within the text of my work. It has not been submitted as an exercise for a degree at this or any other University. I agree that the library may lend or copy the thesis upon request.

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Abstract

This thesis aims to re-establish the long-standing conjecture that white collar criminals differ from ordinary street criminals based on the high social status and gender of the offenders. I formulate theory and set forth a first-ever empirical analysis of the impact of board of director social status and gender diversity on the broad spectrum of fraudulent financial reporting (FFR) involvement in U.S. listed companies, generating three main insights. Using a unique data set of 477 fraudulent directors manually extracted from Accounting and Auditing Enforcement Releases (AAERs) issued by the Securities and Exchange Commission (SEC) between 1998 through 2014.

First, I examine whether high social status and gender of the corporate elite impacts the probability of FFR involvement in U.S. listed companies. I create two measures of social status: I differentiate between ascribed (inherited) and achieved (acquired) social status, and assess the influence of both measures of social status on the incidence of FFR. To allow for an even deeper level of analysis of the effect of social status on the likelihood of fraud involvement, I construct an empirically based typology of social status which includes the different possible combinations of inherited and acquired status that a director may have. I find that directors with higher inherited social status, those who attained undergraduate degrees from elite educational institutions, were less likely than lower-status directors to engage in FFR. I show evidence of significantly reduced incidence of FFR among directors with high acquired status attained through postgraduate degrees from elite educational institutions or through occupational status, income status or the receipt of prestigious awards. I also find that the impact of a director's social status on the incidence of FFR is weakest among directors that possess both high inherited and high acquired status simultaneously (supreme elite) and strongest among directors who possess both low inherited and acquired social status (social laggards).

Second, I investigate whether there is an empirical link between gender and the incidence of FFR involvement. The examined data show strong evidence consistent with the view that the importance of women on boards in mitigating securities fraud lies in the mechanism of diversity itself. I find less direct support for the alternative proposition that women are more ethically sensitive and less likely to risk committing FFR.

This research contributes to the academic literature surrounding FFR within the corporate elite in the following ways. First, it extends the prior corporate governance literature on the impact of social status on the incidence of FFR, as reported by the SEC (Bowen et al., 2005; Files et al., 2009; Gordon et al., 2008; Myers et al., 2008). It also contributes to the organizational sociology and criminology literature on the perceived high social status of white-collar offenders who are not ordinarily associated with crime (Poortinga et al., 2006; Soothill et al., 2012; Weisburd et al., 2001). Second, it contributes to the extant body of knowledge with the suggested social status typology for corporate elites. The heart of the typology is the observation that a director may occupy only one of four possible combinations of high or low inherited and acquired social status. Because organizations have internal status hierarchies, all four status combinations could be represented. Given a situation of status strain, that strain may be differentially linked to the four status subgroups. This typology has the potential to pave the way for a new avenue of management research examining the benefits and hazards of director social status on corporate outcomes and contribute to what McDonald & Westphal (2011) term a more expansive social and psychological perspective on “corporate leadership”. Third, it contributes to improved understanding of gender differences in ethical sensitivity, particularly at the top management level (chairperson, CEO, and board directors). We add to the gender and management literature by generating evidence about gender diversity and fraud.

This study extends the COSO (2010) framework and use of a wide range of domains of social status identified in the organizational sociology literature. It differs significantly from prior studies which focuses on 1) a small sub-set of individuals who are of high social status (the top five percent), 2) one single domain or source of status, prestige or respectability, and 3) individuals in specific occupational positions i.e. chief financial officers.

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Chapter 1 Introduction

1.1 Introduction

The Association of Certified Fraud Examiners' Report to the Nations (ACFE, 2014), which is based on a survey of Certified Fraud Examiners (CFEs), estimates the cost of white-collar crime (WCC) to be approximately five percent of revenues, or more than \$3.7 trillion dollars worldwide. Pardue et al. (2013), estimate the cost of WCC to U.S. businesses to be \$404 billion compared to \$20 billion caused by street crime. According to the ACFE, 9% of WCC cases involve fraudulent financial reporting (FFR), and these cases cause a median loss of \$2 million per fraud scheme. However, these costs are revenue losses and do not consider the extensive losses to investors, employees, and pensioners. According to Cotton (2002), the loss to shareholders from fraud at Enron, WorldCom, Quest, Global Crossing, and Tyco was \$460 billion. Thus, many see WCC as a cancer working on the fabric of too many corporations.

The term "white-collar crime" was first defined by Sutherland (1940) as 'a crime committed by a person of respectability and high social status in the course of his occupation'. Thus, it is perceived that WCC is typically carried out by men of high social status (Sutherland, 1940; Sutherland, 1949; Benson & Simpson, 2009). Sutherland (1940) refers principally to roles such as 'business managers and executives' that equate to occupational prestige and therefore high social status, as it has been perceived that business managers and executives represent a homogeneous group of individuals in terms of their overall social status. According to Braithwaite (1985), the requirement that a crime cannot be a WCC unless perpetrated by a person of 'high social status' is an unfortunate mixing of definition and explanation, as social status is defined as an individual's ranking relative to others indexing the individual's position within a power hierarchy (Huberman, et al., 2004; Washington & Zajac, 2005) via relatively objective indicators of power, prestige, and control over resources, such as income, wealth, education level, and occupational prestige (Diemer & Ali, 2009). Sutherland's (1940) definition does not account for the fact that occupational prestige is only one source of social status, and even within the corporate elite there is a wide social status hierarchy (Diemer & Ali, 2009). While all directors on corporate boards are members of an

elite group of business executives, Jensen and Zajac (2004) assert that there are still differences in social status among directors. Also, Sutherland's (1940) gender-specific definition was articulated at a time in which males made up most the workforce.

But who engages in WCC, and why? The only generalisations that can reasonably be made about the characteristics of WCC are banal. Within this thesis, I hope to be able to address this overarching question through three related studies.

First, using Sutherland's (1940) definition of WCC as the foundation, I explore the impact of director social status on the incidence of medium to high complexity FFR as reported by the SEC. Given that an overwhelming proportion of FFR cases are carried out by directors on corporate boards, it is deemed important to understand the influence of a director's social status. While there has been much focus on fraud prevention techniques (e.g. new accounting standards, legislative acts and monitoring systems), research shows that FFR is increasing day by day irrespectively. FFR frequently involves multiple directors on corporate boards, and prevails for many years despite external audits and monitoring by outside directors. In order to re-establish investor confidence in capital markets, the U.S. government passed the Sarbanes-Oxley Act (SOA) in 2002, but this has failed to curb the rise in FFR.

Second, I examine the relationship between director social status and the type and severity of FFR committed by directors using a rich fraud taxonomy developed by DeChow et al. (2010). In the prior research on fraud severity, it was believed that the lower the social status of the perpetrator the lower the severity/complexity of the WCC committed. To analyse fraud severity in FFR, I follow the methodology of Bonner et al. (1998) and use types of fraud that involve fictitious transactions as an indicator of fraud severity (e.g. fictitious revenue recognition). Fictitious transaction frauds are considered more egregious due to the nature of the deception involved.

Third, I extend recent empirical examinations of WCC by examining gender differences in FFR involvement in the late-twentieth and early-twenty-first centuries (Benson & Simpson, 2009; Geis, 2007). Some empirical research exists on gender similarities and differences in WCC (Daly, 1989; Holtfreter, 2005; Zietz, 1981; Franklin, 1979). It is believed that white collar criminals are not

likely to be female. According to Braithwaite (1985) ‘this generalisation can virtually be true by definition, since women do not generally occupy the occupational roles required for white collar offending’. However, since 1985 women’s increasing participation in the labour market and upward mobility have considerably reduced or eliminated gender differences in white-collar and corporate crime (Simon & Ahn-Redding, 2005; Dodge, 2008). This perspective contends that women are no more moral than men, so any gender differences in corporate or serious WCC involvement are due to differences in opportunity stemming from variable access to higher positions in the labour force. Also, high profile media cases of women committing major frauds (e.g., Martha Stewart) and interpreting female involvement in FFR as typifying occupation-related crimes by executives and managers, may lead one to conclude that women are using newly available opportunities to commit WCC at a level and in a manner similar to men (Simon & Ahn-Redding, 2005; Dodge, 2008). However, to my knowledge no studies have empirically addressed gender differences in FFR at the board level. As part of this gender study, I analyse the relationship between gender diversity on corporate boards and the likelihood of fraud involvement. I also examine the relationship between the social status of women directors and the likelihood of fraud involvement.

The purpose of this chapter is to act as an introduction to the thesis, and it is organised as follows. Section 1.2 introduces the research questions that form the basis of my thesis and the justification for each study. Section 1.3 articulates the main contributions to the existing body of knowledge. Section 1.4 discusses the organisation of the thesis, briefly outlining the content of each chapter.

1.2 Research Questions and Contributions

In this section, I outline several research questions (RQs) for further examination. The first RQ relates specifically to my first study on the relationship between director social status and the likelihood of FFR involvement.

RQ 1: Does the social status of a director impact the likelihood of FFR involvement?

In other words, does a director with low social status who is ‘...unable to gain status through conventional means...adopt ... illegal behaviour’ (Cloward & Ohlin, 1960). Following Folladare’s

work (1969), I analyse the impact of two types of director social status based on their source. The first type is inherited status, which is characterised as an unearned ascription of social rank (Washington & Zajac, 2005) and is therefore ‘assigned to individuals without reference to their innate differences or abilities’. Although a director’s inherited status is fixed for life, it is difficult to capture data on it, and therefore it is rarely used in the prior research. The second type of director social status is acquired status, which is characterised by the acquisition of special qualities of individual achievement, is attained throughout the life of an individual, and is assigned based on merit and personal efforts. To allow for an even deeper level of analysis of the effect of social status on the likelihood of FFR involvement, I create a typology of social status that includes the different possible combinations of inherited and acquired status a director may have.

My first study contains two main contributions to the current literature. My first contribution is to extend sociological, criminological, corporate governance and management research by exploring the impact of social status on the incidence of the most complex form of WCC, namely FFR as reported by the SEC. I provide unique and detailed insights into the potential sources of director social status and prestige within the corporate elite and their influences on FFR. I incorporate a wide range of domains of social status used in the sociology literature. Almost all of the previous research on social status and firm outcome select only one single domain or source of prestige.

My second research contribution is to develop a social status typology for corporate elites, which has the potential to pave the way for a new avenue of research examining how director social status influences corporate outcomes. It therefore will contribute to what McDonald and Westphal (2011) term a ‘more expansive social and psychological perspective on corporate leadership’. This is my original suggested typology or classification model, and it will also allow for a micro level of analysis of director social status.

The next research question relates to my second study on the relationship between director social status and fraud type and severity.

RQ 2: Does a director’s social status influence the severity of FFR committed?

I compare the social status of directors to the types and severity of FFR schemes committed. Using a rich FFR taxonomy developed by DeChow et al. (2010), I conduct an in-depth comparison of the relationship of director social status on 11 common types of FFR committed by directors. To analyse fraud severity, I follow Bonner et al. (1998) and use the types of frauds that involve fictitious transaction frauds as an indicator of severity.

This study makes a contribution to the literature by developing an understanding of the relationship between a director's social status and the likelihood of the offender's involvement in different types of fraud schemes. To my knowledge, no prior research directly compares the relationship between director social status and the types or severity of FFR schemes.

The next three research questions relate to director gender and board gender diversity on the likelihood of FFR involvement.

RQ 3: Does a director's gender influence the likelihood of FFR involvement?

I investigate whether there is an empirical link between gender and the incidence of FFR involvement. Dodge (2008) argues that the role of women in WCC has emerged as a major topic in the twenty-first century, but it remains a controversial and neglected area of criminological study. However, there is still a need for more empirical research focusing on female offenders.

This gender study makes two major contributions to the literature: my first contribution is to the gender and ethics literature, by analysing the relationship between the presence of women on corporate boards and the incidence of FFR. Although the academic literature on the benefits of women in the boardroom has increased (Hillman, et al., 2007; Ruigrok, et al., 2006; Adler, 2001; Carter, et al., 2003; Khan & Vieito, 2013; Terjesen, et al., 2009; Post & Byron, 2015), most studies focus on the benefits related to corporate financial performance, and better corporate social responsibility (Adler, 2001; Carter, et al., 2003; Khan & Vieito, 2013; Terjesen, et al., 2009; Post & Byron, 2015). To my knowledge, this is the first empirical study to examine the relationship between the presence of women on corporate boards of directors and more complex WCC, namely FFR. Few researchers have empirically examined the relationship between women on corporate boards and the incidence of WCC (Terjesen, et al., 2009).

My second contribution is to develop a better understanding of the relationship between the gender diversity on corporate boards and the likelihood of FFR involvement. This posits the relative importance of mechanisms for increasing the number of women on boards, such as legislation setting minimum gender quotas, gender diversity targets, or the establishment of mentoring programs and other initiatives. This study is of practical relevance to corporate executives, shareholders, regulators, and policymakers trying to understand the relative importance of developing mechanisms for increasing women on boards, including setting minimum gender quotas or targets, and other initiatives (Macfarlane, et al., 2010).

1.3 Structure of the Thesis and Main Findings

This thesis proceeds as follows. In Chapter 2 I review the literature around WCC. I explore the WCC definitional dilemma, setting the stage by reproducing parts of the speech by sociologist Edwin H. Sutherland that introduced the term ‘white-collar crime’. I examined the problems with Sutherland’s definition, including his focus on offender characteristics. I explore the criminology, sociology and management literatures on the benefits and hazards of the corporate elite. I also explore perceived reasons for gender differences in WCC. I also examined the literature on the benefits of gender diversity on corporate boards of directors.

In Chapter 3 I detail the empirical data that I use for the studies in Chapters 4 to 6. I describe the methodological approach of the thesis. I state that my research methodology is positivist, and explain why quantitative methods are appropriate for the empirical studies in the subsequent chapters. I subsequently describe the quantitative methods that I use in those chapters to construct social status domains and categories. Finally, I explain how my typology of social status is created.

In Chapter 4 I conduct an in-depth study on the relationship between the social status of directors on corporate boards and the incidence of FFR, as reported by the SEC.

In Chapter 5 I conduct a study of director social status and the type and severity of fraud committed.

In Chapter 6 I compare the gender representation and gender diversity of corporate boards on the incidence of fraud.

Chapter 1 Introduction

In Chapter 7 I draw together the main findings and contributions of the thesis. I present my overall conclusions and their implications. I outline the limitations of my work and potential avenues for future research.

Chapter 2 Review of Relevant Literature

2.1 Introduction

This chapter explores the literature from the key areas of this thesis including criminology, psychology, corporate governance, management research, and sociology to help identify and incorporate different sociological characteristics that apply to actual cases of WCC, and in particular FFR. Examining theories from other disciplines and merging them with the technical aspects of accounting and fraud prevention creates a greater understanding of the characteristics of offenders and, hopefully, allows for better fraud prevention in the future.

This literature review is organised as follows. Section 2.2 introduces the area of WCC. This section explores aspects of the definitional dilemma, setting the stage by reproducing parts of the speech by sociologist Edwin H. Sutherland that introduced the term ‘white-collar crime’. This is followed by a brief discussion of how the term has been refined, and redefined, by several successors in various fields. It examines the issues with Sutherland’s definition, as well as the persuasive arguments for retaining the term ‘white-collar crime’. Section 2.3 explores social status and the corporate elite in management research; studies by Pearce (2001), and Ravlin and Thomas (2005), have prompted calls for more research about the social status of the corporate elite in management research. Next is a review of the management research surrounding the benefits and hazards of social status on firm outcomes. This is followed by Section 2.4 which reviews the corporate governance and gender literature on gender diversity theory and social status characteristics theory. I then explore perceived reasons for these differences, including lack of opportunity and risk aversion in women. Section 2.5 summarises my main findings from my review of the literature. It also helps to explain gaps in the literature of gender, crime and entrepreneurship.

2.2 White-Collar Crime

With a seventy-five-year history of sociological and later legal roots, the term WCC has been refined and redefined by several successors in various fields, with the result that the term WCC means different things in different disciplines. For the purposes of this thesis, the term WCC was first coined by the U.S. sociologist Edwin H. Sutherland in his 1939 speech to the American

Sociological Association as 'a crime committed by a person of respectability and high social status in the course of his occupation' (Sutherland, 1940). His definition concentrated on the characteristics of the offender (such as high social status) rather than the characteristics of the crime (such as crimes occurring within the scope of one's employment). The key words and phrases 'crime', committed by 'persons of respectability and high social status', 'in the course of', 'his' and 'occupation' all lead to problems in determining who and which activities are to be included. Sutherland's focus on the high status of offenders questioned the long-standing preoccupation with lower status offenders, and raised important issues about bias in criminal law, prosecution and punishment. The offender belongs to the social elite and is often wealthy and higher educated (Heath, 2008). Thus, it is perceived that WCC is typically carried out by men of a high social status (Sutherland, 1940; Sutherland, 1949; Benson & Simpson, 2009), who behave illegally (Hansen, 2009) for financial gain (Brightman, 2009; Bucy, et al., 2008).

One major criticism with Sutherland's definition is whether the occupational nature of the activities or the social characteristics of offenders should be the major defining feature (Wong, 2005). It is also clear that the definition offered was not very precise regarding exactly what kinds of activities should be considered as constituting WCC. The many difficulties surrounding Sutherland's (1940) definition of WCC has led to arguments that it is outdated, redundant, and that it should be done away with or disaggregated into the separate sphere of occupational crime. This would remove the major feature of WCC, which is its association with high social status.

The term has also been changed to occupational fraud and abuse (ACFE, 2008), economic crime (PricewaterhouseCoopers, 2007), occupational crime (Quinney, 1977) and financial crime (NWCCC, 1996). There are persuasive arguments for retaining the term WCC. Ruggiero (1996) argues that WCC, corporate and organisational crime are all variants of the same kind of crime. He asks whether one definition should encompass them all and chooses to 'utilise the traditional definitions, both because they make these forms of offending more easily identifiable by readers and to avoid adding to the existing terminological confusion' (Ruggiero, 1996). This is supported by Braithwaite, who believes that 'the concept is shared and understood by ordinary folk as more meaningful than occupational crime, corporate deviance, commercial offences, economic crime or

any competing concept' (Braithwaite, 1985). The status of offenders continues to be an important feature of these definitions. I argue that we should cling to Sutherland's overarching definition, but then partition the domain into major types of WCC which do have theoretical potential.

WCC is often difficult to discover. It is also important to consider the increasing prevalence, the enormous costs, and the low detection rate (estimates are that less than 10 percent of perpetrators are caught). For example, many white-collar criminals are first-time offenders (Levi, 1998; Gill, 2005) and approximately 87 percent had never been previously charged or convicted of a fraud related offense (ACFE, 2014).

Although Sutherland (1940) refers principally to male 'business managers and executives' of respectability and high social status, the term WCC is often used to describe all non-manual workers, and contain offenders from a wide spectrum of employment levels (Shapiro, 1990). This broad definition, however, removes the major feature of WCC, which is its association with high social status. Encompassing this enormous range of offences has inevitably led to attempts to divide WCC into subcategories, to provide researchers with a manageable group of offences and to enable comparisons between offences.

Gottschalk (2010) categorised WCC into four main forms: corruption, fraud, theft, and manipulation, while the Association of Certified Fraud Examiners (2014) defines three types of WCC: corruption, asset misappropriation, and financial statement fraud. Weisburd et al. (1990) organise offenses in a 'hierarchy based on their relative complexity, with those offenses involving socially prominent and powerful individuals, complex organisations, multiple victims, and a considerable amount of harm placed at the top. Securities and antitrust offenses are at the top of this structure; bribery and FFR are in the middle; and tax fraud, credit fraud, and bank embezzlement form the lower end'. According to Weisburd et al. (1990), there are offenders at the bottom of this hierarchy who bear little resemblance to those described by Sutherland (Sutherland, 1983), who describe WCC as crimes of the powerful.

According to the ACFE, approximately 9% of WCC cases involve FFR. I draw on the broad definition of FFR as defined by the National Commission as the '...intentional or reckless conduct,

whether by act or omission, that results in materially misleading financial statements' (NCFFR, 1987). It is therefore considered an act that typically involves intention, deception and the reckless behaviour of directors (Nieschwietz, et al., 2000).

I follow this definition of FFR as it closely equates to the focus of this thesis, which is aimed at investigating whether a relationship exists between director gender and social status and the incidence, type and severity of FFR. Prior studies have shed light on the types of fraud associated with FFR. Loebbecke et al. (1989) examined the frequency of fraud types, finding that revenue recognition fraud schemes were the most prevalent type of fraud. To identify the fraud schemes committed by companies and to classify these frauds according to their type, I adopted a fraud taxonomy. Several sources of FFR taxonomies exist, including taxonomies developed by academics (Beneish, 1997; Coglitore & Berryman, 1988; Diacont, 1994; Elliott & Willingham, 1980; Kellogg & Kellogg, 1991; Loebbecke, et al., 1989), practitioners including 'Big 6' accounting firms, and professional associations including the National Association of Certified Fraud Examiners (NACFE, 1992).

Few researchers conduct analysis on the severity of fraud that include measures of the length of time during which fraud was committed, the number of types of fraud committed and the fictitious nature of the fraud. According to Bonner et al. (1998), the business press gives disproportionate attention to fictitious transaction frauds, and this attention reinforces the perceptions of fictitious transaction frauds as more egregious. The severity and egregiousness of the fraud committed is measured using several variables. The key measures include the size of the fraud, whether the fraud is fictitious, and whether it resulted in a change in the firm from a loss to a profit.

2.2.1 Organisational Misconduct

Organisational misconduct is an essential companion to understanding the causes, processes and consequences of FFR. Palmer et al. (2016) provide a contemporary overview of wrongdoing and misconduct and have highlighted the need for future research on the status enhancing and status destroying effect of director involvement in misconduct. Philips & Zuckerman (2001) provide a theoretical restatement of the long-standing conjecture that conformity is highest in the middle of

a status hierarchy. The theory is based on two observations a) that insofar as low-status actors face no chance of consideration, they have no incentive to conform to those practices that the audience generally uses to ascertain who is a category member, and b) that insofar as high status actors enjoy a high degree of security in their categorical membership they will feel free not to conform. Since high-status directors derive great benefit from their desirable social designation including income status, educational prestige, occupational prestige and prestigious award status, their nonconformity should be of a rather limited sort. By contrast, low-status directors, as outsiders, may be indifferent or even hostile to prevailing practice. As such, they are more open to altering the rules of the game and may be less interested in change that reinforces the status quo ante. Taking this sociological perspective, I argue that Social Laggards are more likely to engage in FFR compared to the three other categories.

2.3 Social Status in Corporate Elite

Most the definitions of social status are operational and describe how it is measured (Pedhazur & Schmelkin, 1991). Adler and Snibbe (2003) state that social status ‘is a reflection of social position, and is traditionally measured by income, education, and occupation’. Thus, a director’s social status indexes his/her position within a power hierarchy via relatively objective indicators of power, prestige, and control over resources, such as income, wealth, level of education, and occupational prestige (Diemer & Ali, 2009).

Most researchers treat social status as somewhat static, i.e. it is assumed that high status individuals maintain their advantageous high status position for life. As mentioned earlier, according to Foladare (1969), there are two types of social status, namely inherited (ascribed) social status and acquired (achieved) social status.

Social status orders are an accepted and pervasive component of maintaining the distinctiveness and cohesion of the corporate elite. A board of directors is ultimately a social group of members with defined roles and identities (Forbes & Milliken, 1999). Social status is broadly defined as an individual’s ranking relative to others based on attributes such as prestige, respect, and prominence, and is associated with a host of social advantages (Anderson, et al., 2001; Berger, et al., 1972; Huberman, et al., 2004; Ridgeway & Walker, 1995; Washington & Zajac, 2005; Westphal &

Khanna, 2003). D'Aveni (1990) argues that prestige is the 'property of having status'. Sutherland's (1940) definition does not account for the fact that occupational prestige is only one source of social status, and that even within the corporate elite there is a wide social status hierarchy (Diemer & Ali, 2009).

2.3.1 Measurement of Social Status in Corporate Elite

Adler and Snibbe (2003) wrote that social status 'is a reflection of social position, and is traditionally measured by income, education, and occupation'. Thus, a director's social status indexes their position within a power hierarchy via relatively objective indicators of power, prestige, and control over resources, such as income, wealth, education level, and occupational prestige (Diemer & Ali, 2009).

Most researchers treat social status as somewhat static; i.e. it is assumed that high status individuals maintain the advantageous high status position for life. Social status rankings are an accepted and pervasive component of maintaining the distinctiveness and cohesion of the corporate elite.

The main domain for inherited status relevant in a corporate setting is educational prestige. The main measures of inherited status indicators include whether the director attended an elite college or university for their undergraduate degree (Erkens & Bonner, 2013; D'Aveni, 1990; Finkelstein, 1992; Pollock, et al., 2010; Useem, 1979). According to Kingston and Lewis (1990), elite colleges and universities have a disproportionate influence on the field of higher education, despite comparatively small enrolments. These elite and highly selective institutions foster cohesion among high status groups, maintain connections with the top echelons of the occupational structure, and channel students into lucrative careers (Katchadourian & Boli, 1994; Useem & Karabel, 1986; Zweigenhaft, 1993). The two advantages of using education to index inherited status are that it remains stable, and is often easily available for research participants. This relates to the notion that family resources can enhance an individual's opportunity to obtain a prestigious education.

There are different approaches to measuring educational prestige in the prior research. Some researchers, including Grossman and Varnum (2011), use continuous scales based on the level of

education ranging from 1) high school degree, 2) college degree, 3) master's degree, 4) higher degree (including a doctorate or law degree). Other researchers have used dichotomous variables for education, such as bachelor versus no bachelor degree (Kraus, et al., 2010; Snibbe & Markus, 2005). The rationale for this dichotomy is that a bachelor's degree is 'the modal level of educational attainment' and, thus, represents a qualitatively different level of education than no bachelor's degree (Snibbe & Markus, 2005).

Since directors represent a homogeneous group of individuals in terms of their education, the traditional level of education scales used by Snibbe and Markus (2005) for measuring educational status were not suitable for this study. The scale used by Grossman and Varnum (2011), and Snibbe and Markus (2005), are not suitable for the research due to the proportions of executives holding graduate degrees within the corporate elite. The college an executive attended may now be more decisive for attaining status than the level of education attained (Capelli & Hamori, 2004; Capelli, et al., 2014).

Following Belliveau et al. (1996), Palmer and Barber (2001), Capelli and Harmori (2004), Erkens and Bonner (2013), Pollock et al. (2010), Finkelstein (1992) and Useem (1979), I use measures of educational prestige as the key domain for inherited status. These prior researchers have been consistent when categorising universities in order of prestige. Based on prior research, I created an elite education status hierarchy that distinguishes between the different levels of prestige of the college or university attended by a director. According to VanSandt et al. (2006), one of the most important factors in the 'development of moral judgment' is the length of time spent in formal education. He states that an individual with a longer length of formal education is 'more aware of the social world...and his place in it' and with each level of education attained, an individual's moral awareness increases (VanSandt, et al., 2006). Thus, education is positively related to ethical decision-making; the more education an individual possesses, the less likely it is that he will act unethically and engage in acts of deviant behaviour (Appelbaum, et al., 2005).

Acquired status is a multidimensional construct established by various acquired characteristics associated with multiple domains. A director can achieve high social status in a number of different domains. Based on prior research, I detected the main domains and associated attributes that can

potentially be reasons for high social status. The four domains that are used the most often to measure social status across the disciplines include income status (Finkelstein & Hambrick, 1989), educational prestige (McDonald & Westphal, 2010), occupational prestige (Goldthorpe & Hope, 1972) and social prestige (Malmendier & Tate, 2009; Shemesh, 2010).

2.3.2 Benefits and Hazards of High Social Status

The importance of social status to the behaviour of managers and executives has been observed previously in the literature (Withers, et al., 2012). There are many benefits of occupying high status positions that have long been highlighted throughout the literature. Recent empirical research has demonstrated the consistent positive impact of high social status on firm outcomes. D'Aveni (1990) finds that directors with higher prestige are associated with a lower likelihood of bankruptcy for troubled companies. Individuals with higher status typically possess more power and influence over others (Belliveau, et al., 1996). According to Certo (2003), a board with prestigious directors sends a signal to potential investors and trading partners that it is a legitimate and valuable entity. The status perspective suggests that companies benefit simply by having board members who have attained high status (Bazerman & Schoorman, 1983; Washington & Zajac, 2005). Having directors that have attained membership in elite circles on a company's board is positively associated with better performance at initial public offerings (IPO) (Certo, et al., 2001). Thus, the prestige of the directors can positively influence the perception of the firm's value. However, according to Bothner et al. (2012), prior research has exaggerated the advantages of high social status, and a more complete understanding of social status requires that I also examine some of the possible risk that might be associated with it. For example, research suggests that elite directors are prone to invest in riskier projects (Hirshleifer, et al., 2012), overpay for acquisitions (Hayward & Hambrick, 1997), and manipulate a company's earnings statements (Malmendier & Tate, 2009). A growing number of studies have emphasized the need for further research on the benefits and hazards of executive level social status (Hirshleifer, et al., 2012). According to Lucey et al. (2013), higher social status should lead to a more risk-averse behaviour of the CEO and less acquisitiveness.

2.3.3 Social Status and White-Collar Crime

Sociologists have highlighted the social nature of WCC and have offered numerous theories to explain it. Cohen's (1955) subculture theory, Cloward and Ohlin's (1960) differential opportunity theory, and Robert Agnew's (1992) general strain theory suggest that 'those who are unable to gain status through conventional means may adopt ... illegal behaviour'. Together, these theories suggest potential explanations for fraud.

The first motivational sociological theory is the general strain theory. This theoretical construct is used by sociologists to understand crime, and focuses on crime as a problem of poverty and of personal characteristics believed to be associated with poverty. According to Zahra et al. (2005), strain theory holds that crime is a symptom of some members of society not having the tools to achieve what their society defines as success. Thus, where members of a society are taught to value attaining certain goals (such as material goods or wealth), but the means to achieve those goals are unevenly distributed, those without access to the societally prescribed means are put under considerable pressure to find other ways, including crime, to achieve those goals. Thus, 'individuals who are unable to achieve their aspirations by conventional means experience strain and may seek to relieve this strain by using deviant means to achieve their desired ends' (Zahra, et al., 2005). Two major categories for the types of strain exist; monetary and status-related strains pertain to white-collar workers. Economic strains can be both on an individual or corporate level, with many convicted offenders claiming that they either were motivated by the pursuit of profits or faced the social pressure to prevent losses (Agnew, et al., 2009). Likewise, with status as a motivation, we return to the personality trait of cultural hedonism. Whether it be someone of the lower or upper class, American attitudes are often characterised by trying to reach economic goals beyond one's reach (Durkheim, 1951).

The second motivational sociological theories are Cohen's (1955) subculture theory, and Cloward and Ohlin's (1960) differential opportunity theory. A director with lower social status may not have the ability to constrain opportunistic financial reporting because relative social status is necessary to influence outcomes when parties are faced with conflicting goals (D'Aveni, 1990). In

particular, it has long been recognized that there are certain transgressions for which the high status offender's security-in-membership does not provide a license, and may engender an even more dramatic downfall for the high status offender. And the literature on scandals (Adut, 2005; Adut, 2008; Fine, 1997; Fine, 2001) suggests that high status offenders face particularly severe consequences when their transgressions are publicised. Higher status offenders face a much greater risk of becoming infamous for any given violation.

WCCs such as FFR committed by directors on corporate boards present a particularly difficult challenge to motivational sociological theories of crime, because these theories are not effective in explaining criminality by perceived high status individuals such as directors on the corporate boards of the world's largest corporations. As directors represent a homogeneous group of individuals in terms of their overall status, most of the traditional indicators of social status cannot distinguish between directors. It is believed that the entire population of U.S. directors on corporate boards all hold relatively high social status and well-paid positions. However, while all directors on corporate boards are members of an elite group of business executives, Jensen and Zajac (2004) assert that there are still differences in social status among directors. One reason for the lack of attention focused on the social psychology of fraudulent directors may lie in the apparently high degree of homogeneity among the social status of the directors and the difficulty of obtaining data. The sociology and psychology research has tended to evolve independently from management research. However, a recent study in the *Academy of Management Journal* (AMJ) on the topic reveals that there is significant and growing interest on the role and effects of social status in management research (George, et al., 2016).

2.4 Gender and White-Collar Crime

If WCC, as described by Sutherland (1949), is limited to a high status person in a position of trust during the course of his occupation (e.g., corporate executives, bankers, lawyers), then women are likely to be excluded as they continue to vie for high-level careers.

Approximately 80% of white-collar criminals are men (Benson, 2002; Bussmann & Werle, 2006; Kardell & Bergqvist, 2009; Wheeler, et al., 1988; Weisburd, et al., 2001; Weisburd, et al., 2001; Gottschalk & Glasø, 2013), and this mirrors the general occupational division by gender in society,

where women tend to have lower level positions than men (Deng, et al., 2010; Gottschalk & Glasø, 2013; Steffensmeier, et al., 2013). Qualitative female-male differences in white-collar offending exist as well, which suggests more than mere job access differences account for the variation in women's WCC. Zeitz (1981) and, more recently, Klenowski et al. (2011) identify differences in motives and justifications for occupational thefts, frauds, and embezzlements in accordance with gendered cultural expectations (Daly, 1989). Thus, it is argued that women commit less WCC when compared to men (Haantz, 2002; Huffman, et al., 2010; Holtfreter, et al., 2010).

However, this pattern depends on what level of crime we scrutinise. If the WCC is of medium complexity, such as the so-called pink-collar crimes of asset misappropriation, corruption, fraudulent statements, embezzlement, etc., then the gender ratio is more balanced compared to more complex crimes such as antitrust violations, security fraud, etc. (Wheeler, et al., 1988; Lewis, 2002; Holtfreter, 2005; Poortinga, et al., 2006; Gottschalk & Glasø, 2013; Dodge, 2008). A few studies have used other data to consider gender differences in occupational theft of low complexity (Daly, 1989; Holtfreter, 2005; Zietz, 1981; Klenowski, et al., 2011), but virtually no research focuses on gender differences in more complex WCCs, namely FFR. Birnberg (2011) suggests that 'future behavioural accounting research may show greater awareness of the (gender) issue' and 'because of the limited research, it is an open question whether gender is as relevant an issue when professional participants are used as it is in other studies'. Thus, the issue of gender in relation to WWC is an under-researched area. Holtfreter's (2005) study of occupational frauds as reported in surveys by the Association of Certified Fraud Examiners showed nearly gender-equal commission of asset misappropriation (e.g., embezzlement), typically by low-ranking employees and those without college degrees. In contrast, FFR was committed mainly by men (70 percent), by those in management, and involved collusion.

Owhoso (2002) researched the role of women in the American 'Big 5' accounting firms and found no evidence of gender differences in subjective assessment of FFR risk. This research was based on surveys of 80 male and 80 female auditors and found that, relative to men, women are less fraudulent, although other researchers find women to be as fraudulent as men (Owhoso, 2002).

Explanations for possible gender differences in WCC include lack of opportunity and risk aversion, biological (Buss, 1995), and the innate dispositions of men and women (Buss, 1995) to social explanations that focus on the dissimilar placement and ranking of men and women in the social structure (Eagly & Wood, 1999).

2.4.1 Gender and Ethical Misconduct

A review of the empirical ethical decision-making literature by O'Fallon and Butterfield (2005) found that often there are few differences between men and women; however, when differences are found, women are more ethical than men. Effective financial reporting depends on sound ethical behaviour. According to Kidwell and Kochanowski (2005), 'ethics considers rightness or wrongness of behaviour in terms of organisational, legal, or societal guidelines determining what moral behaviour means.' Overall, there is a long-established belief that women are more ethical than men in corporate positions (Ritter, 2006).

Women on corporate boards may have a strong effect on reducing FFR as prior work has also shown gender differences in ethicality (Bruns & Merchant, 1990; Cohen, et al., 1998; Sundén & Surette, 1998). However, the research relating to ethical perceptions and gender differences shows inconsistent results (Rittenburg & Valentine, 2007). There are three different approaches that try to explain why there are gender differences in ethical decision-making. Most of the empirical research on whether women are committing more WCCs than men is inconclusive; but when there are differences, women are more ethical than men (O'Fallon & Butterfield, 2005). Kuo et al. (2007) encourage more research on gender differences relating to business ethics. Women are more likely to hold higher values, resulting in a lower likelihood of engaging in ethical misconduct (Appelbaum, et al., 2005). Reviewing 14 studies that examined gender, Ford and Richardson (1994) found that seven of those studies showed women to act more ethically than men (Loo, 2003).

Cumming et al. (2015) examines whether gender diversity within a firm's board of directors affects that firm's likelihood of committing fraud or violating securities regulations. They find strong evidence that the relation between women on boards and the probability of fraud is nonlinear: the

positive impact of women increases at a decreasing rate, up to a maximum of 50% women on the board in our sample.

2.4.2 Gender and Risk Aversion

Gender differences in attitudes toward risk, and in risk related behaviour, have long been studied in the sociology, psychology, and economics literatures. In general, most studies support the notion that women are more risk averse than men. Levin et al., (1988) report significant differences between male and female college students toward gambling attitudes, and Johnson and Powell (1994) find that women are more risk averse than men in their betting habits. Jianakoplos and Bernasek (1998) find that single women are more risk averse than single men in household investment decisions. Sundén and Surette (1998) examine gender differences in the allocation of defined contribution plan assets and report that women are less likely to hold most of their assets in stocks. Bernasek and Shwiff (2001) also find that women allocate their pensions more conservatively than men. Olsen and Cox (2001) survey a sample of chartered financial analysts and certified financial planners and find that female professional investors are more concerned about downside risk than their male counterparts, and are more likely to reduce risk given a target return. In contrast, men tend to focus on increasing returns. Kumar (2010) finds that female analysts issue more accurate forecasts and that their accuracy is higher in market segments compared to their male counterparts. In the managerial setting, several studies, including Niessen and Ruenzi (2007), focus on mutual fund managers and compare the investment behaviour of male and female fund managers. In general, they find that female fund managers are more risk averse than male fund managers in their investment decisions.

2.4.3 Gender and Corporate Decision Making

Women are believed to be intrinsically more risk averse (Graham, et al., 2002), more likely to champion tougher questions (Branson, 2012), more intensive in their monitoring style, and more likely to attend and be more prepared for board meetings (Adams & Ferreira, 2009). More recently, studies have begun to investigate whether the gender of corporate executives affects corporate decision-making. Huang and Kisgen (2013) investigate how the gender differences of CFOs affect

various corporate financial decisions. They find that companies under the control of female CFOs grow more slowly than companies under the control of male CFOs. They also find that female CFOs are less likely to issue debt and are more likely to reduce the leverage ratio than their male counterparts. Furthermore, for companies below their target capital structure ratio, the capital structure adjustment speed under female executives is slower than under male executives. These findings are consistent with the notion that female CFOs are more risk averse than male CFOs. However, studies on the gender issue are still very limited and the results are mixed. For instance, Dyreng, et al. (2010) do not find that executive gender affects corporate tax avoidance. Similarly, Ge et al. (2011) do not find that CFO gender affects discretionary accruals. In contrast, Barua, et al. (2010) and Peni and Vahamaa (2010) find that companies with female CFOs have lower absolute discretionary accruals or higher income-decreasing discretionary accruals. Given these conflicting results, Birnberg (2011) concludes that although behavioural accounting research has shown greater awareness of gender issues in recent years, whether gender differences exist in terms of accounting decision-making is still an open question, and calls for more research in this area.

2.4.4 Gender and Corporate Governance

Nielsen and Huse (2010) have suggested that women bring different values to boards that improves corporate governance, including the leadership/decision-making style, more rigorous board work, and stricter self-evaluation of boards. Recent studies also examine how the presence of female executives affects firm performance, corporate governance, and earnings quality from a gender diversity perspective. For example, Adams and Ferreira (2009) find that female board members improve corporate governance but decrease firm performance. Gul et al. (2011) find that the stock prices of companies with gender diverse boards have more firm specific information because gender diversity could improve transparency of disclosures and/or facilitate private information collection. Krishnan and Parsons (2008) and Labelle et al. (2010) find that gender diversity in senior management is positively related to earnings quality. Srinidhi et al. (2011) also find that female directors are associated with higher earnings quality.

2.4.5 Social Status of Female Directors and White-Collar Crime

According to social status characteristic theory, part of an individual's social status is inferred from some salient demographic characteristics, such as gender and age (Jackson, et al., 1995), while another part is derived from acquired status such as that individual's occupation or role (Berger, et al., 1977; Berger, et al., 1980). In general, women occupy positions of lower status relative to men, and thus men are assumed to enjoy higher social status than women in a given group (Basow, 1986; Ickes & Knowles, 1982; Kanter, 1977). Similar to other demographic groups, women on corporate boards have been generally perceived as outsiders to the corporate elite. Consequently, women on corporate boards remain in a minority, peripheral to a corporate elite; that has changed very little over the last 30 years (Economist, 2010; Heemskerk, 2011).

In general, the white-collar criminal shows a higher level of social status in terms of prestige, income, and education than the general public (Bussmann & Werle, 2006; Kardell & Bergqvist, 2009; Wheeler, et al., 1988; Gottschalk & Glasø, 2013; Soothill, et al., 2012).

'Fear of falling' refers to the fear of losing professional, financial, or social status. Studies have shown that individuals tend to defend their position by any means necessary to preserve their material and social wealth for themselves and their families (Bucy, et al., 2008), but the empirical support for this is mixed. On one side, the fear of falling can have a tendency to deter instead of trigger the potential offender, i.e. the potential offender becomes more moralistic and risk-avoiding, and less benefit-oriented than before (Piquero & Piquero, 2011). On the other hand, investigations of female offenders show that they try to recover from family emergencies, or to avoid poor family economic conditions, by engaging in WCC, which is in contrast to the career motivation that is often seen in male offenders (Daly, 1989; Zietz, 1981). This indicates that there are less non-financial pressures that lead to WCC (Dellaportas, 2013; Hollow, 2014).

According to Ridgeway (2011), social status inequality still exists. Social norms influence gender equality and are not easily changed. Skvoretz and Fararo (2016) relate how social status positions such as belonging to prestigious groups influence status orderings. In general, men enjoy greater

inherited status than women (Basow, 1986; Ickes & Knowles, 1982; Kanter, 1977). Men are assumed to have a higher social status than women in a given group.

Board directors who are women challenge the demographic homogeneity of the corporate elite and an important basis of its cohesiveness. This demographic homogeneity within the corporate elite has helped to maintain the social cohesiveness of the corporate board (Hogg & Terry, 2000; Westphal & Stern, 2006). In this regard, corporate boards have played a pivotal role in providing a locus for the selection and socialisation of directors in the corporate elite and for the social sanctioning of directors adopting deviant behaviour (Palmer & Barber, 2001; Westphal & Khanna, 2003; Westphal & Stern, 2006). These tendencies can partly be explained by a social status categorisation (Tajfel, 1974) motivated by directors' wanting to achieve positive distinctiveness by associating with an elite group of individuals of the same prestige, status and demographic characteristics as themselves (Useem, 1980; Westphal & Khanna, 2003).

A board of directors is a social group of members with defined roles and responsibilities (Forbes & Milliken, 1999) and social status factors can affect the selection of directors, beyond the role requirements of skills and expertise (Westphal & Stern, 2006). Individuals who are demographically different and often lacking other elite social status credentials, such as women, have commonly faced higher barriers to accessing board seats (Hillman, et al., 2002; Westphal & Stern, 2006). According to Ramirez (2004), the corporate elite is traditionally comprised of demographically very similar individuals—mainly white, middle-aged male nationals from similar social status backgrounds, termed the 'old boys' club'. Women reportedly encounter significant barriers in building professional relationships with the male members of the corporate elite not enabling them to move up the organisational hierarchy (Huckfeldt & Sprague, 1995; Jackson & Leon, 2010; Waldstrøm & Madsen, 2007). Given the small number of female directors, they are also less likely to have similar professional backgrounds to the male majority in the corporate elite, or to share other credentials that could eventually create an alternative basis for acquired status to associate with them (Westphal & Milton, 2000).

The prior research has shown that incumbents often favour board candidates who are associated with the same level of high prestige and status as they themselves are (Kanter, 1977; Useem &

Karabel, 1986; Westphal & Stern, 2006; Smith, 2002; Stafsudd, 2006; Westphal & Zajac, 1995). Boards favour individuals who share similar demographic characteristics and other elite credentials, and who are likely to conform to the established norms and practices (Hillman, et al., 2002; Useem & Karabel, 1986; Westphal & Stern, 2006). The anticipation of improved corporate governance in companies with gender diverse boards assumes that women will challenge the established rules, and bring about a change in the social identity of boards and the corporate elite (Adams & Ferreira, 2009; Fanto, et al., 2011). Recently, explicit pressure for gender diversity in corporate boards of directors is forcing the appointment of women as new outsiders in the old boys' club, threatening the distinctiveness of the traditional corporate elite. Board of director members are often considered the 'in-group' and perceive themselves as sharing a common faith that distinguishes them from the 'out-group' (Tajfel, 1974).

2.4.6 Benefits of Greater Gender Diversity on Corporate Boards

Carter et al. (2003) find a positive relationship between better corporate governance and the percentage of women on the boards of directors. Gender diversity in corporate governance has received growing attention from management scholars, shareholders and investors, corporate executives, and regulators and policymakers alike (Macfarlane, et al., 2010). Gender diversity constitutes an important measure of a board's diversity and provides all of the benefits that a diverse board can give the organisation (Catalyst, 2004). A number of research studies examine the impact of gender diversity on corporate financial performance and corporate governance (Adams & Ferreira, 2009; Carter, et al., 2003).

Studies also show that companies with a higher proportion of women directors on corporate boards have better corporate reputations (Bernardi, et al., 2006; Brammer, et al., 2009).

The gender diversity benefits may be related to the nature of diversity itself, or to the advantages of characteristics perceived to be specific to females. Management and social psychology researchers often make the argument in favour of women on corporate boards merely as an argument for the benefit of diversity of any kind (Phillips & Loyd, 2006). Thus, the same effect could be achieved through other sources of board diversity, including ethnicity (Fairfax, 2005) or

age (Muhammad, et al., 2014). In addition to becoming a larger proportion of the business world, a growing number of political leaders are female. Chattopadhyay and Duflo (2004) found that women hold 13.8% of all parliament seats in the world. However, in recent years, numerous women have been hailed as top world leaders including Angela Merkel, the Chancellor of Germany, Theresa May, Prime Minister of the United Kingdom, and Hillary Clinton, a U.S. presidential nominee. Dollar et al. (2001) examine whether women are more effective in promoting honest government and find that as female representation increases, the level of political corruption decreases.

A number of research studies examine the impact of gender diversity on corporate financial performance and corporate governance (Adams & Ferreira, 2009; Carter, et al., 2003). Despite the global call for gender diversity on corporate boards of directors, women are still under-represented (Terjesen, et al., 2009). This relative scarcity of women on corporate boards is a pressing challenge for corporate governance, with explicit pressure placed on companies to increase the gender diversity of their corporate boards (EU Progress Report, 2012; Higgs Report, 2003; SOU, 2004). The gender disparity at the top of the corporate ladder has prompted several governments to institute quotas, or push for voluntary diversity targets including women on boards.

Terjesen et al. (2009) report the percentage of women on corporate boards in 43 countries, and state that only one country (Slovenia) averages more than 20% women members. Many European countries, such as Portugal, France, Denmark, and Germany have a low percentage (less than 5%) of women board members (Terjesen, et al., 2009). In order to address this issue, some European countries have recently introduced legislation that requires companies to have a minimum quota or percentage of women on corporate boards. Vinnicombe et al. (2008) report that Norway was the first European Union member state to mandate a minimum of 40 percent representation for each gender on the board of publicly listed companies by 2008 (with the penalty of full dissolution of non-compliant companies). Following the creation of gender quotas on publicly listed boards of directors in Norway, sixteen European countries have enforced gender diversity through legislation and similar reforms. Cabo et al. (2011) report minimum quotas for female representation on boards across some European countries: 40% in publicly listed companies in Spain by 2015, 40% in

publicly listed companies in France by 2017, 30% in publicly listed and state owned companies in Italy by 2015, and 30% in state owned companies in Holland by January 2016. In practice, gender quotas have met strong resistance in most countries, with no country adhering to them as they were intended; i.e. to reach the gender quotas the company may reduce the number of board members instead of increasing the number of female directors on the board.

Regardless of these benefits, there is an unmistakably under-representation of women on corporate boards (Terjesen, et al., 2009) and the rate of increase in the number of female directors remains slow (EU Progress Report, 2012).

From a practical perspective, empirical arguments will be the most effective encouragement for a company to appoint more women to their board. However, attempts to find such evidence have proved inconclusive so far. Empirical work thus far is used to contend a positive link (Carter, et al., 2003; Anderson, et al., 2011) or a negative link (Ahern & Dittman, 2012; Bohren & Strom, 2010); no link (Zhang, 2012; Wang & Clift, 2009); or a context specific link (Adams & Ferreira, 2009), between increased gender diversity and improved business outcomes such as financial performance or corporate governance.

There is a benefit to diversity, having both men and women on corporate boards may be connected to the lower likelihood of FFR through the broadening of board experience and expertise (Eagly & Carli, 2007; van Knippenberg, et al., 2004).

However, it remains unclear whether gender diversity has a meaningful impact on firm performance and corporate governance as later studies by Ahern and Dittmar (2012) have challenged these benefits. According to Ahern and Dittmar (2012), a common empirical approach in the literature is to estimate the correlation between the gender composition of boards and company financial performance (measured in both market value and accounting terms). Studies following this approach find a strong positive relationship among Fortune 500 companies (McKinsey, 2007), among U.S. companies (Dezso & Ross, 2012; Khan & Vieito, 2013), and among public companies in a cross-country sample (Terjesen, et al., 2015). A key difficulty with this empirical approach is how to demonstrate the causality or interpret the association it uncovers.

Thus, the prior literature on the benefits of gender diversity in corporate boards of directors on companies' financial performance, or corporate governance, is inconclusive (Rhode & Packel, 2014). Rhode and Packel (2014), in a comprehensive review of the literature, concluded that there is no clear evidence of a robust and consistent relationship between the gender composition of boards and corporate financial performance.

2.5 Conclusion

This chapter reviews the literature pertaining to corporate governance, sociology, and criminology. It provides a general understanding of what WCC, FFR and social status are. This literature review provides the backdrop and motivation for each of the subsequent Chapters. Whether the social status or gender of a corporate director provides governance benefits is far from clear from the existing literature.

Chapter 3 Research Methodology

3.1 Introduction

In this chapter I describe the data sample and methodologies that I use to investigate the research questions. In Section 3.2 I begin with a brief description of my overall research design and methodologies.

Section 3.3 provides details of the data samples that I use for the studies in Chapters 4, 5 and 6. In Section 3.4 I discuss the rigorous process of creating a control group for the studies. Section 3.5 outlines the variables used in the studies, including the control variables used in the analysis.

In Section 3.3 I describe how social status measures are constructed and tested for reliability. Reliability analysis is used to evaluate all social status variables used in this research. Tests of this nature were considered necessary to provide evidence as to the reliability and robustness of the data. In Section 3.4 I outline the further validation tests performed to confirm the uniqueness of the status variables in the sample. In Section 3.5 I provide details of the original typology of social status that I created and use in this research; and in Section 3.6 I provide the overall summary of this chapter.

3.2 Research Design

A quantitative research approach is employed, in which an inferential statistics methodology is applied to provide empirical evidence of the hypothesised relationships between the research interests, i.e. director social status and gender diversity on corporate boards, and the incidence of FFR. This is the dominant approach adopted in the existing literature, and is best described as Positivist. Positivism asserts that the social world is singular and exists independently, and contrasts with the socially constructed view of reality that is characterised by the interpretive position (Denzin & Lincoln, 1994).

Positivism assumes that empirical verification is possible, and that I can rely on the observations or measurements of the world to provide us with accurate data. Scientific methods or experimental testing are considered to be the best approach to achieving this knowledge. This generally involves

hypotheses generation and testing using quantitative methods to create empirical evidence (Morgan, 1983). Research conducted using this positive approach is evaluated using three criteria; namely validity, reliability and generalisability. In this investigation the research methodology employed is quantitative, which assumes an objective and independent reality. The decision to pursue quantitative research is influenced by its appropriateness for this study. The study uses empirical data to test hypotheses.

For my empirical studies I selected the statistical model that performs best among competing models. Logit and Probit models are two popular qualitative choice models, where the endogenous random variables take only discrete values. In model selection, the conventional perception is that there is no difference to choose between either of them. However, some studies demonstrate that there are similarities as well as differences between the Probit and Logit models. No universal agreement is reached on which model is superior, Probit or Logit. Recently, the Logit model has gained much more popularity than before. This is attributed to the direct interpretation of odds, odds ratios and log-odds in the Logit model, whereas the coefficients from the Probit model are difficult to interpret.

Both Logit and Probit models are statistical tools that are well suited to analyse the relationship between independent variables and a binary dependent variable. For the fraud model, the dependent variable is whether the director committed fraud or not, so we are interested in the factors that influence whether or not a director commits fraud. The outcome is binary (yes or no), and the predictor variables are those selected based on their risk or protective factors. In general, Logit and Probit are equally robust for this type of research. I observe that the Logit model is more often used in psychological and sociological research. Probit used in economic papers (but Logit is used there also). The most appropriate strategy for this research is to use Logit for all of the hypotheses, and Probit is used for testing the robustness of results.

3.3 Fraud Sample Selection

Consistent with prior research, I use AAERs issued by the U.S. Securities and Exchange Commission as a proxy for the occurrence of FFR (Erickson, et al., 2006; Armstrong, et al., 2008; Peterson, 2008; DeChow, et al., 2010; Geriessh, 2003; Archambeault, 2002; Saksena, 2001; Bonner,

et al., 1998; Karpoff, et al., 2016). While AAERs only relate to public companies listed on one of the U.S. stock exchanges, they are the source predominantly used for selecting companies that have committed fraud. All American companies committing fraud falling within the time period 1998-2014 within the scope of this study were used. I removed non-US companies, such as Chinese companies, as they could contaminate my study.

I begin the investigation by tabulating all enforcement actions where the FFR was initiated between January 1998 and the December 2014 (being the period covered by this study). I exclude fraud companies from the sample for one or more of the following reasons 1) the AAER/fraud related to administrative proceedings; 2) the AAER pertained to enforcement actions taken against companies already recorded in an earlier AAER (multiple AAERs existed for many of the cases); 3) the fraud perpetrated was not FFR (e.g., another offense related to foreign corrupt practices acts), 4) the case is against an individual chartered public accountant (CPA) or accountancy and auditing companies, and 5) the SEC failed to name the directors involved in the fraud. This approach was consistent with that of the COSO Report (1999). Furthermore, as numerous earlier studies have used the same fraud identification process, this method of sample selection will facilitate comparison of this study's findings with those of prior research (Beasley, 1996; McMullen, 1996; Bonner, et al., 1998; Saksena, 2001; Archambeault, 2002; Geriessh, 2003; Erickson, et al., 2006; Persons, 2005).

I focused on U.S. publicly traded companies only, and eliminated AAERs that cite auditors for negligence. Appendix

A. Director presents the annual number of observations during the sample period. Based on the exclusion criteria, the initial sample of 581 fraudulent companies was reduced to 183 eligible fraudulent companies for the proposed research. This sample size is greater than the sample sizes of previous fraud studies (Erickson, et al., 2006; Beasley, 1996). Appendix A.2 summarises the sample selection process. The table outlines that over 3524 AAER filings reviewed. Each filing does not relate to a new case of FFR. One company may have multiple AAERs for the one FFR case. An AAER may also relate to administration proceedings.

In contrast to a large part of the prior research that takes a firm-level perspective on corporate governance, the unit of analysis in this study is the individual director. Therefore, I applied a two-step approach to minimise the extent of missing values on the directors' inherited status. First, I referred to the sample companies' annual reports as primary data sources to obtain information on the directors' social status. Second, I focused on an array of secondary data sources in order to enhance the sample's quality and completeness. Additional personal characteristics including director age, gender, tenure, and education information was obtained from EDGAR listings and annual reports, as available¹. Award data was hand-collected from a variety of publications that conferred prestigious awards on corporate directors during the sample period. The publications include Business Week, Financial World, Forbes, Industry Week, Chief Executive, Electronic Business Magazine, Time Magazine and Morningstar.com. I found information about the directors' education from a wide variety of sources. Biographies on firm websites were the most common source of information. I also consulted the following websites, aggregating information about business executives: Bloomberg, Forbes, LinkedIn, and Reuters.

The AAERs identify the names of all directors who perpetrated the fraud. I identified the names of all directors involved in the perpetration of fraud for all the companies in the study. Each director was then assigned their highest managerial title (or title of most significance) using a role classification system used by COSO (2010). In the sample, the highest managerial role most frequently named was the Chief Financial Officer (161 directors representing 34% of the sample). The sample found that the Chief Executive Officer (118 directors or 25% of the sample) was the second highest ranking executive involved in most fraud cases. Other roles, including President (4%), Chief Operating Officer (9%), and other Executive Vice President positions (23%), were common in the AAERs. This data generally supports the finding that the most senior directors of companies, that is, the CEO and the CFO, are most likely to orchestrate frauds. As outlined in Appendix A.9, this is clearly the situation in most cases.

¹ Additional data collected from the firm's corporate websites, annual reports, Lexis Nexis Business and Bloomberg Businessweek.

One industry sector appears to be highly represented in the sample, and this is the Business Services sector with 38 companies out of 183 in this research. This sector includes computer programming services and pre-packaged software. This sector has been problematic in prior research as well (Persons, 2005; Beneish, 1997; Bonner, et al., 1998; DeChow, et al., 1996). The sample companies were widely distributed among industries, which is consistent with the COSO (1999) and COSO (2010) report findings (see Appendix

Observations across Industries).

Appendix

A. presents the number of frauds per year according to the year when the fraud began. For every year of the 1998-2014 study period, it presents the number of fraudulent companies in the sample for that year, the number of directors in the sample for that year, and the number of women in the sample for that year. Appendix A.8 indicates that 21% of frauds in the current lasted one year or less with 34% between one and two years, and 13% lasting for three years. In all, 79% of all frauds in the sample lasted for more than one year.

Consistent with Hillman et al. (2007) and Ahern and Dittmar (2012), I identify the fraudulent director's gender through four steps: first, I use the SEC AAERs and Complaints, which provides this information in the Defendants section. Second, I use the annual report which provides this information in the biography section. I use gender specific pronouns such as 'she' or 'he'. Similarly, I resort to the form of address such as 'Mr.' and 'Mrs'. Third, I use the first name of the director to determine her or his gender (e.g., Brendan = a man and Susan = a woman).

The sample consists of 183 fraudulent companies, and 477 fraudulent directors of which 41 are female directors. In the sample, the maximum percentage of women on the board of directors in any one fraudulent firm is 33 percent, and the average percentage of women directors within fraudulent companies is 5 percent. In the sample, the highest managerial role most frequently named for female directors is the Chief Financial Officer (22 directors representing 53% of the

sample), followed by Executive Vice President (10 directors representing 24% of the sample), and Chief Executive Officer (5 directors or 12% of the sample).

Taxonomies are used to identify the fraud schemes committed by the directors and to classify these frauds according to their FFR type. As mentioned earlier, several sources of FFR taxonomies exist, including taxonomies developed by academics (Beneish, 1997; Coglitore & Berryman, 1988; Diacont, 1994; Elliott & Willingham, 1980; Kellogg & Kellogg, 1991; Loebbecke, et al., 1989), practitioners including the “Big 6” accounting companies, and professional associations including the National Association of Certified Fraud Examiners (NACFE, 1992). These fraud taxonomies are generally composed of similar categories of fraud and are useful for comparing results. The COSO Report (1999) indicates that most FFR cases (90%) involve manipulations, alterations and falsification of the reported financial information. There are many types of fraud schemes and many cases involve more than one scheme.

Few researchers conduct analysis on the severity of fraud in terms of fraud size, the length of time during which the fraud was perpetrated, the number of types of fraud committed, and the fictitious nature of the fraud. Bonner et al. (1998) use fictitious transaction frauds which are considered more egregious due to the nature of the deception. Bonner et al. (1998) investigate whether certain types of FFR result in a higher probability of litigation against independent auditors.

3.4 Matched Pair Analysis

Consistent with prior FFR research, I used a matched-pair design matching fraudulent companies based on multiple criteria (Sharma, 2004; Uzun, et al., 2004; Carcello & Nagy, 2004; Beasley, 1996).

A firm size criterion is important because of the need to ensure both the fraudulent and non-fraudulent companies share a relatively similar availability to resources and are therefore capable of implementing comparable corporate governance structures. I match control companies based on size, measured as the value of total assets specified in the annual financial report the fiscal year end immediately preceding the AAER citation. According to Beneish (1997), there is a correlation between firm size and SEC scrutiny; thus, matching companies based on size is important. The

firm size comparisons (the spread of total assets) between the fraudulent and non-fraudulent firm samples are in Appendix A.5. The range for the paired differences (fraud minus non-fraud) is calculated at \$0.171 million to \$51,559 million, with a mean of \$984.13 million.

I also matched fraudulent companies based on their industry sector using Standard Industry Code (SIC) coding and the timing of the fraud to ensure the data for each pair came from the same time period (Carcello & Nagy, 2004). Just under 59% of all pairs are matched at the 4-digit SIC level, giving an exact industry match for 107 pairs; the remaining pairs matched at the 3 and 2 digit SIC levels (see Appendix A.4). Over 58% (107) of the companies were listed on the NASDAQ stock exchange, with 35% (65) and 6% (11) listed on the New York Stock Exchange (NYSE) and the American Stock Exchange (ASE) respectively (see Appendix A.3). Following Persons' methodology (2005), I matched fraudulent companies by stock exchange to control for differences in corporate governance requirements across the various exchanges. I sought an exact match of the exchange criterion, although I permitted the SIC coding and firm size criteria to deviate by acceptable limits. The limits emulated earlier studies (Beasley, 1996), which permitted industry matches to a two-digit SIC code and a 30% margin, above or below the total assets of the fraudulent firm.

In order to maximise the likelihood of using an uncontaminated dataset I ensure that the SEC has not investigated the selected control companies within the same period (three years prior to the year that the fraud was initiated). Following Carcello and Nagy (2004), I individually checked those companies identified as possible matches against the SEC's EDGAR database to confirm that the SEC had registered no prior actions against them pertaining to fraudulent activities. At this stage I eliminated any firm found to have prior indictments for fraud from further inclusion in the matching process. Of the remaining possible matches, I selected the firm that most closely resembles the fraudulent firm based on the matching criteria to form the non-fraudulent firm sample. On completion of this analysis, the entire sample of companies doubled to 366 companies.

I matched each director from a fraudulent firm according to their highest managerial role with a corresponding director in the matched companies. I coded eight types of positions within companies: (1) Chief Executive Officer (CEOs), (2) Chief Financial Officers (CFOs), (3) President,

(4) Chairman, (5) Chief Operating Officers (COOs) (6) Chief Technology Officer (CTO) (7) General Counsels, and (8) Executive Vice President and all other positions. The corresponding control sample comprises of 477 non-fraudulent directors in the control group for the fraud analyses.

3.5 Variable Definitions

According to Kohn (Kohn, et al. 1990), social stratification is the ‘hierarchical ordering of society as indexed by formal education, occupational status and job income’. There are multiple domains that are a source of social status. According to Status Characteristics Theory (Berger, et al., 1966), researchers should consider many status characteristics by aggregating them into an overall estimate or score of that person's prestige (Fox & Moore, 1979). However, most research on social status looks at one domain of activity. Researchers are heading in this direction of considering multiple social status domains in concert, but more work is needed (Manzo & Baldassarri, 2014).

Different measures are used by different researchers, even though they are examining the same empirical domain. This implies that there are, both in theory and in practice, multiple potential social status domains, attributes and status hierarchies applying to the corporate elite. For instance, it is possible for one director to enjoy high status in one domain, but not in another.

3.5.1 Inherited Status Variables

The main domain for inherited status relevant in a corporate setting is educational prestige. Elite and highly selective institutions foster cohesion among high status groups, maintain connections with the top echelons of the occupational structure, and channel students into lucrative careers (Katchadourian & Boli, 1994; Useem & Karabel, 1986; Zweigenhaft, 1993). The two advantages of using education to index inherited status are that educational background remains stable, and the educational institutions are often easily available to research participants. This relates to the notion that family resources can enhance an individual's opportunity to obtain a prestigious education.

Based on prior research, I created an elite education status hierarchy that distinguishes between the different levels of prestige of the college and university attended by a director. To create the elite

status hierarchy of educational universities and institutions, I included attendance at the following 1) prestigious universities, 2) ivy league universities, 3) elite universities, and 4) U.S. News of the World top 500 ranked universities. It is important to note that these groups are completely overlapping (see Figure 1 below). This approach does not focus solely on Ivy League colleges as constituting institutions of educational prestige.

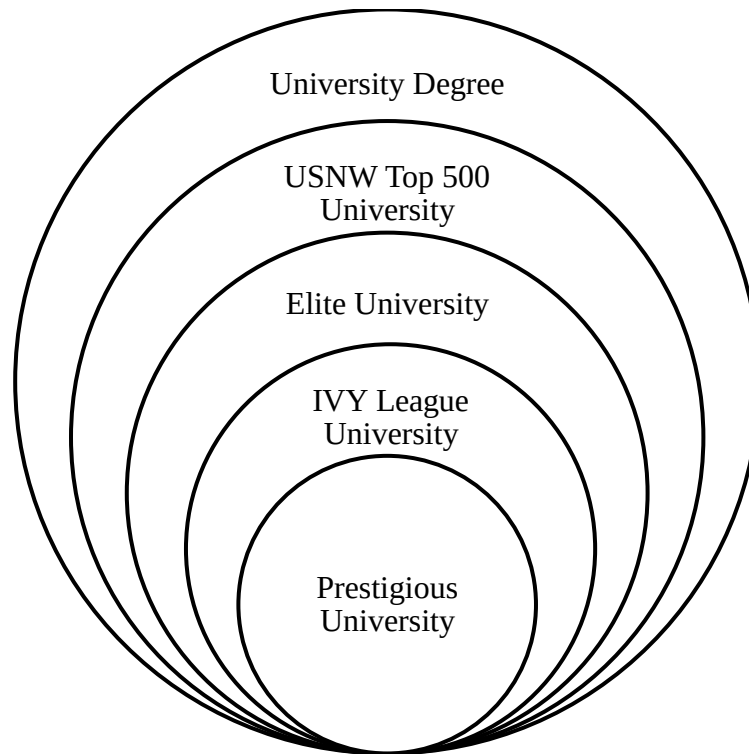


Figure 1: Elite education status hierarchy

First, I investigate the prestigious universities category. Following prior corporate governance research, I measure whether a director attended a prestigious educational institution for their undergraduate degree (PrestigiousUG). I use a list of educational institutions identified by (Useem & Karabel, 1986) as the most prestigious universities in the world (see list in Appendix D.1).

Second, I assess the Ivy League universities category. Following Belliveau et al. (1996), Palmer and Barber (2001), Useem and Karabel (1986) and Westphal and Bednar (2005), I use director attendance at an Ivy League university for their undergraduate degree as an indicator of educational

prestige (IvyUG). I use the full sample of Ivy League educational universities and institutions (see list in Appendix

D.).

Third, following Useem et al. (1986) and Finkelstein (1992), I use director attendance at an elite education institution for their undergraduate degree as an indicator of educational prestige (EliteUG). I use U.S. News of the World's (USNW) university rankings to identify the elite educational institutions. The sample of elite education institutions includes every U.S. research university and every liberal arts college ranked by the USNW as a Top 25 university or institution since the establishment of the rankings (see Appendix D.3).

Fourth, I expanded my research to include the USNW Top 500 university category. As most executives have a bachelor's degree I also I rank directors who attended one of the USNW top 500 ranked universities or institutions (UsnwUG). Although the USNW rankings are an acceptable source from the late 1980s on, it does not cover the earlier years (1970 through 1988) during which most of the older executives in the sample would have graduated. To overcome this limitation, I created a list of the top 500 universities since the establishment of the rankings and used this list to cover the years 1970 through 1988.

Finally, the private university category. Following Bennett's (2009) work, I create an attribute to account for whether the college or university is private and charges tuition or not (PrivateUG). As private colleges are known to have students of higher social status, I used universities and institutions that are private and charge for tuition as an indicator variable for higher inherited status.

3.5.2 Acquired Status Variables

Acquired status is a multidimensional construct established by various acquired characteristics associated with multiple domains. A director can achieve high social status in a number of different domains. The four domains used most often to measure social status in management research include income status (Finkelstein & Hambrick, 1989), educational prestige (McDonald &

Westphal, 2010), occupational prestige (Goldthorpe & Hope, 1972) and prestigious award status (Malmendier & Tate, 2009; Shemesh, 2010).

For acquired status, I use all four of these commonly used domains: occupational, income, educational and award prestige (Palmer & Barber, 2001; McDonald & Westphal, 2010). As outlined in Figure 2 below, all four of these domains have multiple variables, with each variable as an indicator or potential source of social status in the corporate elite.

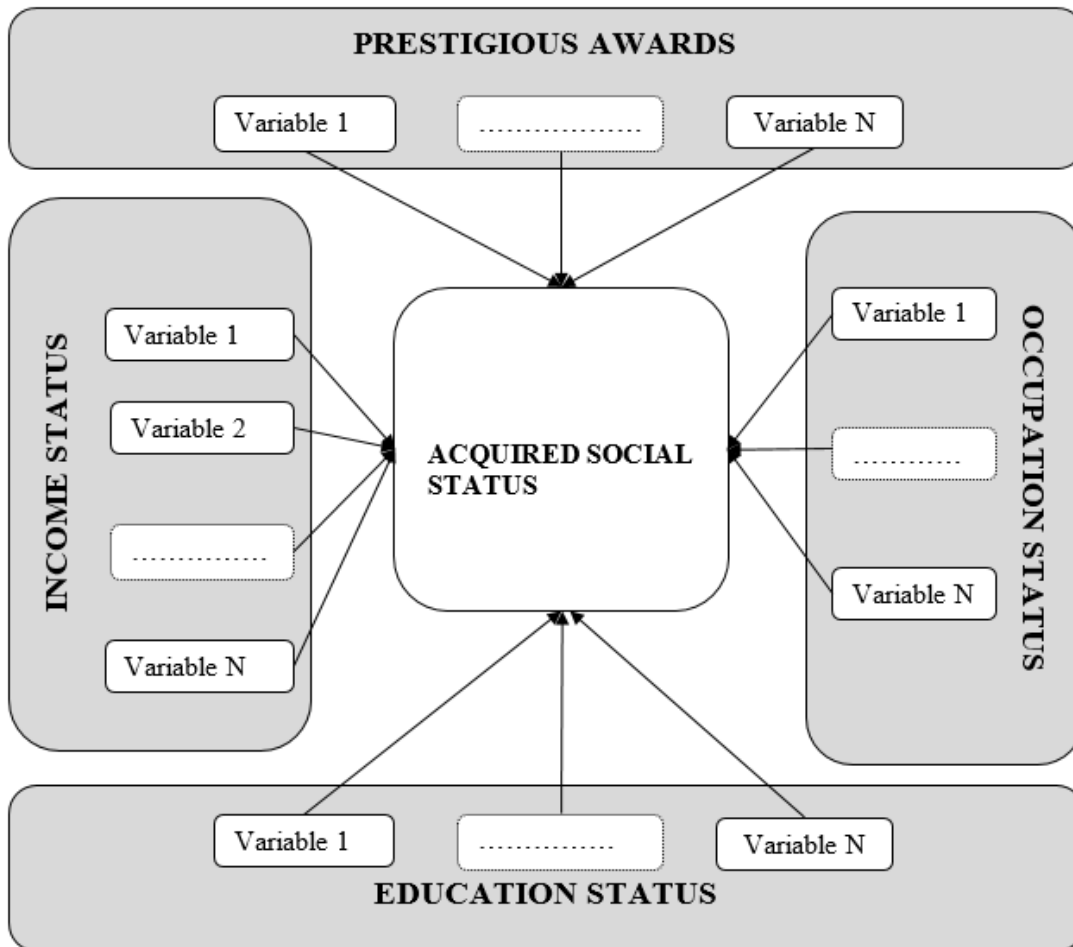


Figure 2: Domains of acquired status

3.5.2.1 Educational Status (Postgraduate Education)

With increasing proportions of executives holding graduate degrees (Capelli & Hamori, 2004; Capelli, et al., 2014), where an executive attended graduate school is more decisive for attainment of acquired status than where that executive received an undergraduate degree. I collected information about graduate degrees earned by each director, including where the postgraduate degree was earned and what type of degree was earned. I used the same elite education hierarchy to identify each director's acquired educational status that I used to identify each director's inherited education status (see Section 3.4.1), but applied the approach to the postgraduate education attained by each director. Following Wiersema and Bantel (1992), Useem & Karabel (1986), and Westphal and Zajac (1995), I added some additional education status variables relevant for postgraduate education including the attainment of a doctorate degree (PhdPG) and a Master of Business Administration (MbaPG). According to Palmer and Barber (2001), an elite MBA is a key source of social capital.

3.5.2.2 Income Status

According to Johnson et al. (2011), an executive's income can define the social status of the corporate elite. In prior research, most approaches for measuring income include continuous scales, but the anchors vary from study to study (Johnson, et al., 2011). I created two variables for income status 1) total compensation rank and 2) highest compensation rank.

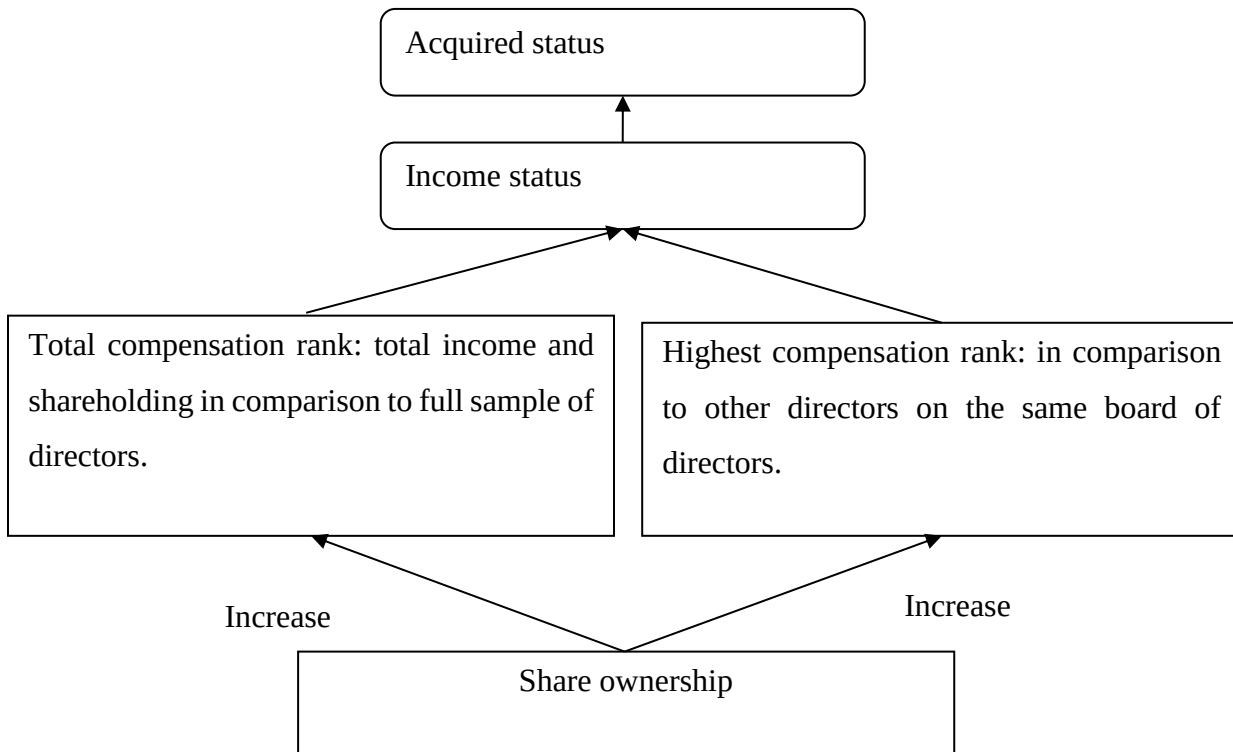


Figure 3: Income status attributes

For overall compensation rank, I created a four-item continuous scale for total compensation² (TotalCompRank). In order to control for the size of the company, I created a ranking for each director from the highest paid to the lowest paid. I considered that the status of being the third highest paid in a large company is not equivalent the status of being the third highest paid in small company, so I divided the director total compensation rank by a scale according to market capitalisation³. For example, if a director is in a large cap firm and is the third highest paid on the board of directors in terms of total compensation, I divide one (market cap scale value) by three

² Total Compensation = Salary + Bonus + All Other Compensation + Restricted Stock Awards + Securities Underlying Options

³ Large-cap =1, Mid-cap = 2, and small-cap =1

(board of directors' board compensation rank). I then complete a linear transformation of the new values for ease of computation⁴.

For the highest compensation rank, I ranked all the directors within all of the companies based on their total compensation (HighestCompRank). I used percentage share ownership to create a four-item scale. In order to consider the percentage share ownership of a director, I considered that a small share ownership in large company is often more valuable than a large share ownership in a small company. In order to address this, I multiplied the value by the market cap scale⁵. After multiplying the share ownership scale by market cap scale, I have a range from zero to nine.

Share ownership is not an independent variable in the income status variables above; it influences the value of the director, and increases the rank of the director by income in the company. I weighted share ownership by two and divided it between the total compensation rank and the highest compensation rank.

3.5.2.3 Occupational Status

Measuring occupational status is complicated, as directors represent a homogeneous group of individuals in terms of their occupation. Therefore, most traditional scales for measuring occupational status are not suitable. Some directors on corporate boards attain high acquired status in the arena of occupational prestige by having prestigious roles in the military, government, or corporate environment while others have not (Domhoff, 1967; Johnson, et al., 2011). Following D'Aveni (1990), I use five types of occupational status which correspond to measures of prestige that include occupational status or high-level positions held in academia, government, business or the military.

⁴ If the value is:

- 1) Greater or equal to 1 I transformed it to a value of 4
- 2) Between 1 and 2 I transformed it to a value of 3
- 3) Between 2 and 3 I transformed it to a value of 2
- 4) For any other value, I transformed it to a value of 1.

⁵ Large-cap =1, Mid-cap = 2, and small-cap =1

I also follow D'Aveni (1990) and include membership of the top academic elite (TopAcademicElite). A director is defined as a member of elite educational circles if they are a professor or executive board member at a USNW top 500 ranked university. For the Top Official category I also follow D'Aveni (1990); I account for status attained from being a high official (TopOfficial). A director is a high official if they hold state or national level high official offices, and I included the following: (1) cabinet and cabinet-level officials, (2) U.S. senators, (3) members of the U.S. house of representatives, (4) state governors, (5) Supreme Court justices, and (6) representatives on state or federal government committees. According to Hillman et al. (2003), directors who serve in a political capacity while they are also on a board improve both firm value and board prestige, especially in regulated industries.

For Top Military Elite, I follow D'Aveni (1990) and include membership in the top military elite (TopMilitaryElite). I included the following categories of top military elites: (1) enlisted in the military (2) non-commissioned officers and (3) senior non-commissioned officers. This variable was not restricted to senior non-commissioned officers or higher ranks because of the infrequency of very high ranks (e.g. generals) in the sample. For Top Corporate Elite, I follow D'Aveni (1990) and include membership in the top corporate elite using three separate variables: whether the director 1) is the company founder (TopEntrepFounder), 2) works for a company listed on Barron's Most Admired Companies' list since its establishment (TopAdmiredCo), and 3) works for a Fortune 1000 or S&P 500 company (TopCorp).

For the Top Accounting Elite category, I follow D'Aveni (1990) and include membership in the top accounting elite (TopAcaElite). I included directors who were formerly (1) a partner in a 'Big 8' accounting firm, or (2) worked in a 'Big 8' accountancy firm. For Top Legal Elite, I follow D'Aveni (1990) and include membership of the top legal elite (TopLegalElite). For the top legal elite, I included the following categories: if a director (1) worked in a major law firm, defined as any of the top ten largest firms (number of attorneys) in a major city (largest 20 cities by population).

3.5.2.4 Prestigious Award Status

According to Malmendier and Tate (2009) and Shemesh (2010), ‘superstar’ status assignment is not random, and award-winning directors have more prestige than non-winners. To determine prestigious award status I use three types of awards 1) national business awards, 2) honorary doctorates, 3) honorary university awards and 4) innovation awards. The core of the data is a hand-collected list of award-winning directors.

For national business awards, I follow Malmendier and Tate (2009), and use a range of prestigious business awards received by directors as a proxy for acquired status. Similar to the methodology of Malmendier and Tate (2009), an award is only included if it is prominent enough to affect a director’s status and any U.S. executive has a possibility to win it. Therefore, all awards used in this category are national. National business awards (AwardBIZ) are the sum of all awards received by a director during the three years preceding the first year of the fraud. In the U.S., over 465 business awards relate to directors. The core data is a list of award winners for five years prior to the first year of the FFR event.

For the honorary doctorate category, I include directors who received an honorary doctorate (AwardHonDr) and directors who received an honorary doctorate from an elite university (AwardHonDrElite) (see the list in Appendix D.3 for the list of elite universities). For the honorary university award, I include directors who received an honorary university award (AwardHonUni) and also directors who receive an honorary university award from an elite university (AwardHonUniElite). For the Innovation Award, I include directors who have received a patent for their invention (AwardInnovation).

3.5.3 Control Variables

In line with prior literature, I included an extensive set of controls for corporate governance, company and director level characteristics that could have influenced the likelihood of FFR involvement by a director. I classify the variables into four groups: 1) corporate governance characteristics, 2) firm and board characteristics, 3) director characteristics, and 4) fraud characteristics. The selection and measurement of control variables reflects variables that have

been examined in prior studies of corporate fraud, earnings management, and accounting restatements (Erickson, et al., 2006; McVay, 2006).

3.5.3.1 Corporate Governance Characteristics

Several research studies show a relationship between corporate governance and FFR probability (Beasley, 1996; Beasley, et al., 2000; Kang, 2008). The literature on FFR is focused on the board structure, composition, duties and monitoring (Beasley, 1996; Beasley, et al., 2000; Kang, 2008; Dunn, 2004). DeChow et al. (1996) outlined a wide range of corporate governance variables that are correlated with FFR, including audit committee, compensation, and nomination committee existence, size and independence.

Audit Committee Existence, Size and Independence

Beasley et al. (2000) found that companies committing fraud had weaker governance mechanisms characterised by fewer audit committees, less independent audit committees and boards, and fewer audit committee meetings. The existence of an audit committee is a measure of financial reporting quality and accuracy. However, Beasley (1996) reports that the presence of an audit committee does not significantly affect the likelihood of FFR. Audit committee independence is a measure of the objectivity and credibility of a company's financial reporting system and strength of expertise (Bédard, et al., 2004). Prior research also concurs that audit committee independence improves the integrity of financial statements and reduces the incidence of FFR (Persons, 2005; Uzun, et al., 2004; Bédard, et al., 2004; Beasley, et al., 2000). Persons (2005) found that fraudulent companies are more likely to have audit committees are not comprised solely of independent directors. The number of members on a company's audit committee is a measure of board supervision. The Blue Ribbon Commission report (1999) recommended that audit committees of listed companies with a market capitalisation of over \$200 million should be composed of a minimum of three members. Univariate tests conducted in a 2002 study by Archambeault and DeZoort (2001) also found that fraudulent companies tended to have smaller audit committees than their non-fraudulent counterparts. Lin et al. (2006) provides evidence to suggest that a negative association was present between the size of an audit committee and the occurrence of an earnings restatement. While an earnings restatement is not FFR per se, it does indicate the inclination to manipulate financial

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reports, and has been associated with an increased tendency to commit fraud (Palmrose and Scholz 2002). The number of audit committee meetings is a measure of board diligence. The frequency with which an audit committee holds meetings per year is often used as a proxy for board diligence (Abbott, et al., 2004; Carcello, et al., 2002; DeZoort, et al., 2002). An analysis of proxy data by COSO (1999) identified that most fraudulent companies had an audit committee that met less than twice a year. Thus, I include control variables related to audit committee quality; these include: 1) the existence of an audit committee (ACExist), 2) whether the director is an audit committee member (ACMember), 3) the number of individuals on the audit committee (ACNum), and 4) the number of independent audit committee members.

Nomination and Compensation Committee Existence, Size and Independence

The nominating committee is another sub-committee of the board of directors. Although the nominating committee does not have a direct monitoring function, according to Uzun et al. (2004) the nominating committee is central to the effective performance and functioning of the board of directors over time. The existence of a nominating committee is a measure of improved independence and functionality of the board of directors and its sub-committees. Uzun et al. (2004) tested whether the boards of directors of fraudulent companies were less likely to have a nominating committee than boards in matched non-fraud committing companies. Therefore, I include the existence of a nominating committee as a control variable (NCEExist). Although laws or regulations do not prescribe the exact number of members, the nominating committee, like the audit committee, should contain enough members to ensure that duties can be effectively performed, but not so large as to be cumbersome. I also include a control variable to account for the size of the nominating committee (NCNum).

Auditor Size

The size of the auditing firm is a measure of audit quality and opportunity. I use the term 'Big N' to represent the four largest international accounting firms, their predecessor firms, and Arthur Andersen. Teoh and Wong (1993) find evidence that larger auditors generate more precise earnings, and Lennox and Pittman (2010) associate the 'Big 5' auditors with a higher quality of financial statements and report consistently lower occurrences of FFR for clients of the Big Five.

Based on this research, employing a ‘Big N’ auditor may lead to a higher audit quality and reduce a firm’s opportunity to engage in fraud. Thus, I include a ‘Big N’ auditor as a control variable (BigN).

3.4.3.2 Company and Board Characteristics

A substantial body of research exists with respect to the corporate governance provided by a company’s board of directors.

Sector and Industry

As fraudulent restatements are more (less) common in the technology and financial services industries (Scholz, 2008), I include dummy variables for the financial services and technology services companies. As the Sector Industry Classification (SIC) system has been slow to recognise emerging industries such as the technology sector, I use the industry codes that relate to the technology services industry; see Appendix C.9 for the industry list (TechSector). For the financial sector, I include any companies that are within the financial services sector or use SIC codes 6000-69999 (FinancialSector).

Structure of the Board of Directors

In the U.S. the main board of directors structure is a unitary board, comprised of both executive, (inside) and non-executive (outside) directors (Mallin, 2010). The percentage of outside board directors is a measure of management oversight. In an examination of AAERs data reported by the SEC, Beasley (1996) found that the incidence of FFR is negatively related to the proportion, tenure, and share ownership of outside directors. A higher percentage of outside board directors reduces the likelihood of FFR occurrence (Beasley, 1996; DeChow, et al., 1996); therefore the percentage of outside directors will be included as a control variable (%OutDtrs).

I measure the independence and power of the CEO over the board of directors. When a CEO of a company also serves as the chairman of its board an unhealthy power concentration can occur (Dunn, 2004). A board with an independent chairperson is thought to be better able to protect shareholder interests by preventing the CEO from having undue influence over board decisions (Ellstrand, et al., 2002; Finkelstein, et al., 2009). Numerous researchers have found that fraudulent

companies have a higher percentage of CEOs who are also the chairman of the board (DeChow, et al., 1996; Faber, 2004; Efendi, et al., 2007). Following Carcello and Nagy (2004) and Beasley (1996), I include a variable that accounts for the dual positions of CEO and Chairman being held by the same person (CEODuality).

The size of the board of directors is a measure of a board's ability to monitor the management. Several studies have provided evidence to support the relationship between board size and effective governance, and whether a board of directors with fewer members is indicative of effective monitoring and less managerial hegemony (Persons, 2005) or fewer financial reporting violations (Song & Windram, 2004). Larger boards are associated with lower profitability and decreasing firm value (Eisenberg, et al., 1998; Matolcsy, et al., 2004). An explanation for favouring smaller boards is found in McColgan (2001) who claims that '...larger boards are slower to react to decisions that require an immediate course of action and may become less candid in their ability to be critical of one another'. I include the size of the board of directors (BoardSize) as a control variable and expect a positive relationship between the board size and FFR (Pugliese & Wenstop, 2007).

3.4.3.3 Director Characteristics

At the individual director level, I control for the age of the directors and director tenure. Director age serves as a proxy for experience, as well as controlling for the likelihood that the director will retire. A director's increasing age is a measure of better decision-making (Child, 1974; Xie, et al., 2003). This suggests that older directors are less likely to make impulsive decisions under the sway of industry or organisational pressures, dampening the potential relationships between industry and organisational factors and the incidence of director FFR (Daboub, et al., 1995) (DtrAge).

Director tenure, the number of years an individual has served as a director at the firm (Buchholtz, et al., 2003; Bilimoria & Piderit, 1994) is controlled for with the variable (DtrTenure). There is also a long-established belief that women are more ethical than men in corporate positions (Ritter, 2006). Thus, I also included dummy variables controlling for whether a director was a woman (DtrGender).

According to Agrawal and Chadha (2005), the incidence of revenue misstatements among companies is lower if at least one outside director on the board and audit committee has financial expertise. I control for the expertise of the individual with two variables: 1) if the director has a CPA (CPA), and 2) if the director has financial expertise (FExp). Geiger and North (Geiger & North, 2006) and Ge et al. (Ge, et al., 2011) provide empirical evidence showing that the CEO and CFOs' risk preferences and account related decisions are the key determinants of the likelihood of FFR. Consistent with the argument that CEOs/CFOs typically oversee financial reporting decisions I control for the role of the director as CEO or CFO of the company (CEO_CFO).

3.4.3.4 Fraud Characteristics

I include three measures of fraud severity in the model. The first measure, fraud length, is the cumulative number of years a firm committed fraud (FraudLength). The second fraud severity measure is fraud count (FraudCount); this is the cumulative number of different types of fraud committed by the director (sum of Fraud Types A-L).

3.6 Reliability Analysis

I followed the creation of domains and variables with variable reliability analysis.

I tested the reliability of each social status attribute using Cronbach Alpha Analysis, and exclude non-reliable variables to create a single index for both inherited and acquired status. According to DeVellis (2003) and Bland and Altman (1997), the value of the Cronbach's Alpha ≥ 0.7 is appropriate for most studies. I rejected all attributes that had a Cronbach's Alpha value ≥ 0.7 .

3.6.1 Measuring the Reliability of Inherited Status Variables

Inherited status (Cronbach alpha = 0.745 > 0.7) is the standardised sum of three standardised variables (see Appendix

E.Attributes). The set of variables which give acceptable reliability for inherited status include director attendance at a Prestigious (PrestigiousUG), Ivy League (IvyUG) or Elite (EliteUG) university. To get to this level of reliability I removed two unreliable attributes, including a director's attendance at a Top 500 U.S. News of the World Ranked University (UsnwUG), and

attendance at a private university or college (PrivateUG). As outlined in Appendix E.1, having removed these two variables an appropriate Cronbach's alpha value for this study is achieved.

3.6.2 Measuring the Reliability of Acquired Status Variables

Acquired status (Cronbach alpha = 0.727>0.7) is the standardised sum of sixteen standardised variables. For acquired status, I focused on a mix of acquired status variables across four status domains. I standardised and aggregated all the reliable variables into a single index. A set of 16 variables give acceptable reliability for acquired status (see Appendix E.5).

3.7 Measuring Uniqueness

Broadly defined, social status is an individual's ranking relative to others' based on attributes such as prestige, respect, and prominence, and is associated with a host of social advantages (Anderson, et al., 2001; Berger, et al., 1972; Huberman, et al., 2004; Ridgeway, 2011; Washington & Zajac, 2005; Westphal & Khanna, 2003). Since directors represent a homogeneous group of individuals in terms of their overall status, most traditional indicators of social status cannot distinguish between directors. While all directors on corporate boards are members of an elite group of business executives (Jensen & Zajac, 2004), there are still differences in social status among directors. Regardless of the size and structure of a board of directors, there are always hierarchies of social status (Anderson, et al., 2001).

As social status is relative, I assess the frequency of each reliable attribute amongst the directors; i.e. if a high proportion of the directors have the same attribute it cannot be a reason for high social status in the sample. In order for a director to have relatively higher status, the reason for social status can only be present in a small proportion of the directors. In order to do this, I calculated the frequency distribution of all reliable attributes amongst the full sample of directors. If a significant number of the directors have a specific attribute, the attribute is deemed common and therefore not a justification for relatively higher social status within the sample. I defined a common attribute as an attribute occurring in greater than 30% of the sample of directors. I create the inherited and acquired status index using only the unique attributes.

This approach has the potential to support the addition of further social status variable in analysis, i.e. if the attribute is not common within the sample the variable is justified within the status hierarchy. Potentially, this approach offers the possibility to compare the different ‘values’ of the different attributes and the creation of different status hierarchies applying to a given set of actors. This approach has potential promise for further weighting of variables within a social status index based on the degree of uniqueness of a variable, i.e. the more unique an attribute is the higher the status weighting (e.g. I can assign the weight of an attribute with 10% of the sample a value of one and an attribute that has 5% of the sample a value of 2). I treat all sources of social status as equal, as previous research has done little to articulate whether some types of status are more valuable than others (D’Aveni, 1990). Researchers in this theme are heading in this direction by considering multiple status domains in concert, but more work is needed (Manzo & Baldassarri, 2014). Taking this perspective, Manzo and Baldassarri (2014) consider deference-based status hierarchies, where they rely on macro cues like income, wealth, and education to determine how much respect/esteem/prestige they confer on individuals.

3.7.1 Measuring the Uniqueness of Inherited Status Variables

For this research, inherited status is a binary variable indicating that the new director has achieved status in one or more areas. This implies that I need to identify the particular set of inherited status attributes that apply relatively higher status to the sample (see the frequency tables for attributes that correspond to the reason for inherited status within the full sample). Inherited status equals one if a director possesses inherited status. For every director with an inherited status greater than one I gave them a value of one, otherwise a value of zero. Only three variables of social status can be used for the calculation of inherited status in this approach: their attendance at a Prestigious, Ivy League, or Elite undergraduate university. Outlined in Figure 4 below is the framework for inherited status.

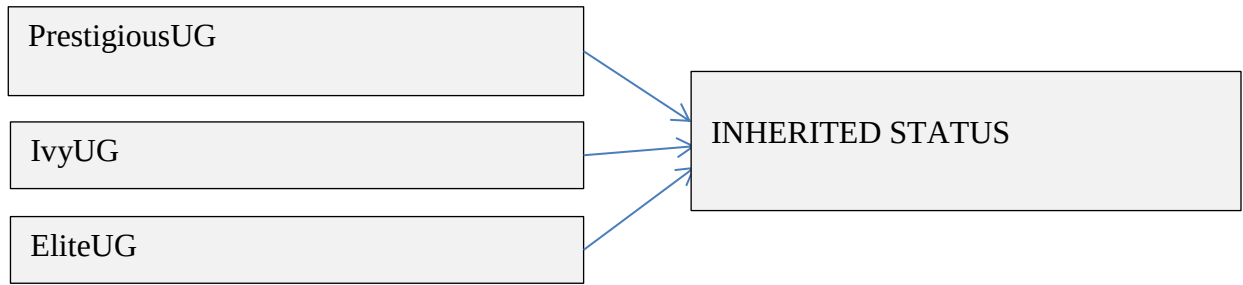


Figure 4: The framework for inherited status

For these variables, the percentage of directors with this attribute is small. Thus, these variables give reasons for higher social status. As Table 1 below indicates, a small proportion of directors have a high inherited status (14.7%), whereas most directors (85.3%) have low inherited status.

As having attended a USNW Top 500 or a private university at undergraduate level is a common attribute within the sample, they generated no reason for relatively higher social status in a zero non-zero approach, and therefore I exclude them from the approach. However, attendance at the most prestigious Ivy League or elite institutions is rare.

3.7.2 Measuring the Uniqueness of Acquired Status Variables

As the corporate elite represent a homogeneous group of individuals in terms of occupational, income, educational and social prestige, I identified attributes that are unique and confer status to those few directors who possess these particular attributes. Neeley and Dumas (2016) built a theory of how shifts in context could emphasise domains or attributes that suddenly become more valued and confer high social status on those few who possess the attribute. Outlined in Figure 5 below is the methodological framework used to identify sources of acquired status that are unique.

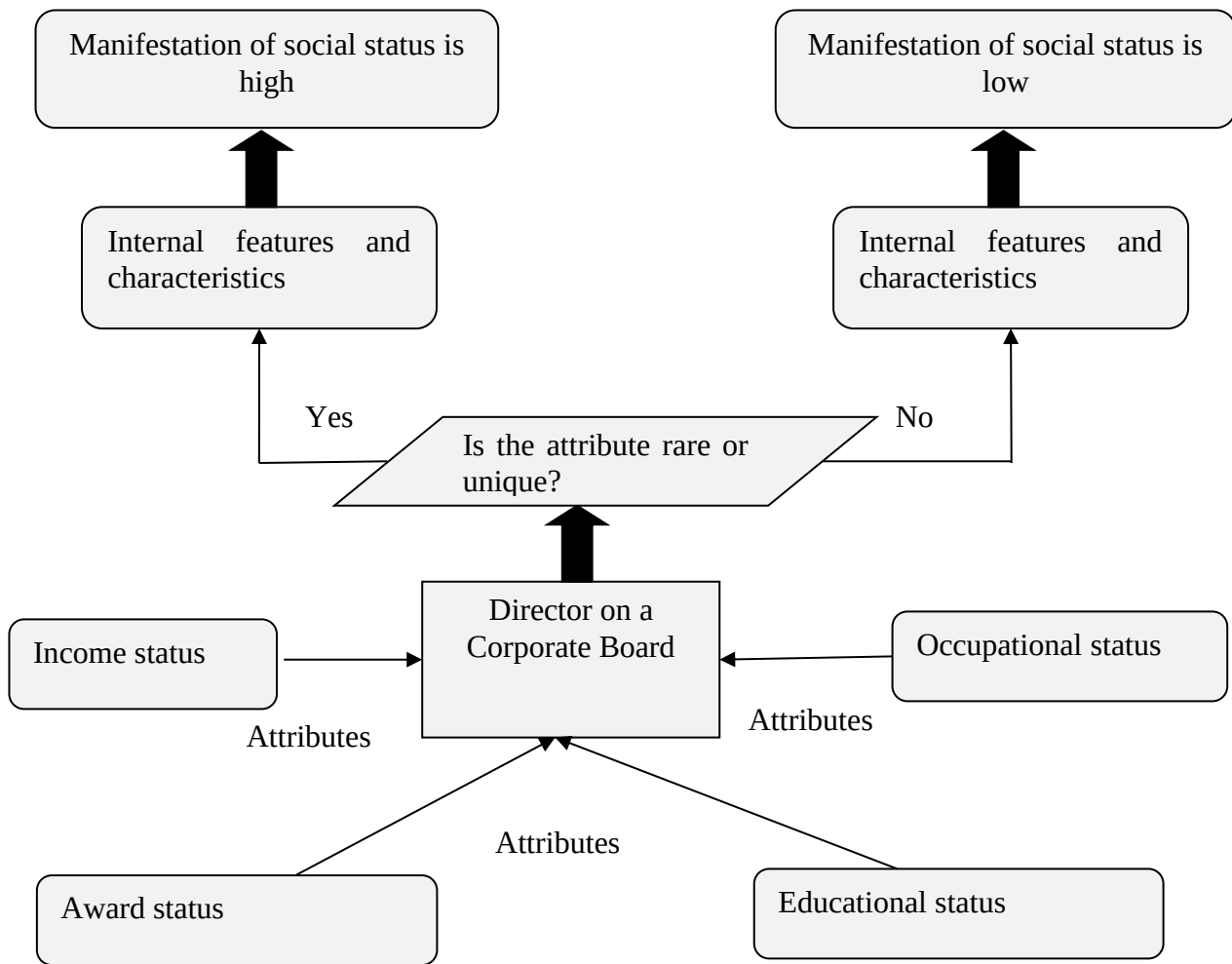


Figure 5: Methodological framework for measuring uniqueness of social status measures

3.7.2.1 Education status (Postgraduate)

After completion of the reliability analysis I have six attributes for education status (postgraduate). The frequency tables are in Appendix E.8. The unique attributes for education status include: 1) prestigious postgraduate education (PrestigiousPG – 4.5%); 2) attainment of a PhD (PhdPG – 5.3%); 3) a postgraduate degree from an Ivy League university (IvyPG – 8.5%); 4) a postgraduate qualification from an elite university (ElitePG – 17.8%); and, finally, 5) attainment of an MBA (MbaPG – 26.3%). A director with any of these education status attributes can be considered to have a high acquired status. Directors who attended a top 500 ranked USNW university

(USNW_500) are excluded, as these universities are commonly attended by directors and the status attribute can therefore be considered as common. According to Appendix E.9, I can conclude that 36.8% of directors have a reason for high acquired status due to attributes from education status. The remaining 63.2% of the directors have no reason for acquiring status from educational status.

3.7.2.2 Occupation Status

After completion of the reliability analysis I have six areas remaining in occupational status. The frequency tables are in Appendix E.10. All six areas generate reasons for high occupational status as the percentage of the individuals who have the corresponding attribute is less than 30% (the threshold level). According to Appendix E.11 I can conclude that 50.3% of directors have reasons for a high status due to attributes from their occupational status. The remaining 49.7% of directors have no reason for high occupational status.

3.7.2.3 Income status

For shares ownership, 13.9% of directors have the corresponding attribute. Therefore, it is a unique attribute and it can be a reason for high income status. Thus, I will consider all non-zero values of this variable as 1 (ShareOwnership).

For total compensation rank, only directors with rank 3 or higher have high income status. Therefore, 24.5% of directors have a reason for social status from highest compensation ranks (HighestCompRank).

For total compensation value, I check the cumulative frequency of all directors within the sample (70% level corresponds \$739,791). Therefore, 70% of all directors in the sample earn less than \$739,791 and 30% earn more than \$739,791 in total compensation. I then rounded the value up to \$800,000. Therefore, total compensation more \$800,000 is unique attribute (reason for status) and less than \$800,000 is an ordinary attribute (no reason for status). Therefore, 27.6% of directors have reason for social status due to high total compensation (TotalCompValue).

3.7.2.4 Award status

Awards status includes three areas (see below) and one area includes four sub-areas. Therefore, prestigious award status gives unique attributes which can be a reason for social status for 12.4% of the directors.

3.8 A Typology of Director Social Status

Social psychologists have noted that we classify ourselves into social status categories or groups. The vast majority of management research on social status tends to focus on a small sub-set of individuals who are of high social status (the top 5%). This focus on the extreme ends of the distributions means that the vast majority of the research samples in these studies receive little direct attention. Thus, little is known about the potential benefits and hazards for the vast majority of individuals within the sample who do not have a high social status.

Foladare (1969) first introduced the concepts of inherited (ascribed) social status and acquired (achieved) social status. Inherited status is characterised as unearned ascription of social rank (Washington & Zajac, 2005) and is ‘assigned to individuals without reference to their innate differences or abilities’. Acquired status is characterised by the acquisition of special qualities of individual achievement and is earned over time or attained throughout the life of an individual and assigned based on merit and personal efforts.

However, the above-mentioned framework does not account for the overall combination of high and low social status an individual has. In the absence of a more relevant and salient status-ordering model, I use Foladare’s (1969) definition of social status to create a new typology of social status based on the different combinations of high and low inherited and acquired status. This new typology is my original suggested classification system of social status. It is grounded by the idea that an individual director has high or low inherited and acquired social status relative to other directors (i.e., reflecting the director’s position in the social status hierarchy of the corporate elite (Graffin, et al., 2013). The typology is made up of two axes making up four quadrants or categories of social status. The two axes include:

- 1) High versus low inherited status (on the vertical axis)

2) High versus low acquired status (on the horizontal axis)

By using these two dimensions, a director can be categorised into one of four different types of status. These types are Pedigree Elite, Supreme Elite, Social Laggards and Social Climbers (Figure 6 shows the four distinct categories). It is important to note that a director's social status category may change over time, as acquired status is characterised by the acquisition of special qualities of individual achievement and is earned over time or attained throughout the life of an individual.

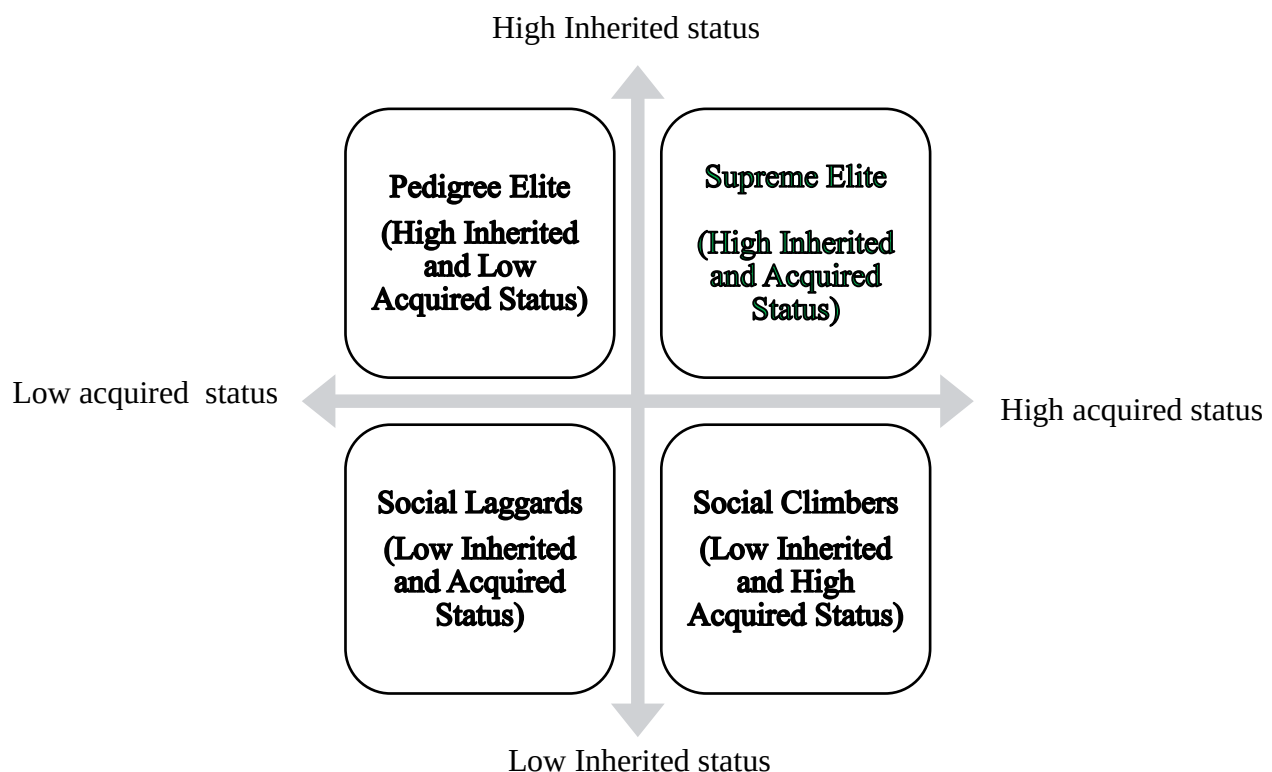


Figure 6: Proposed Typology of Social Status

First, the Social Laggards are directors on corporate boards who have hailed from less privileged backgrounds and who have reached the top of an organisation without particular inherited or acquired status. Second, the Social Climbers are those directors on corporate boards who started with a position of low inherited status but who have attained high acquired status. Third, the Pedigree Elite are directors on corporate boards who started from a position of high inherited status

but have not attained high acquired status. The final category, the Supreme Elite, are directors on corporate boards who have both high inherited and acquired status.

The reason for the development of this typology are twofold. First, this new typology introduces a new perspective in the discussion of social status related effects in the context of directors on corporate boards. Second, this typology allows for a micro level of analysis of social status categories and casts a differentiated light on the impact of the origin of social status on the incidence of FFR.

Table 1 below shows results from the full sample of the study data displaying figures on the social origin (i.e. social status attainment) of the directors on corporate boards.

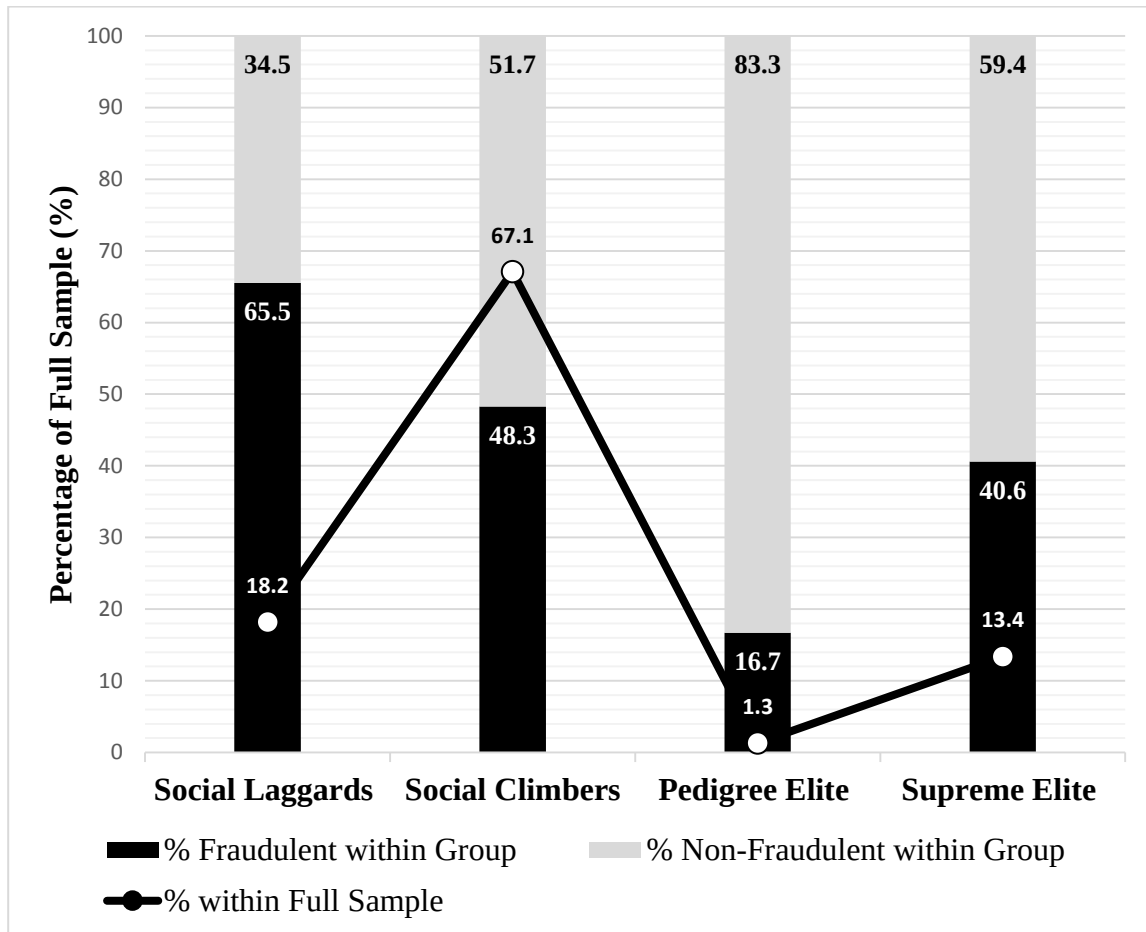


Table 1: Percentage distribution of the four categories

3.9 Conclusion

In this chapter I provide a description of my research data sample, philosophy, and methodologies used in Chapters 4, 5 and 6. No central data source exists on FFR offenders, and collection of such data is extremely difficult. This research is based on a unique dataset collected from a repository of AAERs. By extracting information from AAERs and secondary sources, I developed a database that covers 183 corporate frauds involving 477 corporate offenders. This database is one of the largest databases of upper-level corporate executives used in any research of this kind to date, and includes recent twenty-first century cases. Also unique to this database are the rich profiles of offenders, including offender demographics, education (both undergraduate and postgraduate), occupation, awards, and income.

I detail methodologies used in prior research and that I use in this thesis. This chapter has served to provide a detailed description of what steps were taken in preparation for the testing phase of this study. These steps included the identification of the fraudulent sample (the case group), the matching process to identify the non-fraudulent sample (the control group), the measurement of the independent and control variables, and the research design and selection of analysis methods. The chapter also provides information about what issues were considered when making the decision to implement each step. The following chapters, Chapters 4, 5 and 6, presents the results of the tests selected to analyse the data gathered during the performance of the steps aforementioned in this methods chapter.

Chapter 4 Director Social Status and Incidence of Fraudulent Financial Reporting

4.1 Introduction

In this chapter I conduct an empirical analysis of the relationship between the social status of directors on corporate boards and the incidence of WCC, namely FFR as reported by the SEC. Given that an overwhelming proportion of FFR is carried out by corporate executives and management companies, it is deemed important to understand the influence of social status on director behaviour. The Association of Certified Fraud Examiners estimates the cost of WCC to be more than \$3.7 trillion dollars to businesses worldwide. According to the ACFE, 9% of WCC cases involve FFR and these cases cause a median loss of \$2 million dollars per fraud scheme. FFR is a global problem despite almost three decades of continued effort to reform corporate governance arrangements (Berenson, 2003). Pardue et al. (2013) estimate the cost of WCC to U.S. businesses to be \$404 billion dollars compared to \$20 billion dollars caused by street crime.

The term “white-collar crime” was first defined by Sutherland (1940) as "a crime committed by a person of respectability and high social status in the course of his occupation”. Thus, it is perceived that WCC is typically carried out by men of high social status (Sutherland, 1940; Sutherland, 1949; Benson & Simpson, 2009). The first characteristic that makes white-collar offenders of interest in the field of management research is the perceived high social status of the offenders which is not ordinarily associated with crime (Poortinga, et al., 2006; Soothill, et al., 2012; Weisburd, et al., 2001). The management literature on the impact of social status on fraud is sparse despite the link between psychology, sociology, and moral development (Albrecht, et al., 2004); this has prompted calls for an expansion of social status evaluations in management research (Pearce, 2001; Ravlin & Thomas, 2005).

The vast majority of management research on social status tend to focus on a small subset of individuals who are of high social status. For instance, Graffin et al. (2013), classify between 1% to roughly 5% of their sample as being high status individuals, depending upon the measure. This focus on the extreme end of the distributions means that the vast majority of the research sample

in these studies receive little direct attention. Following Foladare (1969), I analyse the impact of two types of director social status. The first is inherited status, which is characterised as an unearned ascription of social rank (Washington & Zajac, 2005) and therefore ‘assigned to individuals without reference to their innate differences or abilities’. Although a director’s inherited status is fixed for life, it is difficult to capture data on it and therefore it is rarely used in the prior research. The second type of director social status is acquired status, which is characterised by the acquisition of special qualities of individual achievement, and is attained throughout the life of an individual and assigned based on merit and personal efforts. I assess the influence of both types of social status on the incidence of FFR. To allow for an even deeper level of analysis of the effect of social status on the likelihood of FFR involvement, I create a typology of social status which includes the different possible combinations of inherited and acquired status that a director may have (see Section 3.5). This is my original suggested classification to allow for a micro level of analysis of social status categories.

The contributions of this chapter are as follows. My first contribution is to extend sociology, criminology, corporate governance and management research by exploring the impact of social status on the incidence on the most complex form of WCC, namely FFR as reported by the SEC. My second research contribution is to develop a social status typology for corporate elites, which has the potential to pave the way for a new avenue of research examining how director social status influences corporate outcomes. This will contribute to what McDonald and Westphal (2011) term a ‘more expansive social and psychological perspective on corporate leadership’. This is also my original suggested typology or classification model and it allows for a micro level of analysis of the impact of director social status.

My findings are as follows. First, consistent with the hypothesis, I find extensive evidence of a lower incidence of FFR among high status directors. Second, I find that a statistically significant relationship exists between a director’s social status and FFR. Third, I further show that the effect of a director’s social status on FFR is strongest among directors that possess both high inherited and high acquired status simultaneously. Overall, I find that increased a social status of a director decreases the likelihood of FFR involvement. Interestingly, the strong difference in FFR activity

between high and low acquired status directors appears to include not only a significantly reduced incidence of FFR among high status directors but also a significantly increased FFR among low status directors. These results are robust to controls for alternative explanations, among other robustness checks.

The remainder of this chapter is structured as follows. Section 4.2 details the hypotheses regarding the effects of social status on the incidence of FFR. Section 4.4 outlines the results of testing my hypotheses and Section 4.5 concludes this chapter.

4.2 Research Hypotheses

Building on the prior literature, this research involved an evaluation of the relationship between social status of a corporate board director committing fraud and the likelihood of FFR involvement.

4.2.1 Inherited Status and Incidence of Fraudulent Financial Reporting

The first hypothesis considers the relationship between director social status and the incidence of FFR involvement.

Hypothesis 1: Directors conferred with high inherited status are less likely to engage in FFR compared to directors conferred with low inherited status.

While inherited status remains fixed for the life of an individual, acquired status evolves over time. The influence of inherited status on the incidence of FFR is, therefore, likely to be lasting while the impact of acquired status should follow changes in a director's social status. The characteristic that makes WCC offenders of interest in the field of criminology research is the perceived high social status of the offenders, which is not ordinarily associated with crime (Poortinga, et al., 2006; Soothill, et al., 2012; Weisburd, et al., 2001). In this hypothesis, I hope to show that directors are not one homogenous group in terms of their inherited status, and that directors with lower social status are more likely to commit FFR, which is consistent with findings from ordinary crime.

The literature on scandals (Adut, 2005; Adut, 2008; Fine, 1997; Fine, 2001) suggests that high-status offenders face particularly severe consequences when their transgressions are publicised. For a given violation, higher status offenders face a much greater risk of becoming infamous. This is

supported by Lucey et al. (2013), who state that CEOs with a high inherited status are less likely to undertake acquisitions because CEOs become more risk-averse to protect their prestigious status. According to Lucey et al. (2013) education is a determinant of social status and that CEOs with high inherited status are less likely to engage in acquisitions due to their fear of losing status. Also, Lucey et al. (2013) found directors conferred with low inherited status might purposefully undertake riskier paths to better their position as they may have limited access to resources or less risky alternatives with similar payoffs.

4.2.2 Acquired Status and Incidence of Fraudulent Financial Reporting

The second hypothesis considers the relationship between high acquired status (as measured by income status, postgraduate education status, occupational status and prestigious award status) and the incidence of FFR.

Hypothesis 2: Directors conferred with high acquired status are less likely to engage in FFR compared to directors conferred with low acquired status.

I hypothesise that directors conferred with high acquired status will exhibit behaviour that is risk-averse and more cautious than directors with low acquired status. According to Isen and Geva (1987), directors are likely to attempt to protect their positive status by becoming more risk averse and pursuing safer strategies. Shemish (2010) provides evidence of reduced risk-taking displayed by directors with increased social status following an award that supports this finding. Sociologists have highlighted the social nature of WCC, and have offered numerous sociology theories to explain it, such as Cohen's (1955) subculture theory, Cloward and Ohlin's (1960) differential opportunity theory, and Robert Agnew's (1992) general strain theory, which suggests '...those who are unable to gain status through conventional means may adopt ... illegal behaviour'. Together, these theories suggest potential societal explanations for the incidence of FFR. These theories suggest that directors with low acquired status are more likely to commit FFR.

4.2.3 Social Status Category and Incidence of Fraudulent Financial Reporting

But how can inherited and acquired status be disentangled, as any one director has a combination of inherited and acquired status? To fully understand the impact of the two sources of status, I use the definition of social status provided by Foladare (1969) to create a typology of social status based on the different combinations of high and low inherited and acquired status (see Section 3.5.

In the following three hypotheses, H3-H5, I compare the incidence of FFR between Social Laggards and the Pedigree Elite, Social Climber and Supreme Elite categories.

Hypothesis 3: The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to Social Climbers (directors conferred with low inherited and high acquired status),

Hypothesis 4: The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to the Supreme Elites (directors conferred with high inherited and acquired status),

Hypothesis 5: The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to the Pedigree Elites (directors conferred with high inherited and low acquired status).

Taking a sociological perspective, I argue that an individual director's social status category can influence their likelihood of FFR involvement. For the reasons outlined in Section 4.2.1 and Section 4.2.2 above, I believe that Social Laggards are more likely to engage in FFR compared to all other categories.

4.2.4 Overall Status and Incidence of Fraudulent Financial Reporting

In Hypothesis 6, I consider the relationship between high overall status and the incidence of FFR.

Hypothesis 6: Directors conferred with low overall status are more likely to engage in FFR compared to directors conferred with high overall status.

The prior literature indicates that the influence of acquired status appears to be more consistent and more significant than that of the inherited status, indicating the dominant role of acquired status in determining overall status (Lucey et al. 2013). Thus, directors conferred with low overall status are more likely to commit FFR. The measures of inherited and acquired status show meaningful variation in directors' social status, and if high social status directors are characterised by relatively strong discipline and rigorous controls, I expect companies with high status directors to have lower financial reporting risk than companies run by low social status directors, as evidenced by a relatively high probability of FFR.

4.3 Sample Description

To conduct this research, I assembled the largest dataset on FFR used in research to date; the dataset spans the period 1998-2014 (see Section 3.2). A sample of 477 fraudulent directors, identified through an examination of AAERs issued by the SEC and drawn from a total of 183 U.S. companies examined, are tested along with an industry size matched sample of 183 non-fraudulent companies and 477 non-fraudulent directors (see Section 3.3 for details). This matched pair research design is utilised to determine whether significant differences exist between the social status of directors in fraudulent and non-fraudulent companies.

4.4 Results

This section outlined the statistical methods used and results of all the hypotheses. See Appendix E.6 to E.20 for both descriptive and inferential statistics to describe the social demography of the sample using percentages, frequency count, mean and standard deviation.

Step 1, Chi-Square analysis, is conducted to examine the relationship between director social status and the incidence of FFR. The hypotheses are tested using U-tests to compare the different subgroups for post hoc analysis.

In step 2 logistic regression is applied, given the matched case control and the nominal dependent variable (Lipsitz, et al., 1998; Hosmer & Lemeshow, 1989). Hosmer and Lemeshow (1989) provide detailed explanations of the reasons for applying this model, particularly when using a research design of a comparable nature to this research. Furthermore, Lipsitz et al. (1998) state

that using conditional logistic regression in a case control design study could eliminate nuisance matching effects. I first consider the simple regressions (without any control variables) because such models are simpler to interpret. In addition, the logistic regression was used for comparison of the results and to compute the odd ratios.

4.4.1 Inherited Status and Incidence of Fraudulent Financial Reporting

Hypothesis 1 predicts that directors conferred with high inherited status have a significantly lower incidence of FFR compared to directors conferred with low inherited status. Hypothesis 1 is supported, which implies that directors conferred with high inherited status have a significantly lower incidence of FFR compared to directors conferred with low inherited status. Appendix F.1 presents the proportion of fraudulent directors conferred with a high inherited status as 38.6%, compared to 52% of directors conferred with low inherited status. This suggests that directors conferred with high inherited status are less likely to commit FFR. The Chi-Square analysis presented statistical significance with a p-value of 0.003, which indicates that the inherited status of a director plays a significant role in the likelihood of FFR involvement.

The U-test results in Appendix F.5 indicate that directors conferred with a low inherited status have higher mean rank (486.88) compared to directors conferred with high inherited status (422.99). This means that directors conferred with high inherited status are less likely to engage in fraud compared to directors conferred with low inherited status. The Z-statistic for this comparison has a value of -2.926 and the p-value is 0.003. Therefore, the results are statistically significant, and directors conferred with high inherited status are less likely to engage in fraud compared to directors conferred with low inherited status. Hypothesis 1 is accepted.

The simple logistic regression results in Appendix F.9 support this result; directors conferred with low inherited status are more likely to commit FFR than directors conferred with high inherited status. The $\text{Exp}(B)$ of low inherited status has a value of 1.607. This indicates that directors conferred with low inherited status are 1.607 times more likely to commit FFR compared to directors conferred with high inherited status. The corresponding p-value is 0.001 and is statistically significant. Therefore, I can conclude that directors conferred with high inherited

status are less likely to commit FFR in comparison with directors conferred with low inherited status.

This association may be interpreted in several ways. Interestingly, the inherited status attribute attendance at an elite university is negatively related to the incidence of FFR, suggesting that well-educated directors might be less inclined to participate in FFR compared to directors that are less well educated. This is in line with the belief that the higher the level of education the more ethical an individual is likely to be.

4.4.2 Acquired Status and Incidence of Fraudulent Financial Reporting

Hypothesis 2 predicts that directors conferred with high acquired status have a significantly lower incidence of FFR compared to directors conferred with low acquired status. As hypothesised, the number of directors conferred with high acquired status who are fraudulent is 47%, compared to the number of directors conferred with low acquired status who are fraudulent, which is 62.4% (see Appendix F.2). The difference in the incidence of fraud is statistically significant with a p-value of 0.000. Thus, directors conferred with high acquired status are less to engage in FFR compared to directors conferred with low acquired status. Hypothesis 2 is accepted.

According to Appendix F.6, directors conferred with low acquired status have a higher value of mean rank (536.48) than directors conferred with high acquired status (463.21). The Z-statistic has a value of -3.757 and a p-value of 0.000. Therefore, this difference is statistically significant. Thus, directors conferred with high acquired status are less likely to engage in fraud compared to directors conferred with low acquired status. Hypothesis 2 is accepted.

The Exp(B) of low acquired status in the logistic model has a value of 1.785 and the corresponding p-value is 0.003. This means that directors conferred with low acquired status are likely to be 1.785 times more likely to commit FFR than directors conferred with high acquired status. This result is statistically significant. Therefore, I can conclude that directors conferred with high acquired status are less likely to commit FFR in comparison with directors conferred with low acquired status.

4.4.3 Status Categories and Incidence of Fraudulent Financial Reporting

Hypotheses 3-5 predict that directors who are Social Laggards (i.e. conferred with both low inherited status and low acquired status) are more likely to engage in fraud compared to directors from all other social status categories (i.e. compared to Social Climbers, Pedigree Elite, and Supreme Elite directors). As outlined in Appendix F.3, the proportion of fraudulent directors in the category Social Laggards is 65.5%, and this is higher than the categories Social Climbers (48.3%), Supreme Elite (40.6%) and Pedigree Elite (16.7%). The proportion of fraudulent directors who are Social Laggards is higher than the proportion of fraudulent directors who are Supreme Elite, Pedigree Elite and Social Climbers. Therefore, Hypotheses 3-5 are accepted. The directors who are Social Laggards are more likely to engage in FFR compared to directors from all other categories.

The results reported in Appendix F.7 indicates that Social Laggards have a higher mean rank in all pairs: Social Laggards (462.66) compared to Social Climbers (392.5); Social Laggards (96.43) compared to Pedigree Elite (51.00); and Social Laggards (167.43) compared to Supreme Elite (129.84). This indicates that proportion of fraudulent directors who are Social Laggards is higher than the proportion of fraudulent directors in all other categories. Therefore, Hypotheses 3, 4 and 5 are confirmed. Results of the U-tests indicate that Social Laggards are more likely to engage in fraud compared to directors from all other categories.

Hypotheses 3, 4 and 5 are tested using the logistic regression model and the corresponding odds are calculated. The results are reported in Appendix F.11. Intercept is excluded from this model as the corresponding p-value is 0.684. In this model, FFR involvement is a dependent variable, whereas the status category is the independent variable. The status category (ISAS) has one of four values: Social Laggards (low inherited status and low acquired status), Social Climbers (low inherited status and high acquired status), Pedigree Elite (high inherited status and low acquired status), and Supreme Elite (high inherited status and high acquired status).

The $\text{Exp}(B)$ for category Supreme Elite is 1 in this model. Therefore, the category Supreme Elite is used as the basis for calculation odds for the other groups. The Social Laggards category has the

highest odds; this category has odds of 1.9 while category Social Climbers 0.934, category Pedigree Elite 0.2. This means that directors who are Social Laggards are 1.9 times more likely to commit FFR compared to Supreme Elite directors, and 9.5 times ($1.9/0.2=9.5$) more likely to commit FFR compared to directors who are in the Pedigree Elite category. The B coefficient for the category Social Climbers has a p-value of 0.385. This indicates that the value is significantly different from zero ($p\text{-value}=0.385>0.05$). Therefore, I can expect that it is zero and correspondently $\text{Exp}(B)=\text{Exp}(0)=1$. Therefore, directors who are Social Laggard are 1.9 times more likely to commit FFR compared to directors who are Social Climber. Thus, Social Laggard directors are more likely to commit FFR compared to directors from all other categories. This difference is statistically significant as a p-value of the coefficient of Social Laggards is $0.000<0.01$. Thus, Hypotheses 3, 4 and 5 are confirmed.

4.4.4 Overall Status on Fraudulent Financial Reporting

Hypothesis 6 predicts that directors conferred with high overall status have a significantly lower incidence of FFR compared to directors conferred with low overall status. In addition to testing whether high inherited and acquired status directors influence the likelihood of FFR involvement, I also examined whether a director's overall status influences the likelihood of FFR involvement. Appendix F.4 presents the Chi-square test results for Hypothesis 6. The Chi-square results indicates that there is a lower proportion of fraudulent directors with high overall status (46.5%) compared to low overall status (65.5%). The Chi-square statistic has value 20.497 and the corresponding p-value is 0.000. Thus, directors with low overall status are more likely to engage in FFR activities compared to directors with high overall status. Hypothesis 6 is accepted.

As outlined in Appendix F.8, the directors conferred with high overall status have a mean rank of 460.99, whereas directors with low overall status have a higher mean rank of 551.52. This indicates that the proportion of fraudulent directors with high overall status is lower than the proportion of fraudulent directors with low overall status. The Z-statistic has a p-value of 0.000, which is less than the significance level of 0.01. Therefore, the results of the U-test indicate that directors with low overall status are more likely will engage in FFR activities compared to directors with high overall status at significance level 0.01.

The simplest logistic regression results are in Appendix F.15. The intercept was excluded from this model because it is insignificant at level 0.05 (the corresponding p-value is 0.053). This indicates that directors with low overall status are 1.9 times more likely to commit FFR compared to directors with high overall status. The corresponding p-value is 0.000, which is less than the significance level of 0.05. Therefore, directors with low overall status are more likely to engage in FFR compared to directors with high overall status. Hypothesis 6 is accepted.

4.4.5 Alternative Explanations

In this section I consider further alternative explanations for the result of a positive impact of director inherited status, acquired status and overall status on the reduced likelihood of FFR involvement. The different alternative explanations were included in logistic regressions for adjustment. In total, 30 different variables were tested. These variables included corporate governance characteristics (e.g. the presence of an audit committee), firm characteristics, director characteristics (e.g. age, gender, and tenure) and fraud characteristics. Most of these variables had an insignificant impact on the incidence of FFR across all the hypotheses tested. The likelihood ratio statistic was used to assess the contribution of the individual variables in a model. The results may be of interest to researchers as they provide evidence about other characteristics beyond social status that influence FFR involvement.

4.4.5.1 Adjusted Logistic Regression for Inherited and Acquires Status (H1-H2)

To test the prediction in H1 and H2 that directors conferred with high inherited or high acquired status are less likely to commit FFR, an adjusted logistic regression model is estimated to analyse the results. As reported, this model is appropriate as Chi-square statistic as the Hosmer and Lemeshow (HL) the goodness of fit test has a value of 22.140 (Hosmer & Lemeshow, 1989).

The adjusted logistic regression equation of this model is below:

$$\log\left(\frac{p}{1-p}\right) = \beta_1 \cdot InheritedStatus + \beta_2 \cdot AcquiredStatus + \beta_3 \cdot NYS - 0.31 \cdot DtrTenure \\ - 0.029 \cdot \%GD + \beta_6 \cdot ACExist + \beta_7 \cdot CCExist$$

Equation 1: Adjusted logistic regression model for Hypotheses 1 and 2

Where,

$\beta_1=0$ if InheritedStatus= “high” and 0.537 when InheritedStatus= “low”;

$\beta_2=0$ if AcquiredStatus= “high” and 0.634 when AcquiredStatus= “low”;

InheritedStatus=0 when InheritedStatus= “high” and InheritedStatus=1 when InheritedStatus= “low”;

AcquiredStatus=0 when AcquiredStatus= “high” and AcquiredStatus=1 when AcquiredStatus= “low”.

$\beta_3=0$ if NYS= “0” and -0.354 when NYS= “1”.

This model presents the relationships between FFR and both inherited status and acquired status, adjusted for presence on the New York Stock Exchange (NYS), director tenure (DtrTenure), the percentage of female directors on the board (%GD), and the existence of an audit committee (ACExist) and a compensation committee (CCExist). All other control variables have insignificant coefficients.

The results of the significant variables are presented in Appendix F.13. In the context of the hypothesis testing the Exp(B) is important. The Exp(B) for inherited status has a value 1.710 and p-value 0.000. At level of significance 0.05, directors conferred with low inherited status are 1.71 times more likely to commit FFR compared to directors conferred with high inherited status, adjusted for acquired status, New York Stock Exchange listing (NYS), director tenure (DtrTenure), gender diversity (%GD), existence of an audit committee (ACExist) and compensation committee (CCExist). Therefore, the adjusted logistic model confirms H1.

The value of Exp(B) for acquired status is 1.886 and the corresponding p-value is 0.000. At level of significance 0.05, directors conferred with low acquired status are 1.886 times more likely to

commit FFR compared to directors conferred with high acquired status, adjusted for inherited status, New York Stock Exchange listing (NYS), director tenure (DtrTenure), gender diversity (%GD), existence of an audit committee (ACExist) and compensation committee (CCExist). Therefore, the adjusted logistic model confirms Hypothesis 2.

It is important to note the highest value of coefficient Exp(B) at ACExist. This has a value of 26.278 and a p-value of 0.005. This indicates that directors are 26.28 times more likely to commit FFR in a company where no audit committee exists than in companies where an audit committee exists. This difference is statistically significant. This is also consistent with research by Beasley et al. (2000) who report that audit committees help to minimise the incidence of FFR.

4.4.5.2 Adjusted Logistic Regression and Status Categories (H3-H5)

To test the prediction in H32-H5 that directors who are Social Laggards are more likely to commit FFR compared to the other status categories (i.e. Social Climbers, Pedigree Elite and Supreme Elite), an adjusted logistic regression model is estimated to analyse results.

The adjusted logistic regression equation of this model is below:

$$\log\left(\frac{p}{1-p}\right) = \beta_1 \cdot ISAS + -0.027 \cdot \%GD - 0.036 \cdot DtrTenure$$

Equation 2: Adjusted logistic regression model Hypotheses 3, 4, and 5

Where,

$\beta_1=0$ if “Supreme Elite”,

$\beta_1=0.969$ if “Social Laggards”

$\beta_1=0.301$ if “Social Climbers”

$\beta_1=-1.166$ if “Pedigree Elite”.

The adjusted logistic regression results are reported in Appendix F.14. The Exp(B) of Social Laggards is 2.635. It is the highest value of Exp(B) from all status categories. The corresponding

p-value is 0.000. The lower value of 95% C.I. for Exp(B) at Social Laggards is higher than the upper value of 95% C.I. for the category Social Climbers. The Exp(B) for the Supreme Elite category in this model is 1, as coefficient B is initially set as 0. Coefficient B for the Pedigree Elite category has a p-value of 0.136; this means that this coefficient differs insignificantly from zero (p-value >0.05). Therefore, I can consider that Exp(B) for the Pedigree Elite category is Exp(0)=1. Finally, I can conclude that the Exp(B) of Social Laggards is significantly higher than for all other categories.

These results indicate that Social Laggard directors are more likely to commit FFR compared to directors from all other categories, considering adjustment for gender diversity (%GD) and director tenure (DtrTenure). Therefore, with the adjustments for gender diversity and tenure, the logistic model confirms H3-H5. With adjustments, Social Laggard directors are more likely to engage in FFR compared to directors from all other categories.

4.4.5.3 Adjusted Logistic Regression and Overall Status (H6)

To test the prediction in H6 that directors conferred with high overall status are less likely to commit FFR compared to directors conferred with low overall status, the adjusted logistic regression equation of this model is below:

$$\log\left(\frac{p}{1-p}\right) = 0.453 + \beta_1 \cdot OverallStatus + \beta_2 \cdot ACExist + \beta_3 \cdot CCExist + \\ -0.033 \cdot \%GD - 0.030 \cdot DtrTenure + \beta_6 \cdot DtrGender + \beta_7 \cdot NYS$$

Equation 3: Adjusted logistic regression model Hypothesis 6

Where

$\beta_1 = 0.828$ if OverallStatus= “Low” and 0 if OverallStatus= “High”. Overallstatus=0 if OverallStatus=High and OverallStatus=1 when OverallStatus=Low.

$B_2=0$ if ACExist= “Y” and 3.331 when ACExist= “NoneExist”;

ACExist=0 if ACExist= “Y”, and ACExist=1 if ACExist= “NoneExist”;

$\beta_3=0$ if CCEXist= “0” (“Y”) and -1.546 when CCEXist= “1” (NoneExist)

$\beta_6=0$ if DtrGender=M (0) and 0.566 if DtrGender=F (1).

$B_7=0$ if NYS= “0” and -0.404 when NYS= “1”.

The adjusted logistic regression model for H6, overall status, is reported in F.15. As shown in the table, the Exp(B) for overall status has a value of 2.289 and the corresponding p-value is 0.000. This indicates that directors conferred with low overall status are 2.289 times more likely to commit FFR compared to directors conferred with high overall status if the values of the control variables ACEXist, CCEXist, %GD, DtrTenure, DtrGender, and NYS are fixed. This difference is statistically significant. Thus, the adjusted logistic regression confirms H6.

This model also indicates that directors are more likely to commit FFR in companies where no audit committee exists (as FFR is 27.962 times more common in companies where no audit committee exists). Female directors are more likely to commit FFR compared to male directors if all other variables are equal for both categories.

4.4.6 Robustness Checks

The corresponding Probit models were estimated for robustness checks of the results obtained using the logistic model. As the (cumulative distribution) function F of the coefficients of the Probit model are non-linear, only simple Probit models were used for calculation of the probabilities. This provides a clearer interpretation of the results from the point of view of testing the hypotheses. Next, I estimated adjusted appropriate regressions for the robustness of the results.

The Chi-square statistic has a value of 8.638 and the p-value is 0.003. The Probit model significantly differs from the null model (only intercept). Parameter estimates are reported in Appendix F.17

As Appendix F.18 indicates, the intercept and coefficients of Inherited Status=0 are significant at the level 0.01. The coefficient of Inherited Status=0 has a positive value. Therefore, the probability

of the directors with low inherited status engaging in fraud is higher compared to directors conferred with high inherited status.

The equation of the model is:

$$\Pr(\text{FraudStatus} = 1) = F(-0.291 + 0.34 \cdot \text{InheritedStatus}^*)$$

Where

$\text{InheritedStatus}^* = 1$ if $\text{InheritedStatus} = 0$,

$\text{InheritedStatus}^* = 0$ if $\text{InheritedStatus} = 1$.

So the probability of the directors with low Inherited Status engaging in fraud is:

$$\Pr(\text{FraudStatus} = 1) = F(-0.291 + 0.34) = F(0.049) = 0.519.$$

The probability of the directors with high inherited status engaging in fraud is:

$$\Pr(\text{FraudStatus} = 1) = F(-0.291) = 0.481.$$

Therefore, the Probit model confirms Hypothesis H1. The summary results are reported in Appendix F.19.

4.4.6.1 The Probability Equations of the Models

The equation for inherited status is:

$$\Pr(\text{FraudStatus} = 1) = F(-0.291 + 0.34 \cdot \text{InheritedStatus}^*)$$

Where

$\text{InheritedStatus}^* = 1$ if $\text{InheritedStatus} = 0$,

$\text{InheritedStatus}^* = 0$ if $\text{InheritedStatus} = 1$.

The equation for acquired status is:

$$\Pr(\text{FraudStatus} = 1) = F(-0.075 + 0.390 \cdot \text{AcquiredStatus}^*)$$

Where

$\text{AcquiredStatus}^*=1$ if $\text{AcquiredStatus}=0$,

$\text{AcquiredStatus}^*=0$ if $\text{AcquiredStatus}=1$.

The equation for the Social Laggards Category is:

$$\begin{aligned}\Pr(\text{FraudStatus} = 1) \\ &= F(-0.237 + 0.637 \cdot \text{SocialLaggards} + 0.194 \cdot \text{SocialClimbers} - 0.730 \\ &\quad \cdot \text{SocialClimbers} + 0 \cdot \text{SocialClimbers})\end{aligned}$$

If one category is “1” then other categories are “null”

The equation for overall status is:

$$\Pr(\text{FraudStatus} = 1) = F(-0.717 + 0.535 \cdot \text{InheritedStatus}^*)$$

Where

$\text{InheritedStatus}^*=1$ if $\text{InheritedStatus}=0$,

$\text{InheritedStatus}^*=0$ if $\text{InheritedStatus}=1$.

As Appendix F.19 indicates, the probability of directors with low inherited status engaging in fraud is higher compared to directors with high inherited status. This result is significant at level 0.01 and confirms Hypothesis H1.

The probability of directors with low acquired status engaging in fraud is higher compared to directors with high acquired status. This result has a poor significance (only at level 0.1). But the coefficient of $\text{Acquired Status}=0$ is positive and has high-level significance ($p<0.001$). It indicates that the probability of directors with low acquired status engaging in fraud is higher compared to directors with high acquired status at high-level significance (although the values of probabilities have a low level of the significance). Therefore, Hypothesis H2 is confirmed.

The probability of directors in the Social Laggards Category (with low inherited status and low acquired status) engaging in fraud is higher compared to directors from other groups. It must be noted that the values of the probabilities are significant for the Social Laggards Category and the Supreme Elite Category. The coefficients of the Social Climbers Category and the Pedigree Elite categories are insignificant (not differing from zero). The Social Laggards Category has the largest coefficient within all categories. Therefore, I can conclude that the probability of directors in the Social Laggards Category engaging in fraud is higher compared to directors in all the other categories. This confirms Hypotheses H3, H4 and H5.

The probability of directors with low overall status engaging in fraud is higher compared to directors with high overall status. This result is statistically significant. Considering that the coefficient of overall status has a positive value and a high level of significance ($p < 0.001$), the results confirm Hypothesis H6.

4.4.6.2 The Adjusted Probit Model for Inherited and Acquired Status (H1-H2)

As shown in Appendix F.20 Status and Fraud (H1-H2, the coefficients of Inherited Status=0 and Acquired Status=0 have positive values and are significant. It indicates that the probability of directors with low inherited status engaging in fraud is higher compared to directors with high inherited status, and the probability of directors with low acquired status engaging in fraud is higher compared to directors with high acquired status. So Hypotheses H1 and H2 are confirmed by the adjusted Probit models.

4.4.6.3 Adjusted Probit Model for the Social Laggards Category (H3-H5)

As Appendix F.21 shows, the coefficient of the Social Laggards Category is significant ($p < 0.001$) and has a positive value. The coefficients of other categories are statistically insignificant. Because the coefficient of the Social Laggards Category is positive and has largest value within all groups, I can conclude that the probability of directors with low inherited status and acquired status engaging in fraud is higher compared to directors with all other categories. This confirms Hypotheses H3, H4 and H5.

4.4.6.4 Adjusted Probit Model for Overall Status (H6)

As Appendix F.22 and Fraud (H6 indicates, the coefficient of the Overall Status=0 is significant ($p<0.001$) and has a positive value. It indicates that the probability of directors with low overall status engaging in fraud is higher compared to directors with high overall status. This result confirms Hypothesis H6.

4.4.6.5 Marginal Effect Analysis (H3-H5)

The margin effects of change for values inherited, acquired, and overall status from 1 (High) to 0 (Low) for corresponding simple logistic regressions are reported in Appendix F.23. This indicates an increased probability of FFR involvement when a director's social status changes the value from high to low inherited, acquired and overall status. The probability that a director will be involved in FFR increases by 0.117 if their inherited status changes from high to low, increases by 0.142 if acquired status changes from high to low, increases by 0.190 if overall status changes from high to low. All marginal effect results are statistically significant. These results correspond with previous results and confirm the H1-H3.

Appendix F.24 indicates statistically significant margin effect for the change of a director's status group from supreme elite to social laggards, where the probability of FFR involvement increased by 0.249. The marginal effect of the change supreme elite to social climbers has a weak statistical significance and implies increased probability of FFR involvement by 0.07. For supreme elite to pedigree elite, the marginal effect is significant and indicates decreased probability of FFR involvement by 0.239.

Appendix F.25 indicates an increased probability of FFR involvement when inherited changes from high to low and when acquired changes from high to low.

Appendix F.26 indicates that the probability of FFR involvement increased by 0.20 if overall status changes from high to low. The adjusted logistic regression indicates a statistically significant marginal effect for supreme elite to social laggards. In this case, the probability of FFR involvement

grows by 0.244. The other two changes, supreme elite to social climbers and supreme elite to pedigree elite, have a weak significance. For supreme elite to social climbers, the probability of FFR decreases but for supreme elite to pedigree elite increases. Probit models are estimated for robustness checks of the results obtained using the logistic model and confirm the logistic regression results.

4.4.7 Receiver Operating Characteristic (ROC) Analysis

Receiver operating characteristic (ROC) analysis was conducted to investigate the effectiveness of currently defined inherited status, acquired status, overall status, and the four categories (Social Laggards, Social Climbers, Pedigree Elite and Supreme Elite), and as a diagnostic tool to detect the likeliness of committing FFR. I constructed inherited status, acquired status, and overall status so that they all have a single cut-point in terms of unique attributes (subgroup directors which have no unique attributes, and subgroup which have one or more unique attributes). ROC analysis includes charting the ROC curve, and calculating the area under a ROC curve (Hajian-Tilaki, 2013). The ROC curve is a fundamental tool for diagnostic test evaluation. In a ROC curve the true positive rate (Sensitivity) is plotted in function of the false positive rate (100-Specificity) for different cut-off points of a parameter. A higher value of the area under a ROC curve indicates the higher performance of the test to detect the state of the object (Hanley & McNeil, 1982). Akin to the medical situation where the state of the patient has two values, 'diseased' and 'non-diseased' (Hajian-Tilaki, 2013), the output variable in the given study also has two values, 'fraudulent' and 'non-fraudulent'. An accurate estimation of FFR risk can help investors to classify potential companies, such as companies or individuals, into a high or low risk of FFR and then to decide whether to invest in them.

This allows the possibility to consider inherited status, acquired status, overall status, and the categories of Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite as diagnostic tools to detect the state of the directors in terms of 'fraudulent' and 'non-fraudulent' behaviour, and separate samples of two corresponding subsamples (fraudulent/non-fraudulent). Another aim of ROC analysis is to compare the effectiveness of inherited status, acquired status, overall status,

and the categories Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite, to predict the tendencies of the director in the sample to commit FFR.

Because inherited status, acquired status, and overall status have one cut-off point, the ROC curves at this stage will have only one point (excluding two points 'sensitivity =0 and 1-specificity=0' and 'sensitivity =1 and 1-specificity=1').

4.4.7.1 Receiver Operating Characteristic and Inherited Status

The ROC curve for inherited status is presented in Chart 1. The area calculated under the ROC curve in the case of inherited status with single cut-off point 1 is 0.534, but the significance of the difference of the received result from 0.5 is 0.073 (95% confidence interval is 0.497-0.570). So, the area under the ROC curve does not differ from 0.5 at significance level 0.05. Following the general practice, the area under the ROC of 0.5 indicates an uninformative test. Sensitivity in case cut-off point 1 for inherited status is 0.887 and specificity =0.18 (1-specificity=0.82). This means that inherited status with single cut-point 1 correctly identifies 88.7% of the fraudulent directors; but 82% of the non-fraudulent directors are identified incorrectly (as fraud directors).

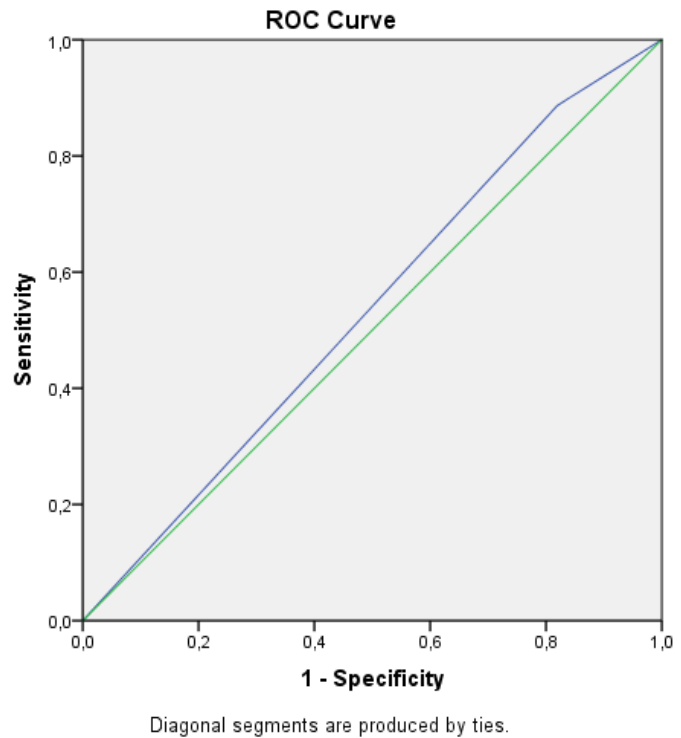


Chart 1: ROC curve for inherited status with single cut-off point 1

Thus, I must conclude that inherited status with single cut-point 1 is worthless as the test tool for detection of fraudulent or non-fraudulent directors from the sample.

4.4.7.2 Receiver Operating Characteristic and Acquired Status

For acquired status, the area under the ROC curve (Chart 2) has a value of 0.542 (95% confidence interval is 0.512-0.585) and is statistically significantly (the p-value is 0.01).

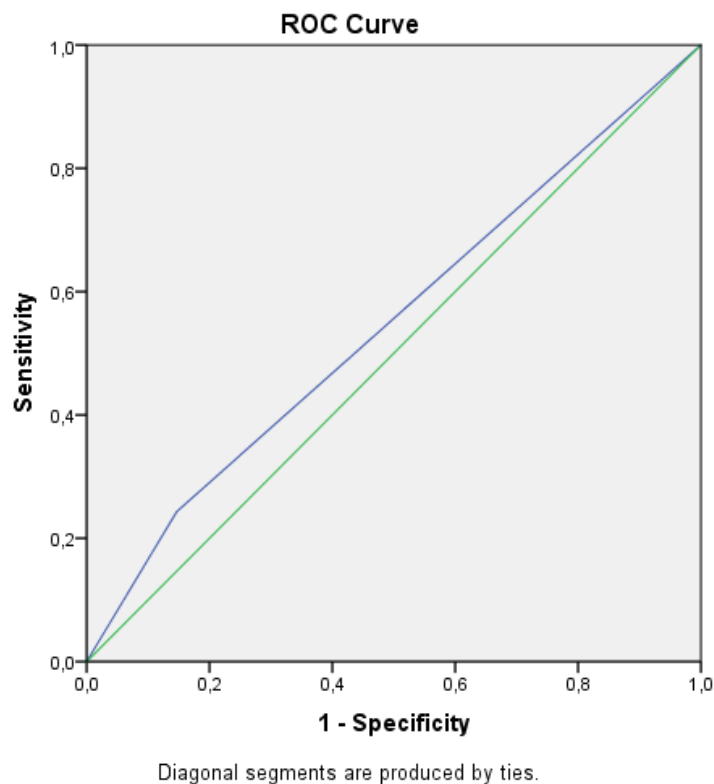


Chart 2: ROC curve for acquired status with single cut-off point 1

Therefore, acquired status with single cut-point 1 is a poor test tool for detecting fraudulent/non-fraudulent directors (the test is poor if the area under ROC curve is from 0.51 to 0.69).

Sensitivity in the case of cut-off point 1 for acquired status is 0.243 and specificity=0.853 (1-specificity=0.147). Thus, acquired status with single cut-point 1 correctly identifies 24.3% of the fraudulent directors. Instead, only 14.7% of non-fraudulent directors are identified incorrectly (as fraudulent directors). Thus, I must conclude that acquired status with single cut-point 1 is a poor test for detecting fraudulent or non-fraudulent directors from the sample.

4.4.7.3 Receiver Operating Characteristic and Overall Status

In the case of overall status, the area under the ROC curve (Chart 3) has a value of 0.557 (95% confidence interval is 0.520-0.593) and is statistically significantly (the p-value is 0.002).

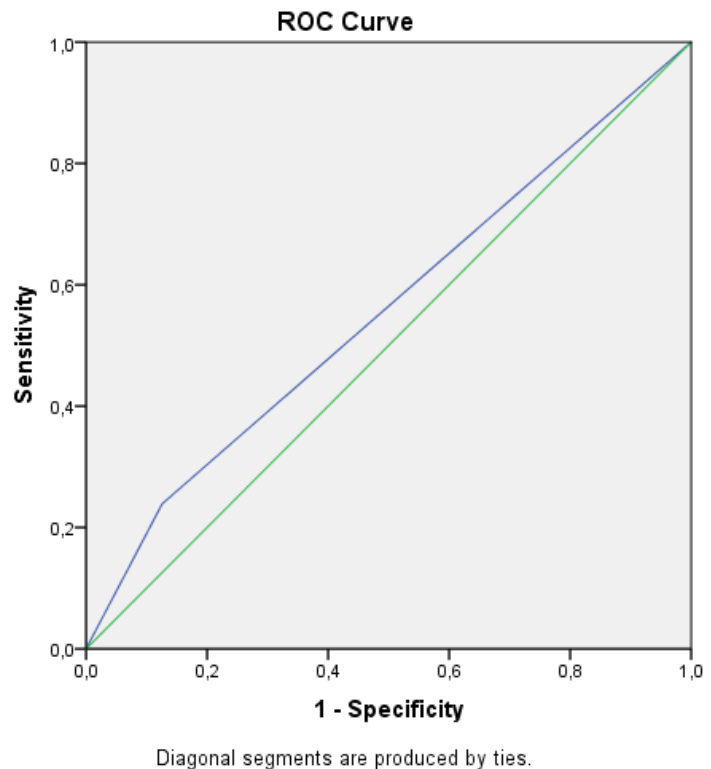


Chart 3: ROC curve for overall status with single cut-off point 1

Therefore, overall status with single cut-point 1 is a poor test tool for detecting the fraudulent/non-fraudulent directors from the sample.

Sensitivity in case cut-off point 1 for overall status is 0.239 and the specificity=0.874 (1-specificity=0.126). Overall status with single cut-point 1 correctly identifies 24.9% of the fraudulent directors, and only 12.6% of the non-fraudulent directors are identified incorrectly. Thus, I must conclude that overall status with single cut-point 1 is a poor test for detecting fraudulent and non-fraudulent directors within the sample.

4.4.7.4 Receiver Operating Characteristic and Status Categories

For the status categories of Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite, the ROC analysis for all cut-points is incorrect because there is ambiguity in the direction of results, when you consider that the cut-point of Social Laggards category corresponds to 0, and the

Supreme Elite category corresponds to 2; and, in this case, the smallest test results indicate more positive results. But the Social Climbers corresponds to 1, and the Pedigree Elite also corresponds to 1. What test value is smaller, Social Climbers or Pedigree Elite? The answer to this question is uncertain. Therefore, two cut-points were defined for the Social Laggards and Supreme Elite categories. The corresponding ROC curve is presented in Chart 4.

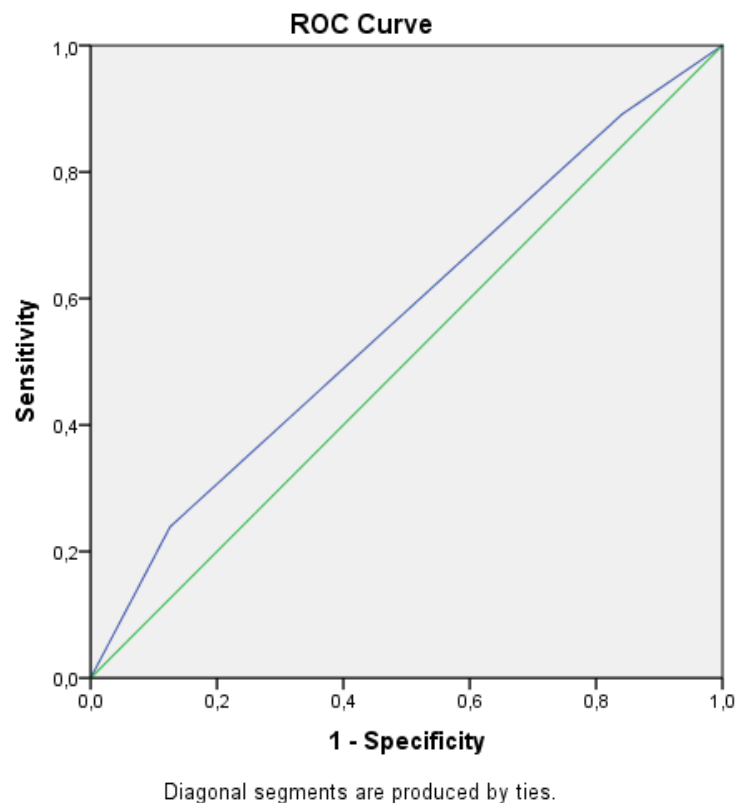


Chart 4: ROC curve for groups with two cut-points (Social Laggards and Supreme Elite)

The area under the ROC curve (Chart 4) has a value of 0.570 (95% confidence interval is 0.533-0.606), and is statistically significant (the p-value is 0.000). The cut-point for Social Laggards has sensitivity 0.239 and specificity 0.874 (as overall status). The cut-point for Supreme Elite has sensitivity 0.891 and specificity 0.159 ($1 - 0.841 = 0.159$). The large share of fraudulent directors from the sample will be undetected ($100 - 23.9 = 76.1\%$) if Social Laggards is used as a cut-point (because 76.1% of the fraudulent directors will be in other categories). If Supreme Elite is used as

the cut-point, 89.1% of fraudulent director will be detected correctly and only 10.9% of fraudulent directors will be undetected. Instead, the 84.1% non-fraudulent directors will be detected as persons that have a tendency to commit fraud.

4.4.7.5 Summary Receiver Operating Characteristic Analysis

From the formal point of view, all inherited status, acquired status, overall status (with single cut-point 1), and the four categories are poor tests for separating the fraudulent directors from non-fraudulent directors within the sample. Inherited status with cut-point 1 correctly identifies 88.7% of the fraudulent directors, but 82% of non-fraudulent directors will be included in subgroups of the fraudulent directors. Acquired status with single cut-point 1 correctly identifies only 24.3% of the fraudulent directors (the rest will be considered as non-fraudulent). Similarly, overall status with single cut-point 1 correctly detects only 24.9% of the fraudulent directors. Within the four categories, cut-point 1 Supreme Elite detects 89.1% of the fraudulent directors but 84.1% of the non-fraudulent directors are included in the risk group.

4.5 Conclusion

In this chapter I examined the relationship between director social status and the incidence of FFR. The objective of the research was to test the argument that director social status, as measured by inherited status (as measured by the prestige of a director's undergraduate education) and acquired status (as measured by a director's postgraduate education status, income status, occupational status and prestigious award status) influence the incidence of director involvement in FFR.

The results suggest that directors conferred with high inherited status are less likely to be involved in FFR. Within the acquired status dimension, I find that high acquired status directors are less likely to partake in FFR compared to directors with low acquired status. Thus, both high inherited and acquired status are associated with reduced FFR activity, but they influence director decision-making through different underlying processes; and the influence of inherited status is permanent, and remains constant throughout the life of an individual while acquired status changes over time. Interestingly, the strong difference in FFR activity between high and low acquired status directors

appears to include not only a significantly reduced FFR among high status directors but also a significantly increased FFR among low status directors.

Overall, I find that increased social status decreases the likelihood of a director's involvement in FFR. I find that the effect of social status on director FFR is strongest among directors that possess high inherited and high acquired status simultaneously (the Supreme Elite category). I also find that high inherited and acquired status directors (Supreme Elite) are less likely to partake in FFR compared to directors without prestigious backgrounds (Social Laggards). I further show that the effect of social status on FFR involvement is strongest among directors that possess low inherited, acquired status simultaneously (the Social Laggards category).

The results indicate that directors in the Social Laggards category are the highest risk of being involved in FFR. These findings are consistent with recent evidence of reduced executive risk-taking following a positive status shift in areas such as internal investment, accounting practices and earnings management (Koh, 2011; Shemesh, 2010). Consistent with the findings of a recent study that examine the influence of status shifts on firm performance (Malmendier & Tate, 2009), I show that social status concerns can distort director behaviour with regards to their involvement in FFR.

For FFR profiling, the social status groups of inherited status, acquired status, overall status, and the four categories of Pedigree Elite, Social Climbers, Social Laggards and Supreme Elite are not suitable for ROC analysis and for separating fraudulent directors from non-fraudulent directors. But in real practice, such profiling tools should be used in conjunction with other data on FFR risk. The more important goal of such analysis is to identify directors who are at high risk of carrying out WCCs or FFR, thereby putting controls in place to reduce the losses of the company caused by fraudulent directors.

As the potential losses of FFR is significant, any profiling tools that help to detect the high risk fraudulent directors must be considered. From this perspective, the Supreme Elite cut-point within the four group scale has the highest performance; it detects about 90% of the fraudulent directors, although in such cases many non-fraudulent directors will be included in the early warning and preventive systems; but most of the fraudulent directors will be included also. If one considers that

it is much worse to miss a fraudulent director than to conduct unnecessary preventive work with directors that are unwilling fraudulent, tests with cut-points with higher sensitivity must be chosen in real management practice. At the given step, such a test and cut-point is the four groups scale with cut-point Supreme Elite.

Of course, expenditures on a FFR profiling system for early warning and preventive auditing work should be considered. The expenditures must be lower than the potential losses caused by FFR. The cut-point Supreme Elite includes large numbers of directors that are not fraudulent in the group of directors which have a tendency to be fraudulent, the expenditure on the system of early warning and preventive work will be less valuable than in the case where all directors would be included in such a system. For future work, the scales for inherited status, acquired status, and overall status may be redefined, and other cut-points investigated for the choice of test with the highest sensitivity (and most appropriate cut-points).

These results extend prior research (Bowen, et al., 2005; Files, et al., 2008; Gordon, et al., 2008; Myers, et al., 2008) by showing the increased benefits of high social status directors, namely the decreased likelihood of SEC FFR involvement. There are several important implications of this research. The findings of this model may be of interest to academics doing research on SEC AAERs by documenting some characteristics of directors that may drive their inclusion in these samples. This research adds to the criminology literature on the perceived high social status of the offenders who is not ordinarily associated with crime (Poortinga, et al., 2006; Soothill, et al., 2012; Weisburd, et al., 2001). The results support the view that the incidence of WCC among low social status categories is higher than what is being apportioned to high status categories.

Chapter 5 Director Social Status and Fraudulent Financial Reporting Type and Severity

5.1 Introduction

In this Chapter I examine whether director social status has an impact on the type or severity of FFR committed by directors of corporate boards. Weisburd et al. (1990) organise WCC offenses in a ‘hierarchy based on their relative complexity, with those offenses involving socially prominent and powerful individuals, complex organisations, multiple victims, and a considerable amount of harm placed at the top’. According to Weisburd et al. (1990), there are offenders at the bottom of this hierarchy who bear little resemblance to the scholarly image among those who have followed Sutherland (Sutherland, 1983) in thinking of WCC as crimes of the powerful. According to Weisburd et al. (1990), FFR is of medium complexity. FFR can take many forms and include numerous complex and deceitful schemes. However, prior research has treated all types of FFR the same way.

I complete a robust analysis of the impact of director social status on the type and severity of FFR committed. I use fictitious fraud transactions as an assessment of fraud complexity and severity. Using the same dataset of 183 fraud companies and 477 fraudulent directors and a Fraud Taxonomy created by DeChow et al. (2010), I analyse the relationship between the different types of director status and the different types of fraud schemes as outlined in SEC auditing and enforcement actions. I investigate whether director social status has an impact on the type or severity of fraud committed. While the primary focus of this research is the severity of the FFR, I also discuss the other types of FFR.

The contributions of this chapter are as follows. It is the first to examine whether a director’s social status affects the type and severity of FFR scheme committed. The previous research I described in Chapter 4 indicated that a director’s social status influences the likelihood of committing FFR. Consequently, it is important to understand more about whether a director’s social status differentially affects the likelihood of different types of fraud schemes. Further, no previous study compares the director’s social status to the fraud type or severity. This analysis on the type of fraud

committed may increase the knowledge about the main drivers of the directors involved, i.e. whether the goal is to hide losses or increase profit.

My findings are as follows: in relation to the impact of director social status and fraud severity, I find that fraud of (I) misstated reserve accounts and (A) fictitious revenues likely has an association with high acquired status. As outlined in this research, these two types of fraud are considered more severe. This finding is consistent with the view that the low social status directors are more likely to commit FFR schemes of lower severity and lower complexity.

The remainder of this chapter is structured as follows. Section 5.2 details the hypotheses regarding the effects of social status on the fraud type and severity. Section 5.3 details the method used to evaluate the hypotheses including the rationale for using the chosen fraud taxonomy. Section 5.4 describes the results of testing the hypotheses, and Section 5.5 concludes the chapter.

5.2 Research Hypotheses

In hypotheses 1-4, I assess the impact of a director's social status on the likelihood of certain types of FFR.

Hypothesis 1: Directors conferred with high inherited status are more likely to engage in fraud types A-L compared to directors conferred with low inherited status,

Hypothesis 2: Directors conferred with high acquired status are more likely to engage in fraud types A-L compared to directors conferred with low acquired status,

Hypothesis 3: Directors in the category of Social Laggards are more likely to engage in fraud types A-L compared to directors in all of the other social status categories (e.g. Social Climbers, Supreme Elite and Pedigree Elite),

Hypothesis 4: Directors conferred with high overall status are more likely to engage in fraud type A-L compared to directors conferred with low overall status.

Hypotheses 1-4 are based on the idea that director status characteristics affect the type of FFR committed. The nine most common types of fraud have been tested for hypotheses H1-H4; thus,

the three least common fraud types were excluded. These include (G) misstated cost of goods sold, (H) misstated liabilities, and (K) misstated marketable securities.

I predict that all social status groups or categories would be involved in the more common types of fraud.

Hypothesis 5: Directors conferred with high overall status are more likely to engage in more severe fraud (i.e. fictitious transactions include fraud types A, I, and J) compared to directors conferred with low overall status.

For H5, I examine the impact of a director's overall social status on the types of fraud that involve fictitious transactions or events. The identification of fictitious transactions is relatively straightforward based on the taxonomy. Fictitious transaction frauds are (A) fictitious revenues, (I) misstated reserve accounts and (J) misstated allowances for bad debt.

5.3 Fraud Type Data Sample

5.3.1 Sample Selection

I use the issuance of an SEC AAERs as a proxy for FFR, which is consistent with prior studies (Beasley, 1996); (Dechow, et al., 1996); (Bonner, et al., 1998); (Beasley, et al., 2000); (Carcello & Nagy, 2004); (Erickson, et al., 2006). I analysed all the SEC AAERs issued between January 1, 1998, and December 31, 2014. I assembled the largest dataset on FFR, spanning the period 1998-2014, of all the detected FFR cases reported by the SEC. A matched pair research design is utilised to determine whether significant differences exist between the social status of directors in fraudulent and non-fraudulent companies. A sample of 477 fraudulent directors, identified through an examination of AAERs issued by the SEC and drawn from a total of 183 companies examined, are tested along with an industry-size matched sample of 183 non-fraudulent companies and 477 non-fraudulent directors (see Section 3.2 for details). Appendix

Observations across Industries presents the industry distributions of fraudulent companies per primary industry. In the sample, there is a high representation of companies from industries such as Business Services (21%), Electronic and other Electrical Equipment and Components Technology (13%), and Communications companies (6%). Appendix

A Covered presents the duration of the frauds.

A review of the prior research is used to identify the attributes of social status relevant for inclusion in this study, and to provide support for the posing of hypotheses. I analysed each director named in the SEC AAER cases from U.S. listed companies using four domains of social status: educational prestige, income, occupational prestige, and award prestige (see Section 3.4). The selected social status attributes are used to classify directors based on the source of the status, i.e. whether the source of the social status is inherited or acquired. I also create a typology of social status which includes the different possible combinations of inherited and acquired status a director may have (see Section 3.5). This is my original suggested classification to allow for a micro level of analysis of social status categories.

I recognise that many of these companies are accused of committing multiple types of fraud (e.g., misstated accounts receivable and fictitious revenues), and in these cases, each fraud type violation was reviewed and counted per company. To identify the types of fraud present in the AAERs, and to classify these frauds according to their type, I included a fraud taxonomy used in prior research to capture the type of fraud (Dechow, et al., 2010). However, I adapted the fraud type taxonomy developed by Dechow, Ge and Schrand (2010) by splitting revenue frauds into (A) fictitious revenues and (B) premature revenue recognition, resulting in 12 types of fraud rather than the 11 general categories of fraud type. This modification enables better analysis of the severity of the fraud committed. For fraud severity I follow Bonner et al. (1998) and use fictitious frauds, which are considered more egregious due to the nature of the deception.

The resultant fraud type taxonomy has 12 general categories of fraud. These are as follows: (A) fictitious revenues, (B) premature revenue recognition, (C) misstatement of other expense /shareholder equity account, (D) capitalized costs of assets, (E) misstated accounts receivable, (F) misstated inventory, (G) misstated cost of goods sold, (H) misstated liabilities, (I) misstated reserve account, (J) misstated allowance for bad debt, (K) misstated marketable securities, and (L) misstated payables. Each category contains multiple individual schemes. Subsequent discussions of the test variables are based on this taxonomy. Additionally, using a prior taxonomy developed by Dechow et al. (2010) assists in benchmarking the findings against prior literature.

I also recognise that fraud types differ in their severity. Fictitious frauds are considered more egregious due to the nature of the deception. I include three measures of fraud severity in the model. The first measure, fraud length is the cumulative number of years a firm committed fraud (FraudLength). The second fraud severity measure, fraud count is the cumulative number of different types of fraud committed by the firm (FraudCount). Multiple frauds can exist within each fraud type. As noted in each instance, the test variable is an indicator variable denoting the presence or absence of any of the specified fraud types or schemes. Appendix

A. presents the distribution of the start of the alleged frauds per year as identified by the SEC AAER. In line with DeChow, et al. (2011), the year 2000 has a relatively high proportion (23%) of fraudulent companies. The years 2011-2014 have non-fraudulent companies due to the average time lag of six years between the commission of a fraud scheme and issuance of an AAER by the SEC.

Frauds can be perpetrated in a variety of ways, with some fraud schemes occurring more frequently than others. For the present study, I use the taxonomy of DeChow et al. (2010) to reflect the common fraud schemes found in the samples. As can be seen in Appendix B.1, by far the most common technique used to fraudulently misstate financial statement information in our sample involved deliberate overstatement of revenue. This pattern is consistent with evidence from DeChow et al. (1996), Faber (2005), and COSO (1999). In fact, over 50% of revenue recognition cases involve premature revenue recognition with the most frequently stated goal being overstatement of earnings. Appendix B.1 and B.2 provides descriptive statistics about the fraud categories in the taxonomy. The majority of cases in our sample include misstated revenue frauds, mostly done by (A) early revenue recognition (27%), or (B) fictitious revenue recognition (34%). It is important to note that the vast majority of AAERs include more than one type of FFR. Thus, it is assumed that a firm can perform more than one type of fraud. The main motivation for violation and fraudulent behaviour is to boost profits and bolster financial performance.

5.3.2 Sample Description

5.3.2.1 Classification of Fraud Schemes by Director Involvement

Table 2 below reveals the most frequent types of FFR schemes in the sample, as obtained from the AAERs.

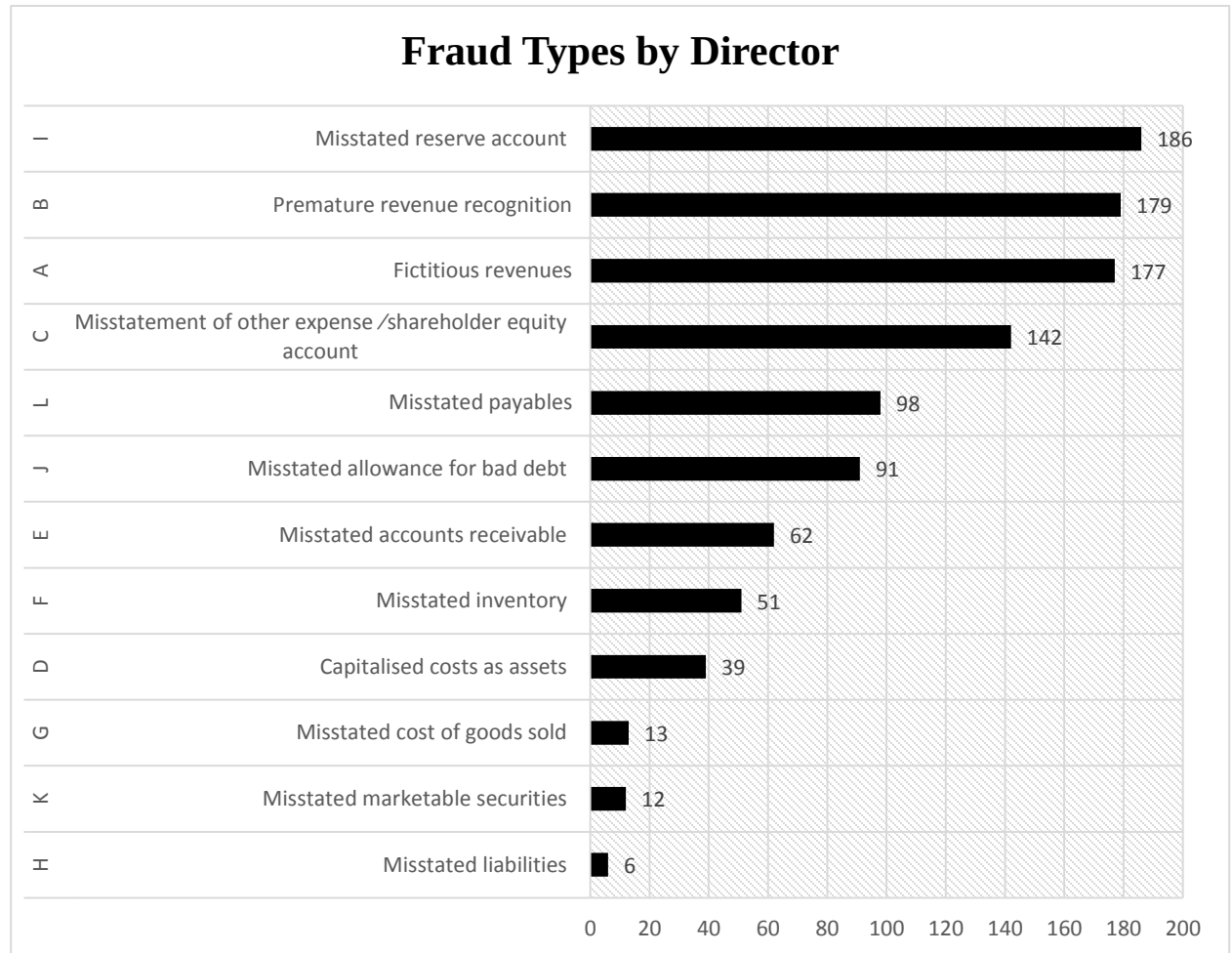


Table 2: The Most Common Fraud Types Committed by Directors in the Full Sample

Overall, (I) misstated reserve account occurs most frequently in the sample (186 cases and 39% of directors), closely followed by (K) premature revenue recognition (179 cases and 38% of directors), and (A) fictitious revenues (177 cases and 37% of directors). This is consistent with the findings of (Loebbecke, et al., 1989) who found that revenue frauds are more common than

accounts payable frauds. This is also consistent with the sample used by DeChow et al. (2010). Appendix B.1 outlined the FFR types employed by companies. Fraud type (C), misstatement of other expenses /shareholder equity account ranked fourth (142 cases and 30% of directors). The fraud type (L) misstated payables ranked fifth (98 cases and 21% of directors). Fraud type (J) misstated allowance for bad debt ranked sixth (91 cases and 19% of directors). The least common fraud types are types (K) misstated cost of goods sold (3%), (B) misstated marketable securities (3%), and (H) misstated liabilities (1%).

5.3.2.2 Classification of Fraud Schemes by Director Social Status

Appendix G.4 summarises the breakdown of the total sample of directors by social status category and frequencies of fraud types.

Appendix G.1 to G.3 summarises the inherited, acquired and overall status subsample frequencies for the different fraud schemes. In the cases of inherited status, acquired status, and overall status subsamples, the most frequent fraud schemes are identical to that of the overall sample. The most common fraud categories include (I) misstated reserve account, (C) misstatement of other expense /shareholder equity account, and (B) premature revenue recognition. The three types of Fraud scheme that are least common across all groups include: (G) misstated cost of goods sold, (H) misstated liabilities, and (J) misstated allowances for bad debt.

The three types of fraud most commonly committed by directors with low inherited status are (I) misstated reserve account (164 directors or 20.1%), (B) premature revenue recognition (168 directors or 19.8%) and (A) fictitious Revenues (157 directors or 19.3%). The most common types of fraud committed by directors conferred with low inherited status are the same as the most common fraud types used within the full sample. The least common fraud types are (G) misstated cost of goods sold (11 directors, or 1.4%), (K) misstated marketable securities (11 directors, or 1.4%) and (H) misstated liabilities (5 directors, or 0.6%). As Appendix G.1 indicates that fraud type (I) misstated reserve account is the type most common commonly committed by directors conferred with high inherited status (22 cases, or 15.7% of directors). The Type (A) fictitious revenues is ranked second, and fraud type (B) premature revenue recognition is ranked third.

As outlined in Appendix G.1, there are no differences in the three most common types of fraud committed between low and high overall status directors. They are type (I) misstated reserve account (ranked first), (B) premature revenue recognition (ranked second among low overall status directors but ranked third among high overall status directors), and type (A) fictitious revenues (ranked third among directors with low overall status and ranked second among high inherited social status directors).

5.3.2.3 Classification of Fraud Schemes by 4-status Categories

Appendix G.4 indicates that there are no differences in the most common types of fraud between the four status categories. The most common type of fraud for all four categories is (I) misstated reserve account. The status category Pedigree Elite is small with only 12 directors; therefore, it was excluded from further analysis.

The three most common types of frauds consist of (I) misstated reserve account, (A) fictitious revenues, and (B) premature revenue recognition for all other categories. Within the categories of Social Laggards and Social Climbers, (B) premature revenue recognition is ranked second and (A) fictitious revenues is ranked third, whereas within the category Supreme Elite fraud type (B) premature revenue recognition is ranked third and (A) fictitious revenues ranked second. Fraud (B) premature revenue recognition was ranked fourth within categories Social Laggards and Social Climbers, and ranked sixth within the Supreme Elite category. The three types of fraud that are least common within all three categories are (G) misstated cost of goods sold, (H) misstated liabilities, and (K) misstated marketable securities. The fraud types (I) misstated reserve account, (A) fictitious revenues and (L) misstated payables are most common in the categories Social Laggards, Social Climbers, and Supreme Elite.

5.4 Results

This section presents the results of testing the hypotheses.

5.4.1 H1: Influence of High Inherited Status on Fraud Type

Hypothesis 1 predicts that directors conferred with high inherited status are more likely to engage in FFR types (A-L) compared to directors conferred with low inherited status. Hypothesis 1 is accepted within fraud types (B) premature revenue recognition and (C) misstatement of other expenses/shareholder equity accounts. Therefore, these types of fraud have an association with inherited status. For fraud type (B) premature revenue recognition, the proportion of the fraudulent directors conferred with low inherited status is 19.8%, while the proportion of the fraudulent directors conferred with high inherited status is 12.9%. The p-value is 0.03; that is less than 0.05. Therefore, this difference is statistically significant. Therefore, within (B) premature revenue recognition, the proportion of fraudulent directors conferred with high inherited status is less than the proportion of the fraudulent directors conferred with low inherited status at the significance level 0.05. For fraud type (C) misstatement of other expenses/shareholder equity accounts, the proportion of the fraudulent directors conferred with low inherited status is 15.8%, while the proportion of fraudulent directors conferred with high inherited status is 9.3%. The significance is 0.025; that is less than 0.05. Therefore, this difference is statistically significant. The proportion of fraudulent directors conferred with high inherited status is less than the proportion of the fraudulent directors conferred with low inherited status within (C) misstatement of other expenses/shareholder equity accounts at the significance level 0.05. Therefore, H1 is accepted within fraud of (C).

The other common types of fraud including (A) fictitious revenues and (I) misstated reserve accounts have no association with inherited status.

5.4.2 H2: Influence of High Acquired Status on Fraud Type

Hypothesis 2 predicts that directors conferred with high acquired status are more likely to engage in FFR types (A-L) compared to directors conferred with low acquired status. Hypothesis H2 is accepted within types of fraud (I) misstated reserve account, (B) premature revenue recognition, (A) fictitious revenues, and (C) misstatement of other expenses/shareholder equity accounts. Therefore, these types of fraud have an association with acquired status.

For fraud type (A) fictitious revenues, the proportion of the fraudulent directors conferred with low acquired status is 24.2%, whereas the proportion of the fraudulent directors conferred with high acquired status is 17.2%. The significance is 0.02; that is less than 0.05. Therefore, within category (A) fictitious revenues the proportion of fraudulent directors conferred with high acquired status is less than the proportion of the fraudulent directors conferred with low acquired status. Therefore, H2 is accepted within fraud type (A) fictitious revenues.

For fraud type (B) premature revenue recognition, the proportion of the fraudulent directors conferred with low acquired status is 25.3%, whereas the proportion of the fraudulent directors conferred with high acquired status is 17.2%. The significance is 0.009. Therefore, within (B) premature revenue recognition the proportion of fraudulent directors conferred with high acquired status is less than the proportion of the fraudulent directors conferred with low acquired status. Therefore, hypothesis H2 is accepted within fraud type (B) premature revenue recognition.

For fraud type (C) misstatement of other expenses /shareholder equity accounts, the significance level of the proportion of the fraudulent directors conferred with low acquired status is 21.0%, whereas the proportion of the fraudulent directors conferred with high acquired status is 13.4%. The significance is 0.008. Therefore, within (C) misstatement of other expenses /shareholder equity accounts the proportion of fraudulent directors conferred with high acquired status is less than the proportion of the fraudulent directors conferred with low acquired status. Therefore, H2 is accepted within fraud type (C) misstatement of other expenses /shareholder equity accounts.

For fraud type (I) misstated reserve account, the proportion of the fraudulent directors conferred with low acquired status is 26.9% whereas the proportion of the fraudulent directors conferred with high acquired status is 17.7%. The significance is 0.004; that is less than 0.05. Therefore, for fraud type (I) the proportion of fraudulent directors conferred with high acquired status is less than the proportion of the fraudulent directors conferred with low acquired status. Therefore, H2 is accepted within fraud type (I).

5.4.3 H3: Influence of Social Status Category on Fraud Type

There are nine tests for Hypothesis 3, one for each fraud type as test variables. As there are only a small number of fraudulent directors of concrete types in some cases, the one-sided Fisher's exact test was used because this test provides more accurate results in the case of a small sample than a Chi-square test (Freeman & Julious, 2007).

Hypothesis H3 is accepted within the type of fraud (B) premature revenue recognition, and is partially accepted or partially rejected within types of fraud (I) misstated reserve account, (A) fictitious revenues, (C) misstatement of other expense/shareholder equity account, (D) capitalized costs as assets, and (E) misstated accounts receivable. Therefore, fraud type (B) premature revenue recognition has a clear association with inherited status and acquired status simultaneously, and fraud of types (I) misstated reserve account, (A) fictitious revenues, (C) misstatement of other expenses/shareholder equity account, (E) misstated accounts receivable, and (D) capitalized costs as assets have a partial association with inherited status and acquired status simultaneously (a questionable association).

For fraud type (A) fictitious revenues, the proportion of the fraudulent directors in the category Social Laggards is 25.3%; that is more than the other categories (Social Climbers – 17.7%, Supreme Elite – 14.8%, Pedigree Elite – 8.3%). In the cases of the Social Climbers and Supreme Elite categories, these differences are statistically significant. For the Pedigree Elite category, the significance is 0.165, or greater than 0.05. Therefore, the difference between the status categories of Social Laggards and Pedigree Elite is statistically insignificant. In general, Hypothesis 3 is partially accepted within fraud (A) in the sense that directors conferred with both low inherited status and low acquired status are more likely to engage in fraud compared to directors from the Social Climbers and Supreme Elite categories, and there is no difference between the status categories of Social Laggards and Pedigree Elite.

For fraud type (B) premature revenue recognition, the proportion of the fraudulent directors in the category Social Laggards is 27.6%; that is more than other categories (Social Climbers – 18.1%, Supreme Elite – 15.6%, and Pedigree Elite – 16.7%). These differences are statistically significant

at the significance level of 0.05 because the corresponding significances are less than the significance level. Therefore, H3 is accepted within fraud type (B) premature revenue recognition.

For fraud type (C) misstatement of other expenses /shareholder equity accounts, the proportion of the fraudulent directors in the category Social Laggards is 22.4%; that is more than for other groups (Social Climbers – 14.1%, Supreme Elite – 10.2%, and Pedigree Elite – 0%). In the cases of the Social Climbers and Supreme Elite categories, these differences are statistically significant. For the Pedigree Elite category the significance is $0.054 > 0.05$. Therefore, the difference between the status categories of Social Laggards and Pedigree Elite is statistically insignificant. In general, Hypothesis 3 is partially accepted within fraud type (C) misstatement of other expense /shareholder equity account, in the sense that directors conferred with both low inherited status and low acquired status are more likely to engage in fraud compared to directors from the Social Climbers and Supreme Elite categories, and there is no difference between the status categories of Social Laggards and Pedigree Elite.

For fraud type (I) misstated reserve account, the proportion of the fraudulent directors in the Social Laggards category is 27.6%; that is more than the other categories (Social Climbers – 18.1%, Supreme Elite – 15.6%, and Pedigree Elite – 16.7%). In the case of status categories Social Climbers and Supreme Elite, these differences are statistically significant at the significance level of 0.05 because the corresponding significances are less than the significance level. For the Pedigree Elite category the significance is $0.327 > 0.05$; therefore, the difference between the Social Laggards and Pedigree Elite categories is statistically insignificant. In general, Hypothesis 3 is partially accepted partially with fraud (I) in the sense that directors conferred with both low inherited status and low acquired status are more likely to engage in fraud (I) compared to directors from the Social Climbers and Supreme Elite status categories, and there is no difference between the status categories of Social Laggards and Pedigree Elite.

5.4.4 H4: Influence of Overall Status on Fraud Type

Hypothesis H4 is accepted within types of fraud (I) misstated reserve account, (B) premature revenue recognition, (A) fictitious revenues, and (C) misstatement of other expenses /shareholder

equity accounts. Therefore, these types of fraud have an association with overall status. The other most common types of fraud have no association with overall status.

For fraud type (A) fictitious revenues the proportion of the fraudulent directors conferred with low overall status is 25.3%, whereas the proportion of the fraudulent directors conferred with high overall status is 17.1%. The significance is 0.009; that is less than 0.05. Therefore, within type (A) fictitious revenues the proportion of fraudulent directors conferred with high overall status is less than the proportion of the fraudulent directors conferred with low overall status. Therefore, H4 is accepted within fraud type (A) fictitious revenues. As fraud of type (A) fictitious revenues is included in the assessment of fraud severity, hypothesis H4 is equivalent to H5. Therefore, H5 is accepted within fraud of (A) fictitious revenues.

For fraud type (B) premature revenue recognition the proportion of the fraudulent directors conferred with low overall status is 27.0%, whereas the proportion of the fraudulent directors conferred with high overall status is 16.9%. The significance is 0.002; that is less than 0.05. Therefore, this difference is statistically significant. Therefore, within type (B) premature revenue recognition, the proportion of fraudulent directors conferred with high overall status is less than the proportion of the fraudulent directors conferred with low overall status. Therefore, H4 is accepted within fraud type (B) premature revenue recognition.

For fraud type (C) misstatement of other expenses /shareholder equity accounts at the significance level the proportion of the fraudulent directors conferred with low overall status is 22.4%, whereas the proportion of the fraudulent directors conferred with high overall status is 13.2%. The significance is 0.002; that is less than 0.05. Therefore, this difference is statistically significant. Therefore, the proportion of fraudulent directors conferred with high overall status is less than the proportion of the fraudulent directors conferred with low overall status within fraud of (C) misstatement of other expenses /shareholder equity accounts. Therefore, H4 is accepted within fraud type (C) misstatement of other expense /shareholder equity account.

For fraud type (I) misstated reserve account the proportion of the fraudulent directors conferred with low overall status is 27.6%, whereas the proportion of the fraudulent directors conferred with

high overall status is 17.7%. The significance is 0.003; that is less than 0.05. Therefore, this difference is statistically significant. Therefore, for fraud type (I) the proportion of fraudulent directors conferred with high overall status is less than the proportion of the fraudulent directors conferred with low overall status. Therefore, H4 is accepted within fraud type (I). As fraud type (I) is included in specific fraud, H4 is equivalent to H5. Therefore, Hypothesis H5 is accepted within fraud type (I).

5.4.5 H5: Fraud Severity

In this section I analyse the difference in fraud severity of directors within the following subgroups: inherited status, acquired status, and overall status. Hypothesis H5 is accepted within types of fraud (A) fictitious revenues and (I) misstated reserve account. Therefore, these types of specific fraud have an association with overall status. Specific fraud of type (J) misstated allowance for bad debt has no association with overall status.

The Chi-square test is used to investigate the differences in the proportions of fraudulent directors who carried out severe fraud (AIJ) by inherited status, acquired status and the four status categories of Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite. Additionally, the Fisher's one-sided exact test results are presented in Appendix G.16.

As indicated in Appendix G.16, the proportion of directors who carry out severe frauds with high inherited status (12.1%) is more than the proportion of directors who carry out severe types of fraud with low inherited status (11.5%). But this difference is statistically insignificant at the level of significance 0.05 because the p-value of the Chi-Square statistic and Fisher's exact test are more than the significance level. Therefore, there are no differences in the proportions of severity between fraudulent directors in the subgroups with high and low inherited status.

As indicated in Appendix G.16, the proportion of directors who carry out severe frauds with high acquired status (10.9%) is less than the proportion of directors who carry out severe frauds with low acquired status (14.5%). But this difference is statistically insignificant at the level of significance, 0.05, because the p-value of the Chi-square statistic and Fisher's exact test are more

than the significance level. Therefore, there are no differences in the proportions of severity among fraudulent directors in the subgroups with high and low acquired status.

As indicated in Appendix G.16 the category of Pedigree Elite has the highest proportion of fraudulent directors within the severe fraud types (16.7%), followed by the Social Laggards (14.4%), Supreme Elite (11.7%), and Social Climbers (10.8%). But the differences between any two categories are insignificant at the significance level of 0.05 because all the p-values are more than 0.05. Therefore, there are no differences between the status categories of Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite in the proportions of fraudulent directors who carried out severe types of fraud.

As outlined in Appendix G.17, the U-test results are similar to the Chi-square test results. The significances of Z-values for comparisons between all categories are more than 0.05 (the mean, in this case, is the proportion of fraudulent directors - all "0"+ all "1" divided by the total number of the directors in the category).

5.4.6 Adjusted Logistic Regression: Fraud Severity

5.4.6.1 Fraud severity and inherited status and acquired status

As outlined in Appendix G.18, the results of the Hosmer and Lemeshow (1989) (HL) Test indicates that this model is appropriate, because the Chi-square statistic of this test has a p-value less than 0.05 (see Appendix G.19).

The adjusted logistic regression equation of this model is below:

$$\log\left(\frac{p}{1-p}\right) = \beta_1 \cdot InheritedStatus + 0.334 \cdot FraudLength + \beta_2 \cdot NYS + \beta_3 \cdot FExp - 0.57 \\ \cdot DtrTenure - 0.038 \cdot \%GD$$

Equation 4: Adjusted logistic regression

Where,

$\beta_1=0$ if InheritedStatus= “high” and -0.740 when Inherited Status= “low”;

$\beta_2=0$ if NYS= “1” and -0.354 when NYS= “0”

$\beta_3=0$ if FExp= “1” and -0.650 when FExp= “0”

The adjusted logistic regression equation indicates that the proportion fraudulent/non-fraudulent directors who carried out severe types of fraud with low inherited status is less than those directors with high acquired status (the corresponding $\text{Exp}(B)<1$). This difference is significant at the significance level of 0.05.

Therefore, adjusted by FraudLength, NYS, FExp, DtrTenure, %GD the regression indicates that directors conferred with low inherited status have a lower proportion of severe fraudulent directors than the category of directors conferred with high inherited status.

5.4.6.2 Fraud Severity and 4-categories

The adjusted regression for fraud severity and the status categories Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite are outlined in Appendix G.19. This model is appropriate because the Chi-square statistic of the Hosmer and Lemeshow Test (1989) indicates (see Appendix G.20) that test has a p-value less than 0.01 (all coefficients together of the model significantly differ from zero).

The adjusted logistic regression equation of this model for the Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite categories is outlined below:

$$\log\left(\frac{p}{1-p}\right) = \beta_1 \cdot ISAS + 0.337 \cdot \text{FraudLength} + \beta_2 \cdot \text{NYS} + \beta_3 \cdot \text{FExp} - 0.53 \cdot \text{Tenure} - 0.037 \cdot \%GD$$

Equation 5: Adjusted Logistic Regression

Where,

$\beta_1=0$ = “Supreme Elite”,

$$\beta_1 = -1.183 = \text{"Social Laggards"}$$

$$\beta_1 = -1.667 = \text{"Social Climbers"}$$

$$\beta_1 = -0.315 = \text{"Pedigree Elite"}$$

$$\beta_2 = 1 \text{ if NYS} = "1" \text{ and } -0.773 \text{ when NYS} = "0"$$

$$\beta_3 = 0 \text{ if FExp} = "1" \text{ and } -0.677 \text{ when FExp} = "0"$$

The adjusted regression by FraudLength, NYS, FExp, %GD, and DtrTenure indicates that odds (specific fraud/non-fraud) for the categories of Social Laggards and Social Climbers are less than for the category Supreme Elite because the corresponding coefficients $\text{Exp}(B)$ are 0.306 and 0.187. The difference between the odds for the categories of Pedigree Elite and Supreme Elite is insignificant because the $p\text{-value} = 0.714$.

The regression adjusted by FraudLength, NYS, FExp, DtrTenure, %GD indicates that directors conferred with low inherited status have a lower proportion of severe fraudulent directors compared to directors with high inherited status.

Regression indicates that there are not any differences (considering the adjustments) in the proportion of directors who carried out severe types of fraud by directors with acquired status and overall status.

Adjusted by FraudLength, NYS, FExp, DtrTenure, %GD regression indicates that the category of Social Laggard directors have a lower proportion of severe fraudulent directors compared to the category of Supreme Elite directors. Adjusted by FraudLength, NYS, FExp, DtrTenure, %GD the regression indicates that Social Climbers directors have lower proportion of directors who carried out severe types of fraud compared to Supreme Elite directors.

5.4.6.3 Fraud severity and overall status

Hypothesis 5, predicts that directors with high overall status are less likely to commit severe types of fraud. As outlined in Appendix G.21, the proportion of fraudulent directors (AIJ) in the

subgroup with high overall status (11%) is higher than the proportion of fraudulent directors in the subgroup with low overall status (14.4%). The Chi-Square statistic has a value of 1.246 and a significance level of 0.214. Therefore, the difference between the groups is statistically insignificant at significance level 0.05. At level 0.05 I can conclude that there is no difference between the proportion of severely fraudulent directors (AIJ) in the subgroup with high overall status and the proportion of fraud (AIJ) fraudulent directors in the subgroup with low overall status.

Hypothesis 5 is rejected. There is no difference between the proportions of fraudulent directors in the subgroup with high overall status and low overall status.

The results of the U-test for Hypothesis 5 are reported in Appendix G.22. Within Hypothesis 5, the U-test indicates a mean rank of 490.53 for fraudulent directors conferred with low overall status, while fraudulent directors conferred high overall status have a mean rank of 474.59. This means that directors with high overall status are less likely to commit types of fraud that are more severe (AIJ). But the Z-statistic has a p-value of 0.214, which indicates that this difference is statistically insignificant. Therefore, the results of the U-test indicate that there are no statistically significant differences between groups of fraudulent directors conferred with high and low overall status in terms of severity of fraud.

For Hypothesis 5, a simple logistic regression model was developed with a binary variable which indicates the severity of the fraud and uses overall status as the independent variable. The corresponding results are shown in Appendix G.23

The equation for the regression is:

$$\log\left(\frac{p}{1-p}\right) = -2.088 + \beta \cdot OverallStatus$$

Where:

p – The probability that director is a specific fraud;

$\beta=0$ if OverallStatus= “high” and $\beta=0.303$ when OverallStatus= “low”.

As outlined in Appendix G.23, the corresponding coefficient of overall status (low) - $\text{Exp}(B)$ is 1.354. This indicates that the odds for directors conferred with low overall status are 1.354 times more likely to commit FFR compared to directors conferred with high overall status. But the p-value of this coefficient is 0.215; that is more than the significance level 0.05. Therefore, this result is statistically insignificant at the level of 0.05. There is no difference in terms of fraud types (AIJ) between directors conferred with high and low overall status. Therefore, H5 is not confirmed by the simple logistic regression model.

In summary, the simple logistic regressions are confirmed for H1, H2, H3, and H4. H5 is not confirmed. Hypothesis H5 is also rejected by the U-test results. These results are good and robust. All tests give 100% consistent results.

This indicates that the adjusted logistic regression doesn't confirm H5. There is no difference between directors conferred with high and low overall status in terms of the impact on frequency fraud types (AIJ). See Appendix G.15.

5.5 Conclusion

In this chapter I investigate whether director social status relates to the types of fraud committed or the severity of the fraud. Outlined in Appendix G.14 Fraud Type is a summary of the results of testing all the hypotheses. Using a rich taxonomy developed by DeChow et al. (2010), I find that two types of fraud (B) premature revenue recognition and (C) misstatement of other expenses /shareholder equity accounts have an association with high inherited, high acquired, and high overall status.

The likeliness of directors committing fraud types (F) misstated inventory, (J) misstated allowance for bad debt, and (L) misstated payables has no association with inherited status, acquired status, and overall status (all hypotheses are rejected within these types of fraud). Fraud of (D) capitalised costs as assets and (E) misstated accounts receivable likely has a weak association with both inherited status and acquired status. In relation to the impact of director social status on fraud severity, I find that fraud of (I) misstated reserve accounts and (A) fictitious revenues likely has an association with high acquired status. As outlined in this research, these two types of fraud are

considered more severe. What is interesting is that these two fraud types are the only fraud types that have a relationship with high acquired status. The third type of fraud considered to be severe was (J) misstated allowance for bad debt, but this has no association with acquired status. There are no differences between directors in the status categories of Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite as a proportion of the fraudulent directors who carried out severe types of fraud.

This chapter builds upon the research undertaken in Chapter 5 and finds that low social status directors are more likely to commit lower severity and less complex FFR schemes.

Chapter 6 Director Gender and Social Status and Fraudulent Financial Reporting

6.1 Introduction

Sutherland (1949) defined WCC as ‘crime by a person of high social status and respectability in the course of his occupation’. This gender specific definition was articulated in a historical period in which males made up most the workforce. Therefore, since the inception of the term WCC, the focus of research has been on elite businessmen (Croall, 2003). Therefore, it is not surprising that the initial empirical studies of WCC focused exclusively on males. Croall (2003), in considering the stereotype of white-collar offenders, states that the starting point for building a profile of the typical white-collar offender involves starting with men. This is supported by the official statistics illustrating that men commit 80% of WCC (Haantz, 2002; Holtfreter, et al., 2010; Huffman, et al., 2010; Brady, et al., 2011). However, according to Adler (1975) ‘in the future a greater proportion of wealth and power will pass through feminine hands, and almost all of it will be wielded responsibly. But it would be an unrealistic reversion to quixotic chivalry to believe that, for better or worse, women will be any more honest than men’.

Despite the continuing debate on gender discrimination and the ‘glass ceilings’ in companies (Davidson & Cooper, 1992), a small number of women do achieve positions of power and authority and as such have considerable autonomy (Croall, 2003; Gartner & McCarthy, 2014). However, the relative scarcity of women on corporate boards of directors is a pressing challenge for policymakers, with explicit pressure placed on companies to increase the gender diversity on their corporate boards (EU Progress Report, 2012; Higgs Report, 2003; SOU, 2004). The gender disparity at the top of the corporate ladder have prompted several governments to institute laws or regulations to promote gender diversity on corporate boards. These developments have renewed attention to gender in research on WCC, and has been a relatively recent and welcomed development in the literature. There is a growing body of literature on the subject, including the works of Haantz (2002), Croall (2003), Klenowski et al. (2011), Gottschalk (2010) and Holtfreter

(2013). Thus far, the research has focused on low complexity WCC and has received mixed support in the empirical literature.

In spite of the global call for increased gender diversity on corporate boards of directors, women are still under-represented (Terjesen, et al., 2009). The growth in the number of women holding executive positions in U.S. companies is slow, and the growth in the number of female board members has also been slow (Vinnicombe, et al., 2008; Farrell & Hersch, 2005; Rosener, 2003). The overwhelming majority of new directorships within the S&P 500 Index companies continues to go to men, even though some U.S. companies have pushed for greater diversity on corporate boards. In response to increasing pressure for gender diversity on corporate boards, the number of women occupying board positions within the Fortune 1,000 has risen from 12.5% in 2005 to an average of 18.8% in 2016 in U.S. companies. (Farrell & Hersch, 2005; Katz, et al., 2016).

The purpose of this chapter is to present a gender study of WCC. I examine three areas not undertaken in the prior literature. First, I examine the relationship between female directors on corporate boards of directors and medium-high complexity WCC, namely FFR involvement. The stereotype of the white-collar offender is changing to encompass gender shifts in society. Whether females and males differ so drastically in the context of WCC remains an open empirical question. The issue of gender in relation to WCC is an under-researched area of the sociology, criminology and management literatures. There is extensive theoretical and empirical work on both the causes and consequences of FFR and the benefits of women on corporate boards. However, no prior research has empirically examined the impact of women on corporate boards and the incidence of actual, real detected FFR cases in any country.

Second, I examine the relationship between the social status of female directors on corporate boards and the likelihood of FFR involvement. Researchers have abandoned Sutherland's (1949) operational definition of WCC, not due to its gendered restriction, but primarily because of its emphasis on high social status. It is important to note, however, that the original 'high status' restriction inherently carried with it a gendered restriction, in that women in organisations rarely achieved the occupational positions and opportunity required to commit 'high status' offenses. However, no research to date has specifically tested whether differences in social status explain

gender differences in WCC, particularly regarding FFR. Following Foladare's work (1969), I analyse the impact of two types of director social status based on the source of the status. The first source is inherited status, and in general men enjoy greater inherited status than women in a given group (Basow, 1986; Ickes & Knowles, 1982; Kanter, 1977). The second source is acquired status, which is characterised by the acquisition of special qualities of individual achievement and is attained throughout the life of an individual and assigned based on merit and personal efforts. The question here is how that difference in social status between male and female corporate directors manifests itself in the likelihood of FFR involvement. For women to be appointed to corporate boards they are more likely to have more acquired status (Westphal & Milton, 2000).

Third, I examine the relationship between gender diversity on corporate boards and the likelihood of involvement in FFR. There is a benefit to having both men and women on corporate boards of directors, a benefit that may be connected to the likelihood of FFR through the broadening of board diversity (Eagly & Carli, 2007; van Knippenberg, et al., 2004). However, it remains unclear whether gender diversity has a meaningful benefit on the reduction of FFR and an impact on corporate governance, as later studies by Ahern and Dittmar (2012) have challenged these benefits.

This gender study makes three major contributions to the literature. My first contribution is to the gender and ethics literature, by analysing the relationship between the presence of women on corporate boards and the incidence of moderate to severe WCC, namely FFR. Although the academic literature on the benefits of women in the boardroom has increased (Hillman, et al., 2007; Ruigrok, et al., 2006; Adler, 2001; Carter, et al., 2003; Khan & Vieito, 2013; Terjesen, et al., 2009; Post & Byron, 2015), most studies focus on benefits related to corporate financial performance and better corporate social responsibility (Adler, 2001; Carter, et al., 2003; Khan & Vieito, 2013; Terjesen, et al., 2009; Post & Byron, 2015). To my knowledge, this is the first empirical study to examine the relationship between the presence of women on corporate boards of directors and medium complexity WCC, namely FFR. Few researchers have empirically examined the relationship between woman on corporate boards and the incidence of WCC (Terjesen, et al., 2009).

My second contribution is to develop a better understanding of the relationship between the gender diversity on corporate boards and the likelihood of FFR involvement. There is no consensus in the literature on the benefits of board gender diversity and firm outcomes, and according to Rhode and Packel (2014), there is a need for more empirical research on the benefits of gender diversity. This research has the potential to influence the relative importance of mechanisms for increasing the number of women on boards, such as legislation setting minimum gender quotas, gender diversity targets, or the establishment of mentoring programs and other initiatives. This study is of practical relevance to corporate executives, shareholders, regulators, and policymakers alike in trying to understand the relative importance of developing mechanisms for increasing women on boards including setting minimum gender quotas or targets and other initiatives (Macfarlane, et al., 2010).

My third contribution relates to the impact of social status differences that exist between male and female board members and the incidence of FFR. In chapter 4 of this paper, the social status of a director is related to the incidence of FFR involvement. In this chapter I further test Sutherland's (1940) definition of WCC and empirically analyse the impact of key attributes of his definition, namely director social status and director gender, on the incidence of FFR. Thus, this research will contribute to the growing body of criminology, sociology, and management research that examines the influence of offender characteristics and the incidence of WCC. This research will help to either reinforce or redefine how WCCs are characterised, especially if the characteristics are unjust, i.e. the presumption that women are less fraudulent or that people of high status are more likely to commit fraud.

My findings are as follows, beginning with the finding that there is no significant gender factor in FFR. I present new evidence on the prevalence of women in board of director positions and their role in FFR in a sample of AAERs issued by the SEC. First, the analysis reveals that there is not difference between female directors and male directors in terms of their likelihood of being involved in FFR. Second, I confirm a positive association between increased gender diversity on corporate boards and a reduced likelihood of FFR. I find evidence that gender diversity on corporate boards facilitates improved corporate governance, insofar that the likelihood of FFR is mitigated, implying that regulators and policymakers should consider the worldwide call for more

gender diversity on corporate boards. Third, I find that women who are considered to have a high inherited status in all social status categories relative to men are more likely to commit FFR.

In the first part of this chapter, I detail the hypotheses regarding the impact of female director representation and gender diversity on corporate board of directors on the incidence of FFR. In Sections 6.4 and 6.5 I outline the research methods and results. In Section 6.6 I conclude this chapter with a summary of the findings.

6.2 Research Hypotheses

6.2.1 Director Gender and Fraudulent Financial Reporting

The first hypothesis considers the relationship between director gender and the incidence of FFR involvement. The first hypothesis is:

Hypothesis 1: Female directors are less likely to engage in FFR compared to their male counterparts.

Within hypothesis 1, I hypothesise that female directors on corporate boards of directors are less likely to commit FFR compared to their male counterparts. This is based on the prior research that outlined that females executives are more ethically sensitive than male executives (Bruns & Merchant, 1990; Cohen, et al., 1998; Sundén & Surette, 1998), more risk averse (Bernasek & Shwiff, 2001; Niessen & Ruenzi, 2007; Graham, et al., 2002), more conservative in corporate decision making (Adams & Ferreira, 2009), and improve corporate governance (Nielsen & Huse, 2010; Srinidhi, et al., 2011), as discussed in Section 2.5 of the literature review. However, there have been some conflicting results in the prior literature, and according to Birnberg (2011), although behavioural accounting research has shown greater awareness of gender issues in recent years, whether gender differences exists in terms of FFR is still an open question, and Birnberg calls for more research in this area.

6.2.2 Social Status of Female Directors and Fraudulent Financial Reporting

In hypotheses H2-H7, I examine the relationship between the inherited, acquired and overall social status of female versus male directors and their likelihood of involvement with FFR, as men are

assumed to have higher inherited status than women in a given group (Basow, 1986; Ickes & Knowles, 1982; Kanter, 1977).

Hypothesis 2: Female directors conferred with high inherited status are less likely to engage in FFR compared to male directors conferred with high inherited status,

Hypothesis 3: Female directors conferred with low inherited status are less likely to engage in FFR compared to male directors conferred with low inherited status.

Within hypotheses H2 and H3, I compare the relationship between male and female board directors with high/low inherited status and their likelihood of committing FFR. The question here is how gender differences in inherited social status manifests itself in the likelihood of FFR involvement when comparing male and female directors. The measures of inherited status used in this research include whether a director attended an elite college or university for their undergraduate degree.

Hypothesis 4: Female directors conferred with high acquired status are less likely to engage in FFR compared to male directors conferred with high acquired status.

Hypothesis 5: Female directors conferred with low acquired status are less likely to engage in FFR compared to male directors conferred with low acquired status, female directors conferred with low acquired status are less likely to engage in FFR.

Within hypotheses H4 and H5, I consider the relationship between male and female directors with high/low acquired status and FFR. Despite the hypothesised link between acquired social status and overconfidence, I consider that the possession of high status may have an opposite impact on FFR.

Hypothesis 6: Female directors conferred with high overall status are less likely to engage in FFR relative to male directors conferred with high overall status,

Hypothesis 7: Female directors conferred with low overall status are less likely to engage in FFR relative to male directors conferred with low overall status.

Within hypotheses H6 and H7, I consider the relationship between high/low overall status and FFR involvement.

6.2.3 Status Category of Female Directors and Fraudulent Financial Reporting

In hypotheses H8-H11, I examine the relationship between the social status category of women and men directors and their likelihood of FFR involvement.

Hypothesis 8: Female directors who are Social Laggards are less likely to engage in FFR compared to male directors who are Social Laggards.

Hypothesis 9: Female directors who are Social Climbers are less likely to engage in FFR compared to male directors who are Social Climbers.

Hypothesis 10: Female directors who are Pedigree Elite are less likely to engage in FFR compared to male directors who are Pedigree Elite.

Hypothesis 11: Female directors who are Supreme Elite are less likely to engage in FFR compared to male directors who are Supreme Elite.

Within hypotheses H8-H11, I again hypothesise that female directors are more likely to exhibit more cautious behaviour than men and are less likely to commit FFR in all social status categories.

6.2.4 Director Gender and Fraudulent Financial Reporting Severity

In hypothesis H12 I consider the relationship between the female and male directors conferred with high overall social status and FFR severity.

Hypothesis 12: Female directors conferred with high overall status are less likely to engage in FFR types which are more severe (i.e. fraud types A, I and J in Fraud Taxonomy) compared to male directors conferred with high overall status.

Within hypothesis H12, I hypothesise that female directors conferred with high overall status exhibit more cautious behaviour and are less likely to commit the more severe types of FFR

compared to their male counterparts. The Enron conspiracy, for example, ‘led to over 30 indictments; three were female and each played a minor role’ (Steffensmeier, et al., 2013).

6.2.5 Gender Diversity on Corporate Boards and Fraudulent Financial Reporting

In hypothesis H13 I examine the relationship between gender diversity on corporate board of directors and FFR involvement. As the number of women on corporate boards of directors rises, the women will in fact be more motivated not to conform to the norms of the majority, thus increasing female influence on board processes (Torchia, et al., 2011).

Hypothesis 13: There is a negative relationship between the existence of gender diversity on a board and the likelihood of FFR involvement.

Within hypothesis H13, I predict that gender diversity on corporate boards can operate as a significant moderator for the incidence of involvement in FFR. I predict two mechanisms through which women on corporate boards can mitigate the likelihood of FFR.

The first mechanism is based on the argument that women are believed to be intrinsically more risk averse (Graham, et al., 2002), more likely to champion tougher questions (Branson, 2012), more intensive in their monitoring style (Adams & Ferreira, 2009), and more likely to attend and be more prepared for board meetings (Adams & Ferreira, 2009). Women on corporate boards may have a strong effect on reducing FFR as prior work has also shown gender differences in ethicality (Bruns & Merchant, 1990; Cohen, et al., 1998; Sundén & Surette, 1998).

The second mechanism is through board diversity (Nederveen, et al., 2013; Nielsen & Nielsen, 2013; Staw & Cummings, 1983; Williams & O'Reilly, 1998). Diversity of board members may take a variety of forms that are not limited to gender, and prior research is consistent with the view that diversity mitigates the likelihood of fraud. In the case in which women were already present on a board, the appointment of an additional female would more likely result in a critical mass of individuals, which is a number large enough to challenge the dominance of the old boys' club and disrupt the status quo (Granovetter, 1978).

6.3 Sample Description

The fraud sample contains 183 fraudulent companies that have been identified through an examination of AAERs issued by the Securities Exchange Commission, and 183 control group companies. Following Bilimoria and Piderit (1994) and Zelechowski and Bilimoria (2004), among others, I measure the director's gender through a dummy variable, with 1 representing women and 0 representing men. Out of the fraud sample of 183 fraudulent companies, most fraud offenders are men. The full sample of directors includes 69 female directors (7.2%) and 885 male directors (92.9%). Of the total of 69 female directors 41 were named in an AAER as committing a fraud. Women's access to organisational power structures is rising, but still remains limited.

Within the sample there are no differences in FFR involvement by gender. This is confirmed in the fraud sample of 477 offenders, which included only 41 female offenders and 436 male offenders. It is believed that approximately 80% of white collar criminals are men (Benson, 2002; Bussmann & Werle, 2006; Kardell & Bergqvist, 2009; Wheeler, et al., 1988; Weisburd, et al., 2001; Weisburd, et al., 2001; Gottschalk & Glasø, 2013), and the more complex the WCC the fewer female offenders there are. This mirrors the sample in this study, where approximately 8 percent of the fraud sample was made up of women. When addressing the low fraction of females within the sample, the following reasons are put forward. Thoroughgood et al. (2011) argue that although women occupy an increasing number of leadership roles in supervisory and middle management capacities, they are seldom at the top when it comes to most large organisations.

In Appendix A.9, I report the positions of fraudulent female directors; the highest executive title of female versus male offenders differs significantly. Female pink-collar criminals are at a significantly higher management level than that of men; 54% of female directors have the role of CFO versus 34% of male directors. Next, the social status of female offenders is significantly lower than the status of male offenders. Given the small share of women on corporate boards, women who are appointed are more likely to have more acquired status compared to their male counterparts according to prior research (Westphal & Milton, 2000). However, within my data sample this is not the case; in the sample of directors used in this study 75% of females and 80.9% of men have acquired status (see Appendix H.6 for details).

Gender diversity is defined as the percentage of women on the corporate board as outlined in a company's end of year report. To measure gender diversity, I calculate the percentage of total members of company board of directors who are women.

The following appendices provide a more complete picture of the female representation of my data sample. For the types of fraud schemes used by female directors, see Appendix B.1; for the yearly distribution of fraudulent female directors in the fraud sample, see Appendix

A.Year; and for the industry distributions of fraudulent female directors, see Appendix

Observations across Industries. Appendix B.1 lists the characteristics of male versus female fraud offenders. There are no significant differences between female and male offenders and the types of FFR committed.

6.4 Results

The U-test summary results are reported in Appendix H.4 and outline that women are not less likely to commit FFR. These results are like Fisher's exact test results. For the total sample, and all subsamples excluding the subsample with high inherited status, subsample Pedigree Elite, and subsample Supreme Elite, I discovered that there are no differences according to gender in the commission of FFR.

6.4.1 Director Gender and Fraudulent Financial Reporting

Hypothesis 1 predicts that female directors are less likely to commit FFR compared to their male counterparts. As outlined in Fisher's exact test results the proportion of fraudulent female directors within the full female sample is 59.4%, and the proportion of fraudulent male directors within the full male sample is 49.3% (see Appendix H.1). But the significance of the Fisher's exact test is 0.133 and more than significance level 0.05, so the null hypothesis is not rejected. The difference between the proportions of fraudulent directors within gender groups is statistically insignificant. Therefore, I must conclude that there are no differences by gender in the commission of FFR.

The U-test results indicates that the mean rank of FFR status is 522.3 for the female subsample compared to 474 for the male subsample (see Appendix H.3). For the dependent variable FFR status (0, 1), the higher the mean rank the higher the proportion of fraudulent directors. The data shows that the proportion of fraudulent female directors within the female sample is higher than the proportion of fraudulent male directors within the male sample. But the Z-statistic has a value of -1.624, and the p-value is 0.104; this is more than the significance level of 0.05. Therefore, I cannot reject the null hypothesis and there are no differences in committing FFR by gender.

6.4.2 Social Status of Female Directors and Fraudulent Financial Reporting

For Hypotheses 2-11, I investigated the difference between director gender and FFR within the following subgroups: low inherited status, high inherited status, low acquired status and high acquired status. When I compare the subgroups, the size of the subsample of female directors is very small and the Chi-square test is not appropriate due to the small sample size. Therefore, I use the Fisher's exact test instead of the Chi-square test, as the Fisher's exact test has no sample size limitations (Fisher, et al., 2011).

Hypothesis 2: High Inherited Status Female Directors and Fraudulent Financial Reporting

Hypothesis 2 predicts that female directors conferred with high inherited status are less likely to engage in FFR compared to male directors conferred with high inherited status. For directors with high inherited status the proportion of fraudulent females is 100% and the proportion of fraudulent men is 35.8% (see Appendix H.1). This indicates that female directors conferred with high inherited status are more likely to commit FFR compared to male directors conferred with high inherited status. This difference is statistically significant because the p-value Fisher's exact test is $0.003 < 0.01$. Therefore, I reject the null hypothesis.

The U-test results for the sample of directors conferred with high inherited status has a higher mean rank of 113.50 for the female subsample compared to 68.57 for the male subsample (see Appendix H.3). Therefore, the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample. The Z-statistic has value -3.148 and p-value 0.002, which is less than the significance level 0.01. Therefore, I

reject the null hypothesis. Females are more likely to commit FFR than men in sample of directors conferred with high inherited status.

Hypothesis 3: Low Inherited Status Female Directors and Fraudulent Financial Reporting

Hypothesis 3 predicts that female directors conferred with low inherited status are less likely to engage in FFR compared to male directors conferred with low inherited status. For low inherited status directors, the proportion of fraudulent female directors is 55.6% and the proportion of fraudulent male directors is 51.7% (see Appendix H.1). This difference is statistically insignificant as the p-value Fisher's exact test is $0.601 > 0.05$. Therefore, I cannot reject the null hypothesis. I conclude that there are no differences in committing FFR by gender within the sample of directors with low inherited status.

The U-test results for the subsample with low inherited status has a higher mean rank of 422.11 for the female subsample compared to 406.27 for the male subsample (see Appendix H.3). This indicates that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample with low inherited status. The Z-statistic has the value -0.593 and the p-value is 0.553, which is statistically insignificant. Therefore, I cannot reject the null hypothesis. There is no difference in committing FFR by gender in the sample of directors conferred with low inherited status.

Hypothesis 4: High Acquired Status Female Directors and Fraudulent Financial Reporting

Hypothesis 4 predicts that female directors conferred with high acquired status are less likely to engage in FFR compared to male directors conferred with high acquired status. For directors with high acquired status, the proportion of fraudulent female directors is 59.6% and proportion of fraudulent male directors is 46.1%. (See Appendix H.1). This indicates that female directors with high acquired status are more likely to commit FFR compared to male directors with high acquired status. However, the two-sided p-value of the Fisher's exact test is $0.063 > 0.05$. Therefore, I cannot reject the null hypothesis.

The U-test results for the subsample with high acquired status has a higher mean rank of 432.92 for the female subsample compared to 380.98 for the male subsample (see Appendix H.3). The Z-

statistic has a value of -1.886, and the p-value of 0.059 is higher than the significance level of 0.05. Therefore, I cannot reject the null hypothesis. I conclude that there is no difference in committing FFR by gender in the subsample of directors conferred with high acquired status.

Hypothesis 5: Low Acquired Status Female Directors and Fraudulent Financial Reporting

Hypothesis 5 predicts that female directors conferred with low acquired status are less likely to engage in FFR compared to male directors conferred with low acquired status. For directors with low acquired status the proportion of fraudulent female directors is 58.8% and the proportion of fraudulent male directors is 62.7%. (See Appendix H.1). This indicates that female directors with high acquired status are less likely to commit FFR compared to male directors with high acquired status. This difference is statistically insignificant because the p-value Fisher's exact test is $0.796 > 0.05$. Therefore, I cannot reject the null hypothesis. I conclude that there are no differences in committing FFR by gender within the sample of directors with low acquired status.

The U-test results for the subsample with low acquired status has a higher mean rank of 90.21 within female subsample compared to 93.83 for male subsample (see Appendix H.3). This indicates that the proportion of fraudulent female directors within female subsample is higher than the proportion of fraudulent male directors within male subsample with low acquired status. The Z-statistics has value -0.315 and p-value is $0.752 > 0.05$. There is no difference by gender in committing FFR in the sample of directors conferred with low acquired status.

Hypothesis 6: High Overall Status Female Directors and Fraudulent Financial Reporting

Hypothesis 6 predicts that female directors conferred with high overall status are less likely to engage in FFR compared to male directors conferred with high overall status. For high overall status directors, the proportion of fraudulent female directors is 60.4% and the proportion of fraudulent male directors is 45.5% (see Appendix H.1). This indicates that female directors with high overall status are more likely to commit FFR compared to male directors with high overall status. This difference is statistically insignificant as the p-value Fisher's exact test is $0.045 < 0.05$. Therefore, I must reject the null hypothesis and accept the alternative hypothesis.

The U-test results for the subsample with high overall status has a higher mean rank of 444.47 within the female subsample and 386.57 within the male subsample (see Appendix H.3). This indicates that proportion of fraudulent female directors is higher than the proportion of fraudulent male directors in the subsample with high overall status. The Z-statistic has value -2.091 and the p-value is $0.037 < 0.05$. Therefore, female directors are more likely to commit FFR than men in the sample with high overall status.

Hypothesis 7: Low Overall Status Female Directors and Fraudulent Financial Reporting

Hypothesis 7 predicts that female directors conferred with low overall status are less likely to engage in FFR compared to male directors conferred with low overall status. For directors with low overall status the proportion of fraudulent female directors is 56.3% and the proportion of fraudulent male directors is 66.5% (see Appendix H.1). This indicates that female directors with high overall status are more likely to commit FFR compared to male directors with high overall status. This difference is statistically insignificant because the p-value of the Fisher's exact test is $0.42 > 0.05$. Therefore, I reject the null hypothesis. There are no differences in committing FFR by gender within the subsample of low overall status.

The U-test results for the subsample with low overall status has a higher mean rank of 79.44 within the female subsample and 88.32 within the male subsample (see Appendix H.3). This indicates that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample with high overall status. The Z-statistic has the value of -0.816 and the p-value is $0.414 > 0.05$. I cannot reject the null hypothesis. Female directors are more likely to commit FFR than male directors in the subsample with high overall status. There is no difference in committing FFR by gender in the sample of low overall status.

Summary of Results for Hypothesis 2-7

In summary, the proportion of fraudulent female directors is higher for high inherited status, acquired status and overall status than for low inherited status, low acquired status, and low overall status. But for acquired status the p-value is 0.954 and for overall status the p-value is 0.768. For inherited status p-value is 0.03; that is less than 0.05. Thus, this difference is significant. Therefore,

for female directors I accept the hypothesis: High inherited status directors are more likely to engage in FFR activities compared to directors with low inherited status. The level of acquired and overall status does not impact the incidence of FFR.

6.4.3 Status Category of Female Directors and Fraudulent Financial Reporting

For Hypotheses 8-11, I investigated the difference between director gender and FFR within the four social status categories. The results are outlined below.

Hypothesis 8: Female Social Laggards and Fraudulent Financial Reporting

Hypothesis 8 predicts that female directors who are Social Laggards are less likely to engage in FFR compared to male directors who are Social Laggards. For the Social Laggards category (i.e. directors conferred with low inherited and acquired status), the proportion of female fraudulent directors is 56.3% and the proportion of male fraudulent directors is 66.5% (see Appendix H.1). This difference is statistically insignificant as the p-value Fisher's exact test is $0.42 > 0.05$. Therefore, I cannot reject the null hypothesis. I must conclude that there are no differences in committing FFR by gender for Social Laggards at significance level 0.05. The U-test results for the category Social Laggards shows a mean rank of fraud status as 79.44 within the female subsample and 88.32 within the male subsample (see Appendix H.3 Results). This indicates that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample in the Social Laggards category. But the Z-statistic has a value of -0.816, and the p-value is $0.414 > 0.05$. This indicates that the difference is statistically insignificant. Therefore, I cannot reject the null hypothesis. There is no difference in committing FFR by gender for Social Laggards.

Hypothesis 9: Female Social Climbers and Fraudulent Financial Reporting

Hypothesis 9 predicts that female directors who are Social Climbers are less likely to engage in FFR compared to male directors who are Social Climbers. For Social Climbers (i.e. directors conferred with low inherited and high acquired status), the proportion of female fraudulent directors is 55.3% and the proportion of male fraudulent directors is 47.7% (see Appendix H.1). This indicates that the proportion of fraudulent female directors within the female subsample is

higher than the proportion of fraudulent male directors within the male subsample in the category Social Climbers. But the p-value Fisher's exact test is $0.364 > 0.05$. Therefore, this difference is statistically insignificant and I cannot reject the null hypothesis. There are no differences in committing FFR by gender within the category Social Climbers.

The U-test results for the category Social Climbers shows a mean rank of fraud status 343.02 within the female subsample and 318.72 within the male subsample (see Appendix H.3). This indicates that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample in the category Social Climbers. The Z-statistic has a value of 1.002 and the corresponding p-value is 0.316. Therefore, there is no difference in committing FFR by gender for Social Climbers.

Hypothesis 10: Female Pedigree Elite and Fraudulent Financial Reporting

Hypothesis 10 predicts that female directors who are Pedigree Elite are less likely to engage in FFR compared to male directors who are Pedigree Elite. For Pedigree Elite (i.e. directors conferred with high inherited and low acquired status) the proportion of female fraudulent directors is 100% and the proportion of male fraudulent directors is 9.1% (see Appendix H.1). This indicates that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample in the category Pedigree Elite. The Fisher's exact test has p-value $0.167 > 0.05$. Therefore, this difference is statistically insignificant. Thus, there are no differences in committing FFR by gender within the category Pedigree Elite.

The U-test results for the category Pedigree Elite shows a mean rank of fraud status 11.5 within the female subsample and 6.05 within the male subsample (see Appendix H.3). This means that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample in the category Pedigree Elite. The Z-statistic has a value of -2.236 and the corresponding p-value is 0.025. This indicates that the difference is statistically significant. Therefore, I reject the null hypothesis. Female directors are more likely to commit FFR compared to male directors if they are Pedigree Elite.

Hypothesis 11: Female Supreme Elite and Fraudulent Financial Reporting

Hypothesis 11 predicts that female directors who are Supreme Elite are less likely to engage in FFR compared to male directors who are Supreme Elite. For Supreme Elite (i.e. directors with high inherited and high acquired status) the proportion of female fraudulent directors is 100% and the proportion of male fraudulent directors is 38.2% (see Appendix H.1). This indicates that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample in the category Supreme Elite. The Fisher's exact test has a p-value of $0.01 < 0.01$. Thus, I reject the null hypothesis. There is a difference in committing FFR by gender within subsample Supreme Elite. The proportion of fraudulent directors within the female subsample is higher than within the male subsample. The U-test results for the category Supreme Elite shows a mean rank of fraud status is 102.5 within the female subsample and 62.96 within the male subsample for the category Supreme Elite (see Appendix H.3). This means that the proportion of fraudulent female directors within the female subsample is higher than the proportion of fraudulent male directors within the male subsample in the category Supreme Elite. The Z-statistic has a value of -2.747 and there is a p-value of $0.006 < 0.01$. Therefore, I reject the null hypothesis. Women are more likely to commit FFR than men within the category Supreme Elite.

Summary of Results for Hypothesis 8-11

In two categories with high inherited status (Pedigree Elite and Supreme Elite), female directors are more likely to commit FFR.

6.4.4 Director Gender and Severity of Fraudulent Financial Reporting

For Hypothesis 12 I predict that female directors conferred with high overall status are less likely to engage in types of fraud that are more severe (i.e. fictitious transaction frauds are (A) fictitious revenues, (I) misstated reserve account and (J) misstated allowance for bad debt). The results are reported in Appendix H.6. For female directors, the proportion of fraudulent directors in the subgroup with high overall status (30.2%) and is higher than the proportion of fraudulent directors in the subgroup with low overall status (6.3%). But the p-value of Fisher's exact test is $0.094 > 0.01$. Therefore, this difference is weakly significant. The results are reported in Appendix H.6.

On the other hand, for male directors the proportion of fraudulent directors in the subgroup with high overall status (23.5%) is less than the proportion of fraudulent directors in the subgroup with low overall status (32.3%) within the subsample of male directors. The value of the Chi-Square statistic is 5.297 and the p-value is $0.021 < 0.05$. Therefore, this difference is statistically significant. Therefore, Hypothesis 12 is accepted for men.

6.4.5 Gender Diversity on Corporate Boards and Fraudulent Financial Reporting

For Hypothesis 13 I predict that the higher the percentage of females on a corporate board the lower the likelihood of fraud. The results are robust to using alternative interpretations of the results. First, I analysed the results that are outlined in Chapter 4, in particularly the adjusted regression model. As outlined in Appendix F.13, the coefficient B at %GD is negative (-0.029) so $\text{Exp}(B)$ is less than 1. This means that increasing gender diversity by 1% (i.e. increasing the proportion of women on a corporate board of directors by 1%) reduces the odds of FFR by 2.8% (the proportion of fraudulent /non- fraudulent directors reduces by 2.8%). This result is statistically significant because the p-value at the corresponding coefficient is $0.001 < 0.01$. Similar results were obtained in Chapter 4, the adjusted logistic regression model carried out for overall status (see Appendix F.15).

In this model, the coefficient B at variable %GD also is negative (-0.033) and $\text{Exp}(B)$ has a value 0.967. This indicates that increasing the proportion of women on corporate boards by 1% reduces the odds of FFR by 3.3% if all other variables in this model are fixed (including overall status, ACExist, CCExist, DtrTenure, DtrGender, and NYS). The adjusted logistic regression model in Chapter 4 for H3-H5 Social Laggards, Social Climbers, Pedigree Elite, and Supreme Elite (see Appendix F.14) shows B at variable %GD as -0.027 (significance 0.02) and $\text{Exp}(B)=0.974$. This also indicates that increasing proportion of women on corporate boards by 1% reduces the odds of FFR by 2.6% if all other variables in this model are fixed (including status category (ISAS), and DtrTenure).

To test Hypothesis 13, I developed a simple logistic regression model with only %GD as the independent variable. The results are reported in Appendix H.7. The coefficient B at variable

%GD has a negative value (-0.016) so $\text{Exp}(B)=0.984$. This indicates that increasing the proportion of women on corporate boards by 1% reduces the odds of FFR by 1.6%. These results are statistically significant at significance level 0.05 because the p-value at B is $0.014 < 0.05$. Thus, all logistic models indicate that increasing the proportion of women on corporate boards of directors reduces the likelihood of FFR.

The median value of variable %GD is 0% and the mean is 5.9%. I created two subgroups with $\%GD < 5.9$ (%GD on corporate boards is less than the sample mean) and $\%GD \geq 5.9$ (%GD on corporate boards is greater than the sample mean). As outlined in Appendix H.8, the proportion of fraudulent directors in companies with low %GD on corporate boards is 53.5%, whereas the proportion of fraudulent directors in companies with high %GD on corporate boards is 45.4%. This indicates that increasing gender diversity on corporate boards is likely to reduce the incidence of FFR. This difference is statistically significant because the Chi-square statistic has a significance level of 0.013. Therefore, the Chi-square test results indicate that the increasing proportion of women on corporate boards reduces the likelihood of FFR.

A U-test is used to compare the mean ranks of fraud status (i.e. the higher the mean rank, the higher probability of FFR because fraud status has values of either 0 or 1) in subgroups with low and high %GD on the corporate board. The results are reported in Appendix H.9. The group with low %GD on the corporate board has a higher mean rank of fraud status (494.35) than the group with a high %GD on the corporate board (455). This indicates that increasing the gender diversity on corporate boards will likely reduce the incidence of FFR. The value of the Z-statistic is -2.48, and the corresponding p-value is $0.013 < 0.05$. Therefore, this difference is statistically significant.

The U-test results also indicate that increasing the proportion of females on corporate boards reduces the likelihood of FFR. I first investigate three groups: 1) with the %GD less than mean ($< 5.9\%$), 2) with the %GD higher than mean (≥ 5.9), and 3) with the %GD higher than 'mean + standard deviation' ($\geq 5.9 + 7.9 \approx 14\%$) (See results in Appendix H.10). These results indicate that there are no differences by gender in committing FFR in all three groups. In all three cases, the p-values are greater than 0.05. Therefore, the differences between male and female directors are insignificant. It would be interesting to investigate groups with proportion of females on

corporate board higher than 50%. But only three companies within the sample used in this research has this high percentage of females. Therefore, I can conclude that increasing the %GD on corporate boards to the mean + st.deviation does not change the situation; there are no differences in committing FFR by gender.

I next investigate FFR involvement within women depending on %GD on the corporate board. The results are reported in Appendix H.10. I compare groups with %GD less than mean and %GD higher than mean; the results indicate that the proportion of fraudulent women directors in the group with low %GD on corporate boards is 75%, and the proportion of fraudulent women directors in the group with high %GD on corporate board is 54.7%. But the difference is insignificant at level 0.05, as the p-value of the Chi-square statistic is 0.148, and that is higher than 0.05.

For comparison groups with %GD less than mean+st.deviation and higher than mean+st.deviation, Appendix H.11 indicates that the proportion of a fraudulent female directors in the subgroup with low %GD on corporate boards is 69.6%, and the proportion of fraudulent female directors in the subgroup with high %GD on corporate boards is 39.1%. This difference is statistically significant as the p-value of the Chi-square statistics is 0.015. Therefore, women are less likely to commit FFR if %GD on corporate boards is higher than “mean + st.deviation level” in comparison to women in the group with less %GD on corporate boards.

Summary of Results for Hypothesis 13

In summary, there is a positive association between gender diversity on corporate boards and decreased likelihood of FFR. Specifically, the regression results, Chi-square test and U-test results indicate that increasing the proportion of female directors on a corporate board reduces the likelihood of FFR. The findings suggest that boosting gender diversity on boards by higher than the mean + standard deviation level reduces the likelihood of FFR.

6.4.6 Robustness Checks

A two-step estimation Probit model was used for the testing of all hypotheses. In the first step, the simple Probit model was estimated as:

$$\text{Pr}(\text{status_fraud} = 1) = F(a + b \cdot \text{DtrGender})$$

Where a-intercept and b coefficient which has a nonzero value if DtrGender=Female. If $b < 0$, the probability of engaging in fraud by a female is lower as compared to their male counterparts.

As a second step, the adjusted Probit model is estimated. The p-value level of 0.05 was chosen as the significance level. The probability of engaging in FFR is the dependent variable.

Step 1: Simple Probit Models for Hypotheses H1-H12

The summary results of the first stage of testing H1-H12 are reported in Appendix H.12. The coefficient at DtrGender=Female has negative values in the cases of H5, H7, and H8, but all these results are statistically insignificant. The coefficients at DtrGender=Female are insignificant in all cases except for H6. Within of Hypotheses H1, H3-H5, H7, H8, and H12 I can conclude that there is no difference between the genders to engage in fraud.

According to Appendix H.12, the hypotheses H2, H10, and H11 are questionable because the sample sizes are small for the validity of fit models. But coefficients at DtrGender=Female is positive in all the models that contradict the H2, H10, and H12.

Within H6, the coefficients at DtrGender=Female is positive and significant at the level of significance 0.05. It indicates that relative to male directors conferred with high Overall Status, women Directors conferred with high Overall Status are more to engage in Fraud. This result contradicts H6.

In summary, the Simple Probit models does not confirms H1-H12 (while H2, H10, H11 are questionable).

Step 2: Adjusted probit models

For all adjusted probit models, the sample sizes were similar to simplest models. The summary of the adjusted probit models is reported in Appendix H.13. In all cases, the probit model with status fraud (status of the specific fraud for H12) is the dependent variables. DtrGender, %GD, DtrTenure, NYS, and AudExist were independent variables. This model has all significant

coefficient for the full sample. Therefore, the above-noted model was used in all cases as a common pattern.

The results of the adjusted model is similar to the results of the simple probit model from the point of view of the confirmation H1-H12. Hypothesis 1: The coefficient at DtrGender=female is positive and significant. It indicates that the probability of engaging in FFR by female directors is higher compared to their male directors within of the full sample of directors. Probit regression does not confirm Hypothesis 1. However, it confirms alternative hypothesis women on corporate boards are more likely to engage in Fraud compared to their male counterparts within of the full sample directors. Hypothesis 2: Confirmation is questionable because significance the coefficient at DtrGender=Female is unknown. But the value of the coefficient is positive. It likely not confirms H2. Hypothesis 3: The coefficient at DtrGender=female is positive and insignificant. It indicates that there is no difference between genders to engage in Fraud within subsample with low Inherited Status. H3 is not confirmed. Hypothesis 4: The coefficient at DtrGender=female is positive and significant. It indicates that the probability of engaging in fraud women on corporative board is higher compared to their male counterparts within of the subsample with high Acquired Status. H4 is not confirmed. It indicates that women on corporate boards are more likely to engage in Fraud compared to their male counterparts” within of the subsample with High Acquired Status.

Hypothesis 5: The coefficient at DtrGender=female is negative and insignificant. It indicates that there is no difference between genders to engage in Fraud within subsample with low Acquired Status. H5 is not confirmed. Hypothesis 6: The coefficient at DtrGender=female is positive and significant. It indicates that the probability of engaging in fraud women on corporative board is higher compared to their male counterparts within of the subsample with high Overall Status. H6 is not confirmed. It confirms alternative hypothesis “Women on corporate boards are more likely to engage in Fraud compared to their male counterparts” within of the subsample with high Overall Status. Hypothesis 7: The coefficient at DtrGender=female is negative and insignificant. It indicates that there is no difference between genders to engage in Fraud within subsample with low Overall Status. H7 is not confirmed.

Hypothesis 8: The coefficient at DtrGender=female is negative and insignificant. It indicates that there is no difference between genders to engage in Fraud within subsample with low Inherited Status and low Acquired Status. H8 is not confirmed. Hypothesis 9: The coefficient at DtrGender=female is positive and insignificant. It indicates that there is no difference between genders to engage in Fraud within subsample with low Inherited Status and high Acquired Status. H9 is not confirmed. Hypothesis H10-H11: Confirmation is questionable because significance the coefficient of DtrGender=Female is unknown, but the value of both coefficients is positive. It likely does not confirm H10-H11.

Hypothesis 12: The coefficient of DtrGender=female is positive and insignificant. It indicates that there is no difference between the genders to engage in specific frauds within the total sample. H12 is not confirmed.

Hypothesis 13 predicts that there is a negative relationship between the gender diversity on a board of directors and the likelihood of fraud involvement. For the testing of H13, the total sample was used (N=954). The simple Probit model is significant in general. The received equation of the simplest model for the relationship between the probability of the FFR and the percentage of female directors on a board of directors is:

$$\text{Pr}(\text{status_fraud} = 1) = F(0.096 - 0.016 \cdot \%GD)$$

Where %GD is the percentage of female directors on the board. The coefficient at variable %GD that is included in the model as a covariate has a negative value. The coefficient at %GD has significance 0.002.

This indicates that the negative relationship between the share of female directors on a board and the likelihood of FFR involvement is statistically significant at level 0.01. Thus, the simple Probit model confirms H13. The adjusted model with %GD as one with predictors was estimated within the total sample for H1. This indicates that the value of coefficient at %GD is -0.02 and the corresponding p-value is 0.027. The adjusted Probit model indicates the negative relationship

between the percentage of female directors on a board and the likelihood of FFR involvement is statistical significant. Therefore, both the simplest and the adjusted Probit models confirm H13.

In summary, Hypotheses H1-H12 are not confirmed by results of the Probit regression estimates, while H13 is confirmed.

6.5 Conclusion

In this chapter I complete a gender study of WCC. First, I examined the relationship between female directors on corporate boards and medium-high complexity WCC, namely FFR involvement. I find no differences in FFR involvement by gender. I also find that director gender is not associated with reduced incidence of FFR. Thus, female directors are not less likely to commit FFR compared to male directors. This is in line with the remark by Adler (1975) who believed that ‘it would be an unrealistic reversion to quixotic chivalry to believe that, for better or worse, women will be any more honest than men’. This is also in line with prior research stating that gender patterns depend on what level of crime we look at; if the WCC is of medium complexity (so-called pink-collar crimes such as asset misappropriation, corruption, FFR, embezzlement, etc.), then the gender ratio is more balanced compared to more complex crimes such as antitrust violations, security fraud, etc. (Wheeler, et al., 1988; Lewis, 2002; Holtfreter, 2005; Poortinga, et al., 2006; Gottschalk & Glasø, 2013; Dodge, 2008).

Second, I examine the relationship between the social status of female directors on corporate boards and the likelihood of FFR involvement. There is a relationship between the social status of female directors and the incidence of FFR. Female directors with high inherited and overall status are more likely to engage in FFR, whereas female directors with high acquired status are not associated with increased probability of FFR involvement. However, male directors with high inherited status, high acquired status, and high overall status are associated with lower incidence of FFR in the subsample of male directors. There are no differences in the likelihood of fraud involvement by gender in all subsamples with low inherited, low acquired and low overall status. It is important to note, the original high inherited status restriction on female directors, i.e. men are assumed to

have higher inherited status than women in a given group (Basow, 1986; Ickes & Knowles, 1982; Kanter, 1977). However, in my assessment of inherited status I did not include status reducing characteristics such as gender. Thus, the finding that women are more likely than men to commit FFR in all subsamples with high inherited status can be explained by the fact that, all things being equal, women are assumed to have a lower inherited status relative to men; and directors conferred with low inherited status might purposefully undertake riskier paths in order to better their position, as they may have limited access to resources or less risky alternatives with similar payoffs (Lucey, et al., 2013). Here, I reference Cohen's (1955) subculture theory, Cloward and Ohlin's (1960) differential opportunity theory, and Robert Agnew's (1992) general strain theory, which suggest '...those who are unable to gain status through conventional means may adopt ... illegal behaviour'. Together, these theories suggest potential societal explanations for female directors' involvement in FFR. Following D'Aveni (1990), in this research a director's gender it is not used as a characteristic of social status by which the director's inherited status is evaluated. This research could be extended to incorporate status reducing factors (such as ethnicity and gender etc.).

Third, I examine the effect of female directors' social status category and the incidence of FFR. For all social status categories excluding categories with high inherited status (Pedigree Elite and Supreme Elite), I find that there are no differences in the incidence of FFR by gender. Pedigree Elite and Supreme Elite female directors are more likely to commit FFR. However, within my full sample these two categories have the smallest proportion of females (only 14%).

Fourth, I examine the relationship between female directors and the severity of the fraud committed. I find that male directors with high overall status are less likely to commit severe types of FFR, while there are no differences in the severity of FFR committed by female directors with high overall status. These results of this chapter may, at first, appear to be at odds with the findings from the literature review in Chapter 2 and Chapter 4, which finds that directors in all subsamples of high inherited status are less likely to commit FFR.

Finally, I examined the link between the gender diversity on corporate boards of directors and the incidence of FFR. I find that increased gender diversity (increased %GD) on corporate boards

facilitates improved corporate governance, insofar as the likelihood of FFR is reduced, implying that regulators and policymakers should consider the worldwide call for more gender diversity on corporate boards. This study demonstrates that an increase in gender diversity on corporate boards is associated with a decreased probability of fraud. I find strong evidence consistent with the view that the importance of women on boards in mitigating FFR lies in the mechanisms of diversity itself, such that an increase in the percentage of women on boards minimises the incidence of FFR. I find less direct support for the alternative perspective that women are more ethically sensitive and less likely to risk committing FFR. Considering the concept that if a woman is alone on a board of directors she may violate gender role stereotypes, as prior literature suggests, and take on the behaviours of their male counterparts. The appointment of an additional female will more likely result in a critical mass of women, which is a number large enough to display gender role stereotypes and challenge the dominance of the old boys' club and disrupt the status quo (Granovetter, 1978). I do not argue for or against mechanisms for increasing the number of women on corporate boards, such as quotas, targets, mentoring programs or other initiatives. These findings suggest that increased gender diversity on corporate boards could play an important role in reducing FFR. However, it is important to note that reducing the likelihood of FFR may not be as simple as increasing the number of women on corporate boards of directors to 100%. The benefits of increased gender representation may be in increased diversity.

This chapter builds on the research undertaken in Chapter 4 and 5 and finds that female directors on corporate boards are likely to have higher status than their male counterparts, but are as equally likely to commit FFR.

Chapter 7 Conclusions, Limitations and Future Work

7.1 Introduction

According to Braithwaite (1985), ‘only banal generalisations are possible in answer to questions of who engages in white collar crime and why’. In trying to answer this question, I first reviewed the work of the American sociologist Sutherland (1940), who coined the term WCC as ‘a crime committed by a person of respectability and high social status in the course of his occupation.’ Sutherland’s focus on the high status of offenders questioned the long-standing preoccupation with lower status offenders, and raised important issues about bias in criminal law, prosecution and punishment. The purpose of this research was to conduct an empirical study of the significance of the relationship between characteristics of offenders such as social status and gender on the incidence, type, and severity of FFR, with the further understanding of, and relevance of Sutherland’s (1940) definition of white-collar crime.

The three main contributions of my research are as follows.

The first contribution made by this research is that it extends sociology, criminology, corporate governance and management research on the impact of social status on the incidence of the most complex form of WCC, namely FFR, as reported by the SEC. Are white collar criminals different to street crime offenders? The social status typology for corporate elites, may pave the way for a new avenue of management research examining the benefits and hazards of social status influences corporate outcomes. It therefore will contribute to what McDonald and Westphal (2011) term a ‘more expansive social and psychological perspective on corporate leadership’. This is my original suggested typology or classification model of social status, and it allows for a micro level of analysis of the individual categories of social status.

The second contribution of this research is to add to the gender and ethics literature, by analysing the relationship between the presence of women on corporate boards of directors and the incidence of FFR. Sutherland (1949) defined WCC as ‘crime by a person of high social status and respectability in the course of his occupation’. This gender specific definition was articulated in a historical period in which males made up most of the workforce. Therefore, since the inception of

the term WCC, the focus of research has been on elite businessmen (Croall, 2003). It is not surprising that the initial empirical studies of WCC focused exclusively on males. Croall (2003), in considering the stereotype of the white-collar offenders, states that the starting point for building a profile of the typical white-collar offender involves starting with men. This is supported by the official statistics illustrating that men commit 80% of WCC (Haantz, 2002; Holtfreter, et al., 2010; Huffman, et al., 2010; Brady, et al., 2011). However, Adler (1975) has stated that ‘in the future a greater proportion of wealth and power will pass through feminine hands, and almost all of it will be wielded responsibly. But it would be an unrealistic reversion to quixotic chivalry to believe that, for better or worse, women will be any more honest than men’. Few researchers have empirically examined the relationship between women on corporate boards of directors and the incidence of WCC (Terjesen, et al., 2009). To my knowledge, this is the first empirical study to examine the relationship between the presence of women on corporate board of directors and more complex WCC, namely FFR.

The third contribution of this research is to develop a better understanding of the relationship between the gender diversity on corporate boards of directors and the likelihood of directors’ FFR involvement. This influences the relative importance of mechanisms for increasing the number of women on corporate boards, such as legislation setting minimum gender quotas, gender diversity targets, or the establishment of mentoring programs and other initiatives. This study is of practical relevance to corporate executives, shareholders, regulators, and policymakers alike who are trying to understand the relative importance of developing mechanisms for increasing women on corporate boards of directors, including setting minimum gender quotas or targets and other initiatives (Macfarlane, et al., 2010).

The remainder of this chapter is structured as follows. In Section 7.2 I draw together the main findings from the thesis and describe how they contribute to the existing literature. In Section 7.3 I describe the inevitable limitations of the studies and outline areas where further study would be beneficial. Finally, in Section 7.4 I conclude this chapter and this thesis.

7.2 Main Findings and Contributions to the Literature

In Chapter 2 I review the literature in WCC. I explored the WCC definitional dilemma, setting the stage by reproducing parts of the speech by sociologist Edwin H. Sutherland that introduced the term ‘white-collar crime’. I examined the problems with Sutherland’s definition, including his focus on offender characteristics. It was evident from the very mixed findings that further research was needed to review the impact of high social status of corporate elites and WCC. Studies by Pearce (2001) and Ravlin and Thomas (2005) have prompted calls for more research into the social status of the corporate elite in management research. In addition, several studies recommended further research on the gender differences seen in white-collar crime in more complex WCC. I explore perceived reasons for gender differences in WCC, including lack of opportunity and risk aversion in women. I also examined the literature on the benefits of gender diversity on corporate boards of directors.

In Chapter 3 I detailed the empirical data used to test the hypotheses that were stated as my main research questions in Chapter 1. I described the research method of the thesis as positivist, and discussed the suitability of the use of quantitative methods for the empirical studies which form the basis of this thesis. I detailed how social status measures are constructed and tested for reliability. Reliability analysis is used to evaluate all social status variables used in this research. I also outlined the validation tests performed to confirm the uniqueness of the status variables in the sample.

In Chapter 4 I added to the literature on director social status and the incidence of FFR. That white-collar criminals different are no different to street crime offenders in terms of social status characteristics. I find that directors with high inherited, acquired, and overall status are less likely to partake in FFR compared to directors with low inherited and acquired status. I find that the effect of social status on directors’ likeliness to commit FFR is strongest among directors that possess high inherited and high acquired status simultaneously (the Supreme Elite). I find that high inherited and acquired status directors (the Supreme Elite), are less likely to partake in FFR compared to directors without prestigious backgrounds (the Social Laggards). I further show that the effect of social status on FFR involvement is strongest amongst directors that possess low inherited, and low acquired status simultaneously (Social Laggards). The findings of this research

may be of interest to academics doing research on SEC enforcement actions and/or AAERs by documenting some characteristics of the directors that may drive their inclusion in these samples. Regardless of which of these explanations applies, the evidence raises questions about whether effective corporate governance can be imposed through regulation (Bhagat & Black, 2002; Anderson & Bizjak, 2003; Holmstrom & Kaplan, 2003; Romano, 2004). This research adds to the criminology literature on the perceived high social status of the offenders, which is not ordinarily associated with crime (Poortinga, et al., 2006; Soothill, et al., 2012; Weisburd, et al., 2001). The results support the view that WCC among lower social status groups is higher than what is being apportioned to Supreme Elite Category.

In Chapter 5, I examined the relationship between director social status and the type and severity of FFR. In relation to the impact of director social status on fraud severity, I find that fraud of (I) misstated reserve accounts and (A) fictitious revenues likely has an association with high acquired status. As outlined in this research, these two types of fraud are considered more severe. This finding is consistent with the view that the low social status directors are more likely to commit lower severity and less complex FFR schemes. What is interesting is that these two fraud types are the only fraud types that have a relationship with high acquired status. The third type of fraud considered to be severe was (J) misstated allowance for bad debt, but this has no association with acquired status.

In Chapter 6 I added to the literature on the impact of gender representation and diversity the incidence of FFR on corporate boards of directors and, by providing further theory development, I found that it benefits the corporate boards of directors. I also found that gender diversity on corporate boards reduces the likelihood of FFR involvement and the severity of FFR.

7.3 Limitations of the Research and Future Work

In this section I detail the limitations of my research and offer suggestions for future research.

There are several limitations to the present study that should be recognised.

A complete list of all companies that have fraudulently reported their financial statements does not exist (Beneish, 1997), so FFR companies are identified through a review of the discovered cases

of FFR described in AAER's issued by the SEC. As the U.S. government delegates enforcement powers concerning FFR to the SEC, these enforcement releases form a verified basis on which a sample of FFR companies can be selected. Furthermore, as numerous earlier studies (Beasley, 1996; McMullen, 1996; Bonner, et al., 1998; Archambeault & DeZoort, 2001; Saksena, 2001; Geriessh, 2003; Persons, 2005; Erickson, et al., 2006) have used the same fraud identification process, this method of sample selection reasonably facilitates comparison of this study's findings with those of prior research. However, the use of AAERs has limitations. First, AAERs tend to be uneven in their level of disclosure and format, thus making some more useful for analysis purposes than others. It is apparent from both the COSO Report (1999) and the present study that to enhance the usefulness of AAERs for analysis purposes, the SEC needs to improve their comparability in relation to language, structure, and content. Second, there is a possibility of selection bias by relying on AAERs as the primary data source for FFR. This is because AAERs may reflect the prevailing agenda of the SEC (Bonner, et al., 1998), or differ in their nature or severity (Feroz, et al., 1991). Third, the observed rise in enforcement actions and the size of companies prosecuted may be explained by a variety of factors other than legitimacy, such as a greater awareness of the possibility of fraud post-Enron. Fourth, if one accepts that the COSO Report (1999) contained weaknesses in its sampling approach it may not be an accurate source of comparison for studying changes in the SEC's enforcement activities over the period. Although there is no indication of this at present, the SEC may have an enforcement strategy that influences the fraud cases investigated; that could bias the results of this study. Fifth, there is a significant time lag between the occurrence of FFR and the issuance of AAERs. Thus, the information and conclusion offered in this study may be somewhat out of date.

Notwithstanding these limitations, AAERs have been widely applied by researchers as a reasonably objective and reliable data source for studying FFR (Fond & Smith, 1991; Bonner, et al., 1998). Nonetheless, AAERs, although a reliable source of FFR cases (because the SEC is the sole U.S. authority delegated with enforcement of the anti-fraud securities laws) only includes companies that have had sufficient evidence against them to proceed to formal charges. This means that not all suspected cases of FFR advance to the point of an enforcement action, or where therefore an AAER is issued; nor, of course, does it include those instances of FFR which are simply not

suspected. Nonetheless, the process does ensure that cases identified as companies committing fraud are indeed from an extensive and reliable source.

Another limitation is the size of the sample. Due to the use of only FFR cases, this study does not have discrimination power across all areas of WCC. The data sample focuses exclusively on U.S. companies. Although we do not have any indications that the U.S. is significantly different from other countries, it limits the applicability of our study to other jurisdictions. Some of the variables have a judgmental character that may reduce the objectivity of our results. Also, this study relies upon publicly available information to populate the dependent and independent variables. The data is therefore only available for companies registered on one of the three major U.S. securities exchanges. Some variables require information selected from sources outside the SEC database that are not mandatory to report under AAERs. This data is sometimes unaudited or discretionary.

The differences in relationships between inherited status, acquired status, overall status, and fraud by gender can be caused by the small number of women directors in the sample. The differences could be absent if the number of women directors is larger. Future research with a larger sample of female directors is needed to confirm this suggestion.

There are several avenues for future research.

In Chapter 4 I investigated the relationship between director social status and the incidence of FFR. The first recommendation for future study is to refine the framework to include the weighting of different sources of social status, as not all sources of status give an equal level of prestige. This weighting may be based on the uniqueness of the attribute or the value of the source of prestige depending on what sector or industry a director is in. A second recommendation for future study is to refine the framework to include a weighting of the degree of inherited or acquired status. This approach has potential promise for further weighting of variables within a social status index based on the degree of uniqueness of a variable, i.e. the more unique an attribute is the higher the status weighting (e.g. I can assign the weight of an attribute with 10% of the sample a value of one and an attribute that has 5% of the sample a value of 2). This further refinement of the model could

further explain the differences in relationships between inherited status, acquired status, overall status, and FFR.

A third recommendation is to refine the ROC analysis for social status subgroups based on the sum of unique status attributes director has and find the cut-point which gives the highest sensitivity for FFR detection. This could further refine and enhance the capability of the model for predicting the occurrence of FFR. Finally, a further recommendation for future study is to extend the measures that result in loss of status e.g. gender or ethnicity.

In Chapter 5 I investigated the relationship between fraud types, severity, and the incidence of FFR. This analysis could be extended to include fraud complexity and collusion. It is believed that female directors are less likely to engage in FFR types that involve a great deal of collusion.

In Chapter 6 I compare the gender representation and diversity on corporate boards of directors with the incidence of FFR. The data availability typically constrains analysis to publicly listed companies. The small sample size makes it hard to detect a statistically significant effect of gender diversity, particularly if its magnitude is small. Areas for future research could include: 1) conducting a similar study to investigate the sensitivity of all social status scales to separate fraudulent from non-fraudulent directors by gender, and 2) redefining all the scales by considering gender. Another area for future work is to test the motivational sociology theories which indicate that male directors are more susceptible to Status Strain and female directors are more susceptible to Wealth Strain.

7.4 Conclusion

This thesis was organised into several core sections as outlined in Chapter 1. This included the identification of the research questions through a review of the literature (Chapter 2), a description of the research approach, the data and methodology selected (Chapter 3), and three empirical studies (Chapters 4, 5 and 6). In this chapter I drew together the main conclusions from the thesis.

This research set out to answer the overarching research question: Is Sutherland's (1940) definition of the characteristics of white-collar criminals relevant today? His definition concentrated on the characteristics of the offender (such as high social status) rather than the characteristics of the crime

(such as crimes occurring within the scope of one's employment). The key words and phrases 'crime', committed by 'persons of respectability and high social status', 'in the course of', 'his' and 'occupation' all lead to problems in determining who and which activities are to be included.

The primary conclusion to emerge from the thesis is that Sutherland's definition of WCC does not stand up to the empirical findings of this research. The first characteristic of offenders in Sutherland's definition of WCC is high social status. This characteristic made white-collar offenders of interest in the field of criminology, as the perceived high social status of the offenders is not ordinarily associated with crime (Poortinga, et al., 2006; Soothill, et al., 2012; Weisburd, et al., 2001). In this research, I answered the question, Are white collar criminals different to street crime offenders? By creating a dataset of U.S. WCC cases in FFR. I conducted an empirical investigation into the social status of offenders and found that directors with high social status are less likely to commit FFR.

The second characteristic that differentiated white-collar offenders in Sutherland's definition of relevance to management research is the gender differences seen in WCC. This research involved an empirical study of WCC to create insights from a gender perspective. I found that female directors are equally as likely to commit FFR as male directors. However, I found that increased gender diversity on corporate boards of directors reduces the likelihood of FFR. This finding is of practical relevance to corporate executives, shareholders, regulators, and policymakers alike trying to understand the relative importance of developing mechanisms for increasing women on corporate boards of directors, including setting minimum gender quotas or targets and other initiatives (Macfarlane, et al., 2010).

Overall, these findings imply that Sutherland's (1940) definition does not stand up empirical rigour today. However, there are persuasive arguments for retaining the term WCC. Ruggiero (1996) argues that WCC, corporate and organisational crime are all variants of the same kind of crime. This is supported by Braithwaite, who believes that 'the concept is shared and understood by ordinary folk as more meaningful than occupational crime, corporate deviance, commercial offences, economic crime or any competing concept' (Braithwaite, 1985). The status of offenders continues to be an important feature of these definitions. I argue that we should cling to

Sutherland's overarching definition, but then partition the domain into major types of WCC that do have theoretical potential.

Appendices

A.1 Definitions of Social Status

Reference	Operational Definition
Adler & Snibbe (2003)	“SES is a reflection of social position, and is traditionally measured by income, education, and occupation”
Angell (1993)	“Socioeconomic status refers to a mix of factors that shape a person’s relative social advantage. It is usually gauged by income, education, profession, or some combination of the three ...”
Christie & Barling (2009)	“SES is a relative ranking based on resources and prestige”
Gallo & Matthews (2003)	“SES is an aggregate concept defined according to one’s level of resources or prestige in relation to others ... Resource-based measures assess access to material and social assets, including income, wealth, and educational attainment. Prestige-based measures refer to an individual’s rank or status in a social hierarchy, typically evaluated by access to and consumption of goods, services, and knowledge as linked to occupational prestige and education”
Goodman et al. (2001)	“... income, education, and occupation are (the traditional variables used to measure SES) ...”
Grossman & Varnum (2011)	“Educational attainment has been proposed as the key factor that distinguishes different classes ...”
Snibbe & Markus (2005)	“... I use educational attainment as an indicator of SES ... paying special attention to the divide between those who have a college degree (BAs) and those who do not (HSs) ...”

A.2 Fraud Company Sample: Sample Selection Method

Total SEC Accounting and Auditing Enforcement Releases (AAERs) where fraud occurrence initiated between the years 1998-2014	
Less: Administrative proceedings related to issues as reinstatement of privileges to appear before the SEC as an accountant or lawyer.	(279)
Less: Repeat Observations	(60)
Less: AAER's against Auditing Firm	(72)
Less: Companies not listed on a U.S. Stock Exchange	(740)
Less: Companies with FCPA and Bribery Related Charges	(72)
Less: Companies where the directors involved are not named	(148)
Less: Non-U.S. Companies	(10)
Less: Companies where there was no available data on the Directors	(18)
Final fraud company sample size	183

Note: There may be multiple AAERs for one instance of FFR. AAERs also include enforcement actions against CPAs and Auditors.

A.3 Matched Pair Analysis: Stock Exchange Distribution

Stock Exchange Listing	# Firms	% Firms
NASDAQ	107	58%
NYSE	65	36%
ASE	11	6%
	183	100%

A.4 Matched Pair Analysis: SIC Code Distribution

SIC Code Match	# Firms	% Firms
Four Digit SIC Code	107	58.47%
Three Digit SIC Code	27	14.75%
Two Digit SIC Code	24	13.11%
One Digit SIC Code	25	13.66%
	183	100%

A.5 Fraud Firm Sample: Total Assets and Revenue

	Total Assets in (\$ 000's)	
	Total Assets	Total Revenue
Mean	\$3,314,857	\$3,098,824
Median	\$186,951	\$62,580
1 st Quartile	\$22,849	\$14,841
3 rd Quartile	\$567,925	\$822,439
Max. Value	\$43,599,900	\$48,557,718

Note: Figures were taken from the last financial statement prior to the initiation of the fraud.

Appendices

A.6 Fraud Sample: Frequency Observations across Industries

SIC Code	Industry	No. Firms	% Firms	No. Directors	% Directors	No. Female	% Female
1500-1599	Building Construction - General Contractors	2	1%	5	1%	0	0%
1700-1799	Construction - Special Trade Contractors	1	1%	6	1%	0	0%
2000-2099	Food and Kindred Products	6	3%	17	4%	3	7%
2300-2399	Apparel and other Finished Products	2	1%	4	1%	0	0%
2600-2699	Paper and Allied Products	1	1%	2	0%	0	0%
2700-2799	Printing and Publishing	1	1%	3	1%	0	0%
2800-2899	Chemicals and Allied Products	6	3%	10	2%	2	5%
2900-2999	Petroleum Refining	1	1%	1	0%	0	0%
3000-3099	Rubber and Misc. Plastic Products	1	1%	2	0%	0	0%
3500-3599	Commercial Machinery and Computer Equipment	8	4%	29	6%	1	2%
3600-3699	Electronic/Electrical Equipment and Components	24	13%	45	9%	8	20%
3700-3799	Transportation Equipment	3	2%	6	1%	1	2%
3800-3899	Measuring, Analysing, and Controlling Instruments	9	5%	31	6%	4	10%
4400-4499	Water Transportation	1	1%	1	0%	0	0%
4700-4799	Transportation Services	1	1%	2	0%	1	2%
4800-4899	Communications	11	6%	47	10%	4	10%
4900-4999	Electric, Gas, and Sanitary Services	7	4%	31	6%	3	7%
5000-5099	Wholesale Trade - Durable goods	4	2%	9	2%	0	0%
5100-5199	Wholesale Trade - Non-durable goods	7	4%	19	4%	3	7%
5200-5299	Building Materials, Hardware, Garden Supply	1	1%	1	0%	0	0%
5300-5399	General Merchandise Stores	1	1%	5	1%	0	0%
5400-5499	Insurance Agents, Brokers and Service	2	1%	3	1%	0	0%
5500-5599	Automotive Dealers and Gasoline Service Stations	1	1%	1	0%	0	0%
5600-5699	Apparel and Accessory Stores	2	1%	5	1%	0	0%
5700-5799	Home Furniture, Furnishings and Equipment Stores	1	1%	3	1%	0	0%
5800-5899	Eating and Drinking Places	1	1%	2	0%	0	0%
5900-5999	Miscellaneous Retail	3	2%	9	2%	0	0%
6000-6099	Depository Institutions	10	5%	24	5%	2	5%
6100-6199	Non-depository Credit Institutions	4	2%	11	2%	1	2%
6200-6299	Security, Commodity Brokers, Dealers, Exchanges	3	2%	4	1%	0	0%
6300-6399	Insurance Carriers	5	3%	9	2%	1	2%
6500-6599	Real Estate	1	1%	2	0%	0	0%
6700-6799	Holding and Other Investment Offices	3	2%	7	1%	1	2%
7200-7299	Personal Services	3	2%	7	1%	0	0%
7300-7399	Business Services	38	21%	90	19%	5	12%
7800-7899	Motion Pictures	1	1%	1	0%	0	0%
8000-8099	Health Services	2	1%	5	1%	1	2%
8700-8799	Engineering, Accounting, Research, Management	5	3%	18	4%	0	0%
		183	100%	477	100%	41	100%

A.7 Fraud Sample: Frequency of Firm and Director Observations by Year

Year	No. Fraud Firms (N=183)	% Fraud Firms	No. Fraud Directors (N=477)	% Fraud Directors	No. Fraud Female (N=41)	% Fraud Female
1998	18	10%	55	12%	2	5%
1999	38	21%	102	21%	8	20%
2000	43	23%	116	24%	13	32%
2001	30	16%	83	17%	9	22%
2002	18	10%	36	8%	1	2%
2003	11	6%	32	7%	4	10%
2004	6	3%	13	3%	1	2%
2005	4	2%	9	2%	0	0%
2006	4	2%	8	2%	2	5%
2007	6	3%	10	2%	0	0%
2008	4	2%	11	2%	1	2%
2009	0	0%	0	0%	0	0%
2010	1	1%	2	0%	0	0%
2011	0	0%	0	0%	0	0%
2012	0	0%	0	0%	0	0%
2013	0	0%	0	0%	0	0%
2014	0	0%	0	0%	0	0%
	183	100%	477	100%	41	100%

Note: The observations are by year of initiation of the fraud.

A.8 Fraud Sample: Number of Financial Periods (Years) Covered

Year	No. Fraud Firms (N=183)	% Fraud Firms	No. Fraud Directors (N=477)	% Fraud Directors	No. Fraud Female (N=41)	% Fraud Female
One Year	47	26%	98	21%	13	32%
Two Years	53	29%	164	34%	13	32%
Three Years	26	14%	63	13%	6	15%
Four Years	29	16%	82	17%	6	15%
Five Years	11	6%	29	6%	0	0%
Six Years	14	8%	33	7%	2	5%
Seven Years	2	1%	5	1%	1	2%
Eight Years	1	1%	3	1%	0	0%
	183	100%	477	100%	41	100%

A.9 Fraud Director Sample: Highest Executive Title

Highest Executive Role	No. Directors (N=477)	% Directors	No. Female (N=41)	% Female
Chief Executive Officer (CEO)	118	25%	5	12%
Chief Financial Officer (CFO)	161	34%	22	54%
Chief Operating Officer (COO)	44	9%	1	2%
Chief Accounting Officer (CAO)	6	1%	0	0%
Chief Technology Officer (CTO)	1	0%	0	0%
Executive Vice President (EVP)	112	23%	10	24%
General Counsel	13	3%	1	2%
President	19	4%	1	2%
Chairman	3	1%	1	2%
Controller	0	0%	0	0%
Treasurer	0	0%	0	0%
Founder	0	0%	0	0%
	477	100%	41	100%

Note: I used the highest executive title for each director named in the AAERs for each executive. If the title of the executive is not named in the AAER, I used the firm's 10-K statements to determine their highest executive title.

B.1 Fraud Types: By Fraud Firm and Director Gender

Fraud Type	No. Firms	% Firms	No. Dir.	% Dir.	No. Female	% Female
	N=183		N=477		N=41	
A Fictitious revenues	63	34%	177	37%	12	29%
B Premature revenue recognition	49	27%	179	38%	9	22%
C Misstatement of other expense /shareholder equity account	50	27%	142	30%	7	17%
D Capitalized costs as assets	17	9%	39	8%	7	17%
E Misstated accounts receivable	27	15%	62	13%	6	15%
F Misstated inventory	21	11%	51	11%	3	7%
G Misstated cost of goods sold	4	2%	13	3%	1	2%
H Misstated liabilities	4	2%	6	1%	0	0%
I Misstated reserve account	72	39%	186	39%	15	37%
J Misstated allowance for bad debt	34	19%	91	19%	5	12%
K Misstated marketable securities	6	3%	12	3%	1	2%
L Misstated payables	24	13%	98	21%	7	17%
	371	203%	1056	221%	73	178%

Note: Those are the most common schemes employed by sample firms and most of the firms or directors carried out committed multiple fraud schemes. Most AAERs describe multiple infractions. Thus, the columns in this table do not sum to 100%.

B.2 Fraud Types: By Fraud Firm

Fraud Type	No. Fraud Events	% Fraud Events	Rank
A Fictitious revenues	177	16.8%	3
B Premature revenue recognition	179	17.0%	2
C Misstatement of other expense/shareholder equity acc.	142	13.4%	4
D Capitalized costs as assets	39	3.7%	9
E Misstated accounts receivable	62	5.9%	7
F Misstated inventory	51	4.8%	8
G Misstated cost of goods sold	13	1.2%	10
H Misstated liabilities	6	0.6%	12
I Misstated reserve account	186	17.6%	1
J Misstated allowance for bad debt	91	8.6%	6
K Misstated marketable securities	12	1.1%	11
L Misstated payables	98	9.3%	5

C.1 Inherited Status Variables: Education Status (Undergraduate)

Variable	Variable Description
PrestigiousUG	An indicator variable equal to 1 if the director has received an undergraduate degree from a prestigious university or college and 0 otherwise.
IvyUG	An indicator variable equal to 1 if a director attended an Ivy League University for their undergraduate degree and 0 otherwise.
EliteUG	An indicator variable equal to 1 if a director attended an Elite University for their undergraduate degree and 0 otherwise.
UsnwUG	An indicator variable equal to 1 if a director attended an U.S. News of the World ranked university (top 500) for their undergraduate degree and 0 otherwise.
PrivateUG	An indicator variable equal to 1 if a director attended a Private fee paying undergraduate university and 0 otherwise.

Note: All variables are defined as follows: t = year of the fraud.

C.2 Acquired Status Variables: Education Status (Postgraduate)

Variable	Variable Description
PrivatePG	An indicator variable equal to 1 if a director attended a Private fee paying postgraduate university and 0 otherwise.
PrestigiousPG	An indicator variable equal to 1 if the director attended a prestigious university or college and 0 otherwise.
ElitePG	An indicator variable equal to 1 if the director attended an elite university and 0 otherwise.
IvyPG	An indicator variable equal to 1 if the director attended an Ivy League university and 0 otherwise.
UsnwPG	An indicator variable equal to 1 if the director attended an U.S. News of the World Ranking top 500 and 0 otherwise.
PhdPG	An indicator variable equal to 1 if the director has attained a PhD and 0 otherwise.
OtherPG	An indicator variable equal to 1 if the director has attained a postgraduate degree from university not ranked in the U.S. News of the World Ranking top 500 and 0 otherwise.
MbaPG	An indicator variable equal to 1 if the director has attained a MBA and 0 otherwise.

Note: As the size of a firm is associated with firm prestige. All acquired social status variables where multiplied by the size of the Market Cap of the firm (for Large-cap =1, Mid-cap = 2, and small-cap =1).

C.3 Acquired Status Variables: Occupational Status

Variable	Variable Description
TopAcaElite	An indicator variable equal to 1 if the director was a (1) professor or lecturer in a top ranked university ⁶ , (2) executive board member of a top ranked university and 0 otherwise.
TopMilitaryElite	An indicator variable equal to 1 if the director was (1) enlisted in the military (2) a non-commissioned officer (3) a senior non-commissioned officer and 0 otherwise.
TopOfficial	An indicator variable equal to 1 if the director was a (1) Cabinet and Cabinet-level official, (2) U.S. Senator, (3) U.S. House Representative, (4) State Governor, (5) Supreme Court Justice, and (6) Representative on state or government committees and 0 otherwise.
TopLegalElite	An indicator variable equal to 1 if the director (1) worked in a major law firm, defined as any of the top ten largest firms (number of attorneys) in a major city (largest 20 by population) and (2) was a partner in any of the top 10 largest firms a major city and 0 otherwise.
TopAccElite	An indicator variable equal to 1 if the director was formerly (1) a partner in a 'Big 8' accounting firm or (2) worked in a 'Big eight' accountancy firm and 0 otherwise.
TopFounder	This indicator variable equal to 1 if a director is a founder of the company and 0 otherwise.
TopCorp	An indicator variable equal to 1 if the firm is on the Fortune 1000 or S&P 500 lists and 0 otherwise
TopAdmiredCo	An indicator variable equal to one if company is on the most admired companies' lists and 0 otherwise.

Note: As the size of a firm is associated with firm prestige. All acquired social status variables where multiplied by the size of the Market Cap of the firm (for Large-cap =1, Mid-cap = 2, and small-cap =1).

⁶ United States News of the World Education Rankings Top 500

C.4 Acquired Status Variable: Income Status

Variable	Variable Description
TotalCompValue	An indicator variable equal to one if a director earns more than \$800,000 and 0 otherwise.
TotalCompRank	(Total Compensation = Salary + Bonus + All Other Compensation + Restricted Stock Awards + Securities Underlying Options)
HighestCompRank	An indicator variable equal to one if a director is the highest paid on the board and 0 otherwise.

Note: As the size of a firm is associated with firm prestige. All acquired social status variables where multiplied by the size of the Market Cap of the firm (for Large-cap =1, Mid-cap = 2, and small-cap =1).

C.5 Acquired Status Variables: Prestigious Award Status

Variable	Variable Description
AwardBIZ	An indicator variable equal to one if a director received a national business award during the 3 years preceding the first year of the fraud and 0 otherwise.
AwardInnovation	An indicator variable equal to one if a director received an innovation award or patent for their invention and 0 otherwise.
AwardHonDr	An indicator variable equal to one if a director received an honorary doctorate from an USNWR top 500 university and 0 otherwise.
AwardHonDrElite	An indicator variable equal to one if a director received an honorary doctorate from an Elite university and 0 otherwise.
AwardHonUni	An indicator variable equal to one if a director received an honorary university award from an USNWR top 500 university and 0 otherwise.
AwardHonUniElite	An indicator variable equal to one if a director received an honorary university award from an Elite university and 0 otherwise.

Note: All variables are defined as follows: t = year of the fraud. As the size of a firm is associated with firm prestige. All acquired social status variables where multiplied by the size of the Market Cap of the firm (for Large-cap =1, Mid-cap = 2, and small-cap =1).

C.6 Fraud Characteristic Variables: Fraud Type and Severity

Variable	Variable Description
AIJ	Fictitious frauds are considered more egregious due to the nature of the deception. Fictitious fraud is coded 1 if the firm has committed fraud A, I and J as discussed earlier and 0 otherwise.

C.7 Gender Variables: Director Gender and Gender Diversity

Variable	Variable Description
DtrGender	Indicator Variable coded 1 if the director is female, 0 if the director is male.
%GD	The percentage of female directors on the board.

C.8 Control Variables: Corporate Governance

Variable	Variable Description
ACExist	An indicator variable equal to 1 if the Firm has an Audit Committee and 0 otherwise.
ACMember	An indicator variable equal to 1 if the Director is on the Audit Committee and 0 otherwise.
ACNum	The number of Audit Committee Members.
ACIndNum	The number of Independent Audit Committee Members.
ACInd%	The percentage of Independent Audit Committee Members.
ACMeetingNum	The number of Audit Committee Meetings.
CCEXist	An indicator variable equal to 1 if the Firm has a Compensation Committee and 0 otherwise.
CCMember	An indicator variable equal to 1 if the Director is on the Audit Committee during the year of fraud initiation and 0 otherwise.
CCNum	The number of Compensation Committee Members
NCEXist	An indicator variable equal to 1 if the Firm has a Nominating Committee, and 0 otherwise
NCMember	An indicator variable equal to 1 if the Director is on the Nominating Committee and 0 otherwise.
CEODuality	An indicator variable equal to 1 if the Director is both the CEO and Chairman of the board and 0 otherwise.
BigN	An indicator variable equal to 1 if the Firm's External Auditor is one of the 'Big N' Accounting firms at the year of the fraud initiation, and 0 otherwise.
NYS	An indicator variable equal to 1 if the Firm has is listed on the New York stock exchange and 0 otherwise.

C.9 Control Variables: Firm and Board Characteristics

Variable	Variable Description
IndDtrsNum	The number of Independent Directors on the Board
IndDtrs%	The percentage of Independent Directors on the Board
%GD	The percentage of female directors on the board
BoardSize	The Number of directors on the board with voting rights
FinancialSector	An indicator variable equal to 1 if the firm operates in the financial services sector (SIC codes 6000-6999) and 0 otherwise.
TechSector	An indicator variable equal to 1 if the firm operates in the technology services sector (SIC codes 737, 366, 481, 489, 357. 367 and 360-365) and 0 otherwise.

C.10 Control Variables: Director Characteristic

Variable	Control Variable Description
DtrAge	Directors count of years old the first year of the fraud.
DtrGender	An indicator variable equal to 1 if the director is female, 0 if the director is male
DtrTenure	The number of years the executive was on the board of the firm and the first year of the fraud.
ION	
OutDtrs	An indicator variable equal to 1 if the director is an outside director and 0 otherwise.
DtrFounder	An indicator variable equal to 1 if the executive is a founder of co-founder of the firm, or is part of the founding family and 0 otherwise.
CEO_CFO	An indicator variable equal to 1 if the director is the CEO or CFO of the company and 0 otherwise
BoardCompRank	The rank of the director compared to other directors on the board in terms total compensation.
CPA	An indicator variable equal to 1 if the director holds a CPA (or CPA equivalent from another country), 0 otherwise
FExp	An indicator variable equal to one if the director has financial expertise and 0 otherwise

Note: All of the above variables are collected for the first year of initiation of the fraud.

C.11 Control Variables: Fraud Characteristics

Variable	Variable Description
FraudLength	The number of years the fraud duration.
FraudCount	The number of types of fraud committed by a director.

Note: All above variables are collected for the first year of initiation of the fraud.

D.1 Education Status: Prestigious Universities

List of Prestigious Universities or Institutions:
Harvard University
Yale University
Princeton University
Oxford University
University of Cambridge

Note: Following Useem and Karabel (1986) and (Westphal & Bednar, 2005), the above institutions are considered prestigious educational universities or institutions.

D.2 Education Status: Ivy League Universities

List of Prestigious Universities or Institutions:
Harvard University
Yale University
Princeton University
Oxford University
University of Cambridge
Brown University
Columbia University
Dartmouth College
University of Pennsylvania

D.3 Education Status: Elite Universities

List of Elite Universities or Institutions:

List Amherst College	Princeton University
Brown University	Stanford University
Carleton College	Swarthmore College
Columbia University	United States Military Academy
Cornell University	United States Naval Academy
Dartmouth College	University of California, Berkeley
Grinnell College	University of California, Los Angeles
Harvard University	University of Chicago
Haverford College	University of Michigan
John Hopkins University	University of Pennsylvania
Massachusetts Institute of Technology	Illesley College
New York University	Isleyan University
Northwestern University	Williams College
Oberlin College	Yale University
Pomona College	

Using the U.S. News and World Report Rankings from 1998 through 2015, I added universities that achieved a top 25 ranking for Top Universities for more than one year.

The following four universities fall into this category:

Emory University
Duke University
Washington University in St Louis
California Institute of Technology

Note: Following Useem and Karabel (1986) and Finkelstein (1992) the following institutions are considered elite educational institutions. I excluded Prestigious Institutions and Ivy League Institutions, which are considered prestigious institutions in D.1 Education Status: Prestigious Universities and

D.2 Education Status: Ivy League Universities.

D.4 Prestigious Award Status: National Business Press Awards List

Magazine	Circulation	Award	Period	Number of Awards
Business Week	970,000	Best Manager	1988-Current	1992-1995: 15 Winners 1996-current: 25 Winners
Business Week	970,000	Best Entrepreneur	1988-Current	1992-2000: 0 Variable quantities
Business Week	970,000	Top Executive	1988-Current	
Financial World	430,000	CEOs of the Year: Gold Category	1988-1997	1988-1997: 1 Winner
Financial World	430,000	CEOs of the Year: Silver Category	1988-1997	1988-1997: 10 Winners
Chief Executive	42,000	CEO of the Year	1987-Current	1987: 1 Winner
Forbes	910,000	Best Performing CEOs	2001-Current	2001: 5 Winners 2002: 10 Winners
Industry Week	250,000	CEO of the Year	1986-Current	1986-1987: 12 Winners 1989-1991: 12 Winners 1993: 3 Winners 1994: 5 Winners 1995: 1 Winner
Morningstar.com	10,000	CEO of the Year	1999-Current	1999-Current: 1 Winner
Time	4,000,000	Person of the Year		1991: 1 Winner 1997: 1 Winner 1999: 1 Winner
Time/CNN			2001-Current	2001-Current: 25 Winners
Electronic Business Magazine	65,000	CEO of the Year	1997-Current	1997-Current: 1 Winner
Ernst & Young		Entrepreneur of the Year	1989-Current	1989-Current: 1 Winner

E.1 Cronbach's Alpha: Inherited Status

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	No. of Items
.745	.784	3

E.2 Cronbach's Alpha: Reliable Inherited Status Attributes (3)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PrestigiousUG	.21	.300	.557	.367	.744
IvyUG	.17	.196	.706	.519	.499
EliteUG	.10	.149	.602	.383	.704

E.3 Frequency Distribution: All Inherited Status Attributes

Prestigious Undergraduate University (PrestigiousUG)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	927	97.2	97.2	97.2
	1	27	2.8	2.8	100.0
	Total	954	100.0	100.0	

Ivy League Undergraduate University (IvyUG)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	883	92.6	92.6	92.6
	1	71	7.4	7.4	100.0
	Total	954	100.0	100.0	

Elite Undergraduate University (EliteUG)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	822	86.2	86.2	86.2
	1	132	13.8	13.8	100.0
	Total	954	100.0	100.0	

USNW Top 500 Undergraduate University (UsnwUG)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	475	49.8	49.8	49.8
	1	479	50.2	50.2	100.0
	Total	954	100.0	100.0	

Private Undergraduate University (PrivateUG)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	593	62.2	62.2	62.2
	1	361	37.8	37.8	100.0
	Total	954	100.0	100.0	

E.4 Cronbach's Alpha: Acquired Status

Cronbach's Alpha	N of Items
.727	16

E.5 Cronbach's Alpha: Acquired Status Attributes (16)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item: Total Correlation	Cronbach's Alpha if Item Deleted
PrestigiousPG	12.4560	44.521	.332	.718
ElitePG	12.1897	40.005	.529	.693
IvyPG	12.3742	43.086	.404	.710
UsnwPG	11.8050	35.303	.661	.667
OtherPG	11.5430	35.182	.618	.672
PhdPG	12.4392	44.299	.371	.716
MbaPG	12.0870	42.411	.326	.713
TopEntrepFounder	12.2987	44.069	.165	.728
TopCorp	11.9518	42.417	.259	.720
TotalCompRank	8.3354	38.725	.313	.721
HighestCompRank	8.8312	38.843	.326	.718
AwardBIZ	12.4329	44.922	.269	.721
AwardHonDr	12.4958	45.621	.182	.725
AwardHonUni	12.4979	45.178	.205	.724

E.6 Frequency Distribution: Directors with Reason for Inherited Status

Value	Frequency	%	Valid %	Cumulative %
ValidLow	814	85.3	85.3	85.3
High	140	14.7	14.7	100
Total	954	100	100	

Note: Zero non-zero approach

E.7 Frequency Distribution: Postgraduate Education Status (Postgraduate)

Prestigious Postgraduate University (PrestigiousPG)

Value	Frequency	%	Valid %	Cumulative %
Valid0	911	95.5	95.5	95.5
1	37	3.9	3.9	99.4
2	6	.6	.6	100.0
Total	954	100.0	100.0	

Ivy League Postgraduate University (IvyPG)

Value	Frequency	%	Valid %	Cumulative %
Valid0	872	91.4	91.4	91.4
1	72	7.5	7.5	99.0
2	10	1.0	1.0	100.0
Total	954	100.0	100.0	

Elite Postgraduate University (ElitePG)

Value	Frequency	%	Valid %	Cumulative %
Valid0	784	82.2	82.2	82.2
1	146	15.3	15.3	97.5
2	24	2.5	2.5	100.0
Total	954	100.0	100.0	

USNW Top 500 Postgraduate University (UsnwPG)

Value	Frequency	%	Valid %	Cumulative %
Valid0	620	65.0	65.0	65.0
1	286	30.0	30.0	95.0
2	48	5.0	5.0	100.0
Total	954	100.0	100.0	

Other University (OtherPG)

Value	Frequency	%	Valid %	Cumulative %
Valid0	487	51.0	51.0	51.0
1	398	41.7	41.7	92.8
2	69	7.2	7.2	100.0
Total	954	100.0	100.0	

PhD (PhdPG)

Value	Frequency	%	Valid %	Cumulative %
Valid0	903	94.7	94.7	94.7
1	51	5.3	5.3	100.0
Total	954	100.0	100.0	

MBA (MbaPG)

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Value	Frequency	%	Valid %	Cumulative %
Valid0	703	73.7	73.7	73.7
1	251	26.3	26.3	100.0
Total	954	100.0	100.0	

E.8 Uniqueness: Education Status Attributes (Postgraduate)

Area	% Share of Directors with attribute	Unique / Common
PrestigiousPG	4.5	Unique
IvyPG	8.5	Unique
ElitePG	17.8	Unique
UsnwPG	35	Common
OtherPG	49	Common
MbaPG	26.3	Unique
PhdPG	5.3	Unique

E.9 Frequency Distribution: Education Status (Postgraduate)

Value	Frequency	%	Valid %	Cumulative %
Valid0 (no reason)	603	63.2	63.2	63.2
1 (reason exists)	351	36.8	36.8	100.0
Total	954	100.0	100.0	

E.10 Frequency Distribution: Occupation Status

Top Legal Elite (TopLegalElite)

Value	Frequency	%	Valid %	Cumulative %
Valid0	873	91.5	91.5	91.5
1	62	6.5	6.5	98.0
2	14	1.5	1.5	99.5
3	5	.5	.5	100.0
Total	954	100.0	100.0	

Top Official (TopOfficial)

Value	Frequency	%	Valid %	Cumulative %
Valid0	926	97.1	97.1	97.1
1	28	2.9	2.9	100.0
Total	954	100.0	100.0	

Top Military Elite (TopMilitaryElite)

Value	Frequency	%	Valid %	Cumulative %
Valid0	922	96.6	96.6	96.6
1	23	2.4	2.4	99.1
2	9	.9	.9	100.0
Total	954	100.0	100.0	

Top Entrepreneur (TopFounder)

Value	Frequency	%	Valid %	Cumulative %
Valid0	875	91.7	91.7	91.7
1	79	8.3	8.3	100.0
Total	954	100.0	100.0	

Top Admired Company (TopAdmiredCo)

Value	Frequency	%	Valid %	Cumulative %
Valid0	931	97.6	97.6	97.6
1	21	2.2	2.2	99.8
2	2	.2	.2	100.0
Total	954	100.0	100.0	

Appendices

Top Academic Elite (TopAcaElite)

Value	Frequency	%	Valid %	Cumulative %
Valid0	872	91.4	91.4	91.4
1	59	6.2	6.2	97.6
2	20	2.1	2.1	99.7
3	3	.3	.3	100.0
Total	954	100.0	100.0	

Top Accounting Elite (TopAccElite)

Value	Frequency	%	Valid %	Cumulative %
Valid0	813	85.2	85.2	85.2
1	111	11.6	11.6	96.9
2	30	3.1	3.1	100.0
Total	954	100.0	100.0	

Top Company (TopCorp)

Value	Frequency	%	Valid %	Cumulative %
Valid0	721	75.6	75.6	75.6
1	98	10.3	10.3	85.8
2	135	14.2	14.2	100.0
Total	954	100.0	100.0	

E.11 Uniqueness: Occupation Status Attributes

Area	Share of the individuals which have attribute (%)	Unique / Common
TopAcaElite	8.6	Unique
TopCorp	20.2	Unique
TopEntrepFounder	8.3	Unique
TopAdmiredCo	2.4	Unique
TopMilitaryElite	3.4	Unique
TopOfficial	2.9	Unique
TopLegalElite	8.5	Unique
TopAccElite	14.2	Unique

E.12 Frequency Distribution: Occupation Status

Value	Frequency	%	Valid %	Cumulative %
Valid0 (no reason)	474	49.7	49.7	49.7
1 (reason exists)	480	*50.3	50.3	100.0
Total	954	100.0	100.0	

*Note: Occupation status gives 50.3% of director's reason for social status.

E.13 Frequency Distribution: Income Status Attributes

Share Ownership (ShareOwnership)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	821	86.1	86.1	86.1
	1	133	13.9	13.9	100.0
	Total	954	100.0	100.0	

Total Compensation Rank (HighestCompRank)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	720	75.5	75.5	75.5
	1	234	24.5	24.5	100.0
	Total	954	100.0	100.0	

Total Compensation Value (TotalCompValue)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	691	72.4	72.4	72.4
	1	263	27.6	27.6	100.0
	Total	954	100.0	100.0	

E.14 Uniqueness: Income Status Attributes

Area	Share of the individuals which have attribute (%)	Unique / Common
TotalCompValue	27.6	Unique
HighestCompRank	24.5	Unique
ShareOwnership	13.9	Unique

E.15 Frequency Distribution: Income Status

	Value	Frequency	%	Valid %	Cumulative %
Valid	0 (no reason)	533	55.9	55.9	55.9
	1 (reason exists)	421	44.1	44.1	100.0
	Total	954	100.0	100.0	

E.16 Frequency Distribution: Prestigious Award Status

National Business Awards (AwardBIZ)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	877	91.9	91.9	91.9
	1	53	5.6	5.6	97.5
	2	14	1.5	1.5	99.0
	3	5	.5	.5	99.5
	4	4	.4	.4	99.9
	7	1	.1	.1	100.0
	Total	954	100.0	100.0	

Honorary Doctorate (AwardHonDr)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	938	98.3	98.3	98.3
	1	12	1.3	1.3	99.6
	2	1	.1	.1	99.7
	3	1	.1	.1	99.8
	4	1	.1	.1	99.9
	14	1	.1	.1	100.0
	Total	954	100.0	100.0	

Honorary Doctorate from Elite University (AwardHonDrElite)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	953	99.9	99.9	99.9
	1	1	.1	.1	100.0
	Total	954	100.0	100.0	

Honorary University Award (AwardHonUni)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	906	95.0	95.0	95.0
	1	42	4.4	4.4	99.4
	2	3	.3	.3	99.7
	3	1	.1	.1	99.8
	4	2	.2	.2	100.0
	Total	954	100.0	100.0	

Honorary University Award from Elite University (AwardHonUniElite)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	944	99.0	99.0	99.0
	1	10	1.0	1.0	100.0
	Total	954	100.0	100.0	

Innovation Award or Patent (AwardInnovation)

	Value	Frequency	%	Valid %	Cumulative %
Valid	0	945	99.1	99.1	99.1
	1	9	.9	.9	100.0
	Total	954	100.0	100.0	

E.17 Uniqueness: Prestigious Award Status

Area	Share of the individuals which have attribute (%)	Unique / Common
AwardBIZ	8.1	Unique
AwardHonDr	1.7	Unique
AwardHonDrElite	0.1	Unique
AwardHonUni	5	Unique
AwardHonUniElite	1	Unique
AwardInnovation	0.9	Unique

E.18 Frequency Distribution: Prestigious Award Status

	Value	Frequency	%	Valid %	Cumulative %
Valid	0 (no reason)	836	87.6	87.6	87.6
	1 (reason exists)	118	12.4	12.4	100.0
	Total	954	100.0	100.0	

E.19 Frequency Distribution: Directors with Acquired Status

Value	Frequency	%	Valid %	Cumulative %
Valid0 (no reason)	186	19.5	19.5	19.5
1 (reason exists)	768	80.5	80.5	100.0
Total	954	100.0	100.0	

E.20 Frequency Distribution: Directors with 4 Status Categories

Social Status Categories	Frequency	%	Valid %	Cumulative %
Social Laggards	174	18.2	18.2	18.2
Social Climbers	640	67.1	67.1	85.3
Pedigree Elite	12	1.3	1.3	86.6
Supreme Elite	128	13.4	13.4	100.0
Total	954	100.0	100.0	

E.21 List of Hypotheses: Chapter 5

Chapter 5 – Director Social Status and the Incidence of Fraudulent Financial Reporting:	
H1:	Directors conferred with high inherited status are less likely to engage in FFR compared to directors conferred with low inherited status.
H2:	Directors conferred with high acquired status are less likely to engage in FFR compared to directors conferred with low acquired status.
H3:	The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to Social Climbers (directors conferred with low inherited and high acquired status).
H4:	The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to Supreme Elites (directors conferred with high inherited and acquired status).
H5:	The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to Pedigree Elites (directors conferred with high inherited and low acquired status).
H6:	Directors conferred with low overall status are more likely to engage in FFR compared to directors conferred with high overall status.

E.22 List of Hypotheses: Chapter 6

Chapter 6 – Director Social Status and Fraud Type and Severity:	
H1:	Directors conferred with high inherited status are more likely to engage in fraud types A-L compared to directors conferred with low inherited status.
H2:	Directors conferred with high acquired status are more likely to engage in fraud types A-L compared to directors conferred with low acquired status.
H3:	Directors in the category of Social Laggards are more likely to engage in fraud types A-L compared to directors in all the other social status categories (e.g. Social Climbers, Supreme Elite and Pedigree Elite).
H4:	Directors conferred with high overall status are more likely to engage in fraud types A-L compared to directors conferred with low overall status.
H5:	Directors conferred with high overall status are more likely to engage in more severe fraud (i.e. fictitious transactions include fraud types A, I, and J) compared to directors conferred with low overall status.

E.23 List of Hypotheses: Chapter 7

Chapter 7 – Director Social Status, Gender and Gender Diversity	
H1:	Female directors are less likely to engage in FFR compared to their male counterparts.
H2:	Female directors conferred with high inherited status are less likely to engage in FFR compared to male directors conferred with high inherited status.
H3:	Female directors conferred with low inherited status are less likely to engage in FFR compared to male directors conferred with low inherited status.
H4:	Female directors conferred with high acquired status are less likely to engage in FFR compared to male directors conferred with high acquired status.
H5:	Female directors conferred with low acquired status are less likely to engage in FFR compared to male directors conferred with low acquired status, female directors conferred with low acquired status are less likely to engage in FFR.
H6:	Female directors conferred with high overall status are less likely to engage in FFR relative to male directors conferred with high overall status.
H7:	Female directors conferred with low overall status are less likely to engage in FFR relative to male directors conferred with low overall status.
H8:	Female directors who are Social Laggards are less likely to engage in FFR compared to male directors who are Social Laggards.
H9:	Female directors who are Social Climbers are less likely to engage in FFR compared to male directors who are Social Climbers.
H10:	Female directors who are Pedigree Elite are less likely to engage in FFR compared to male directors who are Pedigree Elite.
H11:	Female directors who are Supreme Elite are less likely to engage in FFR compared to male directors who are Supreme Elite.
H12:	Female directors conferred with high overall status are less likely to engage in FFR types which are more severe (i.e. fraud types A, I and J in Fraud Taxonomy) compared to male directors conferred with high overall status.
H13:	There is a negative relationship between the existence of gender diversity on a board and the likelihood of FFR involvement.

F.1 Chi-square Results: Inherited Status and Incidence of Fraud (H1)

Directors conferred with:	Chi-Square value	Significance	Proportion of FFR basic group (High Inherited), %	Proportion of fraud compared group (Low Inherited), %
High Inherited vs Low Inherited Status	8.572	0.003	38.6	52.0

F.2 Chi-square Results: Acquired Status and Incidence of Fraud (H2)

Directors conferred with:	Chi-Square value	Significance	Proportion of fraud basic group (High Acquired), %	Proportion of fraud compared group (Low Acquired), %
High Acquired vs Low Acquired Status	14.132	0.000	47.0	62.4

F.3 Chi-square Results: Status Categories and Incidence of Fraud (H3-H6)

Compared Categories	Chi-Square value	Significance	Proportion of fraud basic group, %	Proportion of fraud compared group, %
Social Laggards vs Social Climbers	16.282	0.000	65.5	48.3
Social Laggards vs Supreme Elite	18.461	0.000	65.5	40.6
Social Laggards vs Pedigree Elite	11.414	0.001	65.5	16.7

F.4 Chi-square Results: Overall Status and Incidence of Fraud (H7)

	Chi-Square value	Significance	Proportion of fraud basic group (High Overall), %	Proportion of fraud compared group (Low Overall), %
High Overall vs Low Overall Status	20.497	0.000	46.5	65.5

F.5 U-test Results: Inherited Status and Incidence of Fraud (H1)

Inherited Status	N	Mean Rank	Z	Asymp. Sig. (2-tailed)
Low	814	486.88	-2.926	.003
High	140	422.99		

F.6 U-test Results: Acquired Status and Incidence of Fraud (H2)

Acquired Status	N	Mean Rank	Z	Asymp. Sig. (2-tailed)
Low	186	536.48	-3.757	.000
High	768	463.21		

F.7 U-test Results: Status Categories and Incidence of Fraud (H3-H6)

	N	Mean Rank	Z	Asymp. Sig. (2-tailed)
H3: Social Laggards compared to Social Climbers				
Social Laggards	174	462.66	-4.033	.000
Social Climbers	640	392.50		
H4: Social Laggards compared to Pedigree Elite				
Social Laggards	174	96.43	-3.369	.001
Pedigree Elite	12	51.00		
H5: Social Laggards compared to Supreme Elite				
Social Laggards	174	167.43	-4.289	.000
Supreme Elite	128	129.84		

F.8 U-test Results: Overall Status and Incidence of Fraud (H7)

Overall Status	N	Mean Rank	Z	Asymp. Sig. (2-tailed)
Low	174	551.52	-4.525	.000
High	780	460.99		

F.9 Simple Logistic Regression: Inherited Status and Fraud (H1)

	Coefficients		Exp(B)		
	Value	Significance	Value	95% Interval	Confidence
Intercept	-0.465	0.007	0.628	0	0
Low Inherited Status	0.544	0.004	1.723	1.194	2.487
High Inherited Status	0				

F.10 Simple Logistic Regression: Acquired Status and Fraud (H2)

	Coefficients		Exp(B)		
	Value	Significance	Value	95% confidence interval	
Intercept	-0.465	0.007	0.628	0	0
Low Acquired Status	0.505	0.001	1.657	1.232	2.229
High Acquired Status	0				

F.11 Simple Logistic Regression: Status Categories and Fraud (H3-H6)

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
Supreme Elite			25.714	3	.000			
Social Laggards	1.021	.240	18.039	1	.000	2.777	1.733	4.449
Social Climbers	.311	.197	2.498	1	.114	1.364	.928	2.006
Pedigree Elite	-1.230	.795	2.392	1	.122	.292	.062	1.389
Constant	-.379	.180	4.446	1	.035	.684		

F.12 Simple Logistic Regression: Overall Status and Fraud (H7)

	Coefficients		Exp(B)		
	Value	Significance	Value	95% confidence interval	
Intercept	-0.465	0.007	0.628	0	0
Low Overall Status	0.642	0.000	1.9	1.39	2.597
High Overall Status	0				

F.13 Adjusted Logistic Regression: Inherited/Acquired Status and Fraud (H1-H2)

	B	S.E.	Wald	df	Sig.	95% C.I. for Exp(B)		
						Exp(B)	Lower	Upper
Inherited Status (Low)	.537	.130	17.145	1	.000	1.710	1.327	2.205
Acquired Status (Low)	.634	.176	13.046	1	.000	1.886	1.337	2.661
NYS	-.354	.127	7.730	1	.005	.702	.547	.901
DtrTenure	-.031	.012	6.825	1	.009	.970	.948	.992
%GD	-.029	.009	11.366	1	.001	.972	.956	.988
ACExist	3.269	1.172	7.774	1	.005	26.278	2.640	261.527
CCExist	-1.544	.510	9.175	1	.002	.213	.079	.580

F.14 Adjusted Logistic Regression: Status Categories and Fraud (H3-H6)

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
Supreme Elite			34.926	3	.000			
Social Laggards	.969	.176	30.227	1	.000	2.635	1.865	3.721
Social Climbers	.301	.113	7.108	1	.008	1.351	1.083	1.686
Pedigree Elite	-1.166	.783	2.220	1	.136	.312	.067	1.445
%GD	-.027	.009	9.916	1	.002	.974	.957	.990
DtrTenure	-.036	.011	9.763	1	.002	.965	.943	.987

F.15 Adjusted Logistic Regression: Overall Status and Incidence of Fraud (H7)

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
Overall Status (Low)	.828	.182	20.628	1	.000	2.289	1.601	3.273
ACExist	3.331	1.176	8.020	1	.005	27.962	2.789	280.350
CCExist	-1.546	.514	9.034	1	.003	.213	.078	.584
%GD	-.033	.009	13.198	1	.000	.967	.950	.985
DtrTenure	-.030	.013	5.566	1	.018	.971	.947	.995
Gender(F)	.566	.272	4.335	1	.037	1.761	1.034	3.001
NYS	-.404	.141	8.219	1	.004	.668	.506	.880
Constant	.453	.148	9.356	1	.002	1.573		

F.16 Hypotheses Results Summary (H1-H6)

	Hypotheses	Chi-Square test	U-test	Simple regression	Adjusted regression
H1	Directors conferred with high inherited status are less likely to engage in FFR compared to directors conferred with low inherited status.	Accept	Accept	Accept	Accept
H2	Directors conferred with high acquired status are less likely to engage in FFR compared to directors conferred with low acquired status.	Accept	Accept	Accept	Accept
H3	The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to Social Climbers (directors conferred with low inherited and high acquired status).	Accept	Accept	Accept	Accept
H4	The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to the Supreme Elites (directors conferred with high inherited and acquired status).	Accept	Accept	Accept	Accept
H5	The Social Laggards (directors conferred with low inherited and low acquired status) are more likely to engage in FFR compared to the Pedigree Elites (directors conferred with high inherited and low acquired status).	Accept	Accept	Accept	Accept
H6	Directors conferred with low overall status are more likely to engage in FFR compared to directors conferred with high overall status.	Accept	Accept	Accept	Accept

Note: These results are good and robust. All tests give the 100% consistent results.

F.17 Probit Regression: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	21.134			
Final	12.496	8.638	1	.003

Link function: Probit

F.18 Probit Regression: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.291	.108	7.294	1	.007	.080	.501
Location	Inherited Status =0	.340	.116	8.552	1	.003	.112	.568
	Inherited Status =1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

F.19 Probit Regression: Probit Model Estimates

	Value	p-value
Hypothesis 1		
Intercept	0.231	0.007
Inherited Status	0.340	0.003
Probability of engaging in Fraud		
Low Inherited Status	0.543	
High Inherited Status	0.409	
Hypothesis 2		
Coefficients		
Intercept	0.075	0.097
Acquired Status	0.390	0.000
Probability of engaging in Fraud		
Low Acquired Status	0.624	
High Acquired Status	0.470	
Hypotheses H3, H4, and H5		
Coefficients		
Intercept	0.237	0.034
Social Laggards Category	0.637	0.000
Social Climbers Category	0.194	0.113
Pedigree Elite Category	-0.730	0.101
Supreme Elite Category	0.000	
Probability		
Social Laggards Category	0.655	
Social Climbers Category	0.483	
Pedigree Elite Category	0.167	
Supreme Elite Category	0.406	
Hypothesis H6		
Coefficients		
Intercept	0.087	0.053
Overall Status=0	0.486	0.000
Probability		
Low Overall Status	0.655	
High Overall Status	0.465	

Note: This table presents the estimation for the corresponding Probit model for the testing of the hypothesis. The p-values are reported in parentheses for each explanatory variable. The dependent variable is Fraud Status (1 fraudulent, 0 non-fraudulent).

F.20 Adjusted Probit Regression: Inherited/Acquired Status and Fraud (H1-H2)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0.0	.230	.112	4.221	1	.040	.011	.449
Location	%GD	-.016	.005	9.288	1	.002	-.027	-.006
	Inherited Status =0.00	.289	.117	6.038	1	.014	.058	.519
	Inherited Status=1.00	0 ^a	.	.	0	.	.	.
	Acquired Status=0.00	.364	.105	11.937	1	.001	.157	.570
	Acquired Status=1.00	0 ^a	.	.	0	.	.	.
	AudExists=N	1.082	.535	4.100	1	.043	.035	2.130
	AudExists=Y	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

F.21 Adjusted Probit Regression: Status Typology Groups and Fraud (H3-H5)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.158	.115	1.883	1	.170	-.068	.384
Location	%GD	-.015	.005	8.244	1	.004	-.026	-.005
	AudExists=N	1.077	.533	4.076	1	.043	.031	2.122
	AudExists=Y	0 ^a	.	.	0	.	.	.
	ISAS=1	.634	.149	18.006	1	.000	.341	.926
	ISAS=2	.196	.123	2.553	1	.110	-.045	.437
	ISAS=3	-.641	.445	2.079	1	.149	-1.513	.230
	ISAS=4	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

F.22 Adjusted Probit Regression: Overall Status and Fraud (H6)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.296	.090	10.881	1	.001	-.472	-.120
Location	%GD	-.018	.005	11.347	1	.001	-.029	-.008
	DtrTenure	-.021	.008	7.906	1	.005	-.036	-.006
	Overall Status=0	.495	.110	20.369	1	.000	.280	.710
	Overall Status=1	0 ^a	.	.	0	.	.	.
	NYS=0	-.251	.086	8.476	1	.004	-.420	-.082
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

F.23 Marginal Effect Analysis: Inherited, Acquired and Overall Status

Status	dy/dx	Std. Err.	z	P>z	[95% C.I.]	
Inherited (High to Low)	0.117	0.046	2.57	0.010	0.028	0.207
Acquired (High to Low)	0.143	0.040	3.53	0.000	0.064	0.222
Overall (High to Low)	0.190	0.040	4.72	0	0.111	0.269

F.24 Marginal Effect Analysis: Status Typology Groups

Status Typology	dy/dx	Std. Err.	z	P>z	[95% C.I.]	
Supreme Elites to Social Laggards	0.249	0.056	4.41	0	0.138	0.359
Supreme Elites to Social Climbers	0.076	0.048	1.61	0.108	-0.017	0.170
Supreme Elites to Pedigree Elites	-0.239	0.116	-2.07	0.039	-0.467	-0.012

Note: (supreme elite is comparative group).

F.25 Marginal Effect Analysis: Inherited and Acquired Status (Adjusted Logistic Regression)

Variables	dy/dx	Std. Err.	z	P>z	[95% C.I.]	
Inherited (High to Low)	0.118	0.046	2.56	0.01	0.028	0.209
Acquired (High to Low)	0.155	0.042	3.72	0	0.073	0.237
NYS (0 to 1)	0.094	0.035	2.71	0.007	0.026	0.162
DtrTenure	-0.008	0.003	-2.59	0.01	-0.014	-0.002
DtrGender	-0.007	0.002	-3.35	0.001	-0.012	-0.003
ACExists (N to Y)	-0.470	0.047	-9.95	0	-0.563	-0.378
CCEExists (N to Y)	0.330	0.078	4.22	0	0.177	0.484

F.26 Marginal Effect Analysis: Overall Status (Adjusted Logistic Regression)

Variables	dy/dx	Std. Err.	z	P>z	[95% C.I.]	
Overall Status (High to Low)	0.201	0.068	4.83	0	0.119	0.282
NYS (1 to 0)	-0.101	0.035	-2.89	0.004	-0.169	-0.032
DtrTenure	-0.007	0.003	-2.36	0.018	-0.013	-0.001
DtrGender	-0.008	0.002	-3.63	0	-0.013	-0.004
ACExists (Y to N)	0.473	0.045	10.59	0	0.385	0.560
CCEExists (Y to N)	-0.330	0.079	-4.18	0	-0.485	-0.175
DtrGender (M to F)	0.141	0.068	2.08	0.037	0.008	0.275

F.27 Marginal Effect Analysis: Status Typology Groups (Adjusted Logistic Regression)

Variables	dy/dx	Std. Err.	z	P>z	[95% C.I.]	
Supreme Elites to Social Laggards	0.244	0.057	4.27	0	0.132	0.356
Supreme Elites to Social Climbers	0.081	0.048	1.7	0.089	-0.012	0.176
Supreme Elites to Pedigree Elites	-0.225	0.122	-1.84	0.065	-0.464	0.014
DtrTenure	-0.009	0.003	-2.84	0.005	-0.015	-0.003
DtrGender	-0.007	0.002	-3.04	0.002	-0.011	-0.002

G.1 Classification of Fraud Types: Low and High Inherited Status

Fraud Type		Low Inherited Status (814)			High Inherited Status (140)		
		No. of cases	Share of directors, %	Rank	No. of cases	Share of directors, %	Rank
A	Fictitious revenues	157	19.3	3	20	14.3	2
B	Premature revenue recognition	161	19.8	2	18	12.9	3
C	Misstatement of other expense /shareholder equity account	129	15.8	4	13	9.3	6
D	Capitalized costs as assets	35	4.3	9	4	2.9	9
E	Misstated accounts receivable	57	7.0	7	5	3.6	8
F	Misstated inventory	45	5.5	8	6	4.3	7
G	Misstated cost of goods sold	11	1.4	10	2	1.4	10
H	Misstated liabilities	5	0.6	12	1	0.7	11
I	Misstated reserve account	164	20.1	1	22	15.7	1
J	Misstated allowance for bad debt	75	9.2	6	16	11.4	4
K	Misstated marketable securities	11	1.4	10	1	0.7	11
L	Misstated payables	83	10.2	5	15	10.7	5

G.2 Classification of Fraud Type: Low and High Acquired Status

Fraud Type		Low Acquired Status (186)			High Acquired Status (768)		
		No. of cases	Share of directors, %	Rank	No. of cases	Share of directors, %	Rank
A	Fictitious revenues	45	5.9	3	132	17.2	2
B	Premature revenue recognition	47	6.1	2	132	17.2	2
C	Misstatement of other expense /shareholder equity account	39	5.1	4	103	13.4	4
D	Capitalized costs as assets	9	1.2	9	30	3.9	9
E	Misstated accounts receivable	16	2.1	7	46	6.0	7
F	Misstated inventory	15	2.0	8	36	4.7	8
G	Misstated cost of goods sold	4	0.5	10	9	1.2	11
H	Misstated liabilities	2	0.3	11	4	0.5	12
I	Misstated reserve account	50	6.5	1	136	17.7	1
J	Misstated allowance for bad debt	17	2.2	6	74	9.6	6
K	Misstated marketable securities	1	0.1	12	11	1.4	10
L	Misstated payables	22	2.9	5	76	9.9	5

G.3 Classification of Fraud Type: Low and High Overall Status

Fraud Type		Low Overall Status (174)			High Overall Status (780)		
		No. of Cases	Share of directors, %	Rank	No. of Cases	Share of directors, %	Rank
A	Fictitious revenues	44	25.3	3	133	17.1	2
B	Premature revenue recognition	47	27.0	2	132	16.9	3
C	Misstatement of other expense /shareholder equity account	39	22.4	4	103	13.2	4
D	Capitalized costs as assets	9	5.2	9	30	3.8	9
E	Misstated accounts receivable	15	8.6	7	47	6.0	7
F	Misstated inventory	13	7.5	8	38	4.9	8
G	Misstated cost of goods sold	4	2.3	10	9	1.2	11
H	Misstated liabilities	2	1.1	11	4	0.5	12
I	Misstated reserve account	48	27.6	1	138	17.7	1
J	Misstated allowance for bad debt	16	9.2	6	75	9.6	6
K	Misstated marketable securities	1	0.6	12	11	1.4	10
L	Misstated payables	22	12.6	5	76	9.7	5

G.4 Fraud Types: 4 Status Categories

Fraud Types		Social Laggards (174)			Social Climbers (640)		
		No. of cases	Share of directors, %	Rank	No. of cases	Share of directors, %	Rank
A	Fictitious revenues	44	25.3	3	113	17.7	3
B	Premature revenue recognition	47	27.0	2	114	17.8	2
C	Misstatement of other expense /shareholder equity account	39	22.4	4	90	14.1	4
D	Capitalized costs as assets	9	5.2	9	26	4.1	9
E	Misstated accounts receivable	15	8.6	7	42	6.6	7
F	Misstated inventory	13	7.5	8	32	5.0	8
G	Misstated cost of goods sold	4	2.3	10	7	1.1	11
H	Misstated liabilities	2	1.1	11	3	0.5	12
I	Misstated reserve account	48	27.6	1	116	18.1	1
J	Misstated allowance for bad debt	16	9.2	6	59	9.2	6
K	Misstated marketable securities	1	0.6	12	10	1.6	10
L	Misstated payables	22	12.6	5	61	9.5	5
Fraud Types		Pedigree Elite (12)			Supreme Elite (128)		
		No. of cases	Share of directors, %	Rank	No. of cases	Share of directors, %	Rank
A	Fictitious revenues	1	8.3	3	19	14.8	2
B	Premature revenue recognition	0	0.0	6	18	14.1	3
C	Misstatement of other expense /shareholder equity account	0	0.0	6	13	10.2	6
D	Capitalized costs as assets	0	0.0	6	4	3.1	7
E	Misstated accounts receivable	1	8.3	3	4	3.1	7
F	Misstated inventory	2	16.7	1	4	3.1	7
G	Misstated cost of goods sold	0	0.0	6	2	1.6	10
H	Misstated liabilities	0	0.0	6	1	0.8	11
I	Misstated reserve account	2	16.7	1	20	15.6	1
J	Misstated allowance for bad debt	1	8.3	3	15	11.7	4
K	Misstated marketable securities	0	0.0	6	1	0.8	11
L	Misstated payables	0	0.0	6	15	11.7	4

G.5 Hypotheses Results: Fraud Type (A) Fictitious Revenues

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.096	14.3	19.3
Hypothesis 2			
High Acquired vs Low Acquired Status	0.02	17.2	24.2
Hypothesis 3			
Social Laggards vs Social Climbers	0.017	25.3	17.7
Social Laggards vs Supreme Elite	0.019	25.3	14.8
Social Laggards vs Pedigree Elite	0.165	25.3	8.3
Hypothesis 4			
High Overall vs Low Overall Status	0.009	17.1	25.3

G.6 Hypotheses Results: Fraud Type (B) Premature Revenue Recognition

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.031	12.9	19.8
Hypothesis 2			
High Acquired vs Low Acquired Status	0.009	17.2	25.3
Hypothesis 3			
Social Laggards vs Social Climbers	0.006	27.0	17.8
Social Laggards vs Supreme Elite	0.005	27.0	14.1
Social Laggards vs Pedigree Elite	0.027	27.0	0
Hypothesis 4			
High Overall vs Low Overall Status	0.002	16.9	27.0

G.7 Hypotheses Results: Fraud Type (C) Misstatement expense/shareholder equity

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.025	9.3	15.8
Hypothesis 2			
High Acquired vs Low Acquired Status	0.008	13.4	21.0
Hypothesis 3			
Social Laggards vs Social Climbers	0.006	22.4	14.1
Social Laggards vs Supreme Elite	0.004	22.4	10.2
Social Laggards vs Pedigree Elite	0.054	22.4	0
Hypothesis 4			
High Overall vs Low Overall Status	0.002	13.2	22.4

G.8 Hypotheses Results: Fraud Type (D) Capitalized costs of assets

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.299	2.9	4.3
Hypothesis 2			
High Acquired vs Low Acquired Status	0.344	3.9	4.8
Hypothesis 3			
Social Laggards vs Social Climbers	0.323	5.2	4.1
Social Laggards vs Supreme Elite	0.285	5.2	3.1
Social Laggards vs Pedigree Elite	0.541	5.2	0
Hypothesis 4			
High Overall vs Low Overall Status	0.27	3.8	5.2

G.9 Hypotheses Results: Fraud Type (E) Misstated accounts receivable

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.085	3.6	7
Hypothesis 2			
High Acquired vs Low Acquired Status	0.13	6	8.6
Hypothesis 3			
Social Laggards vs Social Climbers	0.216	8.6	6.6
Social Laggards vs Supreme Elite	0.041	8.6	3.1
Social Laggards vs Pedigree Elite	0.724	8.6	8.3
Hypothesis 4			
High Overall vs Low Overall Status	0.14	6	8.6

G.10 Hypotheses Results: Fraud Type (F) Misstated inventory

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.359	4.3	5.5
Hypothesis 2			
High Acquired vs Low Acquired Status	0.054	4.7	8.1
Hypothesis 3			
Social Laggards vs Social Climbers	0.141	7.5	5
Social Laggards vs Supreme Elite	0.083	7.5	3.1
Social Laggards vs Pedigree Elite	0.25	7.5	16.7
Hypothesis 4			
High Overall vs Low Overall Status	0.119	4.9	7.5

G.11 Hypotheses Results: Fraud Type (I) Misstated reserve account

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.133	15.7	20.1
Hypothesis 2			
High Acquired vs Low Acquired Status	0.004	17.7	26.9
Hypothesis 3			
Social Laggards vs Social Climbers	0.005	27.6	18.1
Social Laggards vs Supreme Elite	0.009	27.6	15.6
Social Laggards vs Pedigree Elite	0.327	27.6	16.7
Hypothesis 4			
High Overall vs Low Overall Status	0.003	17.7	27.6

G.12 Hypotheses Results: Fraud Type (J) Misstated allowance for bad debt

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.247	11.4	9.2
Hypothesis 2			
High Acquired vs Low Acquired Status	0.482	9.6	9.1
Hypothesis 3			
Social Laggards vs Social Climbers	0.564	9.2	9.2
Social Laggards vs Supreme Elite	0.299	9.2	11.7
Social Laggards vs Pedigree Elite	0.699	9.2	8.3
Hypothesis 4			
High Overall vs Low Overall Status	0.499	9.6	9.2

G.13 Hypotheses Results: Fraud Type (L) Misstated marketable securities

	Exact one-sided significance	Proportion of fraud basic group (High), %	Proportion of fraud compared group (Low), %
Hypothesis 1			
High Inherited vs Low Inherited Status	0.474	10.7	10.2
Hypothesis 2			
High Acquired vs Low Acquired Status	0.256	9.9	11.8
Hypothesis 3			
Social Laggards vs Social Climbers	0.145	12.6	9.5
Social Laggards vs Supreme Elite	0.477	12.6	11.7
Social Laggards vs Pedigree Elite	0.21	12.6	0
Hypothesis 4			
High Overall vs Low Overall Status	0.158	9.7	12.6

G.14 Summary All Hypotheses Results: Fraud Type

Types of the fraud		Hypotheses				
		H1	H2	H3	H4	H5
I	Misstated reserve account	Rejected	Accepted	Accepted partially*	Accepted	Accepted
C	Misstatement of other expense /shareholder equity account	Accepted	Accepted	Accepted	Accepted	
A	Fictitious revenues	Rejected	Accepted	Accepted partially*	Accepted	Accepted
B	Premature revenue recognition	Accepted	Accepted	Accepted partially*	Accepted	
L	Misstated payables	Rejected	Rejected	Rejected	Rejected	
J	Misstated allowance for bad debt	Rejected	Rejected	Rejected	Rejected	Rejected
E	Misstated accounts receivable	Rejected	Rejected	Rejected partially*	Rejected	
F	Misstated inventory	Rejected	Rejected	Rejected	Rejected	
D	Capitalized costs as assets	Rejected	Rejected	Rejected partially*	Rejected	

G.15 Logistic Regression Results: Fraud Severity and Overall Status

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for Exp(B)	
								Lower	Upper
Step 1 ^a	Overall Status	.346	.249	1.931	1	.165	1.413	.868	2.303
	NYS	.309	.209	2.195	1	.138	1.362	.905	2.050
	TENURE	-.012	.020	.365	1	.546	.988	.951	1.027
	%GD	-.024	.015	2.689	1	.101	.976	.948	1.005
	ACExist	.791	1.473	.288	1	.591	2.205	.123	39.557
	CCEXist	-1.234	1.027	1.443	1	.230	.291	.039	2.179
	Constant	-1.994	.196	103.262	1	.000	.136		

a. Variable(s) entered on step 1: Overall Status, NYS, DtrTenure, %GD, ACExist, CCEXist.

G.16 Fisher's exact test: Fraud Severity and Subgroups

Categories	Chi-square statistic value	The significance of Chi-Square value (two-sided)	Exact one-sided significance of Fisher's exact test	Proportion of severe frauds basic group (High Inherited, Acquired, etc.), %	Proportion of severe frauds compared to group (Low Inherited, Acquired, etc.), %
High vs Low Inherited	0.041	0.839	0.466	12.1	11.5
High vs Low Acquired	1.865	0.172	0.109	10.9	14.5
Social Laggards vs Social Climbers	1.723	0.189	0.12	10.8	14.4
Social Laggards vs Supreme Elite	0.45	0.502	0.311	11.7	14.4
Social Laggards vs Pedigree Elite	0.048*	0.827	0.544	16.7	14.4
Social Climbers vs Pedigree Elite	0.42*	0.517	0.382	16.7	10.8
Social Climbers vs Supreme Elite	0.096	0.756	0.428	11.7	10.8
Pedigree Elite vs Supreme Elite	0.252*	0.616	0.443	11.7	16.7

*The results of Chi-Square test are incorrect because 25% of sells have expected count less than 5.

Note: The differences in the proportions of fraudulent directors who carried out severe frauds (i.e. fraud types A, I, and J) by Inherited Status, Acquired Status, and 4 status categories Social Laggards, Social Climbers, Pedigree Elite and Supreme Elite (Chi-Square test)

G.17 U-test Results: Fraud Severity and Subgroups

Subgroups	N	Mean Rank	Z	Asymp. Sig. (2-tailed)
Inherited Status				
Low	814	477.08		
High	140	479.92	-0.203	0.839
Acquired Status				
Low	186	491.24		
High	768	474.17	-1.365	0.172
Four Status Categories				
Social Laggards vs Social Climbers				
Social Laggards	174	418.98		
Social Climbers	640	404.38	-1.312	0.19
Social Laggards vs Pedigree Elite				
Social Laggards	174	93.36		
Pedigree Elite	12	95.5	-0.218	0.827
Social Laggards vs Supreme Elite				
Social Laggards	174	153.2		
Supreme Elite	128	149.2	-0.67	0.503
Social Climbers vs Pedigree Elite				
Social Climbers	640	326.15		
Pedigree Elite	12	345.33	-0.648	0.517
Social Climbers vs Supreme Elite				
Social Climbers	640	383.9		
Supreme Elite	128	387.5	-0.31	0.757
Pedigree Elite vs Supreme Elite				
Pedigree Elite	12	73.67		
Supreme Elite	128	70.2	-0.5	0.617

Note: The differences in the proportions of severe frauds (AIJ) directors by Inherited Status, Acquired Status, and status categories Social Laggards, Social Climbers, Pedigree Elite, Supreme Elite (U- test).

G.18 Hosmer and Lemeshow Test for Fraud Severity: Inherited and Acquired Status

Step	Chi-square	df	Sig.
1	24.531	8	.002

G.19 Logistic Regression Results: Fraud Severity and Inherited/Acquired Status

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
								Lower	Upper
Step 1 ^a	Inherited Status	-1.561	.189	68.118	1	.000	.210	.145	.304
	FraudLength	.334	.050	45.538	1	.000	1.397	1.268	1.540
	NYS	-.740	.182	16.636	1	.000	.477	.334	.681
	FExp	-.650	.203	10.252	1	.001	.522	.350	.777
	DtrTenure	-.057	.023	6.330	1	.012	.945	.904	.988
	%GD	-.038	.015	6.091	1	.014	.963	.934	.992

a. Variable(s) entered on step 1: FraudLength, NYS, FExp, DtrTenure, %GD

G.19 Logistic Regression Results: Fraud Severity and 4-Status Categories

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
Step 1 ^a Supreme Elite			69.738	3	.000			
Social Laggards	-1.183	.281	17.761	1	.000	.306	.177	.531
Social Climbers	-1.677	.203	68.549	1	.000	.187	.126	.278
Pedigree Elite	-.315	.861	.134	1	.714	.730	.135	3.943
FraudLength	.337	.050	45.941	1	.000	1.401	1.271	1.545
NYS	-.773	.185	17.522	1	.000	.461	.321	.663
FExp	-.677	.205	10.912	1	.001	.508	.340	.759
%GD	-.037	.016	5.761	1	.016	.963	.934	.993
TENURE	-.053	.022	5.547	1	.019	.949	.908	.991

Variable(s) entered on step 1: FraudLength, NYS, FExp, %GD, DtrTenure.

Note: The adjusted regression by FraudLength, NYS, FExp, %GD, and DtrTenure indicates that odds (fraudulent/non-fraudulent) for categories Social Laggards and Social Climbers are less than for Supreme Social Elite because corresponding coefficients has p-value less 0.05. Corresponding Exp(B) are 0.306 and 0.187.

G.20 Hosmer and Lemeshow Test: Fraud Severity and 4-Status Categories

Step	Chi-square	df	Sig.
1	27.456	8	.001

G.21 Chi-Square test Results: Fraud Severity and Overall Status (H5)

Chi-Square value	Significance	Proportion of fraudulent directors with high Overall Status (%)	Proportion of fraudulent directors with low Overall Status (%)
1.546	0.214	11.0	14.4

G.22 U-test Results: Fraud Severity and Overall Status (H5)

	N	Mean Rank	Z	Asymp. Sig. (2-tailed)
Overall Status				
Low	174	490.53	-1.243	0.214
High	780	474.59		

G.23 Simple Logistic Regression: Fraud Severity and Overall Status (H5)

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
Step 1 ^a OverallStatus (low)	.303	.244	1.536	1	.215	1.354	.838	2.186
Constant	-2.088	.114	333.639	1	.000	.124		

G.24 Overall Results: Fraud Severity and Overall Status (H5)

	Hypothesis	Chi-Square test	U-test	Simple regression	Adjusted regression
H5	Directors conferred with high overall status are more likely to engage in more severe fraud (i.e. fictitious transactions include fraud types A, I, and J) compared to directors conferred with low overall status.	Reject	Reject	Reject	Reject

* - Significance level is 0.05.

H.1 Frequency Distribution: Director Gender and Inherited Status Attributes

Variables	Value	Full Sample Female		Full Sample Male		Full Sample	
		Count	% F	Count	% M	Count	% within full sample
PrestigiousUG	0	67	97.1	860	97.2	927	97.2
	1	2	2.9	25	2.8	27	2.8
IvyUG	0	67	97.1	816	92.2	883	92.6
	1	2	2.9	69	7.8	71	7.4
EliteUG	0	63	91.3	759	85.8	822	86.2
	1	6	8.7	126	14.2	132	13.8
UsnwUG	0	32	46.4	443	50.1	475	49.8
	1	37	53.6	442	49.9	479	50.2
Private_UG	0	42	60.9	551	62.3	593	62.2
	1	27	39.1	334	37.7	361	37.8

Note: USNW_UG and PrivateUG were excluded from inherited status (common attributes).

H.1 Frequency Distribution: Female Directors and Inherited Status Attributes

Variables	Value	Non-Fraudulent F		Fraudulent F		Full F Sample	
		Count	% Non-Fraudulent	Count	% Fraudulent	Count	% within full F sample
PrestigiousUG	0	28	100.0	39	95.1	67	97.1
	1	0	0.0	2	4.9	2	2.9
IvyUG	0	28	100.0	39	95.1	67	97.1
	1	0	0.0	2	4.9	2	2.9
EliteUG	0	28	100.0	35	85.4	63	91.3
	1	0	0.0	6	14.6	6	8.7
UsnwUG	0	11	39.3	21	51.2	32	46.4
	1	17	60.7	20	48.8	37	53.6
Private_UG	0	15	53.6	27	65.9	42	60.9
	1	13	46.4	14	34.1	27	39.1

H.2 Frequency Distribution: Director Gender and Education Status (Postgraduate)

Variables	Value	Full Sample Female		Full Sample Male		Full Sample	
		Count	% within F	Count	% within M	Count	% within total sample
PrestigiousPG	0	66	95.7	845	95.5	911	95.5
	1	3	4.3	40	4.5	43	4.5
IvyPG	0	64	92.8	808	91.3	872	91.4
	1	5	7.2	77	8.7	82	8.6
ElitePG	0	62	89.9	722	81.6	784	82.2
	1	7	10.1	163	18.4	170	17.8
MbaPG	0	46	66.7	657	74.2	703	73.7
	1	23	33.3	228	25.8	251	26.3
PhdPG	0	62	89.9	841	95.0	903	94.7
	1	7	10.1	44	5.0	51	5.3
UsnwPG	0	46	66.7	574	64.9	620	65.0
	1	23	33.3	311	35.1	334	35.0

Note: USNW_PG was excluded from acquired status (common attribute)

H.3 Frequency Distribution: Director Gender and Occupation Status

Variables	Value	Full Sample Female		Full Sample Male		Full Sample	
		Count	% within F	Count	% within M	Count	% within full sample
TopAcaElite	0	59	85.5	813	91.9	872	91.4
	1	10	14.5	72	8.1	82	8.6
TopCorp	0	49	71.0	712	80.5	761	79.8
	1	20	29.0	173	19.5	193	20.2
TopFounder	0	67	97.1	808	91.3	875	91.7
	1	2	2.9	77	8.7	79	8.3
TopAdmiredCo	0	69	100.0	862	97.4	931	97.6
	1	0	0.0	23	2.6	23	2.4
TopMilitaryElite	0	67	97.1	855	96.6	922	96.6
	1	2	2.9	30	3.4	32	3.4
TopOfficial	0	69	100.0	857	96.8	926	97.1
	1	0	0.0	28	3.2	28	2.9
TopLegalElite	0	67	97.1	806	91.1	873	91.5
	1	2	2.9	79	8.9	81	8.5
TopAccElite	0	58	84.1	755	85.3	813	85.2
	1	11	15.9	130	14.7	141	14.8

H.4 Frequency Distribution: Director Gender and Income Status

Variables	Value	Full Sample Female		Full Sample Male		Full Sample	
		Count	% within F	Count	% within M	Count	% within total sample
ShareOwnership	0	66	95.7	755	85.3	821	86.1
	1	3	4.3	130	14.7	133	13.9
HighestCompRank	0	63	91.3	657	74.2	720	75.5
	1	6	8.7	228	25.8	234	24.5
TotalCompRank	0	50	72.5	641	72.4	691	72.4
	1	19	27.5	244	27.6	263	27.6

H.5 Frequency Distribution: Director Gender and Prestigious Award Status

Variables	Value	Full Sample Female		Full Sample Male		Full Sample	
		Count	% within F	Count	% within M	Count	% full Sample
AwardBIZ	0	59	85.5	818	92.4	877	91.9
	1	10	14.5	67	7.6	77	8.1
AwardHonDr	0	69	100.0	869	98.2	938	98.3
	1	0	0.0	16	1.8	16	1.7
AwardHonDrElite	0	69	100.0	884	99.9	953	99.9
	1	0	0.0	1	0.1	1	0.1
AwardHonUni	0	64	92.8	842	95.1	906	95.0
	1	5	7.2	43	4.9	48	5.0
AwardHonUniElite	0	66	95.7	878	99.2	944	99.0
	1	3	4.3	7	0.8	10	1.0
AwardInnovation	0	69	100.0	876	99.0	945	99.1
	1	0	0.0	9	1.0	9	0.9

H.6 Frequency Distribution: Director Gender and Reason for Status

Variables	Value	Full Sample Female		Full Sample Male		Full Sample	
		Count	% within F	Count	% within M	Count	% full Sample
Inherited Status	0	63	91.3	751	84.9	814	85.3
	1	6	8.7	134	15.1	140	14.7
Acquired Status	0	17	24.6	169	19.1	186	19.5
	1	52	75.4	716	80.9	768	80.5
Overall Status	0	16	23.2	158	17.9	174	18.2
	1	53	76.8	727	82.1	780	81.8

H.7 Frequency Distribution: 4 Status Categories

Status Categories	Full Sample Female		Full Sample Male		Full Sample	
	Count	% within overall group	Count	% within overall group	Count	% within total sample
Social Laggards	16	9.2	158	90.8	174	18.2
Social Climbers	47	7.3	593	92.7	640	67.1
Pedigree Elite	1	8.3	11	91.7	12	1.3
Supreme Elite	5	3.9	123	96.1	128	13.4
Total					954	100

H.1 Fisher's Exact Test Results: Director Gender and Status

Sample	Significance Fisher's exact test (2-sided)	Proportion of fraudulent women, %	Proportion of fraud men, %
Full sample	0.133	59.4	49.3
High Inherited Status	0.003	100	35.8
Low Inherited Status	0.601	55.6	51.7
High Acquired Status	0.063	59.6	46.1
Low Acquired Status	0.796	58.8	62.7
High Overall Status	0.045	60.4	45.5
Low Overall Status	0.42	56.3	66.5
Social Laggards	0.42	56.3	66.5
Social Climbers	0.364	55.3	47.7
Pedigree Elite	0.167	100	9.1
Supreme Elite	0.01	100	38.2

H.2 Fisher's Exact Test Results: Summary Director Gender and Status

Sample	Statistically significant results at significance level 0.05
Full sample	There are no differences in committing FFR by gender
High Inherited Status	Women are more likely to commit FFR
Low Inherited Status	There are no differences in committing FFR by gender
High Acquired Status	There are no differences in committing FFR by gender
Low Acquired Status	There are no differences in committing FFR by gender
High Overall Status	Women are more likely to commit FFR
Low Overall Status	There are no differences in committing FFR by gender
Social Laggards	There are no differences in committing FFR by gender
Social Climbers	There are no differences in committing FFR by gender
Pedigree Elite	There are no differences in committing FFR by gender
Supreme Elite	Women are more likely to commit FFR

H.3 U-test Results: Director Gender and Status

Sample	Z-statistics	Significance U-test (2-sided)	Mean Rank women, %	Mean Rank men, %
Full sample	-1.624	0.104	522.43	474.00
High Inherited Status	-3.148	0.002	113.50	68.57
Low Inherited Status	-.593	.553	422.11	406.27
High Acquired Status	-1.886	.059	432.92	380.98
Low Acquired Status	-0.315	0.752	90.21	93.83
High Overall Status	-2.091	0.037	444.47	386.57
Low Overall Status	-0.816	0.414	79.84	88.32
Social Laggards	-0.816	0.414	79.44	88.32
Social Climbers	1.002	0.316	343.02	318.72
Pedigree Elite	-2.236	.025	11.5	6.05
Supreme Elite	-2.747	0.006	102.5	62.96

H.4 U-test Results: Summary

Sample	Statistically significant results at significance level 0.05
Full sample	There are no differences in committing FFR by gender
High Inherited Status	Women are more likely to commit FFR
Low Inherited Status	There are no differences in committing FFR by gender
High Acquired Status	There are no differences in committing FFR by gender
Low Acquired Status	There are no differences in committing FFR by gender
High Overall Status	Women are more likely to commit FFR
Low Overall Status	There are no differences in committing FFR by gender
Social Laggards	There are no differences in committing FFR by gender
Social Climbers	There are no differences in committing FFR by gender
Pedigree Elite	Women are more likely to commit FFR
Supreme Elite	Women are more likely to commit FFR

H.5 Chi-square Results: Gender (H2, H4, H6)

	Chi-Square value	Significance	Proportion of fraud basic group, %	Proportion of fraud compared group. %
Male				
High vs Low Inherited Status	11.42	0.001	35.8	51.7
High vs Low Acquired Status	15.133	0.000	46.1	62.7
High vs Low Overall Status	22.739	0.000	45.5	66.5
Female				
High vs Low Inherited Status		0.038*	100	55.6
High vs Low Acquired Status	0.03	0.954	59.6	58.8
High vs Low Overall Status	0.87	0.768	60.4	56.3

* Fisher's exact test significance because more than 20% cells have expected count less than 5 in the given case (Chi-square test is not appropriate)

H.6 Hypothesis Results: Gender (H4)

Sample	Chi-square statistics	Significance *	Proportion of fraud directors in subgroup high overall Status %	Proportion of fraud directors in subgroup low overall Status %
Male	5.297	0.021	23.5	32.3
Female		0.094*	30.2	6.3

* The significance Chi-square test is reported for male and the significance Fisher's exact test is displayed for women because Chi-square test for women is incorrect (25% cells have an expected count less than 5).

H.7 Simple Logistic Regression: Gender Diversity (H5)

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
%GD	-.016	.007	5.976	1	.014	.984	.971	.997

H.8 Proportion Fraudulent/Non-Fraudulent Directors with High/Low Gender Diversity

			Fraud Status		Total	Chi-Square value	Significance
			Non-fraudulent	Fraudulent			
%GD	Low	Count	250	288	538	6.155	0.013
		%	46.5%	53.5%	100.0%		
	High	Count	227	189	416		
		%	54.6%	45.4%	100.0%		

H.9 U-test Results: Gender Diversity (H5)

Gender Diversity	N	Mean Rank Fraud Status	Z	Significance
Low	538	494.35	-2.48	0.013
High	416	455.71		
Total	954			

H.10 Chi-square Results: Gender Groups and Gender Diversity

			Fraud Status		Total	Chi-Square value	Significance
			Non-Fraudulent	Fraudulent			
%GD less <5.9%							
	Male	Count	246	276	522	3.055	0.08
		%	47.1%	52.9%	100.0%		
	Female	Count	4	12	16		
		%	25.0%	75.0%	100.0%		
%GD higher mean (>=5.9%)							
	Male	Count	203	160	363	2.112	0.146
		%	55.9%	44.1%	100.0%		
	Female	Count	24	29	53		
		%	45.3%	54.7%	100.0%		
%GD higher mean+st.deviation >=14%							
	Male	Count	74	39	113	0.178	0.673
		%	65.5%	34.5%	100.0%		
	Female	Count	14	9	23		
		%	60.9%	39.1%	100.0%		

H.11 Chi-square Results: Fraudulent Female Directors and Gender Diversity

			Fraud Status		Total	Chi-Square value	Significance
			Non-fraud	Fraudulent			
%GD less than mean (<5.9) and higher than mean (>5.9)							
	Less	Count	4	12	16	2.097	0.148
		%	25.0%	75.0%	100.0%		
	Higher	Count	24	29	53		
		%	45.3%	54.7%	100.0%		
%GD less than mean+st.dev (<14) and higher than mean+st.dev (>=14)							
	Less	Count	14	32	46	5.890	0.015
		%	30.4%	69.6%	100.0%		
	Higher	Count	14	9	23		
		%	60.9%	39.1%	100.0%		

H.12 Probit Regression: Summary Results (H1-H12)

	Sample	Sample size	Significance that the model does not differ from only intercept model	Coefficient at Gender=Female	
				Value	Significance
H1	Total	954	0.104	0.257	0.104
H2	Inherited Status=High	140	0.001	6.881	Uncertain*
H3	Inherited Status=Low	814	0.552	0.098	0.362
H4	Acquired Status=High	768	0.059	0.342	0.06
H5	Acquired Status=Low	186	0.753	-0.101	0.753
H6	Overall Status=High	780	0.036	0.375	0.037
H7	Overall Status=Low	174	0.42	-0.268	0.419
H8	Social Laggards	174	0.42	-0.268	0.419
H9	Social Climbers	640	0.316	0.191	0.316
H10	Pedigree Elite	12	0.043	7.562	Uncertain
H11	Supreme Elite	128	0.002	6.813	Uncertain
H12	Overall Status=High	780	0.284	0.203	0.281

Note: *Uncertain means that there are impossible to estimate the validity of the model fit because of small sample size (There are 25.0% dependent variable levels by observed combinations of predictor variable values with zero frequencies).

H.13 Adjusted Probit Regression: Summary Results (H1-H12)

	Sample	Sample size	Significance that the model does not differ from only intercept model	Coefficient at Gender = Female	
				Value	Significance
H1	Total	954	0	0.366	0.027
H2	Inherited Status=High	140	0.008	6.96	Uncertain
H3	Inherited Status=Low	814	0	0.229	0.186
H4	Acquired Status=High	768	0	0.495	0.01
H5	Acquired Status=Low	186	0.943	-0.111	0.743
H6	Overall Status=High	780	0	0.543	0.004
H7	Overall Status=Low	174	0.87	-0.327	0.348
H8	Social Laggards	174	0.87	-0.327	0.348
H9	Social Climbers	640	0	0.379	0.061
H10	Pedigree Elite	12	0.029	47.4	Uncertain
H11	Supreme Elite	128	0.002	6.74	Uncertain
H12	Overall Status=High	780	0.007	0.248	0.205

H.14 Simple Model: Director Gender and Fraud (H1)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus=0	.018	.042	.191	1	.662	-.064	.101
Location	DtrGender=F	.257	.158	2.636	1	.104	-.053	.567
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.15 Adjusted Regression: Director Gender and Fraud (H1)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.335	.089	14.181	1	.000	-.510	-.161
Location	%GD	-.020	.006	12.562	1	.000	-.030	-.009
	DtrTenure	-.022	.008	8.466	1	.004	-.037	-.007
	DtrGender=F	.366	.166	4.889	1	.027	.042	.691
	DtrGender=M	0 ^a	.	.	0	.	.	.
	NYS=0	-.207	.086	5.873	1	.015	-.375	-.040
	NYS=1	0 ^a	.	.	0	.	.	.
	AudExists=N	1.133	.554	4.177	1	.041	.046	2.219
	AudExists=Y	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.16 Simple Model: High Inherited Status Female Directors and Fraud (H2)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.363	.111	10.728	1	.001	.146	.581
Location	DtrGender=F	6.881	.000	.	1	.	6.881	6.881
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.17 Adjusted Regression: High Inherited Status Female Directors and Fraud (H2)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	<u>FraudStatus= 0</u>	.299	.256	1.364	1	.243	-.203	.801
Location	%GD	.017	.018	.912	1	.340	-.018	.051
	<u>DtrTenure</u>	-.014	.022	.430	1	.512	-.058	.029
	<u>DtrGender=F</u>	6.960	.000	.	1	.	6.960	6.960
	<u>DtrGender=M</u>	0 ^a	.	.	0	.	.	.
	NYS=0	-.097	.238	.165	1	.684	-.562	.369
	NYS=1	0 ^a	.	.	0	.	.	.
	<u>AudExists=Y</u>	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.18 Simple Model: Low Inherited Status Female Directors and Fraud (H3)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.042	.046	.832	1	.362	-.131	.048
Location	DtrGender=F	.098	.165	.353	1	.552	-.225	.421
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link Function: Probit

a. This parameter is set to zero because it is redundant.

H.19 Adjusted Regression: Low Inherited Status Female Directors and Fraud (H3)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.435	.096	20.504	1	.000	-.624	-.247
Location	%GD	-.025	.006	18.118	1	.000	-.037	-.014
	DtrTenure	-.022	.008	7.768	1	.005	-.038	-.007
	DtrGender=F	.229	.173	1.753	1	.186	-.110	.568
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	1.038	.555	3.497	1	.061	-.050	2.126
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	-.214	.093	5.322	1	.021	-.395	-.032
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.20 Simple Model: High Acquired Status Female Directors and Fraud (H4)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.098	.047	4.379	1	.036	.006	.190
Location	DtrGender=F	.342	.182	3.529	1	.060	-.015	.698
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

Note: Relative to male directors conferred with high acquired status female directors conferred with high acquired status are less likely to engage in Fraud

H.21 Adjusted Regression: High Acquired Status Female Directors and Fraud (H4)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.321	.098	10.788	1	.001	-.512	-.129
Location	%GD	-.026	.006	16.800	1	.000	-.038	-.013
	DtrTenure	-.017	.008	4.523	1	.033	-.033	-.001
	DtrGender=F	.495	.192	6.643	1	.010	.118	.871
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	6.512	.000	.	1	.	6.512	6.512
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	-.314	.096	10.766	1	.001	-.501	-.126
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.22 Simple Model: Low Acquired Status Female Directors and Fraud (H5)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.324	.098	10.902	1	.001	-.517	-.132
Location	DtrGender=F	-.101	.322	.099	1	.753	-.733	.530
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.23 Adjusted Regression Model: Low Acquired Status Female Directors and Fraud (H5)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.410	.236	3.002	1	.083	-.873	.054
Location	%GD	.000	.014	.000	1	.989	-.027	.026
	DtrTenure	-.023	.023	1.001	1	.317	-.068	.022
	DtrGender=F	-.111	.340	.107	1	.743	-.777	.555
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	.086	.763	.013	1	.910	-1.410	1.582
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	.028	.220	.016	1	.901	-.404	.459
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.24 Simple Model: High Overall Status Female Directors and Fraud (H6)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.112	.047	5.809	1	.016	.021	.204
Location	DtrGender=F	.375	.180	4.328	1	.037	.022	.729
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.25 Adjusted Regression: High Overall Status Female Directors and Fraud (H6)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.314	.097	10.420	1	.001	-.504	-.123
Location	%GD	-.026	.006	17.597	1	.000	-.038	-.014
	DtrTenure	-.017	.008	4.411	1	.036	-.033	-.001
	DtrGender=F	.543	.191	8.077	1	.004	.169	.918
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	6.526	.000	.	1	.	6.526	6.526
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	-.322	.095	11.558	1	.001	-.508	-.137
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.26 Simple Model: Low Overall Status Female Directors and Fraud (H7)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.425	.103	17.004	1	.000	-.627	-.223
Location	DtrGender=F	-.268	.331	.653	1	.419	-.917	.381
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.27 Adjusted Regression Model: Low Overall Status Female Directors and Fraud (H7)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.428	.245	3.041	1	.081	-.909	.053
Location	%GD	.007	.015	.230	1	.632	-.022	.036
	DtrTenure	-.020	.024	.720	1	.396	-.067	.026
	DtrGender=F	-.327	.348	.882	1	.348	-1.009	.355
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	.013	.764	.000	1	.986	-1.484	1.511
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	.071	.229	.095	1	.758	-.379	.521
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.28 Simple Model: Female Social Laggards and Fraud (H8)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.425	.103	17.004	1	.000	-.627	-.223
Location	DtrGender=F	-.268	.331	.653	1	.419	-.917	.381
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.29 Adjusted Regression: Female Social Laggards and Fraud (H8)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.428	.245	3.041	1	.081	-.909	.053
Location	%GD	.007	.015	.230	1	.632	-.022	.036
	DtrTenure	-.020	.024	.720	1	.396	-.067	.026
	DtrGender=F	-.327	.348	.882	1	.348	-1.009	.355
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	.013	.764	.000	1	.986	-1.484	1.511
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	.071	.229	.095	1	.758	-.379	.521
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.30 Simple Model: Female Social Climbers and Fraud (H9)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.057	.051	1.229	1	.268	-.044	.158
Location	DtrGender=F	.191	.191	1.003	1	.316	-.183	.564
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.31 Adjusted Regression: Female Social Climbers and Fraud (H9)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.438	.107	16.697	1	.000	-.648	-.228
Location	%GD	-.035	.007	24.667	1	.000	-.049	-.021
	DtrTenure	-.017	.009	3.919	1	.048	-.034	.000
	DtrGender=F	.379	.203	3.503	1	.061	-.018	.776
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	6.425	.000	.	1	.	6.425	6.425
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	-.355	.105	11.466	1	.001	-.561	-.150
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.32 Simple Model: Female Pedigree Elites and Fraud (H10)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	1.335	.530	6.351	1	.012	.297	2.374
Location	DtrGender=F	7.562	.000	.	1	.	7.562	7.562
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.33 Adjusted Regression: Female Pedigree Elites and Fraud (H10)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-9.332	1862.224	.000	1	.996	-3659.225	3640.561
Location	%GD	-1.093	157.548	.000	1	.994	-309.882	307.697
	DtrTenure	-.990	352.277	.000	1	.998	-691.439	689.460
	DtrGender=F	47.408	.000	.	1	.	47.408	47.408
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	-13.775	1880.242	.000	1	.994	-3698.982	3671.431
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.34 Simple Model: Female Supreme Elites and Fraud (H11)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.300	.115	6.817	1	.009	.075	.525
Location	DtrGender=F	6.813	.000	.	1	.	6.813	6.813
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.35 Adjusted Regression: Female Supreme Elites and Fraud (H11)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	.390	.268	2.118	1	.146	-.135	.916
Location	%GD	.034	.019	3.141	1	.076	-.004	.072
	DtrTenure	-.020	.023	.689	1	.407	-.066	.027
	DtrGender=F	6.740	.000	.	1	.	6.740	6.740
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	.075	.253	.087	1	.769	-.422	.571
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.36 Simple Model: Female Directors with High Overall Status and Fraud Severity (H12)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	AIJ = 0	.722	.051	199.027	1	.000	.622	.822
Location	DtrGender=F	.203	.188	1.164	1	.281	-.166	.571
	DtrGender=M	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.37 Adjusted Regression: Female Directors/High Overall Status and Fraud Severity (H12)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	AIJ = 0	.459	.105	19.085	1	.000	.253	.665
Location	%GD	-.016	.007	5.194	1	.023	-.029	-.002
	DtrTenure	-.029	.010	8.369	1	.004	-.048	-.009
	DtrGender=F	.248	.196	1.603	1	.205	-.136	.631
	DtrGender=M	0 ^a	.	.	0	.	.	.
	AudExists=N	-.060	.509	.014	1	.906	-1.058	.938
	AudExists=Y	0 ^a	.	.	0	.	.	.
	NYS=0	-.030	.103	.085	1	.771	-.231	.171
	NYS=1	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.38 Simple Model: Gender Diversity and Fraud (H13)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.096	.051	3.526	1	.060	-.196	.004
Location	%GD	-.016	.005	9.569	1	.002	-.027	-.006

Link function: Probit.

a. This parameter is set to zero because it is redundant.

H.39 Adjusted Probit Regression: Gender Diversity and Fraud (H13)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	FraudStatus= 0	-.335	.089	14.181	1	.000	-.510	-.161
Location	%GD	-.020	.006	12.562	1	.000	-.030	-.009
	DtrTenure	-.022	.008	8.466	1	.004	-.037	-.007
	DtrGender=F	.366	.166	4.889	1	.027	.042	.691
	DtrGender=M	0 ^a	.	.	0	.	.	.
	NYS=0	-.207	.086	5.873	1	.015	-.375	-.040
	NYS=1	0 ^a	.	.	0	.	.	.
	AudExists=N	1.133	.554	4.177	1	.041	.046	2.219
	AudExists=Y	0 ^a	.	.	0	.	.	.

Link function: Probit.

a. This parameter is set to zero because it is redundant.

References

- Abbott, L. J., Parker, S. & Peters, G., 2004. Audit Committee Characteristics and Restatements. *Auditing: A Journal of Practice & Theory*, 23(1), pp. 69-87.
- ACFE, 2008. *Report to the Nations On Occupational Fraud and Abuse*, Austin, TX: Association for Certified Fraud Examiners.
- ACFE, 2014. *Report to the Nations On Occupational Fraud and Abuse*, Austin, TX: Association for Certified Fraud Examiners.
- Adams, R. B. & Ferreira, D., 2009. Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, Volume 94, pp. 291-309.
- Adler, F., 1975. *Sisters in Crime: The Rise of the New Female Criminal*. New York, NY: McGraw-Hill.
- Adler, N. E. & Snibbe, A. C., 2003. The role of psychosocial processes in explaining the gradient between socioeconomic status and health. *Current Directions in Psychological Science*, 12(4), pp. 119-123.
- Adler, R., 2001. Women and Profits. *Harvard Business Review*, 79(10), pp. 30-31.
- Adut, A., 2005. A Theory of Scandal: Victorians, Homosexuality, and the Fall of Oscar Wilde. *American Journal of Sociology*, Volume 111, pp. 213-248.
- Adut, A., 2008. *On Scandal: Moral Disturbances in Society, Politics and Art*. New York, NY: Cambridge University Press.
- Agnew, R., 1992. Foundation for a General Strain Theory of Crime and Delinquency. *Criminology*, Volume 30, pp. 47-87.

Agnew, R., Piquero, N. L. & Cullen, F. T., 2009. General strain theory and white-collar crime. In: *The criminology of white-collar crime*. New York, NY: Springer, pp. 35-60.

Agrawal, A. & Chadha, S., 2005. Corporate governance and accounting scandals. *Journal of Law and Economics*, 48(2), pp. 371-406.

Ahern, K. & Dittman, A., 2012. The Changing of the Boards: The Impact on Firm Valuation of Mandated Board Representation. *Quarterly Journal of Economics*, 129(1), pp. 137-197.

Albrecht, W. S., Albrecht, C. C. & Albrecht, C. O., 2004. Fraud and Corporate Executives: Agency Stewardship and Broken Trust. *Journal of Forensic Accounting*, Volume 5, pp. 109-130.

Anderson, C., John, O. P., Keltner, D. & Kring, A., 2001. Who attains social status? effects of personality and physical attractiveness in social groups. *Journal of Personality and Social Psychology*, 81(1), pp. 116-132.

Anderson, R. & Bizjak, J., 2003. An empirical examination of the role of the CEO and the compensation committee in structuring executive pay. *Journal of Banking and Finance*, Volume 27, pp. 1323-1348.

Anderson, R. C., Reeb, D. M., Upadhyay, A. & Zhao, W., 2011. The economics of director heterogeneity. *Financial Management*, 40(1), p. 5.

Angell, M., 1993. Privilege and health – what is the connection?. *New England Journal of Medicine*, Volume 329, pp. 126-127.

Anon., n.d. *Receiver Operating Characteristic Curves*. s.l.:s.n.

Appelbaum, S. H., Deguire, K. J. & Lay, M., 2005. The relationship of ethical climate to deviant workplace behavior. *Corporate Governance*, 5(4), pp. 43-55.

Archambeault, D. S., 2002. *The Relation Between Corporate Governance Strength and Fraudulent Financial Reporting: Evidence from SEC Enforcement Cases*, New York, NY: University of Albany School of Business.

- Archambeault, D. S. & DeZoort, T. F., 2001. Auditor Opinion Shopping and the Audit Committee: An analysis of Suspicious Auditor Switches. *International Journal of Auditing*, 5(3), pp. 33-52.
- Armstrong, C. S., Jagolinzer, A. D. & Larcker, D. F., 2008. Chief Executive Officer equity incentives and accounting Irregularities. *Journal of Accounting Research*, 48(2), pp. 225-271.
- Barua, A., Davidson, L. F., Rama, D. V. & Thir, S., 2010. CFO gender and accruals quality. *Accounting Horizons*, 24(1), pp. 25-39.
- Basow, S., 1986. *Gender stereotypes: Traditions and alternatives*. Belmont, CA: Brooks Cole.
- Bazerman, M. H. & Schoorman, F. D., 1983. A limited rationality model of interlocking directorates. *Academy of Management Review*, Volume 8, pp. 206-17.
- Beasley, M., 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review*, (71), pp. 443-465.
- Beasley, M. S., 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review*, 71(4), pp. 443-465.
- Beasley, M. S., Carcello, J. V., Hermanson, D. R. & Lapides, P. D., 2000. Fraudulent financial reporting: Consideration of industry traits and corporate governance mechanisms. *Accounting Horizons*, 14(4), pp. 441-454.
- Bédard, J., Chtourou, S. M. & Courteau, L., 2004. The Effect of Audit Committee Expertise, Independence, and Activity on Aggressive Earnings Management. *Auditing*, 23(2), pp. 13-35.
- Belliveau, M. A., O'Reilly, C. A. & Wade, J. B., 1996. Social capital at the top: Effects of social similarity and status on CEO compensation. *Academy of Management Journal*, Volume 39, pp. 1568-1593.
- Beneish, M., 1997. The Detection of Earnings Manipulation.. *Financial Analysts Journal*, 55 (5), pp. 24-36.

Beneish, M. D., 1997. The Detection of Earnings Manipulation. *Financial Analysts Journal*, 55(5), pp. 24-36.

Bennett, R., 2009. Reaching the board: Factors facilitating the progression of marketing executives to senior positions in British Companies. *British Journal of Management*, 20(1), pp. 30-54.

Benson, M. L., 2002. *Crime and the life course : an introduction*. Los Angeles, CA: Roxbury.

Benson, M. L. & Simpson, S. S., 2009. *White-Collar Crime: An Opportunity Perspective, Criminology and Justice Series*. New York, NY: Routledge.

Berenson, A., 2003. *The number: How the drive for quarterly earnings corrupted Wall Street and corporate America*. New York, NY: Random House.

Berger, J., Cohen, B. P. & Zelditch, M., 1972. Status characteristics and social interaction. *American Sociological Review*, Volume 37, pp. 241-255.

Berger, J., Cohen, B. & Z., M., 1966. Status Characteristics and Expectation States. *Sociological Theories in Progress*, Volume 1, pp. 29-46.

Berger, J., Fisek, M. H., Norman, R. Z. & Zelditch, M., 1977. *Status characteristics and social interaction: An expected states approach*. New York, NY: Elsevier.

Berger, J., Rosenholtz, S. J. & Zelditch, M., 1980. Status organizing processes. *Annual Review of Sociology*, Volume 6, pp. 479-508.

Bernardi, R., Bosco, S. & Vassill, K., 2006. Does female representation on boards of directors associate with Fortune's 100 best companies to work for list?. *Business & Society*, 45(2), pp. 235-248.

Bernasek, A. & Shwiff, S., 2001. Gender, risk, and retirement. *Journal of Economic Issues*, 35(2), pp. 345-356.

Bhagat, S. & Black, B., 2002. The non-correlation between board independence and long term firm performance. *Journal of Corporation Law*, Volume 27, pp. 231-273.

Bilimoria, D. & Piderit, S. K., 1994. Board committee membership: Effects of sex-based bias. *Academy of Management Journal*, 37(6), pp. 1453-1477.

Birnberg, J. G., 2011. A proposed framework for behavioral accounting research. *Behavioral Research in Accounting*, 23(1), pp. 1-43.

Bland, J. & Altman, D., 1997. Statistics notes: Cronbach's alpha. *British Medical Journal*, 314(7080), p. 572.

Bohren, O. & Strom, O., 2010. Governance and Politics: Regulating Independence and Diversity in the Board Room. *Journal of Business Finance and Accounting*, 37(9), p. 1281.

Bonner, S. E., Palmrose, Z. V. & Young, S. M., 1998. Fraud Type and Auditor Litigation: An Analysis of SEC Accounting and Auditing Enforcement Releases. *The Accounting Review*, 73(4), pp. 503-532.

Bonner, S. E., Palmrose, Z. V. & Young, S. M., 1998. Fraud Type and Auditor Litigation: An Analysis of SEC Accounting and Auditing Enforcement Releases. *The Accounting Review*, Vol 73, No.4, October, pp. 503-532.

Bothner, M. S., Kim, Y. k. & Smith, E. B., 2012. How does status affect performance? Status as an asset vs. status as a liability in the PGA and NASCAR. *Organisational Science*, 23(2), pp. 416-433.

Bowen, R. M., Davis, A. K. & Matsumoto, D. A., 2005. Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention and market reactions. *The Accounting Review*, 80(4), pp. 1011-1038.

Brady, D. et al., 2011. Sector, size, stability, and scandal: explaining the presence of female executives in Fortune 500 firms. *Journal of Financial Crime*, 26(1), pp. 84-104.

Braithwaite, J., 1985. White Collar Crime. *Annual Review of Sociology*, Volume 11, pp. 1-25.

Brammer, S., Millington, A. & Pavelin, S., 2009. Corporate reputation and women on the board. *British Journal of Management*, 20(1), pp. 17-29.

Branson, D., 2012. An Australian Perspective on a global phenomenon: Initiatives to place women on corporate boards of directors. *Australian Journal of Corporate Law*, Volume 27, p. 811.

BRC, 1999. *Report and Recommendations of the Blue Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees*. New York, NY: Blue Ribbon Committee.

Brightman, H. J., 2009. *Today's white collar crime—Legal, investigative, and theoretical perspectives*. New York, NY: Routledge, Taylor & Francis.

Bruns, W. J. J. & Merchant, K. A., 1990. The dangerous morality of managing earnings. *Management Accounting*, 72(2), pp. 22-25.

Buchholtz, A. K., Ribbens, B. A. & Houle, I. T., 2003. The role of human capital in postacquisition CEO departure. *Academy of Management Journal*, 46(4), pp. 506-514.

Bucy, P. H., Formby, E. P., Raspanti, M. S. & Rooney, K. E., 2008. Why do they do it?: The motives, mores, and character of white collar criminals. *St. John's Law Review*, Volume 82, p. 401-571.

Buss, D. M., 1995. Evolutionary Psychology: A New Paradigm for Psychological Science. *Psychological Inquiry*, 6(1), p. 1.

Bussmann, K. D. & Werle, M. M., 2006. Addressing crime in companies. *British Journal of Criminology*, 46(6), pp. 1128-1144.

Cabo, R. M., Gimeno, R. & Nieto, M. J., 2011. Gender diversity on European banks' boards of directors. *Journal of Business Ethics*, Volume 109, pp. 145-162.

Capelli, P. & Hamori, M., 2004. *The path to the top: Changes in the attributes of corporate executives 1980 to 2001*. Cambridge, MA: National Bureau of Economic Research.

Capelli, P., Hamori, M. & Bonet, R., 2014. Whose got the top jobs?. *Harvard Business Review*.

Carcello, J. V., Hermanson, D. R., Neal, T. L. & Riley, R. J., 2002. Board Characteristics and Audit Fees. *Contemporary Accounting Research*, 19(3), pp. 365-384.

Carcello, J. V. & Nagy, A. L., 2004. Audit Firm Tenure and Fraudulent Financial Reporting. *Auditing: A Journal of Practice and Theory*, 23(2), pp. 55-70.

Carter, D. A., Simkins, B. J. & Simpson, W. G., 2003. Corporate governance, board diversity and firm value. *Financial Review*, Volume 38, pp. 33-53.

Certo, S. T., 2003. Influencing initial public offering investors with prestige: signaling with board structures. *Academy of Management Review*, Volume 28, pp. 432-46.

Certo, S. T., Daily, C. M. & Dalton, D. R., 2001. Signaling firm value through board structure: an investigation of initial public offerings. *Entrepreneurship Theory and Practice*, Volume 26, pp. 33-50.

Chattopadhyay, R. & Duflo, E., 2004. Women as policy makers: Evidence from a randomized policy experiment in India. *Econometrica*, Volume 72, pp. 1409-1443.

Child, J., 1974. Managerial and organisational factors associated with company performance. *Journal of Management Studies*, pp. 13-27.

Christie, A. M. & Barling, J., 2009. Disentangling the indirect links between SES and health: The dynamic roles of work stressors and personal control. *Journal of Applied Psychology*, Volume 94, pp. 1466-1478.

Cloward, R. A. & Ohlin, L. E., 1960. *Delinquency and opportunity: A theory of delinquent gangs*. New York, NY: Free Press.

Coglitore, F. & Berryman, R. G., 1988. Analytical procedures: A defensive necessity. *Auditing A Journal of Practice and Theory* , 7(1), pp. 150-163.

Cohen, A. K., 1955. *Delinquent boys: The culture of the gang*. New York, NY: Free Press.

Cohen, J. R., Pant, L. W. & Sharp, D. J., 1998. The effect of gender and academic discipline diversity on the ethical evaluations, ethical intentions and ethical orientation of potential public accounting recruits. *Accounting Horizons*, 12(3), pp. 250-270.

COSO, 1999. *Research Commissioned by the Committee of Sponsoring Organizations of the Threadway Commission in M.S. Beasley, J.V.Carcello & D.R. Hermanson (eds), Fraudulent Financial Reporting: 1987-1997 An Analysis of US Public Companies*. Jersey City, N.J.: Treadway Commission.

COSO, 2010. *Research Commissioned by the Committee of Sponsoring Organizations of the Threadway Commission*, New Jersey, NJ: Committee of Sponsoring Organizations: Threadway Commission.

Cotton, D. L., 2002. Fixing CPA ethics can be an inside job. *Washington Post*.

Croall, H., 2003. Combating financial crime: Regulatory versus crime control approaches. *Journal of Financial Crime*, 11(1), p. 45.

Cumming, D., Leung, T. Y. & Rui, O., 2015. Gender diversity and securities fraud. *Academy of Management Journal*, Volume 58, pp. 1572-1593.

Daboub, A. J., Rasheed, A. M., Priem, R. L. & Gray, D., 1995. Top management team characteristics and corporate illegal activity. *Academy of Management Review*, Volume 20, pp. 138-170.

Daly, K., 1989. Gender and varieties of white-collar crime. *Criminology*, 27(4), pp. 769-793.

D'Aveni, R., 1990. Top managerial status and organizational bankruptcy. *Organizational Science*, Volume 1, pp. 121-142.

Davidson, M. J. & Cooper, C. L., 1992. *Shattering the glass ceiling: The woman manager*. 1 ed. London: Paul Chapman Publishing Ltd.

DeChow, P., Ge, W. & Schrand, C., 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, Volume 50, pp. 344-401.

DeChow, P. M., Ge, W., Larson, C. R. & Sloan, R. G., 2011. Predicting Material Accounting Misstatements. *Contemporary Accounting Research*, Volume 28, pp. 17-82.

DeChow, P. M., Sloan, R. G. & Sweeney, A. P., 1996. Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research*, 13(1), pp. 1-36.

Dellaportas, S., 2013. Conversations with inmate accountants: motivation, opportunity and the fraud triangle. *Accounting Forum*, 37(1), pp. 29-39.

Deng, X., Zhang, L. & Leverentz, A., 2010. Official corruption during china's economic transition: historical patterns, characteristics, and government reactions. *Journal of Contemporary Criminal Justice*, 26(1), pp. 72-88.

Denzin, N. K. & Lincoln, Y. S., 1994. *Handbook of quantitative research*. Thousand Oaks, CA: Sage.

DeVellis, R., 2003. *Scale development: theory and applications: theory and application*. Thousand Okas, CA: Sage.

DeZoort, F. T., Hermanson, D. R., Archambeault, O. S. & Reed, S., 2002. Audit Committee Effectiveness: A Synthesis of the Empirical Audit Committee Literature. *Journal of Accounting Literature*, 21(1), pp. 38-75.

Dezso, C. L. & Ross, D. G., 2012. Does Female Representation in Top Management Improve Firm Performance? A Panel Data Investigation. *Strategic Management Journal*, Volume 33, pp. 1072-1089.

Diacont, G. H., 1994. Current developments at the SEC. *SEC and Financial Reporting Institute of the University of California*.

Diemer, M. A. & Ali, S. R., 2009. Integrating social class into vocational psychology: Theory and practice implications. *Journal of Career Assessment*, Volume 17, pp. 247-265.

Dodge, M., 2008. *Women and White Collar Crime*. New York, NY: Prentice Hall.

Dollar, D., Fisman, R. & Gatti, R., 2001. Are women really the “fairer” sex? Corruption and women in government. *Journal of Economic Behavior and Organization*, Volume 46, pp. 423-429.

Domhoff, G. W., 1967. *Who rules America. Englewood Cliffs*. New Jersey, NJ: Prentice Hall.

Dunn, P., 2004. The impact of insider power on fraudulent financial reporting. *Journal of Management*, 30(3), pp. 397-412.

Durkheim, E., 1951. *Suicide: A Study in Sociology*. New York, NY: The Free Press.

Dyreng, S., Hanlon, M. & Maydew, E. L., 2010. The effects of executives on corporate tax avoidance. *The Accounting Review*, 85(4), pp. 1163-1189.

Eagly, A. H. & Wood, W., 1999. The origins of sex differences in human behavior: Evolved dispositions versus social roles. *American Psychologist*, 54(6), pp. 408-423.

Eagly, A. H. & Carli, L. L., 2007. *Through the labyrinth: The truth about how women become leaders*. Boston, M.A.: Harvard Business Press.

Economist, 2010. Skirting the issue: Imposing quotas for women in boardrooms tackles a symptom of discrimination, not the cause. 11th March.

Efendi, J., Srivastava, A. & Swanson, E. P., 2007. Why do corporate managers misstate financial statements? The role of option compensation and other factors. *Journal of Financial Economics*, Volume 85, pp. 667-708.

Eisenberg, T., Sundgren, S. & Wells, M. T., 1998. Larger Board Size and Decreasing Firm Value in Small Firms. *Journal of Financial Economics*, 48(1), pp. 35-54.

Elliott, R. K. & Willingham, J. J., 1980. *Management Fraud: Detection and Deterrence*. New York, NY: Petrocelli Books Inc.

Ellstrand, A. E., Tihanyi, L. & Johnson, J. L., 2002. Board Structure and International Political Risk. *The Academy of Management Journal* , 45(4), pp. 769-777.

Erickson, M., Hanlon, M. & Maydew, E. L., 2006. Is there a link between executive equity incentives and accounting fraud?. *Journal of Accounting Research* , 44(4), pp. 113-143.

Erkens, D. H. & Bonner, S. E., 2013. The Role of Firm Status in Appointments of Accounting Financial Experts to Audit Committees. *The Accounting Review*, 88(1), pp. 107-136.

EU Progress Report, 2012. *Women in economic decision-making in the EU: Progress report. A Europe 2020 initiative*, Luxembourg: European Union.

Faber, D. B., 2004. Restoring trust after fraud: does corporate governance matter?. *Cornell University*.

Fairfax, L., 2005. The bottom line on board diversity: A cost benefit analysis of the business rationales for diversity on corporate boards. *Wisconsin Law Review*, p. 795.

Fanto, J. A., Solan, L. M. & Darley, J. M., 2011. Justifying Board Diversity. *North Carolina Law Review*, Volume 89, pp. 901-936.

Farrell, K. A. & Hersch, P. L., 2005. Additions to corporate board: The effect of gender. *Journal of Corporate Finance*, Volume 11, pp. 85-106.

Feroz, E. H., Park, K. & Pastena, V. S., 1991. The financial and market effects of the SEC's Accounting and Enforcement Releases. *Journal of Accounting Research* 29 (Supplement), pp. 107-142.

Files, R., Swanson, E. & Tse, S., 2008. Stealth Disclosure of Accounting Restatements. *The Accounting Review*, 85(5), pp. 1495-1520.

Fine, G. A., 1997. Scandal, Social Conditions, and the Creation of Public Attention: Fatty Arbuckle and the 'Problem of Hollywood. *Social Problems*, Volume 44, pp. 297-323.

Fine, G. A., 2001. *Difficult Reputations: Collective Memories of the Evil, Inept, and Controversial*. Chicago, IL: University of Chicago Press.

Finkelstein, S., 1992. Power in top management teams: Dimensions, measurement, and validation. *Academy of Management Journal*, Volume 35, p. 505–538.

Finkelstein, S. & Hambrick, D., 1989. Chief Executive Compensation: A Study of the Intervention of Markets and Political Processes. *Strategic Management Journal* , Volume 10, pp. 121-134.

Finkelstein, S., Hambrick, D. & Cannella , A. A., 2009. *Strategic leadership: Theory and research on executives, top management teams, and boards*. New York, NY: Oxford University Press.

Fisher, M. J., Marshall, A. P. & Mitchell, M., 2011. Testing Differences in Proportions. *Australian Critical Care*, 24(2), pp. 133-138.

Foladare, I. S., 1969. A Clarification of Ascribed Status and Achieved Status. *The Sociological Quarterly*, 10(1), pp. 53-61.

Fond, D. & Smith, 1991.

Forbes, D. P. & Milliken, F. J., 1999. Cognition and corporate governance: Understanding boards of directors as strategic decision-making groups. *The Academy of Management Review*, 24(3), pp. 489-505.

Ford, R. C. & Richardson, W. D., 1994. Ethical decision making: A review of the empirical literature. *Journal of Business Ethics*, 13(3), pp. 205-221.

Fox, J. & Moore, J. C., 1979. Status Characteristics and Expectation States: Fitting and Testing a Recent Model. *Social Psychology Quarterly*, 42(2), pp. 126-134.

Franklin, A., 1979. Criminality in the Workplace: A Comparison of Male and Female Offenders. In: *The Criminology of Deviant Women*. Boston, MA: Houghton Mifflin, pp. 167-170.

Freeman, J. V. & Julious, S. A., 2007. The analysis of categorical data. *Scope*, 16(1), pp. 18-21.

Frieswick, K., 2003. How Audits Must Change: Auditors Face More Pressure to Find Fraud. *CFO Magazine*, pp. 1-7.

Gallo, L. C. & Matthews, K. A., 2003. Understanding the association between socioeconomic status and health: Do negative emotions play a role?. *Psychological Bulletin*, Volume 129, pp. 10-51.

Gartner, R. & McCarthy, B., 2014. *The Oxford Handbook of Sex, Gender, and Crime*. 1 ed. New York, NY: Oxford University Press.

Gatrell, C., 2010. Who rules the game? An investigation of sex-work, gender, agency and the body. *Gender in Management: An International Journal*, 25(3), pp. 208-226.

Geiger, M. A. & North, D. S., 2006. Does hiring a new CFO change things? An investigation of changes in discretionary accruals. *The Accounting Review*, 81(4), pp. 781-809.

Geis, G., 2007. *White-Collar and Corporate Crime*. Upper Saddle River, NJ: Prentice Hall.

George, G., Dahlander, L., Graffin, S. & Sim, S., 2016. Reputation and Status: Expanding the Role of Social Evaluations in Management Research: From the Editors. *Academy of Management Journal*, Volume 2, pp. 1-28.

Geriesh, L., 2003. Organizational Culture and Fraudulent Financial Reporting. *CPA Journal*, 73(3), pp. 28-32.

Ge, W., Matsumoto, D. & Zhang, J. L., 2011. Do CFOs have style? An empirical investigation of the effect of individual CFOs on accounting practices. *Contemporary Accounting Research*, 28(4), pp. 1141-1179.

Gill, M., 2005. *Learning from Fraudsters*. Leicester: Perpetuity Research and Consultancy International.

Goldthorpe, J. H. & Hope, K., 1972. Occupational Grading and Occupational Prestige. In: *The Analysis of Social Mobility: Methods and Approaches*. London: Oxford University Press, pp. 21-79.

Goodman, E. et al., 2001. Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics*, Volume 108, pp. 1-8.

Gordon, E. A., Henry, E., Peytcheva, M. & Sun, L., 2008. Disclosure credibility and market reactions to restatements.. *Working paper, Temple University, University of Miami, Lehigh University and Rutgers University*.

Gottschalk, P., 2010. Theories of financial crime. *Journal of Financial Crime*, 17(2), pp. 210-222.

Gottschalk, P. & Glasø, L., 2013. Gender in white-collar crime: an empirical study of pink-collar criminals. *International Letters of Social and Humanistic Sciences*, Volume 4, pp. 22-34.

Graffin, S. D. et al., 2013. Falls from grace and the hazards of high status: The 2009 British expense scandal and its impact on parliamentary elites. *Administrative Science Quarterly*, Volume 58, pp. 313-345.

Graham, J. F., Stendardi, E. J., Myers, J. K. & Graham, M. J., 2002. Gender differences in investment strategies: An information processing perspective. *International Journal of Bank Marketing*, 20(1), p. 17.

- Granovetter, M., 1978. Threshold models of collective behavior. *American Journal of Sociology*, 83(6), pp. 1420-1443.
- Grossman, I. & Varnum, M., 2011. Social class, culture, and cognition. *Social Psychological and Personality Science*, Volume 2, pp. 81-89.
- Gul, F. A., Srinidhi, B. & Ng, A. C., 2011. Does board gender diversity improve the informativeness of stock prices?. *Journal of Accounting and Economics*, 51(3), pp. 314-338.
- Haantz, S., 2002. *Women and White Collar Crime*. Fairmount, WV: National White Collar Crime Center.
- Hajian-Tilaki, K., 2013. Receiver Operating Characteristic (ROC) Curve Analysis for Medical Diagnostic Test Evaluation. *Caspian Journal of Internal Medicine*, 4(2), pp. 627-635.
- Hanley, J. A. & McNeil, B. J., 1982. The meaning and use of the area under a receiver operating characteristic (ROC) curve. *Radiology*, Volume 143, pp. 29-36.
- Hansen, L. L., 2009. Corporate financial crime: Social diagnosis and treatment. *Journal of Financial Crime*, 16(1), pp. 28-40.
- Hayward, M. L. & Hambrick, D. C., 1997. Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. *Administrative Science Quarterly*, Volume 42, pp. 103-127.
- Heath, J., 2008. Business ethics and moral motivation: A criminological perspective. *Journal of Business Ethics*, Volume 83, p. 595–614.
- Heemskerk, E. M., 2011. The social field of the European corporate elite: A network analysis of interlocking directorates among Europe's largest corporate boards. *Global Networks*, 11(4), pp. 440-460.
- Higgs Report, 2003. *Review of the role and effectiveness of non-executive directors*, London: UK Department of Trade and Industry.

Hillman, A. & Dalziel, T., 2003. Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), pp. 383-396.

Hillman, A. J., Cannella, A. A. & Harris, I. C., 2002. Women and racial minorities in the boardroom: How do directors differ?. *Journal of Management*, Volume 28, pp. 747-763.

Hillman, A. J., Shropshire, C. & Cannella, A. A., 2007. Organizational predictors of women on corporate boards. *Academy of Management Journal*, 50(4), pp. 941-952.

Hirshleifer, D., Low, A. & Teoh, S. H., 2012. Are overconfident CEOs better innovators?. *Journal of Finance*, Volume 67, pp. 1457-1498.

Hogg, M. A. & Terry, D. J., 2000. Social identity and self-categorization process in organizational context. *The Academy of Management Review*, 25(1), pp. 121-140.

Hollow, M., 2014. Money, morals and motives: an exploratory study into why bank managers and employees commit fraud at work. *Journal of Financial Crime*, 21(2), p. 4.

Holmstrom, B. & Kaplan, S., 2003. The state of U.S. corporate governance: What's right and what's wrong?. *NBER Working Paper*.

Holtfreter, K., 2005. Is occupational fraud 'typical' white-collar crime? A comparison of individual and organizational characteristics. *Journal of Criminal Justice*, 33(4), pp. 353-365.

Holtfreter, K., 2008. The effects of legal and extra-legal characteristics on organizational victim decision-making. *Crime, Law, and Social Change*, 50(4/5), pp. 307-330.

Holtfreter, K., 2013. Gender and 'other people's money': an analysis of white-collar offender sentencing. *Women and Criminal Justice*, 23(2), pp. 326-344.

Holtfreter, K., Beaver, K. M., Reisig, M. D. & Pratt, T. C., 2010. Low self-control and fraud offending. *Journal of Financial Crime*, 17(3), pp. 295-307.

Hosmer, D. W. & Lemeshow, S., 1989. *Applied logistic regression*. New York, NY: Wiley & Sons.

Huang, J. & Kisgen, D., 2013. Gender and Corporate Finance: Are Male Executives Overconfident Relative to Female executives?. *Journal of Financial Economics*, 108(3), pp. 822-839.

Huberman, B. A., Loch, C. H. & Öncüler, A., 2004. Status as a valued resource. *Social Psychology Quarterly*, Volume 67, pp. 103-114.

Huckfeldt, R. & Sprague, J., 1995. *Citizens, Politics, and Social Communication: Information and Influence in an Election Campaign*. New York, NY: Cambridge University Press.

Huffman, M. L., Cohen, P. N. & Pearlman, J., 2010. Engendering change: Organizational dynamics and workplace gender desegregation. *Administrative Science Quarterly*, Volume 55, pp. 255-277.

Ickes, W. & Knowles, E. S., 1982. *Personality, roles, and social behavior*. New York, NY: Springer-Verlag.

Isen, A. M. & Geva, N., 1987. The influence of positive affect on acceptable level of risk: The person with a large canoe has a large worry. *Organizational Behavior and Human Decision Processes*, Volume 39, pp. 145-154.

Jackson, J. F. & Leon, R. A., 2010. Enlarging our understanding of glass ceiling effects with social closure theory in higher education. In: *Higher Education: Handbook of Theory and Research*. Netherlands: Springer, pp. 351-379.

Jackson, S. E., May, K. E. & Whitney, K., 1995. Understanding the dynamics of diversity in decision-making teams. In: *Team Effectiveness and Decision Making in Organizations*. San Francisco: Jossey-Bass, pp. 204-261.

Jensen, M. & Zajac, E. J., 2004. Corporate elites and corporate strategy: How demographic preferences and structural position shape the scope of the firm. *Strategic Management Journal*, 25(6), pp. 507-524.

Jianakoplos, N. A. & Bernasek, A., 1998. Are women more risk-averse?. *Economic Inquiry*, 36(4), pp. 620-630.

Johnson, J. E. V. & Powell, P. L., 1994. Decision making, risk and gender: Are managers different?. *British Journal of Management*, 5(2), pp. 123-138.

Johnson, S. E., Richeson, J. A. & Finkel, E. J., 2011. Middle class and marginal? The influence of socioeconomic status on the self-regulatory resources of students at an elite university. *Journal of Personality and Social Psychology*, Volume 100, pp. 838-852.

Johnson, S., Schnatterly, K., Bolton, J. F. & Tuggle, C., 2011. Antecedents of new director social capital. *Journal of Management Studies*, Volume 48, pp. 1782-1803.

Kang, E., 2008. Director interlocks and spillover effects of reputational penalties from financial reporting fraud. *Academy of Management Journal*, Volume 51, pp. 537-555.

Kanter, R., 1977. *Men and women of the corporation*. New York, NY: Basic Books.

Kanter, R. M., 1977. Some effects of proportions on group life. *American Journal of Sociology*, 82(45), pp. 965-990.

Kardell, J. & Bergqvist, M., 2009. Equal treatment in Swedish economic crime investigations: do professional specialization and the suspect's social background matter?. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, 10(2), pp. 76-101.

Karpoff, J. M., Koester, A., Scott Lee, D. & Martin, G. S., 2016. Proxies and Databases in Financial Misconduct Research.

Katchadourian, H. & Boli, J., 1994. *Cream of the crop: The impact of elite education in the decade after college*. New York, NY: Basic Books.

Katz, D. A., McIntosh, L. A. & Lipto, W., 2016. Gender Diversity on Boards: The Future Is Almost Here. *New York Law Journal*.

Kellogg, I. & Kellogg, L. B., 1991. *Fraud, Window Dressing, and Negligence in Financial Statements*. New York, NY: McGraw-Hill..

Khan, W. A. & Vieito, J. P., 2013. CEO Gender and Firm Performance. *Journal of Economics and Business*, Volume 67, pp. 55-56.

Kidwell, R. E. & Kochanowski, S. M., 2005. The Morality of Employee Theft: Teaching about Ethics and Deviant Behavior in the Workplace. *Journal of Management Education*, 29(1), pp. 135-152.

Kingston, P. W. & Lewis, L. S., 1990. *The high status track: Studies of elite schools and stratification*. Albany, NY: State University of New York Press.

Klenowski, P. M., Copes, H. & Christopher, W., 2011. Gender, Identity, and Accounts: How White Collar Offenders Do Gender When Making Sense of Their Crimes. *Justice Quarterly*, 28(1), pp. 46-69.

Koh, K., 2011. Value of Glamour? An Empirical Investigation of the Effect of Celebrity CEOs on Financial Reporting Practices and Firm Performance. *Accounting and Finance*, 51(2), pp. 517-547.

Kohn, M. L., Naoi, A., Schoenbach, C. & Schooler, C., 1990. Position in the class structure and psychological functioning in the United States, Japan, and Poland. *American Journal of Sociology*, Volume 95, pp. 964-1008.

Kraus, M. W., Cote, S. & Keltner, D., 2010. Social class, contextualism, and empathic accuracy. *Psychological Science*, Volume 21, pp. 1716-1723.

Krishnan, G. V. & Parsons, L. M., 2008. Getting to the bottom line: An exploration of gender and earnings quality. *Journal of Business Ethics*, 78(1-2), pp. 225-248.

Kumar, A., 2010. Self-selection and the forecasting abilities of female equity analysts. *Journal of Accounting Research*, 48(2), pp. 393-435.

Kuo, F. Y., Lin, C. S. & Hsu, M., 2007. Assessing Gender Differences in Computer Professionals' Self-Regulatory Efficacy Concerning Information Privacy Practices. *Journal of Business Ethics*, 73(2), pp. 145-160.

Labelle, R., Gargouri, R. M. & Francoeur, C., 2010. Ethics, diversity management, and financial reporting quality. *Journal of Business Ethics*, 93(2), pp. 335-353.

Lennox, C. & Pittman, J. A., 2010. Big Five Audits and Accounting Fraud. *Contemporary Accounting Research*, 27(1), pp. 209-247.

Levi, M., 1998. Organising Plastic Fraud: Enterprise Criminals and the Side-Stepping of Fraud Prevention. *The Howard Journal of Criminal Justice*, Volume 37, pp. 423-438.

Levin, I. P., Snyder, M. A. & Chapman, D. P., 1988. The interaction of experiential and situational factors and gender in a simulated risky decision-making task. *Journal of Psychology*, 122(2), pp. 173-181.

Lewis, R. V., 2002. *White collar crime and offenders: a 20-year longitudinal cohort study*. San Jose, CA: Writers club press.

Lin, J. W., Li, J. F. & Yang, J. S., 2006. The Effect of Audit Committee Performance on Earnings Quality. *Managerial Auditing Journal*, 21(9), pp. 921-933.

Lipsitz, S. R., Parzen, M. & Ewell, M., 1998. Inference Using Conditional Logistic Regression with Missing Covariates. *Biometrics*, 54(1), pp. 295-303.

Loebbecke, J. K., Eining, M. M. & Willingham, J. J., 1989. Auditors' experience with material irregularities: Frequency, nature, and delectability. *Auditing: A Journal of Practice and Theory*, 9(3), pp. 1-28.

Loo, R., 2003. Are women more ethical than men? Findings from three independent studies. *Women in Management Review*, 18(4), pp. 169-182.

Lucey, B., Plaksina, Y. & Dowling, M., 2013. CEO social status and acquisitiveness. *Qualitative Research in Financial Markets*, 5(2), pp. 161-177.

Macfarlane, F., Sinhuber, D. & Khan, T., 2010. *Diversity Briefing: Questions for Directors to Ask*. Toronto: Canadian: Institute of Chartered Accountants..

Madichie, N. O. & Nkamnebe, A. D., 2010. A study of women “petty” traders in Eastern Nigeria. *Gender in Management: An International Journal*, 25(4), pp. 301-319.

Mallin, C. A., 2010. *Corporate Governance*. s.l.:Oxford university press.

Malmendier, U. & Tate, G., 2009. Superstar CEOs. *Quarterly Journal of Economics*, Volume 124, pp. 1593-1638.

Manzo, G. & Baldassarri, D., 2014. Heuristics, interactions, and status hierarchies: An agent-based model of deference exchange. *Sociological Methods & Research*, pp. 1-59.

Matolcsy, Z., Stokes , D. & Wright , A., 2004. Do Independent Directors Add Value?. *American Accounting Review*, 14(32), pp. 33-40.

McColgan , P., 2001. Agency Theory and Corporate Governance: A review of the literature from a UK perspective. *Department of Accounting and Finance, University of Strathclyde, Glasgow*, Volume Working Paper.

McDonald , M. L. & Westphal, J. D., 2010. A Little Help Here? Board Control, CEO Identification with the Corporate Elite, and Strategic Help Provided to CEOs at Other Firms. *The Academy of Management Journal* , 53(2), pp. 343-370.

McDonald, M. & Westphal, J. D., 2011. My brother's keeper? CEO identification with the corporate elite, social support among CEOs, and leader effectiveness. *Academy of Management Journal*, Volume 54, pp. 661-693.

McKinsey, 2007. *Women Matter: Gender Diversity, A Corporate Performance Driver*, s.l.: McKinsey & Company.

McMullen, D. A., 1996. Audit Committee Performance: An Investigation of the Consequences Associated with Audit Committees. *Auditing*, 51(1), pp. 87-101.

McVay, S., 2006. Earnings management using classification shifting: An examination of core and special items. *The Accounting Review*, 81(5), pp. 501-531.

Morgan, M., 1983. Symbolic victimization and real world fear. *Human Communication Research*, Volume 9, pp. 146-157.

Muhammad, A., Ng, Y. L. & Kulik, C. T., 2014. Board age and gender diversity: A test of competing linear and curvilinear predictions. *Journal of Business Ethics*, 125(3), pp. 497-512.

Myers, L., Scholz, S. & Sharp, N., 2008. Restating Under the Radar: Determinants of Restatement Disclosure Choices and the Related Market Reactions. *Texas A&M University*, Volume Working paper.

NACFE, 1992. *Cooking the Books: What Every Accountant Should Know About Fraud*. Austin, Texas: National Association of Certified Fraud Examiners.

NCFFR, 1987. *Report of the National Commission on Fraudulent Financial Reporting (Treadway Report)*. Washington, D.C.: US Government Printing Office.

Nederveen, P. A., van Knippenberg, D. & van Dierendonck, D., 2013. Cultural diversity and team performance: The role of team member goal orientation. *Academy of Management Journal*, Volume 56, pp. 782-804.

Neeley, T. B. & Dumas, T. L., 2016. Unearned status gain: evidence from a global language mandate. *Academy of Management Journal*, 59(1), pp. 14-43.

Nielsen, B. B. & Nielsen, S., 2013. Top management team nationality diversity and firm performance: A multilevel study. *Strategic Management Journal*, 34(3), pp. 373-382.

Nielsen, S. & Huse, M., 2010. The contribution of women on boards of directors: Going beyond the surface. *Corporate Governance: International Review*, 18(2), pp. 136-148.

Nieschwietz, R. J., Schultz, J. J. & Zimbelman, M. F., 2000. Empirical Research on External Auditors' Detection of Financial Statement Fraud. *Journal of Accounting Literature*, 19(1), pp. 190-246.

Niessen, A. & Ruenzi, S., 2007. Sex matters: Gender differences in a professional setting. *Working paper, Northwestern University*.

NWCCC, 1996. *Proceedings of the Academic Workshop: Definitional Dilemma: Can and Should There Be Universal Definition of White Collar Crime?*. s.l., National White Collar Crime Center.

O'Fallon, M. J. & Butterfield, K. D., 2005. A Review of The Empirical Ethical Decision-Making Literature: 1996-2003. *Journal of Business Ethics*, Volume 59, pp. 375-413.

Olsen, R. A. & Cox, C. M., 2001. The influence of gender on the perception and response to investment risk: The case of professional investors. *Journal of Behavioral Finance*, 2(1), pp. 29-36.

Owhoso, V., 2002. Mitigating gender-specific superior ethical sensitivity when assessing likelihood of fraud risk. *Journal of Managerial Issues*, 54(3), pp. 360-374.

Palmer, D. A., Smith-Crowe, K. & Greenwood, R., 2016. *Organizational Wrongdoing: Key Perspectives and New Directions*. Cambridge, UK: Cambridge University Press.

Palmer, D. & Barber, B. M., 2001. Challengers, Elites, and Owning Families: A Social Class Theory of Corporate Acquisitions in the 1960s. *Administrative Science Quarterly*, 46(1), pp. 87-120.

Palmrose, Z. & Scholz, S., 2002. The Accounting Causes and Legal Consequences of Non-GAAP Reporting: Evidence from Restatements. *Contemporary Accounting Research Conference*.

Pardue, A. D., Robinson, M. B. & Arrigo, B. A., 2013. Psychopathy and corporate crime: a preliminary examination, Part 1. *Journal of Forensic Psychology Practice*, 13(2), pp. 116-144.

Pearce, J. L., 2001. Less epistemology; more government and social status. *Human Relation*, Volume 54, pp. 85-89.

Pedhazur, E. & Schmelkin, L., 1991. *Measurement, design and analysis: An integrated approach*. Hillsdale, NJ: Erlbaum.

Peni, E. & Vahamaa, S., 2010. Female executives and earnings management. *Managerial Finance*, 36(7), pp. 629-645.

Persons, O. S., 2005. The Relation Between the New Corporate Governance Rules and the Likelihood of Financial Statement Fraud. *Review of Accounting and Finance*, 4(2), pp. 125-149.

Peterson, D. K., 2002. Deviant Workplace Behavior and the Organization's Ethical Climate. *Journal of Business and Psychology*, Volume 7, pp. 47-61.

Peterson, K., 2008. Accounting complexity and misreporting: manipulation or mistake?. *Working paper, University of Oregon*.

Philips, D. J. & Zuckerman, E. W., 2001. Middle-status conformity: Theoretical restatement and empirical demonstration in two markets. *American Journal of Sociology*, Volume 107, pp. 379-429.

Phillips, K. W. & Loyd, D. L., 2006. When surface and deep-level diversity collide: the effects of dissenting group members. *Organizational Behavior and Human Decision Processes*, Volume 99, pp. 143-144.

Piquero, A. R. & Piquero, N. L., 2011. The Only Thing We Have to Fear Is Fear Itself: Investigating the Relationship Between Fear of Falling and White-Collar Crime. *Crime & Delinquency*, Volume 58, pp. 362-379.

Podgor, E. S., 2007. The challenge of white collar sentencing. *Journal of Criminal Law Criminology*, Volume 97, p. 731-59.

Pollock, T. G., Chen, G., Jackson, E. M. & Hambrick, D. C., 2010. Just how much prestige is enough? Assessing the value of multiple types of high-status affiliates for young firms. *Journal of Business Venturing*, Volume 25, pp. 6-23.

Poortinga, E., Lemmen, C. & Jibson, M. D., 2006. A Case control study: white-collar defendants compared with defendants charged with other nonviolent theft. *Journal of the American Academy of Psychiatry and the Law*, 34(1), pp. 82-89.

Post, C. & Byron, K., 2015. Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, 58(5), pp. 1546-1571.

Pugliese, A. & Wenstop, P. Z., 2007. Board member contribution to strategic decision making in small firms. *Journal of Management and Governance*, 11(4), pp. 383-404.

Quinney, R., 1977. *Class, State, and Crime: On the Theory and Practice of Criminal Justice*. New York, NY: Longman.

Ramirez, S. A., 2004. Games CEOs play and interest convergence theory: Why diversity lags in America's boardroom and what to do about it. *Washington and Lee Law Review*, 61(4), pp. 583-1612.

Ravlin, E. C. & Thomas, D. C., 2005. Status and stratification processes in organizational life. *Journal of Management*, 31(6), pp. 966-987.

Rhode, D. & Packel, A., 2014. Diversity on Corporate Boards: How Much Difference Does Difference Make?. *Delaware Journal of Corporate Law*, Volume 39, pp. 377-426.

Ridgeway, C. L., 2011. *Framed by Gender: How Gender Inequality Persists in the Modern World*. New York, NY: Oxford University Press.

Ridgeway, C. L. & Walker, H. A., 1995. Sociological perspectives on social psychology. In: *Status structures*. Boston, M.A: Allyn & Bacon, pp. 281-310.

Rittenburg, T. L. & Valentine, S. R., 2007. The ethical decision making of men and women executives in international business situations. *Journal of Business Ethics*, 71(2), pp. 125-134.

Romano, R., 2004. The Sarbanes-Oxley Act and the making of quack corporate governance. *Yale Law & Economics Research Paper*, Volume 297.

- Rosener, J. B., 2003. Women on corporate boards make good business sense. *Directorship*, 29(5), pp. 7-11.
- Ruggiero, V., 1996. *Organized and Corporate Crime in Europe: Offers That Cant be Refused*. United Kingdom: Dartmouth Publishing.
- Ruigrok, W. et al., 2006. The Determinants and Effects of Board Nomination Committees. *Journal of Management & Governance*, 10(2), pp. 119-148.
- Saksena, P., 2001. The Relationship Between Environmental Factors and Management Fraud: An Empirical Analysis. *International Journal of Commerce & Management*, 11(1), pp. 120-141.
- Scholz, S., 2008. *The changing nature and consequences of public company financial restatements, 1997–2006*. Washington, D.C.: U.S. Department of the Treasury.
- Shapiro, S. P., 1990. Collaring the Crime, Not the Criminal: Liberating the Concept of White-Collar Crime. *American Sociological Review*, 55(3), pp. 346-365.
- Sharma, V. D., 2004. Board of Director Characteristics, Institutional Ownership, and Fraud: Evidence from Australia. *Auditing: A Journal of Practice and Theory*, 23(2), pp. 105-117.
- Shemesh, J., 2010. CEO Social Status and Risk Taking. *University of Melbourne, Working Paper*.
- Simon, R. J. & Ahn-Redding, H., 2005. *The Crimes Women Commit: The Punishments They Receive*. Lanham, MD: Lexington Books.
- Skvoretz, J. & Fararo, T. J., 2016. Status and interaction: A stochastic model for the measurement of macro-status value and the determination of micro-status ranking in task group interaction. *Socius: Sociological Research for a Dynamic World*, Volume 2, pp. 1-16.
- Smith, R. A., 2002. Race, gender and authority in the workplace: Theory and research. *Annual Review of Sociology*, Volume 28, pp. 509-542.

- Snibbe, A. C. & Markus, H. R., 2005. You can't always get what you want: Educational attainment, agency, and choice. *Journal of Personality and Social Psychology*, Volume 88, pp. 703-720.
- Song, J. & Windram, B., 2004. Benchmarking audit committee effectiveness in financial reporting. *International Journal of Auditing*, Volume 8, pp. 195-205.
- Soothill, K., Humphreys, L. & Francis, B., 2012. Middle-class offenders a 35-year follow-up. *British Journal of Criminology*, 52(4), pp. 765-785.
- SOU, 2004. *Swedish Code of Corporate Governance*, Stockholm: Proposal to the Code Group.
- Srinidhi, B., Gul, F. A. & Tsui, J., 2011. Female directors and earnings quality. *Contemporary Accounting Research*, 28(5), pp. 1610-1644.
- Stafsudd, A., 2006. People are strange when you're a stranger: Senior executives select similar successors. *European Management Review*, Volume 3, pp. 177-189.
- Staw, B. M. & Cummings, L. L., 1983. *Research in Organizational Behavior* Greenwich. CT: JAI Press.
- Steffensmeier, D., Schwartz, J. & Roche, M., 2013. Gender and twenty-first century corporate crime: female involvement and the gender gap in Enron-era corporate frauds. *American Sociological Review*, 78(3), pp. 448-476.
- Sundén, A. E. & Surette, B. J., 1998. Gender differences in the allocation of assets in retirement savings plans. *American Economic Review*, 88(2), pp. 207-211.
- Sutherland, E. H., 1940. White-collar Criminality. *American Sociological Review*, 5(1), pp. 1-12.
- Sutherland, E. H., 1949. *White Collar Crime*. New York, NY: Holt, Rinehart, and Winston.
- Sutherland, E. H., 1983. *White-Collar Crime: The Uncut Version*. New Haven: New Yale University Press.

Tajfel, H., 1974. Social Identity and Intergroup Relations. *Social Science Information. Social Science Information*, 13(2), pp. 65-93.

Teoh, S. H. & Wong, T. J., 1993. Perceived auditor quality and the earnings response Coefficient. *The Accounting Review*, 73(1), pp. 346-366.

Terjesen, S., Couto, B. & Francisco, P. M., 2015. Does the Presence of Independent and Female Directors Impact Firm Performance? A Multi-Country Study of Board Diversity. *Journal of Management & Governance*, Volume 8, pp. 1-37.

Terjesen, S., Sealy, R. & Singh, V., 2009. Women directors on corporate boards: A review and research agenda. *Corporate Governance: An International Review*, Volume 17, pp. 320-337.

Thoroughgood, C. N., Hunter, S. T. & Sawyer, K. B., 2011. Bad apples, bad barrels, and broken followers? An empirical examination of contextual influences on follower perceptions and reactions to aversive leadership. *Journal of Business Ethics*, Volume 100, pp. 647-672.

Torchia, M., Calabro, A. & Huse, M., 2011. Women directors on corporate boards: From tokenism to critical mass. *Journal of Business Ethics*, 102(2), pp. 299-317.

Useem, M., 1979. The Social Organization of the American Business Elite and Participation of Corporation Directors in the Governance of American Institutions. *American Sociological Review*, 44(4), pp. 553-572.

Useem, M., 1980. Corporations and the Corporate Elite. *Annual Review of Sociology*, Volume 6, pp. 41-77.

Useem, M. & Karabel, J., 1986. Pathways to top corporate management. *American Sociological Review*, 51(2), pp. 184-200.

Uzun, H., Szewczyk, S. H. & Varma, R., 2004. Board Composition and Corporate Fraud. *Financial Analysts Journal*, 60(3), pp. 33-43.

van Knippenberg, D., de Dreu, C. K. W. & Homan, A., 2004. Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology*, Volume 89, pp. 1008-1022.

VanSandt, C. V., Shepard, J. M. & Zappe, S. M., 2006. An Examination of the Relationship Between Ethical Work Climate and Moral Awareness. *Journal of Business Ethics*, Volume 68, pp. 409-432.

Vinnicombe, S. et al., 2008. *Women on corporate boards of directors: International research and practice*. Cheltenham: Edward Elgar.

Waldstrøm, C. & Madsen, H., 2007. Social relations among managers: Old boys' and young women's networks. *Women in Management Review*, 22(2), pp. 136-147.

Wang, Y. & Clift, B., 2009. Is there a "business case" for board diversity?. *Pacific Accounting Review*, 21(2).

Washington, M. & Zajac, E. J., 2005. Status evolution and competition: Theory and evidence. *Academy of Management Journal*, Volume 48, pp. 282-296.

Weisburd, D., Waring, E. J. & Chayet, E., 2001. *White-collar crime and criminal careers*. s.l.:Cambridge University Press.

Weisburd, D., Waring, E. & Wheeler, S., 1990. Class, Status, and the Punishment of White-Collar Criminals. *Law and Social Inquiry*, Volume 15, p. 223.

Westphal, J. D. & Bednar, M. K., 2005. Pluralistic ignorance in corporate boards and firms' strategic persistence in response to low firm performance. *Administrative Science Quarterly*, Volume 50, pp. 262-298.

Westphal, J. D. & Khanna, P., 2003. Keeping distance in line: Social distancing as a control mechanism in the corporate elite. *Administrative Science Quarterly*, Volume 48, pp. 361-398.

Westphal, J. D. & Milton, L. P., 2000. How experience and network ties affect the influence of demographic minorities on corporate boards. *Administrative Science Quarterly*, 45(2), pp. 366-398.

Westphal, J. D. & Stern, I., 2006. The other pathway to the boardroom: Interpersonal influence behavior as a substitute for elite credentials and majority status in obtaining board appointments. *Administrative Science Quarterly*, Volume 51, pp. 169-204.

Westphal, J. D. & Zajac, E. J., 1995. Who shall govern? CEO/board power, demographic similarity, and new director selection. *Administrative Science Quarterly*, 40(1), pp. 60-83.

Wheeler, S., Weisburd, D., Waring, E. & Bode, N., 1988. White Collar Crimes and criminals. *American Criminal Law Review*, 25(3), p. 27.

Wiersema, M. F. & Bantel, K., 1992. Top management demography and corporate strategic change. *Academy of Management Journal*, 35(1), pp. 91-121.

Williams, K. Y. & O'Reilly, C. A., 1998. *Research in organizational behavior*. Greenwich, CT: JAI Press.

Withers, M. C., Hillman, A. J. & Cannella, A. C., 2012. A Multidisciplinary Review of the Director Selection Literature. *Journal of Management*, 38(243).

Wong, K., 2005. From white-collar crime to organizational crime: An intellectual history. *Murdoch University Electronic Journal Of Law*, 12(1/2).

Xie, B., Davidson, W. N. & DaDalt, P. J., 2003. Earnings Management and Corporate Governance: The Role of the Board and the Audit Committee. *Journal of Corporate Governance*, 9(3), pp. 295-316.

Zahra, S. A., Priem, R. L. & Rasheed, A. A., 2005. The Antecedents And Consequences Of Top Management Fraud. *Journal Of Management*, 31(6), p. 813.

Zelechowski, D. D. & Bilimoria, D., 2004. Characteristics of women and men corporate inside directors in the US. *Corporate Governance An International Review*, 12(3), pp. 337-342.

Zhang, L., 2012. Board demographic diversity, independence and corporate social performance. *Corporate Governance*, 12(5), p. 686.

Zietz, D., 1981. *Women who embezzle or defraud: A study of convicted felons*. New York, NY: Praeger Publishers New York.

Zweigenhaft, R. L., 1993. Prep school and public school graduates from Harvard: A longitudinal study of the accumulation of social and cultural capital. *Journal of Higher Education*, Volume 64, pp. 211-225.