



INTERNATIONAL
HELLENIC
UNIVERSITY

MSc in Banking & Finance

Dissertation

On the Determinants of Corporate Social Responsibility: The Case of Controversial Industry Sectors



OCTOBER 2011

Nikolaos Tsileponis

ID: 1103100059

Olympia Tsintza

ID: 1103100060

Supervisor:

Dr. Stergios Leventis



INTERNATIONAL
HELLENIC
UNIVERSITY

DISSERTATION

**On the Determinants of Corporate Social
Responsibility: The Case of Controversial
Industry Sectors**

MSc in Banking and Finance

Students: Nikolaos Tsileponis – Olympia Tsintza

IDs: 1103100059 – 1103100060

Submission Date: October 7, 2011

ABSTRACT

Over the last few decades, there has been increased academic interest in the concept of Corporate Social Responsibility (Tsoutsoura, 2004; Brammer and Millington, 2006; Quelch and Jocz, 2009; Reverte, 2009). Although prior literature has thrown some light on the factors that may influence firms' engagement in CSR practices and initiatives (e.g. Chih et al., 2009; Reverte, 2009), limited research has been conducted in the area of controversial industry sectors (i.e., industry sectors that often are characterized by social taboos and moral debates); there remain issues over which empirical evidence is inconclusive and often contradictory. Our study aims to address this gap in the literature by empirically investigating the determinants of CSR engagement in such industry sectors. Specifically, we focus on six major "sinful" sectors: alcohol, tobacco, gambling, firearms, military, and nuclear power. Using a dataset of 109 U.S. publicly traded corporations over a period of seven years (2003-2009), we identify several factors that influence the above-discussed relationship. Our empirical findings suggest that large unethical corporations are more likely to demonstrate a socially responsible corporate profile so as to legitimize their actions and minimize costs stemming from their interaction with the community. We also argue that sin companies receiving high levels of media coverage find themselves further exposed to public and regulatory scrutiny; thus, many of them undertake serious efforts to integrate CSR into various aspects of their businesses. Additionally, we provide evidence that, by improving their corporate governance, sin firms fulfill stakeholders' expectations of legitimate corporate behaviour. Contrary to previous studies (Hill et al., 2007; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011), our results suggest that institutional investors might have ceased to consider the social performance of sin firms in making investment decision; instead, they appear to be more interested in the financial performance of these stocks. Last but not least, our results suggest that there is a positive significant relationship between CSR and R&D.

Keywords: Corporate Social Responsibility, Controversial Industry Sectors.

Acknowledgements

We would like to express gratitude towards Professor Stergios Leventis for his support and guidance. We would also like to acknowledge the constructive and useful comments received by the IHU faculty.

Table of Contents

1	INTRODUCTION.....	7
2	HISTORICAL DEVELOPMENT OF CORPORATE SOCIAL RESPONSIBILITY	11
3	THEORETICAL BACKGROUNDS AND EMPIRICAL EVIDENCE	14
3.1	Corporate Social Responsibility: Interpretation and Significance	14
3.2	The relation between Corporate Social Responsibility and Financial Performance	17
3.3	Determinants of Corporate Social Responsibility: General Empirical Results	18
3.4	“Sin” Industries: An Overview.....	21
3.5	Determinants of Corporate Social Responsibility: The Case of the “Sin Industries”	28
4	HYPOTHESES DEVELOPMENT	33
5	RESEARCH DESIGN	40
5.1	Data Collection Procedure.....	40
5.2	Model Specification.....	42
5.3	Measuring Corporate Social Responsibility: The Dependent Variable.....	43
5.4	Explanatory Variables Measurement.....	45
6	EMPIRICAL RESULTS AND DISCUSSION.....	46
6.1	Descriptive Statistics and Correlations.....	46
6.2	Regression Analysis	48
7	CONCLUSIONS	52
	References.....	55

List of Tables

Table 1: KLD Ratings Indicators	64
Table 2: Sampling	66
Table 3: KLD Ratings of Controversial Business Issues	67
Table 4: Descriptive Statistics for the Dependent and Independent Variables	70
Table 5: Correlation Matrix	71
Table 6: Tobit Regression	73

1 INTRODUCTION

The concept of Corporate Social Responsibility (CSR) is as old as business (Werther and Chandler, 2006). Nevertheless, the primary question as to whether companies have any inherent responsibilities towards the society still remains a contested arena. Only a few years ago, people supposed that businesses were merely responsible for making profits for shareholders (Quelch and Jocz, 2009). Nowadays, though, the interaction between business and society has become an issue of high public concern (Tsoutsoura, 2004; Zerk, 2006). Over the last decade, the field of Corporate Social Responsibility has grown exponentially, since most enterprises have realized that they are directly related to the societies they work and grow. Consequently, it is essential that they offer real and generous support to a wide range of cultural, social, and environmental initiatives, and the community as a whole (Quelch and Jocz, 2009).

More specifically, the CSR term refers to all the practices and measures taken by corporations in order to improve societal welfare, protect the rights of their employees, and, in general, their stakeholders¹, enhance transparency, and also protect the environment (Werther and Chandler, 2006). McWilliams et al. (2006, p. 3) define CSR as “*situations where the firm goes beyond compliance and engages in actions that appear to further some social good, beyond the interests of the firm and that which is required by the law*”. In general, companies employ CSR activities in order to gain public respect, reputation, or even admiration (Palazzo and Richter, 2005).

Recent major corporate scandals, fraud incidents and collapses, such as Lehman Brothers, have clearly resulted in the reduction of citizens’ trust in corporations; Argandona (2009) asserts that the financial crisis of 2008 has also resulted in the loss of trust in organizations and in the people who manage them or work in them. Consequently, CSR is essential at this time, since companies with strong CSR are more

¹ Stakeholder groups range from clearly defined employees, customers, suppliers, creditors and regulating authorities to other more amorphous constituents, such as local communities, society at large, and even the environment (Werther and Chandler, 2006).

likely to withstand such feelings of disbelief. On the one hand, the engagement in CSR activities generates costs; thus, financial funds need to be used. Yet, Quelch and Jocz (2009) allege that CSR is a long-term investment, which can pay dividends in hard times; companies have strong incentives not to throttle back on their CSR programs. Hence, it goes without saying that corporations, especially the ones with bad reputation (e.g. companies in the tobacco and oil industries), are likely to change their negative image through CSR activities.

Although there is a significant body of literature dealing with the association between Corporate Social Responsibility and Corporate Financial Performance, considerably less emphasis has been placed on investigating the determinants of CSR in “controversial industry sectors”, such as alcohol and tobacco. Wilson and West (1981, p. 92) described these industry sectors as related to “*products, services, or concepts that for reasons of delicacy, decency, morality, or even fear tend to elicit reactions of distaste, disgust, offence, or outrage when mentioned or when openly presented*”. To date there has been limited research on this topic, while the genuine reasons behind the engagement in CSR activities by “sin” companies still remain to be uncovered. At this point, we should make clear that “sin” companies are simply companies that are viewed as sinful by most individuals and social groups all over the world². For instance, the sinful aspects of alcohol and tobacco companies have to do with the addictive properties of their products, along with the adverse social consequences when consumed excessively. Similarly, gambling has long been regarded as a sinful behavior that corrupts society. However, it is worth noting that, unlike alcohol and gambling, the negative health consequences of smoking tobacco were not recognized until the 1960s (Hong and Kacperczyk, 2009).

Despite the fact that many corporations belong to such “sinful industry sectors” (including nuclear power, firearms, and adult entertainment) that often are characterized

² Waller et al. (2005) showed that attitudes towards “controversial industry sectors” are different depending on each culture. For example, it is a great sin for Muslims to drink wine, while for Mediterranean people wine is traditionally associated with celebration and joy.

by social taboos and moral debates, they appear to employ CSR-related policies and practices, and maintain rather reasonable socially responsible standards. At first sight, one might detect an apparent contradiction between the terms “CSR” and “controversial industry sectors”; how is it possible for a company, which produces products harmful to society, to demonstrate a socially responsible corporate image? On the one hand, it is believed that, by applying CSR policies, organizations in these industries attempt to present themselves in a positive manner, improve their corporate image, and create a positive relationship with their stakeholders (Yoon et al., 2006). Nevertheless, CSR activities in controversial industry sectors may invite cynical evaluations regarding their credibility. As one might have expected, sin firms have a very low level of trustworthiness and, therefore, their CSR efforts are exposed to much greater scrutiny than firms in other industries. In other words, CSR efforts by sin companies may even deteriorate their credibility problems instead of improving their legitimacy (Palazzo and Richter, 2005).

Against this background, the current dissertation investigates the relationship between CSR and six major controversial industry sectors, namely alcohol, tobacco, gambling, firearms, the military, and nuclear power, employing a sample of 109 U.S. listed firms over a period of seven years (2003-2009). Therefore, our research seeks to answer the following questions: Why do some corporations, belonging to controversial industry sectors, behave in socially responsible ways? Do they genuinely desire to deflect negative perceptions, associations, and reactions against them, or do they attempt to sneak legitimacy through the adoption of CSR initiatives? In an attempt to enrich the understanding of the relationship between CSR and controversial industry sectors, we provide evidence that some companies traditionally viewed as sinful may be more CSR-minded than others, normally expected to be engaged in more CSR activities.

Our study contributes to the literature in several ways. Although previous studies empirically examine the relationship between Corporate Social Performance (CSP) and Financial Performance, and investigate the extent to which firm CSR activities are value-increasing, decreasing, or neutral, there might be other factors that may well

influence CSR; research gaps remain, and new fields need to be explored. Specifically, our investigation is motivated by the fact that limited research on the determinants of CSR has been undertaken in the area of controversial industry sectors. Using the rating data from KLD STATS, we were able to construct an adequate sample over a sufficiently long time horizon. It is also worth noting that the aforementioned database, which is free of survivorship bias, allowed us to examine a multitude of socially responsible criteria.

Our empirical findings suggest that large unethical corporations receive high levels of media coverage, and find themselves further exposed to public and regulatory scrutiny; thus, many of them undertake serious efforts to integrate CSR into various aspects of their businesses. Additionally, we provide supportive evidence that, by improving their corporate governance, sin firms also improve their corporate social profile. Furthermore, extending prior research, we find no significant relationship between CSR and financial performance; on the contrary, institutional ownership does appear to play a significant role. Last but not least, our results suggest that there is a positive significant relationship between R&D and CSR.

The remainder of the dissertation is organized as follows: In the next chapter, we examine CSR from a historical point of view, demonstrating a diachronic presentation. We include the wider academic literature on the topic, introducing special attributes of each of the sin industries, and investigate the determinants of CSR in controversial industry sectors in “Theoretical Backgrounds and Empirical Evidence”. Chapter “Hypotheses Development” discusses each of the explanatory factors analyzed. In “Research Design” we complete the description of our sample selection procedure and model specification. We report the empirical findings from our regression analysis in “Empirical Results and Discussion”. Finally, the last chapter is devoted to our conclusions, while it also offers some perspective for future research.

2 HISTORICAL DEVELOPMENT OF CORPORATE SOCIAL RESPONSIBILITY

A vast array of writers support the view that the concept of Corporate Social Responsibility is a relatively new social phenomenon, while public concern about the interaction between business and society has started to grow only over the last decades; in fact, it is as old as trade itself (Asongu, 2007). Although the terms used in the modern world may not be the same, concepts related to social responsibility have existed for centuries.

Law-makers, religious leaders, and philosophers have dealt with moral issues stemming from commercial actions for more than two millennia. More specifically, a premature form of Corporate Social Responsibility appeared in ancient Greece through the concepts of charity and sponsorship. For instance, the most common form of showing one's social responsibility towards the city of Athens, during the Classical Period of ancient Greece, was through sponsorships, where wealthy Athenians, called "chorigoi" (i.e. the sponsors), afforded the religious festivals. In turn, they were highly respected and honored by their fellow citizens. In addition, ancient Chinese, Egyptians, and Sumerians established rules for trade in order to make the commercial activities easier, and make certain that the wider public's interests were taken into account (Werther and Chandler, 2006; Zerk, 2006).

Shedding light in recent centuries, it is worth noting that Adam Smith, a Scottish moral philosopher of the 18th century, argued that "*every individual ... by pursuing his own interest he frequently promotes that of society more effectively than when he really intends to promote it*". Smith, of course, never talked about social responsibility directly, as, back in 1776, this underlying concept would not have been understood (Heal, 2008, p. 4).

The debate concerning the responsibilities of companies towards the society goes on for several decades. On the one hand, it is believed that companies are responsible

mainly, if not solely, to their shareholders. The Nobel laureate Milton Friedman, who regarded himself as a direct intellectual descendant of Adam Smith, argued in the 1960s that “*there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition, without deception or fraud*” (Friedman, 1970, p. 126). In other words, Friedman, who argued against CSR, supported that the fact that companies generate wealth and employment should be their only contribution to society, since the distribution of wealth depends on governments and not companies (Heal, 2008; Zerk, 2006).

On the other hand, Freeman (1994) contended that corporations have a fiduciary responsibility to all stakeholders, including customers, employees, financiers, and communities, and not just to shareholders. Similarly, Dave Packard – a cofounder of Hewlett-Packard – claimed that a company should not solely aim at making profits. Packard also alleged that “*we have to go deeper and find the real reasons for our being. As we investigate this, we inevitably conclude that a group of people get together and exist as an institution that we call a company so that they are able to accomplish something collectively that they could not accomplish separately – they make a contribution to society, a phrase which sounds trite but its fundamental*”. In other words, Packard, unlike Friedman’s beliefs, advocated that a company does not simply exist in order to make money (Zerk, 2006).

During the Industrial Revolution, when the lives of thousands of people were directly affected by extensive commercial activity, Corporate Social Responsibility started to become a matter of more than academic importance. In particular, during the 19th century, there were major social problems, while working conditions in many companies were often dreadful. The need for social responsibility was intense, since existing social networks, such as family, church, and neighborhood, were almost eliminated. Only a few socially sensitive entrepreneurs organized welfare funds and afforded facilities for their staff and families, as a form of compensation for their workers. The entrepreneurs’ motives for these early signs of social responsibility can be

attributed to fear of labor unrest and social radicalism, as well as the desire to keep the trade unions out of their factories (Zerk, 2006). In other words, although many industrialists began to take philanthropic obligations upon themselves, motivated by social concern and religious beliefs, these philanthropic initiatives remained isolated. Therefore, the principal question – whether companies have any inherent responsibilities towards society – still remained unanswered.

After World War I, the crisis of the 1930s came along with a debate on social security. It is noticeable that for a long time before the crisis, governments had adopted a “hands-off” policy on social matters. The aforementioned debate raised questions about what issues governments should arrange in a collective or private manner, as well as about the volume of influence governments should have on social issues.

With the introduction of public social security, companies ceased to offer welfare services only to their own employees, but they were further expected to offer the same services to the community as a whole. In the 1960s and 1970s, concerns about human rights, fundamental labor standards, and the environment made their appearance; in particular, there was a growing realization that the processes of production, distribution and consumption were having an increasingly negative impact on the environment (European Commission, 2011).

Moreover, with the rapid growth of Non-Governmental Organizations (NGOs) over the last two decades, corporations started to be held accountable for their actions, while much criticism has been placed on those interested only in profit-making without taking into consideration the social and environmental consequences of their operations.

Since late 2001, many corporate failures and scandals have come to light, such as the cases of Enron, Tyco, Global Crossing, Adelphia and WorldCom. Additionally, the economic and financial crisis of 2008, which is deemed as the worst since World War II, made its appearance at a time when CSR was just gaining momentum. As a result, citizens’ trust in corporations, especially those belonging to the financial services, has

been vastly reduced; hence, CSR is critical at this time, since companies that are highly CSR-minded are more likely to carry on their CSR activities, and go beyond the bare minimum legal requirements.

Nowadays, as societies rethink the balance between public requirements and economic growth, Corporate Social Responsibility will continue to develop in significance and complexity (Werther and Chandler, 2006). In conclusion, owing to the rapid technological progress and the process of globalization, CSR is now considered to be a useful tool in finding solutions to a great deal of social problems, rather than a theoretical and strange concept which was disapproved by the boards of directors of many companies in the past (Radu, 2009).

3 THEORETICAL BACKGROUNDS AND EMPIRICAL EVIDENCE

3.1 Corporate Social Responsibility: Interpretation and Significance

In recent years, there has been growing interest among scholars and managers in the field of Corporate Social Responsibility. Numerous definitions of CSR have been suggested, making its measurement and theoretical development even more complicated (McWilliams et al., 2006). The complex nature of CSR, the different level of growth of each country, the fact that business norms and regulatory frameworks vary considerably across nations, along with the historical and social differences between countries, and the different priorities that exist in various regions all over the world, are the most fundamental reasons why there is not a commonly accepted definition for Corporate Social Responsibility (McWilliams et al., 2006; Argandona, 2009; Vergalli and Poddi, 2009). Nevertheless, the dissimilar definitions of CSR agree that corporations are responsible for the public good; yet, they lay emphasis on different elements of this (Blowfield and Murray, 2011). We will now put forward the most important, in our opinion, definitions of CSR.

The European Commission's Green Paper, *Promoting a European Framework for Corporate Social Responsibility* (Commission of the European Communities, 2007, p. 6), provides a simple definition of what should be understood by Corporate Social Responsibility: "*Corporate Social Responsibility is essentially a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment. Being socially responsible means not only fulfilling legal expectations, but also going beyond compliance and investing 'more' into human capital, the environment, and the relations with stakeholders. The experience with investment in environmentally responsible technologies and business practice suggests that going beyond legal compliance can contribute to a company's competitiveness*".

The UK government web-site on CSR issues (2011) defines CSR as "*the business contribution to our sustainable development goals. Essentially it is about how business takes account of its economic, social and environmental impacts in the way it operates – maximizing the benefits and minimizing the downsides. Specifically we see CSR as the voluntary actions that business can take, over and above compliance with minimum legal requirements, to address both its own competitive interests and the interests of wider society*".

Moreover, according to the World Business Council for Sustainable Development Stakeholder Dialogue on CSR³, "*Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development, while improving the quality of life of the workforce and their families as well as of the local community and society at large*" (Holme and Watts, 1999, p. 8).

Furthermore, Novethic (2011), the leading research centre in France on Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI), defines CSR as "*the concept which is linked to companies' implementation of sustainable development. CSR entails that a company should not only worry about profitability and growth, but also about its impact on people, society and the*

³ The Netherlands, September 6-8, 1998.

environment. Along these lines, a company is expected to heed to the concerns of its stakeholders, such as employees, shareholders, customers, suppliers and civil society”.

Despite the fact that there are several different definitions of Corporate Social Responsibility, all of them share the common belief that a company can improve its competitiveness and productivity by investing in environmentally responsible technologies, and going beyond basic legal obligations in the social area. In a nutshell, CSR should not be considered a substitute to regulation as far as social rights and environmental standards are concerned; companies, though, with good social and environmental records are likely to achieve better performance in terms of higher profitability and growth. On the other hand, as Lantos (1999, p. 226) argues, “*unethical actions can result in punishment, which can be monetarily costly in the form of fines and litigation, reputationally costly in the form of bad publicity for the organization and personally costly in the form of imprisonment*”.

Over the last decades, a growing number of organizations have integrated Corporate Social Responsibility into all aspects of their businesses, since they have recognized the benefits of CSR policies and practices. In particular, one significant benefit is considered to be the satisfaction of the organization for its own responsibility. Furthermore, by adopting CSR programs, organizations are able to develop their reputation as responsible businesses, and become more competitive (Fernandez and Feijoo, 2009). What is more, when companies comply with regulatory requirements, they are likely to reduce legal conflicts. For instance, when companies implement stricter environmental controls, they definitely reduce the probability of paying heavy fines for excessive polluting. Other benefits may include the creation of a better working climate, in terms of enhancing the motivation and productivity of the employees, and/or the improvement of the relations and implications within the local community. There is, hence, high demand for transparency and expectations that organizations evaluate, report, and improve their social, economic, and environmental performance. In any case, companies that adopt CSR are more transparent, and are considered to have less risk of corruption.

There are many reasons why organizations do not implement Corporate Social Responsibility in the same way; the most important ones include the size of the organization, the industry in which it belongs to, the company's business culture, and, probably, how historically progressive the company is in engaging CSR. Moreover, some companies focus on integrating CSR in all aspects of their operations, while others focus on just a single area (e.g. the environment) (Tsoutsoura, 2004).

3.2 The relation between Corporate Social Responsibility and Financial Performance

The potential association between Corporate Social Responsibility and financial performance has been vastly investigated and reviewed in the literature. Over the last 40 years, more than one hundred thirty published studies have empirically examined the relationship between CSR and financial efficiency. Thus, there is plentiful literature coping with this matter, but, not unexpectedly, the “verdict” was not conclusive and unanimous. On the one hand, there have been some empirical studies concerning the short-term financial impact on companies engaging in socially responsible or irresponsible deeds. These studies have produced heterogeneous results; some studies discovered no relationship between CSR and financial performance, whilst others found a positive or a negative relationship. On the other hand, other empirical studies have assessed the relationship between CSR and long-term financial performance; their results were also varied.

For instance, following the methodology by Shank et al. (2005), Hill et al. (2007) found that the employment of CSR policies may impact positively the market value of firms in the long term. Tsoutsoura's study (2004) suggested that the relationship between CSR and financial performance is positive and, as a result, supported those studies that have found positive linkages (Pava and Krausz, 1996; Preston and O'Bannon, 1997; Waddock and Graves, 1997; Verschoor, 1998; Becchetti et al., 2007; Vergalli and Poddi, 2009 etc). As we mentioned above, though, other studies in the past

showed either a non-significant relationship (McWilliams and Siegel, 2000; Van de Velde et al., 2005 etc), or a negative one (Boyle et al., 1997; Brammer et al., 2006 etc).

To put it in a nutshell, the scenery around CSR and its relationship with financial performance still remains confusing, since the majority of the above studies have produced ambiguous results (Fernandez and Feijoo, 2009). However, in our opinion, those mixed results can be primarily attributed to the adoption of different methodologies for measuring Corporate Social Responsibility. In addition to this, there seems to be only little consensus about which measurement instrument of financial performance to apply (Beurden and Gössling, 2008). Until theory and research can sufficiently agree upon the exact constituents of CSR, research will keep producing inconsistent results. Eventually, Fernandez and Feijoo (2009, p. 43) claim that “*CSR has a positive effect on internal variables, like motivation or entrepreneurial culture. However the possible benefit for a shareholder’s value or the real cost of CSR is not probed*” in the aforementioned studies.

3.3 Determinants of Corporate Social Responsibility: General Empirical Results

It should be evident that a significant number of studies have laid emphasis on the relationship between Corporate Social Responsibility and Corporate Financial Performance. Nevertheless, limited research has been undertaken in the area of the determinants of CSR; the reasons why organizations decide – or not – to act in socially responsible ways should be further examined. In other words, there might be other factors, other than Corporate Financial Performance, which may well influence CSR.

Carroll (1979, p. 500) alleged that “*the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time*”. Wood (1991) distinguishes three principles of social responsibility at the institutional (the principle of legitimacy), organizational (the principle of public responsibility), and individual (the principle of

managerial discretion) levels. Therefore, CSR is complex to measure, as it is applicable on different levels within and outside corporations. Unlike CSR, which is not a variable, Corporate Social Performance (CSP) can be converted into measurable variables. In particular, Wood (1991, p. 693) produced a definition of CSP as “*a business organization’s configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm’s societal relationships*”. Hence, CSP can be viewed as a concept which can be objectively measured.

Beurden and Gössling (2008) tried to locate the most important factors that have an influence upon the relation between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP). First of all, they identified the size of the unit of the analysis as the most considerable factor, while Research & Development, industry, and risk turned out to be equally significant. Additionally, the remaining factors included customer satisfaction, pollution emission, ownership concentration, environmental dynamics, and environmental munificence. Last but not least, the different definitions and methodologies employed for measuring CSP and CFP were also found as factors that might affect this specific relationship.

Campbell (2007) examined the conditions under which companies operate in a socially responsible manner. More specifically, he proposed the economic condition of the company, the relative health of other corporations and the economy as a whole, and the level of competition per industry, as the most significant factors. In particular, companies experiencing financial problems and operating in an unhealthy economic environment will most likely be uneager to take on CSR-related initiatives. In addition, Campbell (2007) suggested that the relationship between competition and socially responsible corporate behavior will be curvilinear. Therefore, he claimed that when the market competitiveness is either extremely intensive or non-existent, companies will have little interest in being socially responsible. Using examples of five censured activities (child labor, corruption, excessive executive pay, corporate earnings manipulation, and commercialization of education), Shleifer (2004) also explained how

competition pressures may promote censured conduct, and showed that in heavily competitive markets corporations are not likely to act ethically. Nevertheless, the discouragement of unethical conduct can be achieved through the application of the following three strategies: long-run market pressure, moral suasion, including persuasion and even boycotts, and government regulation; hence, taking into account the increased eagerness of societies to pay for ethical behavior, through both government restrictions and private choice, Shleifer (2004) reached the conclusion that competition is likely to lead to the spread of ethical behavior in the long run.

Moreover, Campbell (2007) referred to a number of institutional factors that might affect the probability that organizations will behave in socially responsible ways, including state regulation, collective industrial self-regulation, the presence of non-governmental and other independent organizations, institutionalized norms, institutionalized dialogue between companies and their stakeholders, and the extent to which corporations form industrial or employee associations.

Chih et al. (2009) used a sample of 520 financial companies in 34 countries during a 3-year period (2003-2005), and attempted to specify the financial and institutional variables that are likely to affect Corporate Social Responsibility. First of all, as one might have expected, firm size was found to be a significant factor, since larger firms are more likely to act in a socially responsible way. Unlike the above-mentioned curvilinear relationship between competition and socially responsible corporate behavior, proposed by Campbell (2007), Chih et al. (2009) found that in situations where there is intense competition, companies are expected to apply CSR-related policies in order to improve their competitive advantage. Their findings also suggest that stronger shareholder rights have a significantly negative impact on CSR, whilst companies in countries with stronger legal enforcement measures are likely to fulfill their obligations to stakeholders. Similarly, self-regulation in the financial industry is likely to lead financial firms to engage in CSR activities. Last but not least, financial organizations in countries with a healthier macroeconomic environment, more

efficient employer-employee relations, and higher quality management schools will most likely develop socially responsible practices.

3.4 “Sin” Industries: An Overview

Our empirical investigation focuses on six “sin” industries, namely tobacco, alcohol, gambling, military, firearms and nuclear power. These industries, although legal, are widely viewed as harmful to the society. Thus, firms belonging to these industries demonstrate low CSR profiles, as they do not meet all requirements needed to be considered as socially responsible. Due to the special attributes each “sin” industry exhibits, a brief summary of them is attempted below.

The **tobacco** industry is broadly viewed as the most sinful industry relatively to others, while some opponents, such as the World Health Organization (WHO) (2011), have even emphatically questioned the possibility of social responsibility in the tobacco industry, describing it as an "inherent contradiction". In contrast with this allegation, tobacco companies have started to position themselves as good corporate citizens, and strive for being characterized as socially responsible. For instance, Altria Group, whose subsidiary, namely Philip Morris Inc., belongs to the tobacco industry, communicates its CSR engagement on its corporate website, accompanied with a lengthy report concerning its corporate citizenship. Significant emphasis is placed on the company's strategy to support CSR programs and collaborate with stakeholders in order to inform the public about tobacco health effects, help reduce underage tobacco use, and aid in the cessation of smoking. In particular, they argue that *“if an adult consumer is concerned about the health effects of tobacco use, the best thing to do is quit”*, as they do encourage addictive smokers to abandon the harmful habit of smoking (Altria Group, 2008 CSR Report, p. 7). In addition, in its recruiting activities, Philip Morris has announced its aim to become *“the most successful, respected and socially responsible global consumer products company”* (Philip Morris, 2011). It is worth noting that, in 2008, Altria Group

contributed 60 million USD to enhance social issues, including education, arts and culture, positive youth development, and the environment.

However, as Palazzo and Richter (2005) argue, there are two main reasons why the tobacco industry cannot be seen as socially responsible. The first reason is linked to the products it sells, since smoking is indisputably addictive and lethal. The second reason is associated with the loss of public credibility towards the industry's representatives. Specifically, the constant denial of all risks regarding smoking in the past lead to a massive distrust by their relevant publics, which goes on up to date. As a result, tobacco companies have repeatedly been accused of manipulating information and suiting their own interests; therefore, they have lost much of their credibility towards people. Bearing these in mind, it is very difficult for the tobacco industry to achieve the status of good citizenship and social responsibility.

Among the sin industries, we also find **alcohol**, which incurs both social and health effects if it is consumed in an excessive and irresponsible manner. Social effects may include the behavior of individuals, or their interaction with others in the case of alcohol addiction. Thus, social harm, even if it cannot be easily quantified, has a major impact on the welfare of the society. Moreover, drink driving is a major cause of traffic accidents and other related fatalities, particularly amongst teenagers, while homicides and suicides are often attributed to excessive alcohol intake. Concerning health effects, the World Health Organization (WHO) published in 2004 the Global Status Report on Alcohol, in an attempt to inform, and even warn the public (especially teenagers) about the short- and long-term risks of alcohol's overconsumption. They stated that, while low to moderate alcohol drinking may offer some protective health effects, high alcohol consumption is causally related to heart diseases (stroke), liver problems (cirrhosis), vascular diseases, and a few kinds of cancer (e.g. breast cancer).

Over the last decade, more and more alcohol companies promote informational campaigns to encourage responsible drinking and educate consumers, as the alcohol industry has realized that the misuse of alcohol can affect their business unfavorably. A

characteristic example is that of the Brown-Forman Corporation, which appears to be socially sensitive in matters of alcohol overconsumption. Their campaign “Smarter Drinking” in the U.K., in combination with their educating programs about the dangers of alcohol abuse, are only a few examples of their commitment towards responsible drinking. In addition, they “*choose to be responsible in everything they do, from reducing their environmental footprint, to the way they market their brands*” (Brown-Forman Corporation, 2009 CSR Report, p. 4).

Rundle-Thiele et al. (2008) allege that alcohol companies, which seek to be profitable, ethical, and respect the law, as the CSR pyramid suggests (Carroll, 1991), should increase the volume of alcohol being sold in order to achieve economies of scale. Nevertheless, if we assume that the population growth is more or less unchanged, and the market is stable, then the increase of the companies’ sales would imply that people consume higher quantities of alcohol, a case that increases both social and health risks. According to Rundle-Thiele et al. (2008), though, if consumers are well informed about the social and health effects of irresponsible alcohol drinking, then the alcohol marketers may not be responsible in the first place.

Gambling and the gaming industry, in general, have been criticized by many academics in the past (e.g. Hing, 2001; Buchanan et al., 2009) for their addictive properties that may even lead to the destruction of one’s welfare. Moreover, as critics of the industry claim, gambling can also lead to increased political corruption, addiction (i.e. compulsive gambling), and higher crime rates (Wikipedia, 2011). On the contrary, gambling providers assert that legalized commercial gambling is considered as “big business” nowadays, providing a series of economic benefits, such as increased government revenue, regional economic development and job creation. For instance, in 2007, gaming activities generated gross revenues⁴ of \$92.27 billion in the U.S.A. Also, commercial casinos provided 354,000 jobs in 2006, while state and local tax revenues were as high as \$5.2 billion (American Gaming Association, 2011). In addition, the

⁴ According to the American Gaming Association (2011), the gross revenue is equal to the difference between the total amounts wagered, minus the funds or “winnings” returned to the players.

American Gaming Association states that only 1% of the adult American population is gambling irresponsibly.

However, the gaming industry recognizes the seriousness of irresponsible gambling, so members of the commercial casino industry take measures against it. As the American Gaming Association continues to argue, these members work with a wide variety of stakeholders – problem gambling researchers, treatment providers, state problem gambling councils, and government and community leaders – to verify that those people who cannot gamble responsibly get the help they need. Nevertheless, Hing (2001) supports the view that gambling providers, in general, have been resistant to such pressure by stakeholders, as they believe that by adopting more ethical practices, their financial performance may be threatened. Consistent with Hing (2001), Buchanan et al. (2009) found, through their empirical study, that only few gambling operators engage in voluntary ethical and philanthropic actions; the Isle of Capri Casinos Inc. seems to be one of them. On its corporate website it is stated that the company not only donates funds and supports services to community groups, but it encourages its employees to be actively involved in these communities as well. Further to this, they add that “*Our company founder, the late Bernard Goldstein, felt so strongly about community spirit that we recently launched Community Aces, our charitable giving and volunteer program, honoring his legacy*” (Isle of Capri Casinos Inc., 2009). Apparently, there is a “gap” that should be filled with socially responsible actions by more gambling operators, especially due to the high revenues this specific industry enjoys.

If we review the history of the **firearms** industry in the U.S.A., we will discover that it is the only industry in which the volume of products being sold has not changed over the last four decades. Taking into consideration periods of war and peace, or periods of crime and relative public safety, or even periods of recession versus blooming times, the volume of firearms being sold has always been overwhelming. The United States is the first nation ranked between firearms exporters, which counts \$8.6 billion of exports as of 2010, followed by Russia and Germany (Stockholm International Peace Research Institute, 2011). It is also the first nation in terms of size of the expenditure

being made in the name of defense; the total world spending amounted to \$1.63 trillion in 2010, with almost \$7 billion deriving from the U.S.A. (42.8% of the world share). The above figures, combined with the fact that there has been a legal retail market of firearms existing in the U.S.A. for over thirty years, have given the firearms industry major profits and noticeable sales growth over the years.

Nonetheless, this kind of weapons' public availability, seeking to satisfy the need of U.S. civilians' personal safety, is one of the most critical social problems the American society faces. According to the U.S. National Center for Injury Prevention and Control (CDC) (2011), in 2007, 84.1% of deaths among ages 15 to 24 were caused by firearms, surpassing even the fatality of motor vehicle accidents. As a consequence, this flow of guns into the hands of criminals and young people has led business ethics to wonder whether there is any form of social responsibility in the U.S. firearms industry (Green, 2000; Byrne, 2007).

However, there are companies in this controversial industry sector that seem to employ CSR-related practices; one of them is Alliant Techsystems Inc. (ATK). Specifically, the President and CEO of ATK puts forward in their CSR report the following argument: *"We insist upon ethical behavior, environmental stewardship, and a focus on safety. We give back to the communities where we operate. Being a good corporate citizen benefits our customers, our employees, and our businesses. It reinforces the attractiveness of our brands and products, and it's the right thing to do"* (Alliant Techsystems Inc., 2011 CSR Report, p. 4). The company also fosters student interest and achievement in the areas of Science, Technology, Engineering, and Mathematics, through partnerships; in 2010, 75 scholarships were provided to children of ATK's employees, pursuing post-high school degree programs. Consequently, some companies of the firearms industry do present themselves as good corporate citizens, through various ways of contribution to the society.

Along with the sin industries, defense firms are not considered as socially responsible due to their failure of meeting CSR standards. In particular, the **military**

industry is viewed as unethical, because military firms harm the environment, violate human rights, profiteer, and, last but not least, abuse political power (Baker, 2005). In addition, it is evident that the products of the military industry can kill people, even when they are used according to the instructions. Opposite to Baker's aspect, Halpern and Snider (2011) propose that *"we may ask how harmful a product must be and for what purposes it is to be used before its producer is deemed socially irresponsible"*. Commenting to this statement, we could say that, unlike the tobacco industry, which is considered more fatal, as the consumers are aware of the health risks smoking bears, the military industry products can also promote one nation's security.

A country's defense is generally regarded as a major security issue; each country should take precautions so as to be ready in case of a war outbreak. This implies that a government should enforce their national defense system with costly military equipment. In other words, the military industry exists because nations feel safer if they are armed with up-to-date military equipment, no matter if they will ever use it or not. In addition, defense firms might take any socially redeeming actions through, for example, community service or philanthropic donations, as a contribution to the society. Halpern and Snider (2011) found that *"defense firm managers do perceive the CSR domains (economic, legal, ethical, and discretionary) differently than their nondefense counterparts"*, a finding that verifies the U.S. military industry as capable of becoming a good corporate citizen.

The aforementioned view is strengthened by the fact that some companies of the military industry are highly sensitive in issues concerning natural disasters, such as tsunami disasters. For instance, the Boeing Company⁵ *"is concerned not only with contributing toward immediate/emergency relief activities at the onset of disasters, but also toward long-term rebuilding efforts that will eventually lead to a return to normalcy and stability for the people affected"* (The Boeing Company, 2007 Philanthropy Report,

⁵ Boeing also engages "in the research, development, production, and modification of manned and unmanned military weapons systems for the global strike, mobility and surveillance" (Yahoo! Finance, 2011).

p. 64). Indeed, Boeing donated more than 4.5 million USD as a disaster relief from the tsunami that hit the Indonesian island of Sumatra in December 2004.

As far as the alternative energy sources are concerned, **nuclear power** has been criticized in length for being an energy source that carries a lot of risks surrounding public health and safety, as well as the environment. At the same time, governments and national institutions insist on the idea that nuclear energy is a “sustainable” solution to the energy crisis (Banerjee and Bonnefous, 2011). Moreover, the nuclear industry can produce continuous energy in large quantities, without emitting greenhouse gases. The material and ideological battle between activists and governmental bodies is getting more intense when the issue of radioactive waste treatment comes into the discussion. Despite the relative youth of the nuclear power industry, there is a history of accidents, such as the reactor meltdown at Chernobyl in 1986, which have led to deaths and diseases. Furthermore, the recent devastating earthquake and tsunami that took place in Fukushima, Japan, on March 11, 2011, caused an explosion at the nuclear plant, scattering fears for a meltdown of the reactor. Due to heavy damage of the reactors’ cooling system, there was an inevitable heavy leak of radioactive material that reached to harmful levels, a fact that the Japanese government verified a few days after the incident.

Even though this sort of accidents are rare, there are countries, such as Germany, Spain and Austria, that have applied certain rules to phase out nuclear power, mainly because of safety concerns expressed by their citizens. The public perception about the nuclear power industry has also been influenced by several antinuclear protests; it is evidently viewed as a dangerous and environmentally destructive industry. Consequently, the nuclear power industry is included – with good reason – among the sin industries; in case of a reactor leak, or a potential explosion, the fatal consistencies weigh far more than the environmental benefit humanity gets from the absence of greenhouse gases.

Nevertheless, there is still room for nuclear energy companies to apply socially responsible practices. These companies should manage to meet costumers' energy needs without harming the environment. Furthermore, they should be in compliance with all laws and regulations, while engaging with their stakeholders. All the above attributes are exactly what the American Electric Power (AEP) company recognizes as its core aims in succeeding the desired level of a good corporate citizenship. Specifically, they argue that they have followed the relative regulation about safety in the nuclear plant they preserve, by installing new low-pressure turbine rotors (American Electric Power, 2010 CSR Report, p. 4). The scope of this restoration exceeded anything previously attempted in the nuclear industry. It is, therefore, understandable that, when nuclear energy firms take all appropriate safety measures, they become able to meet CSR standards with success.

3.5 Determinants of Corporate Social Responsibility: The Case of the “Sin Industries”

Nowadays, more and more corporations, perceived as unethical, apply CSR policies and practices, and maintain reasonable socially responsible standards. As discussed earlier, the real reasons why such companies have commenced CSR activities still remain to be investigated. On the one hand, it is believed that companies belonging to controversial industry sectors want to show a positive image and deflect negative perceptions and associations. On the other hand, many academics and practitioners hold the view that such firms cynically attempt to gain legitimacy through CSR activities.

Therefore, the relationship between Corporate Social Responsibility and controversial industry sectors, such as alcohol, gambling, tobacco, nuclear power, and adult entertainment, is highly debatable. To date a rather limited number of prior studies have investigated this relationship; hence, we have just begun to realize how corporations in these industries apply CSR-related policies and initiatives in order to meet their public legitimacy requirements.

First of all, “sin” companies and, in general, companies with bad reputation are likely to take on CSR initiatives in order to create a positive relationship with all stakeholders (especially customers), and improve their corporate image (Yoon et al., 2006). Nonetheless, consumers have an increasingly “*acute radar for hypocrisy*”. In particular, if consumers believe that a company is linked to positive social actions, they grow more willing to buy the company’s products. On the contrary, the overuse of Corporate Social Responsibility, especially when it is not a genuine commitment by the corporation, is likely to alter the consumers’ initial positive perception (Quelch and Jocz, 2009). Therefore, “*perceived sincerity*” of CSR activities by the public is of paramount significance; a company’s image can be greatly damaged if the company’s motives are perceived as insincere (Yoon et al., 2006, p. 388).

Due to the fact that smoking, drinking, as well as gambling, may cause inter alia addiction to the consumer (personal costs), and high healthcare costs (external costs), these industries are regarded as sinful. As far as the litigation risk⁶ of sin companies is concerned, it goes without saying that such corporations have relatively high litigation exposure owing to the very nature of their business. The tobacco industry, in particular, presents the highest cost factor (Salaber, 2009). Hence, the corporate image of sin companies could be deeply hurt due to the significant costs of the lawsuits and the possibility of costs recovery, while the prices of sin stocks may also drop considerably.

During the last decades, Socially Responsible Investing (SRI) has experienced widespread growth, especially in the United States (Geczy et al., 2006). The UK Investment Forum describes SRI as “*investments enabling investors to combine financial objectives with their social values*” (Munoz-Torres et al., 2004, p. 200). Such investors are highly socially conscious, since they are concerned about economic development, social justice, peace, and the environment; in other words, they combine their financial objectives with their commitment to social, ethical, and environmental

⁶ Salaber (2009, p. 10) provides us with the relevant definition: “*The litigation risk in a country can be defined as the risk, for a company located in this country, of being subject to lawsuits. It also includes present and future litigation costs such as health care cost recovery*”.

concerns. For instance, many mutual funds and pension funds have either explicit objectives or implicit motives not to invest in firms associated with sinful activities, such as weapons, tobacco, alcohol, and gambling (Hill et al., 2007; Kim and Venkatachalam, 2011). As one might have expected, opponents of SRI advocate that when investors have lower investment opportunities (since they exclude investments in sinful firms), they usually achieve lower risk-adjusted returns, as they incur diversification costs. On the other hand, supporters of SRI claim that their investment philosophy influences positively the socially responsible firms in which they invest, while poor performing companies are likely to be eliminated (Kim and Venkatachalam, 2011). Additionally, it is worth mentioning that numerous studies have dealt with this rather controversial topic; most of them, though, suggest that SRI underperforms relative to unrestricted (i.e. conventional) investment (Geczy et al., 2006; Fabozzi et al., 2008; Lobe and Roithmeier, 2008; Jo et al., 2010). However, the Social Investment Forum (SIF) (2011) reports that about two thirds of socially responsible mutual funds, from 22 members of the SIF, outperformed their industry benchmarks in 2009⁷.

Using a sample of 18 European countries with different regulations, laws, cultures and religions over the period 1975 – 2006, Salaber (2009) empirically examined the determinants of the so-called “sin stock returns” (i.e. stock returns of companies belonging to the industries of the “Triumvirate of Sin”, namely tobacco, alcohol, and gaming), and showed that the latter are affected by the legal and religious environments of each country. She also provided evidence that sin stocks outperform other stocks in countries with high excise taxation, while sin stocks exhibit significantly higher risk-adjusted returns in countries with higher litigation risk. In a nutshell, Salaber’s (2009) findings suggest that country-specific factors, such as religious preference, level of taxation, and litigation risk, may have a conspicuous effect on average sin stock returns.

Hong and Kacperczyk (2009) in turn studied the performance of American publicly traded companies, involved in the production of alcohol, tobacco, and

⁷ As of 2011, SRI “encompasses an estimated \$3.07 trillion out of \$25.2 trillion in the U.S. investment marketplace today” (US SIF, 2011).

gambling, over the period 1962 – 2006. Their results also imply that sin stocks outperform the market since they are less held by norm-constrained investors⁸ (e.g. pension plans), whilst they found that litigation risk – enhanced by social norms – could not adequately explain the abnormal returns of sin stocks. In contrast, the neglect effect by capital market participants, due to social norm adherence, sufficiently explained why sin companies' stock was undervalued. In conclusion, unlike what portfolio theory proposes, investors who hold discriminatory preferences against companies that engage in the production or offering of unethical goods and services, ignore sin stocks despite the abnormal returns they earn⁹ (Hong and Kacperczyk, 2009).

Moreover, Kim and Venkatachalam (2011) provided similar empirical evidence; specifically, they found that, despite the fact that sin stocks offer higher returns and possess superior financial reporting quality, litigation risk, regulatory scrutiny, and the desire to comply with societal norms, are the main reasons why investors are willing to neglect such stocks. Expanding prior theories on sin investment, and employing publicly traded companies associated with, or directly involved in the tobacco, gambling, alcohol, nuclear power, and sex industries, Lobe and Roithmeier (2008) also provided evidence that sin stocks are capable of making abnormal returns. They came to the conclusion that the sin industries are the most closely scrutinized, and, at the same time, the least regulated (in terms of pricing) industries; hence, the abnormal sin stock returns may indicate that the sin industries have earned positive monopolistic returns.

Although the above studies focus on sin stocks, Jo et al. (2010) examined the performance of SRI vs. vice investing through sin mutual funds. Their findings signify that sin-based investments seem to outperform SRI-based investments over the long term; yet, socially responsible U.S. investors appear to prefer to sacrifice performance by investing in socially responsible mutual funds. Furthermore, Chong et al. (2006)

⁸ The cost of capital of sin stocks is evidently affected due to the neglect by norm-constrained large institutions (Hong and Kacperczyk, 2009).

⁹ This phenomenon is described by Hong and Kacperczyk (2009) as “neglect by capital market participants” and “social norm effect”.

compared the risk and performance of one ‘socially responsible fund’, namely the Domini Social Equity Fund, and one ‘socially irresponsible fund’, namely the Vice Fund; consistent with the empirical findings described earlier, they concluded that the Vice Fund outperformed both the Domini Social Equity Fund and the benchmark Index (i.e. the S&P 500) during the period 2002-2005. More importantly, the Vice Fund demonstrated a higher Sharpe ratio¹⁰, implying that this specific fund could be included to improve the risk-adjusted performance of one’s portfolio.

Nonetheless, Hoepner and Zeume (2009) reached the conclusion that existing vice investments have been inadequately examined to date. They also argued that Chong et al.’s (2006) empirical evidence, discussed earlier, is weak; the Vice Fund’s financial performance is investigated only over a three-year period, while their findings lack any control for the Vice Fund’s investment style and its exposure to the excess legal risk of tobacco stocks. In particular, Hoepner and Zeume (2009) found that once they double the sample period and control for small stock exposure, the Vice Fund’s abnormal return is statistically indistinguishable from zero. Consequentially, “*existing responsible investment products are, on average, financially at least as attractive as their alternatives*” (Hoepner and Zeume, 2009, p. 3).

Additionally, Hoepner and Zeume (2009) provided further evidence that Hong and Kacperczyk’s (2009) findings are not in line with the hypothesis that responsible investment products forgo financial performance opportunity in comparison with sin investment. More analytically, they claimed, among others, that Hong and Kacperczyk’s results are based on potential non-existing sin investment products; potential rather than

¹⁰ The Sharpe Ratio shows the relationship between the risk premium and the standard deviation of fund returns. In particular: Sharpe Ratio or $S_{MF} = (R_{MF} - R_f) / \sigma_{MF}$. In the above formula, R_{MF} is the average return on the fund portfolio, R_f is the average return on the risk-free asset and σ_{MF} is the standard deviation of fund returns. Therefore, the Sharpe Ratio measures the reward to total volatility trade-off. We should also lay emphasis on the fact that Sharpe’s measure uses a total risk measure, and is useful for comparisons across categories and for all investment categories funds. In general, the better a fund’s risk-adjusted performance has been, the greater its Sharpe ratio is (Bodie et al., 2009; Sharpe, 1966).

existing responsible investment products have also been found to be financially superior to sin investment in the past (Kempf and Osthoff, 2007; Edmans, 2008). Last but not least, sin portfolios' positive abnormal returns seem to be primarily caused by equal weighting rather than value weighting a portfolio's assets.

All things considered, as Lobe and Roithmeier (2008, p. 39) advocate, the debate on the performance of sin stocks compared to SRI has been going on for years and seems rather inconclusive. Although a considerable number of prior studies (Lobe and Roithmeier, 2008; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011) support the view that sin stocks exhibit better risk-return characteristics than both regular and socially responsible stocks, other researchers (e.g. Hoepner and Zeume, 2009) assert that investment in vice cannot be suggested from a financial perspective; increased willingness to comply with societal norms is another reason why most market participants shun investing in such stocks.

4 HYPOTHESES DEVELOPMENT

Although prior literature has thrown some light on the factors that might influence firms' engagement in CSR practices and initiatives (e.g. Chih et al., 2009; Reverte, 2009), limited research has been conducted in the area of controversial industry sectors; there remain issues over which empirical evidence is inconclusive and often contradictory. Hence, in this study we focus on the real reasons that may affect the application of CSR-related policies and initiatives by sin corporations. Next, we discuss each of the explanatory factors analyzed.

Firm Size (SIZE)

Firm size has consistently been found to be positively associated with CSR disclosure decision (Patten, 1991; Adams et al., 1998; Cullen and Christopher, 2002; Chih et al., 2009; Reverte, 2009). Specifically, large companies do influence the

community to a much greater degree than smaller ones; subsequently, a relatively bigger group of stakeholders is affected by larger in size corporations. As far as sin companies are concerned, larger ones are more likely to demonstrate a socially responsible corporate profile so as to legitimize their actions and minimize costs stemming from their interaction with the community (Gamerschlag et al., 2010). Therefore, empirical findings suggest that larger sin firms are more visible to the public and, hence, highly exposed to public scrutiny. That is why large companies are generally expected to be more CSR-minded. Based on previous reasoning, we assert that:

H1: There is a positive significant relationship between firm size and CSR.

Visibility (VIS)

As one might have expected, some corporations receive higher levels of media coverage than others. According to Gamerschlag et al. (2010), companies' level of visibility relies upon the quantity of their business media exposure. In addition to this, media exposure, or visibility, further increases public attention and scrutiny (Brammer and Millington, 2006). In other words, stakeholders are attracted to more visible companies, expecting them to be highly socially responsible. Reverte (2009, p. 356) suggested that the media are likely to "*shape institutional norms*" and, hence, the role visibility plays in raising the public policy pressures towards corporations is of paramount importance. Chiu and Sharfman (2009, p. 6) also alleged that companies that operate in "*what appear to be more risky industries*" are often exposed to higher public scrutiny, while they are also expected to demonstrate acceptable corporate citizenship profiles. For instance, companies associated with nuclear power generation are more visible because of the potential danger of accidents. In sum, due to the fact that sin firms produce products harmful to the society, their degree of visibility is significant; thus, they should exhibit a socially responsible corporate profile so as to fulfill stakeholders' expectations of legitimate corporate behavior, and avoid negative criticism. On the basis of the previous arguments, we propose that:

H2: There is a positive significant relationship between media exposure and CSR.

Corporate Governance (CGOV)

Corporate governance is widely considered as an important factor in constituting a company's CSR actions. High levels of transparency between management and stakeholders usually reduce negative perceptions towards the firm, as stakeholders feel confident and trust managers' judgment to invest in CSR activities (Arora and Dharwadkar, 2011). Moreover, Harjoto and Jo (2011) found that governance mechanisms, such as board independence, along with CSR engagement, help firms to reduce conflicts-of-interest between managers and non-investing stakeholders. It should be evident that, because of the nature of the products they sell, sin firms are subject to a high degree of scrutiny; thus, such firms need to demonstrate strong corporate governance, engage in CSR and act on the best interests of shareholders (Harjoto and Jo, 2011; Kim and Venkatachalam, 2011). In other words, managers use CSR activities to resolve conflicts between them and various stakeholders, a practice that leads to enhancement of firm value and performance. Despite the fact that there is no consensus on the relationship between CSR and corporate governance (Harjoto and Jo, 2011), based on the above arguments, we suggest the following hypothesis:

H3: There is a positive significant relationship between corporate governance and CSR.

Financial Performance (ROA)

Campbell (2007, p. 952) proposed that "*Corporations will be less likely to act in socially responsible ways where they are currently experiencing relatively weak financial performance*". Consistent with Campbell (2007), Chih et al. (2009) provided evidence that firms' profitability is positively related to their level of CSR. On the one hand, profitable firms are expected to be engaged in CSR activities, since they have the necessary economic means to do so; it is a common truth that profitable corporations, in general, are subject to public scrutiny and political pressure, and thus use more self-

regulating mechanisms so as to avoid regulation (Reverte, 2009). When it comes to unethical corporations, in particular, they are usually exposed to severe social criticism; consequently, profitable sin corporations need to convince the public that they do not make a profit at the expense of other stakeholders, including the environment.

Nevertheless, empirical findings do not always confirm that the relationship between profitability and CSR is significantly positive (Fernandez and Feijoo, 2009; Reverte, 2009). Additionally, previous studies have shown that CSR actions adopted by corporations brought benefits and profits that exceeded the cost of their implementation; however, in most cases, these benefits are observable in a long-term horizon, which implies that shareholders may have to wait for a long time till they see a return on their investment (Tsoutsoura, 2004). As a result, many stakeholders hesitate to invest in CSR, as they are not certain if it is a sustainable business practice. Thus, we cannot make any *a priori* hypothesis about the sign of the relation between CSR and financial performance.

H4: There is a significant relationship between CSR and financial performance.

Institutional Ownership (INST)

It is a common phenomenon, over the last decade, to see the ownership of company stock concentrated in the hands of a few large investors. These may be organizations, such as banks and insurance companies, which pool large sums of money to invest in securities, real property and other investment assets. Institutional owners, with the aid of financial analysts and experts, closely monitor their portfolio assets in order to make wise investment decisions on behalf of their investors. Apart from their strong interest in the financial performance of the companies they invest in, they are also concerned about their strategies and activities, as well as their stakeholders. Consequently, the CSR profile of a company further attracts institutional investors, as the latter foresee the long-term benefits of this particular investment (Fauzi et. al., 2007).

Furthermore, prior studies (e.g. Muhamad *et. al.*, 2007) have proved the existence of strong positive association between CSR and Institutional Ownership.

Consistent with Hill et al. (2007) and Hong and Kacperczyk (2009), Kim and Venkatachalam (2011) found that norm-constrained institutional investors avoid investing in firms associated with sinful activities. In other words, despite the fact that sin stocks offer abnormal returns (Lobe and Roithmeier, 2008; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011), many large institutional investors shun investing in unethical corporations, because they want to comply with societal norms, as they are highly exposed to public and regulatory scrutiny. Hence, the discussion above leads us to the hypothesis that:

H5: There is a positive significant relationship between CSR and institutional ownership.

Litigation (LIT)

As discussed earlier, unethical firms are more likely to incur significant costs of lawsuits and costs recovery due to the nature of their business. Therefore, controversial industry sectors and, especially, the tobacco industry, face substantial litigation risk (Salaber, 2009; Ghoul et al., 2010). Moreover, market participants, whose investment decisions are subject to societal norms constraints, are willing to neglect sin stocks due to, among others, high litigation risk (Kim and Venkatachalam, 2011). Consistent with Kim and Venkatachalam (2011), Salaber (2009) offered further evidence that litigation risk may deeply affect sin stock returns; particularly, sinful investment was found to be able to earn abnormal returns in countries with high litigation risk. In contrast, Hong and Kacperczyk (2009) claimed that litigation risk was not able to explain the abnormal returns of sin stocks. However, most researchers share the common belief that sin companies are more likely to face greater litigation risk and, hence, they are less preferred by norm-constrained market participants. The following hypothesis is thus tested:

H6: There is a negative significant relationship between CSR and litigation.

Research and Development (R&D)

Research and Development (R&D) is defined by the Organization for Economic Cooperation and Development (OECD) as a “*creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications*” (Source OECD, 2011). Indeed, R&D activities are considered essential for a company’s survival. Competition, consumers’ changes of preferences, and technology development are some of the focal reasons why companies should frequently revise the design and range of their products. In the absence of R&D investments, firms would solely rely on strategic agreements and acquisitions to tap into the innovations of competitors (Wikipedia, 2011).

Apart from obtaining a competitive advantage in the market, by investing in R&D actions, a firm can also improve its profitability over the long term (Hull and Rothenberg, 2008). Moreover, McWilliams and Siegel (2000, p. 607) provided evidence that CSR is positively connected with R&D strength “*as both are associated with product and process innovation*”. From our point of view, we suspect that sin industries, such as nuclear and military, have large development potential of their products. Specifically, we see General Electric Company (2011) stating on its website, concerning its nuclear power production, that the company’s “*nuclear performance services business develops innovative and proven solutions that preserve and optimize nuclear power plants*”. Furthermore, they have introduced “Plant Life Management Services” with the core aim of maintenance, or replacement of defective plant equipment prior to failure, for reasons of safety. These proactive actions of promoting improved plant life management strategies enhance, simultaneously, their CSR profile as being a good corporate citizen. Although there is very limited literature on the relation between CSR and R&D investments, we hypothesize that:

H7: There is a positive significant relationship between CSR and Research & Development investments.

Competition (COMP)

Campbell (2007) investigated the conditions under which corporations become more CSR-minded. Among others, he found that the level of competition between companies of the same industry plays a significant role; in particular, in the extreme cases of either harsh or absent competition, companies have little interest in adopting CSR practices in order to save money. Shleifer (2004) also provided evidence that in cases of severe competition, companies are not likely to exhibit ethical behavior. Opposed to this, Chih et al. (2009) argued that in heavily competitive markets, corporations do apply CSR practices so as to enhance their competitive advantage.

As far as controversial industry sectors are concerned, there is high concentration of companies in the military and nuclear power industries; as a result, we expect corporations of the nuclear and military industries to be more ethical as they face intense competition. On the contrary, this is not the case regarding low-competition companies of the tobacco, alcohol, gambling, and firearms industries. Therefore, taking into account the fact that previous literature on the topic is inconsistent, we cannot make any *a priori* assumption about the sign of the association between CSR and competition.

H8: There is a significant relationship between CSR and market competitiveness.

Market Risk (BETA)

The review of the literature on the relationship between CSR and market risk showed that the studies have produced varying results; however, most studies suggested a negative relationship. Consistent with Chen and Metcalf (1980), Aupperle et al. (1985) found no statistically significant association between social responsibility and market-based risk. On the contrary, McGuire et al. (1988) found a weakly significant

relationship between Community and Environmental Responsibility (CER) and market risk. Orlitzky and Benjamin's (2001) meta-analysis provided evidence that market risk is negatively correlated with Corporate Social Performance (CSP). They also argued that irresponsible corporations, such as cigarette manufacturers and air polluters, should not disregard implicit stakeholder claims; otherwise, apart from the higher probability of civil and criminal legal proceedings, such companies would incur increased probability of regulatory intervention.

Besides, Salama et al. (2011) also found that corporate social and environmental performance is negatively associated with systematic risk. Particularly, their results indicate that *“an increase of 1.0 in the CER score is associated with only a 0.028 reduction in the firm's beta factor”* (p. 21). In other words, the potential benefit from improving a company's social and environmental performance seems to be quite small. In a nutshell, as Salama et al. (2011, p. 13) conclude, firms that are engaged in socially responsible actions will experience a decrease in their market risk, as they will have *“lower anticipated variability of cash flows arising from implicit and explicit CER-based stakeholder claims”*. Based on previous reasoning, we posit that:

H9: There is a negative significant relationship between CSR and market risk.

5 RESEARCH DESIGN

5.1 Data Collection Procedure

To examine the relationship between Corporate Social Responsibility and controversial industry sectors, we employ a sample of annual end-of-year information for 109 U.S. publicly traded companies over a period of seven years, namely from 2003 to 2009, overall constituting 763 firm-year observations.

More analytically, we concentrate on CSR disclosure policies derived from voluntary CSR reports. Particularly, we have obtained CSR reports from

CorporateRegister.com (2011) and verified the disclosure by downloading the actual CSR reports. Using the KLD Statistical Tool for Analyzing Trends in Social and Environmental Performance (STATS) database, we control for social responsibility performance of our sample companies; thus, our final sample consists of companies belonging in controversial industry sectors¹¹ that appear in both the KLD STATS and Compustat Global databases. In particular, the former provides CSR data, while the latter provides industry affiliation and financial data. Taking into account that KLD STATS database is plentiful in data-ratings on Corporate Social Responsibility for 2003-2009 (its coverage universe includes Russell 3000), and that the Sarbanes-Oxley (SOX) Act¹² has deeply affected corporate governance regulation, we focused on this particular time-period. Specifically, due to the fact that major corporate scandals had risen at the time (Windsor, 2006), by altering the existing regulations, or even setting new ones concerning ethical matters, the Sarbanes-Oxley Act put pressure on all U.S. listed companies to enhance their disclosure policies. As a result, more and more corporations (including the ones belonging to controversial industries) commenced, in 2003, to disclose CSR reports along with their annual financial reports. Furthermore, the SOX enactment has also improved the confidence of investors with regard to the veracity of companies' financial statements. For all these reasons, we have decided to include data after the year 2003.

The companies included in the KLD STATS database are described in Table 3; it is worth mentioning that they were extracted from the Compustat Global database and reviewed for any data inconsistencies and availability. Consequently, we constructed a balanced sample of 109 U.S. listed companies for a seven-year period (2003-2009). As Table 2 suggests, our final sample comprises 6 “alcohol” firms, 19 “gambling”, 6

¹¹ As discussed earlier, “sin” companies and, particularly, their stocks are undesirable assets for a socially responsible investor owing to the addictive properties of their products, and the adverse social consequences occurring in case of excessive consumption (Hong and Kacperczyk, 2009).

¹² The Sarbanes–Oxley (SOX) Act of 2002 is a U.S. federal law, which set new or enhanced standards for all U.S. public company boards, management and public accounting firms. Specifically, it contains 11 titles that describe specific mandates and requirements for financial reporting (Wikipedia, 2011).

“tobacco”, 4 “firearms, 56 “military” and 23 “nuclear” ones; we notice that 5 companies belong to more than one industry sectors, producing a total of 109 companies.

[Insert Table 2 about here]

[Insert Table 3 about here]

5.2 Model Specification

The core purpose of this research is to identify the determinants that affect the level Corporate Social Responsibility in the controversial industries of tobacco, alcohol, gambling, military, firearms and nuclear power. To investigate the relationship between the dependent variable, namely CSR, and a series of independent variables, we employ a Tobit model (Tobin, 1958). As previous literature suggests (Brammer and Millington, 2006; Chatterji et. al., 2009; Harjoto and Jo, 2011), we use a Tobit model instead of Ordinary Least Squares (OLS) in order to take account of the fact that our dependent variable is censored; otherwise, our results would have been biased and inconsistent (Gujarati and Porter, 2009). The standard Tobit model, or censored regression model, estimated in our study has the following form:

$$y_i^* = \alpha + \beta x_i + \varepsilon_i, \quad i = 1, 2, \dots, n$$

where y_i^* is a latent response variable, x_i is an observed $1 \times k$ vector of explanatory variables, and $\varepsilon_i \sim \text{i.i.d. } N(0, \sigma^2)$ is independent of x_i . An observed dependent variable y_i equal to y_i^* is generated, if $\alpha + \beta x_i + \varepsilon_i > 0$, otherwise equals to zero.

The model that has been estimated can be summarized as follows (we control for industry and year effects):

$$\begin{aligned}
CSR_j = & \beta_0 + \beta_1 CGOV_j + \beta_2 ROA_j + \beta_3 R\&D_j + \beta_4 BETA_j + \beta_5 INST_j + \beta_6 LIT_j \\
& + \beta_7 SIZE_j + \beta_8 COMP_j + \beta_9 VIS_j + \sum_{j=10}^{j=16} \beta_j YEARS_j \\
& + \sum_{j=17}^{j=34} \beta_j INDUSTRIES_j + \varepsilon_j
\end{aligned}$$

Where,

β_0	= Intercept
β_1 to β_{34}	= Coefficients of slope parameters
CSR	= CSR performance measure, defined based on KLD STATS,
CGOV	= Corporate governance measure; it is equal to the number of strengths minus the number of concerns in the Corporate Governance qualitative issues area provided by KLD STATS,
ROA	= Return on assets, measured as the ratio of income before extraordinary items over total assets,
R&D	= Research & development, defined based on COMPUSTAT GLOBAL,
BETA	= Market risk, relationship between stock volatility and the market volatility,
INST	= Institutional ownership, percent of total shares outstanding held by institutions,
LIT	= Litigation, coded 1 if a firm has material legal proceedings, 0 otherwise,
SIZE	= Natural logarithm of total assets,
COMP	= Competition, measured by the Herfindahl-Hirschman index,
VIS	= Visibility measure, defined by the number of major headline world publications.
ε	= error term

5.3 Measuring Corporate Social Responsibility: The Dependent Variable

We obtained the data on Corporate Social Responsibility from the KLD STATS database, which is provided by KLD Research and Analytics, Inc., and contains ratings on a wide range of CSR-related items compiled from a variety of sources, such as annual reports, global media publications, company disclosures, government agencies, NGO's, regulatory filings, and proxy statements. Consistent with prior studies (Graves and Waddock, 1994; Benson and Davidson, 2010; Ghoul et al., 2010), we used KLD STATS since it is a measure of social performance that has been developed independently of this

dissertation's authors and, thus, does not suffer from self-imposed biases that might occur if we use our own definition and measurement of CSR.

All CSR-related items are classified by KLD STATS into two major classes: Qualitative Issue Areas and Controversial Business Issues. The former include: the community, corporate governance, diversity, employee relations, the environment, human rights and product quality (service). Controversial business issues include: alcohol, gambling, tobacco, firearms, the military and nuclear power. For each qualitative issue area, KLD assigns a binary (0/1) rating to a set of strengths and concerns (see Table 1). For each controversial business issue, KLD assigns a binary (0/1) rating for whether a company is associated with at least one concern (see Table 3).

[Insert Table 1 about here]

To calculate an overall measure of CSR we focused on six main KLD categories: the community, diversity, employee relations, the environment, human rights and product quality (service). In other words, following prior methodology (Kempf and Osthoff, 2007; Benson and Davidson, 2010; Ghoul et al., 2010), we used all qualitative issue areas provided by KLD STATS, but we excluded the criterion 'corporate governance'¹³. Therefore, we obtained a score for each category equal to the number of strengths minus the number of concerns in a given year. We then estimated an overall CSR score by adding the scores of each category together. It should be evident that a positive CSR score implies that the positive indicators (strengths) of the company outweighed the negative indicators (concerns) in that particular year, and vice versa. Hence, the higher the CSR score, the more socially responsible this firm is.

¹³ The criterion 'other' by KLD STATS was renamed to 'corporate governance' in 2002. Yet, KLD STATS did not change the underlying sub-criteria (i.e., the criterion's strengths and concerns) (Kempf and Osthoff, 2007). Consequentially, the criterion 'corporate governance' presents many differences with the corporate governance issues used for the corporate governance index by Gompers et al. (2003) or by Beiner et al. (2006).

5.4 Explanatory Variables Measurement

Following prior literature (Cullen and Christopher, 2002; Chih et al., 2009) **firm size** is measured as the natural logarithm of year-end total assets provided by Compustat Global database. To develop a measure of the companies' media coverage, or **visibility**, the number of major headline world publications was counted, using the LexisNexis database. Additionally, **corporate governance** measure is equal to the number of strengths minus the number of concerns in the Corporate Governance qualitative issues area provided by KLD STATS database. Following prior research (Chih et al., 2009; Reverte, 2009), we use **return on assets**, obtained from the Compustat Global database, to measure corporate financial performance. In particular, ROA is measured as the ratio of income before extraordinary items over total assets. Due to the fact that market-based measures “*are based on investors' viewpoints on company performance, thus ignoring other important stakeholder groups*” (Reverte, 2009, p. 358), we adopt this accounting-based variable in our dissertation.

Moreover, consistent with prior literature (e.g. Hong and Kacperczyk, 2009), the level of **institutional ownership** is measured by the percentage of their stockholdings relative to the total shares outstanding, provided by Compustat Global database. As far as **litigation** is concerned, we obtained the number of legal proceedings regarding our sample companies from auditanalytics.com (2011); hence, if a firm has material legal proceedings we assign it a value of 1, and if not it is assigned a zero value. **Research and Development** is measured from data concerning “*all costs¹⁴ incurred during the year that relate to the development of new products or services*” provided by Compustat Global database. In particular, this item includes software expenses and amortization of software costs; yet, it excludes customer or government-sponsored R&D, extractive industry activities, engineering expense, inventory royalties, and market research and testing.

¹⁴ This amount is only the company's contribution.

In order to measure **competition**, we employ the Herfindahl-Hirschman Index (HHI), a commonly accepted measure of market concentration (e.g. Kim and Venkatachalam, 2011), provided by Compustat Global database. Specifically, the HHI is estimated by squaring the market share of each company competing in a market, and then summing the resulting numbers (Investopedia, 2011). In general, a decrease in the HHI is a strong indication of an increase in competition and a decrease of market power, and vice versa (Wikipedia, 2011). We should also notice that the HHI can range from 0 to 1. Lastly, **market risk**, also known as non-diversifiable or systematic risk, shows the contribution of an individual security to a completely diversified portfolio's risk; this type of risk is measured by beta. Beta can be viewed as the slope of the regression line of the firm's returns against the market returns. In other words, it shows the relationship between stock volatility and the market volatility. All data concerning this variable were obtained from the Compustat Global database.

6 EMPIRICAL RESULTS AND DISCUSSION

6.1 Descriptive Statistics and Correlations

Table 4 illustrates the descriptive statistics of the dependent and explanatory variables considered in our study. Panel A reports the statistical properties of the regressand, namely CSR, between 2003 and 2009. As discussed earlier, the overall CSR score takes values between -9 (minimum) and +13 (maximum). In addition, the average CSR score (mean) per year is negative; this should not surprise us, as our sample consists of unethical companies, which are assigned, on average, more negative indicators (concerns) relative to positive ones (strengths) by the KLD STATS database. The overall median is -1; hence, taking into account that the overall mean is -0.83, we conclude that the distribution of firms with positive and negative CSR performance is skewed to the right¹⁵. We can also observe that the overall CSR score does not demonstrate large variation over time. Panel B reports descriptive statistics for the causal

¹⁵ This is confirmed by the positive skewness coefficient, which is not included in Table 4.

variables. It is worth noting that the dispersion of most variables is on an acceptable level.

[Insert Table 4 about here]

Furthermore, the Pearson pairwise correlation coefficients for all of the major variables represented in our study are reported in Table 5. Some correlations are statistically significant at the 0.1% level, such as those between visibility and size ($\rho=0.344$), size and litigation ($\rho=0.3051$), and institutional ownership and R&D ($\rho=0.2887$).

It can be seen that no bivariate correlation exceeds the conventional threshold of 0.8 (Gujarati and Porter, 2009, p. 338). Thus, multicollinearity does not appear to be a serious problem. Further, the Variance Inflation Factor (VIF) is another indicator of multicollinearity. The amount of VIF for the variables of this study is shown in Table 6. None of these values exceeds the critical value of 10 (Gujarati and Porter, 2009, p. 340; Wooldridge, 2009, p. 99), indicating that no correlation among the explanatory variables exists. Similarly, none of the independent variables had tolerance value¹⁶ less than 0.10 (Gujarati and Porter, 2009, p. 340), implying that multicollinearity does not exist in the model. Therefore, multicollinearity is unlikely to present significant statistical difficulties.

[Insert Table 5 about here]

Finally, to test for heteroscedasticity, we applied the Breusch-Pagan and Cook-Weisberg tests. These tests indicated the presence of heteroscedasticity in the residuals and, thus, the assumption of homoscedastic disturbances could not be accepted. Consequently, Huber/White standard errors were used in our model to account for heteroscedasticity.

¹⁶ For reasons of economy, we only report VIF values in Table 6.

6.2 Regression Analysis

Although the descriptive statistics and the correlation matrix provide some evidence about the average level and the univariate relations between the variables, we apply Tobit regression analysis to find their joint effects, using CSR as the dependent variable. Table 6 presents the Tobit regression results; the coefficients, their standard errors (robust), the t-statistic, associated p-values, and the 95% confidence interval of the coefficients are reported. We observe that all 763 observations in our data set were employed in the regression analysis, indicating that none of the variables had missing values.

[Insert Table 6 about here]

More specifically, the regression F-statistic (8.64) with a p-value of zero suggests that the slope coefficients are significantly different from zero. Overall, our model fits significantly better than a model with no predictors (i.e., an empty model). The coefficients for CGOV, R&D, INST and SIZE are statistically significant, as is the coefficient for VIS. However, some parameter estimates are statistically indistinguishable from zero – particularly those on the ROA, BETA, LIT and COMP variables. Besides, although the intercept is insignificant, *“there are good statistical reasons for always retaining the constant”* (Brooks, 2008, p. 66). The log pseudolikelihood (-1613.72) can be employed to compare our model with nested ones. As for the ancillary statistic, namely $\sqrt{\sigma}$ ¹⁷, the value of 2.007 can be compared to the standard deviation of CSR, which was 2.32 (see Table 4), a considerable reduction. Table 6 also includes an estimate of the standard error of the ancillary statistic and the 95% confidence interval. Last but not least, the pseudo R-squared (0.0647) has no real meaning and, thus, we cannot use it to make inferences (Stata resources and support, 2011).

¹⁷ The ancillary statistic, or $\sqrt{\sigma}$, is similar to the residual standard deviation in Ordinary Least Squares (OLS) regression.

The regression outcomes highly contribute to the literature gap regarding the determinants of CSR engagement by unethical corporations. In accordance with the first hypothesis made above, size is found to be significant at 5% with a positive coefficient. At this point, we should mention that Tobit regression coefficients can be interpreted in the same way as Ordinary Least Squares (OLS) regression coefficients. Therefore, for a one unit increase in SIZE, there is a 0.164 point increase in the predicted value of the overall CSR score. The positive and statistically significant relationship between firm size and CSR is consistent with prior studies (Chih et al., 2009; Reverte, 2009; Gamerschlag et al., 2010), which argue that larger firms are exposed to a high degree of public scrutiny and, as a result, are widely expected to be engaged in CSR activities. Unethical companies, in particular, are severely criticized for the consequences of their operations; hence, the necessity of their exhibiting a socially responsible corporate profile is more than apparent.

Apart from the coefficient for firm size, the coefficient for visibility is also positive and statistically significant at the conventional 5% level, suggesting that sin firms with higher media exposure engage in considerably higher CSR behavior. As Brammer and Millington (2006) stated in their study, stakeholders are attracted to companies with high media coverage, while they expect them to be socially responsible. However, high visibility in turn increases public scrutiny and exposure. Thus, highly visible sin corporations need to maintain an image of good corporate citizens in order to gain stakeholders' trust and avoid negative criticism.

As regards corporate governance, the coefficient for CGOV is positive and significant at the 1% level; a one unit increase in CGOV is associated with a 0.291 unit increase in the predicted value of CSR. This finding corroborates our earlier third hypothesis, implying that corporate governance practices influence a company's level of CSR. According to prior literature (Arora and Dharwadkar, 2011; Harjoto and Jo, 2011), board independence and high levels of transparency between management and stakeholders are only a few examples that might enhance the application of CSR actions. Due to the significant benefits they can gain from sound corporate governance tactics,

sin firms should exhibit strong corporate governance so as to invigorate their CSR profile towards the public.

Our results also suggest that there is no significant relationship between financial performance, as measured by return on assets (ROA), and CSR ($p > 0.1$). This is in line with McWilliams and Siegel (2000) and Van de Velde et al. (2005), but contrary to Campbell (2007) and Chih et al. (2009). We attribute this finding to the ‘vice’ nature of unethical firms; the latter are likely to adopt CSR practices so as to reduce the public attention on the – potentially – harmful effects of their products and services, without taking into account implications on their financial performance.

Contrary to our hypothesis (H5) and prior research (Hill et al., 2007; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011), institutional ownership is found to be negatively related to CSR. Although we expected institutional investors to avoid investing in companies associated with sinful activities, apparently this is not always the case. We could hypothesize that institutional investors, except for norm-constrained ones, sometimes decide to invest in unethical companies due to the abnormal returns such firms earn (Lobe and Roithmeier, 2008; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011). In other words, our findings indicate that institutional investors of US sin corporations “*are mainly profit oriented and short-termism, rather than focusing on the long term sustainability of the company*” (Muhamad et. al., 2007, p.8). Therefore, it would be essential to further investigate the reasons lying behind this negative and significant relationship between institutional ownership and CSR.

Moreover, we provide evidence that there is no significant relationship between litigation and CSR ($p > 0.1$). Although firms belonging to controversial industry sectors face high litigation risk (Salaber, 2009; Kim and Venkatachalam, 2011), this does not appear to affect investors who consider the social performance of companies in making investment decision. Specifically, our results show that the level of litigation does not play an important role to the adoption (or not) of CSR practices by unethical firms. Furthermore, corroborating prior research (McWilliams and Siegel, 2000), we find that

CSR is positively and significantly (at the 1% level) associated with Research and Development (R&D). Since R&D investment is considered essential to remain competitive in the global economy and ensure a company's sustainability, unethical companies do invest substantial amounts of money in R&D. As one might have expected, this effort has also a positive impact on CSR actions; through R&D and the employment of CSR activities, sin firms are likely to create assets that provide them with competitive advantage.

Further, there is some evidence that competition is not significantly related to the level of CSR ($p > 0.1$). Although the military and nuclear power industries are generally considered highly competitive, there is no significant concentration of companies in the firearms, tobacco, alcohol, and gambling industries. Taking into consideration that previous research on the relationship between CSR and competition is contradictory, our findings indicate that controversial firms' CSR practices are not influenced by the level of market competition. Lastly, similar to Chen and Metcalf (1980) and Aupperle et al. (1985), but contrary to McGuire et al. (1988), Orlitzky and Benjamin (2001) and Salama et al. (2011), our model does not provide evidence of a statistically significant relationship between CSR and market risk ($p > 0.1$). Thus, we conclude that the market risk (beta) of sin companies will not be reduced after their engagement in socially responsible actions.

Last but not least, many prior studies empirically examined the relationship between leverage and CSR. Specifically, Jensen and Meckling (1976) provided evidence that highly leveraged companies disclose more CSR information so as to decrease their agency costs and, therefore, their cost of capital. On the other hand, Purushothaman et al. (2000) found that the correlation between CSR disclosure and financial leverage is negative. In other words, highly leveraged companies are less motivated to be engaged in CSR activities and, thus, decide to disclose less relevant information. Similarly, Brammer and Pavelin (2008) argued that a lower degree of leverage implies that creditor stakeholders do not expect companies to undertake social responsibilities. Nevertheless, other empirical findings (e.g. Reverte, 2009) do not support the aforementioned results.

To investigate the relationship between leverage and CSR, we proceeded to the same regression analysis (Tobit model), but this time we replaced market risk (BETA) with leverage (LEV) in our model¹⁸. Our results show that the coefficient of LEV is slightly negative, though not significant at any conventional level. Consequentially, consistent with Reverte (2009), leverage does not seem to be significantly associated with CSR. However, the coefficients for CGOV, R&D, INST, SIZE and VIS were again found to be statistically significant at the same significance levels reported above (the inclusion of leverage, instead of beta, in our model did not significantly alter our previous results). For the sake of space, the new Tobit regression results are not presented in Table 6.

7 CONCLUSIONS

Over the last few decades, there has been increased academic interest in the concept of Corporate Social Responsibility (Tsoutsoura, 2004; Brammer and Millington, 2006; Quelch and Jocz, 2009; Reverte, 2009). Much emphasis has been placed upon the association between Corporate Social Performance and Corporate Financial Performance; nonetheless, we still know very little about the relationship between CSR and the so-called controversial industry sectors. Our study aims to address this gap in the literature by empirically investigating the determinants of CSR engagement in such industry sectors; specifically, we focus on six major “sinful” sectors, namely alcohol, tobacco, gambling, firearms, military, and nuclear power.

Using a dataset of 109 U.S. publicly traded corporations over a period of seven years (2003-2009), we identify several factors that influence the above-discussed

¹⁸ The new estimated model can be summarized as follows: $CSR_j = \beta_0 + \beta_1 CGOV_j + \beta_2 ROA_j + \beta_3 R\&D_j + \beta_4 LEV_j + \beta_5 INST_j + \beta_6 LIT_j + \beta_7 SIZE_j + \beta_8 COMP_j + \beta_9 VIS_j + \sum_{j=10}^{j=16} \beta_j YEARS_j + \sum_{j=17}^{j=34} \beta_j INDUSTRIES_j + \varepsilon_j$. Similar to prior studies (Hong and Kacperczyk, 2009; Reverte, 2009), leverage (LEV), obtained from the Compustat Global database, is measured as the ratio of total debt over shareholders' equity.

relationship. First, our findings reveal that unethical companies with larger size will be more CSR-minded, as they are exposed to close public scrutiny and, thus, are widely expected to take on CSR policies and practices. Moreover, visibility is found to have a significantly positive impact on the incentives of firms to engage in CSR activities. In other words, sin companies receiving high levels of media coverage are expected to demonstrate acceptable corporate citizenship profiles, since they are subject to public policy pressures and scrutiny.

Our empirical results strongly indicate that there is a positive significant relationship between corporate governance and CSR. Firms associated with sinful activities should exhibit strong corporate governance, and act in socially responsible ways in order to reduce negative perceptions towards them, as, in this manner, stakeholders' anticipations of legitimate corporate behaviour are likely to be fulfilled. Furthermore, we provide evidence that institutional ownership is negatively associated with CSR. We attribute this finding to the fact that institutional investors may be eager to invest in sin stocks so as to earn abnormal returns (Lobe and Roithmeier, 2008), without taking into account social norms. Apparently, this is not the case for norm-constrained institutional investors, who avoid investing in unethical corporations and desire to comply with societal norms.

Further, we find that CSR is positively and significantly related to research and development. Thus, sin firms that invest in R&D are more likely to improve their socially responsible corporate profile, and enhance their competitive advantage. Nevertheless, our empirical results suggest that financial performance, litigation, the level of competition, and market risk are not significantly associated with CSR. Last but not least, consistent with prior literature (Reverte, 2009), we accounted for leverage in our model and found no significant relationship between this variable and CSR.

Overall, our study complements the existing literature on CSR and controversial industry sectors by making a significant contribution. In particular, contrary to previous studies (Hill et al., 2007; Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011),

our findings suggest that institutional investors might have ceased to consider the social performance of sin firms in making investment decision; instead, they appear to be more interested in the financial performance of these stocks. Consequently, it would be important to further investigate whether sin stocks are less shunned by market participants (especially institutional investors) when they are expected to perform well. In other words, future research could examine the relationship between the expected financial performance of sin stocks and the price of social norms on such stocks. However, the “*time-varying level of social norms*”, through the adoption of generally accepted social norm proxies, and the “*dynamic nature of the relative financial performance of sin stocks*”, should be seriously taken into consideration (Liu et al., 2011, p. 4).

References

- Adams, C. A., W. Y. Hill and C. B. Roberts: 1998, 'Corporate Social Reporting Practices in Western Europe: Legitimizing Corporate Behavior', *The British Accounting Review* **30**(1), 1-21.
- Alliant Techsystems Inc., CSR Report: 2011, Available at:
http://www.atk.com/CorporateOverview/ATK%20CSR_Proof%205a_Mar31_g.pdf/
- Altria Group Inc., CSR Report: 2008, Available at: <http://www.altria.com/>
- American Electric Power Company Inc., CSR Report: 2010, Available at:
<http://www.aep.com/environmental/reports/>
- American Gaming Association: 2011, Available at:
<http://www.americangaming.org/social-responsibility/responsible-gaming/>
- Argandona, A.: 2009, 'Can Corporate Social Responsibility Help us Understand the Credit Crisis?', IESE Business School, University of Navarra, Barcelona, Spain, Working Paper, March.
- Arora, P. and R. Dharwadkar: 2011, 'Corporate Governance and Corporate Social Responsibility (CSR): The Moderating Roles of Attainment Discrepancy and Organization Slack', *Corporate Governance: An International Review* **19**(2), 136-152.
- Asongu, J. J.: 2007, 'The History of Corporate Social Responsibility', *Journal of Business and Public Policy*, **1**(2).
- Aupperle, K. E., A. B. Carroll and J. D. Hatfield: 1985, 'An Empirical Examination of the Relationship Between Corporate Social Responsibility and Profitability', *Academy of Management Journal* **28**(2), 446-463.
- Baker, M.: 2005, 'Can Companies that Make Products that Kill Be Socially Responsible?', *Business Respect* **86**, published online.
- Banerjee, S. and A. Bonnefous: 2011, 'Stakeholder Management and Sustainability Strategies in the French Nuclear Industry', *Business Strategy and the Environment* **20**(2), 124-140.
- Becchetti, L., R. Ciciretti and I. Hasan: 2007, 'Corporate Social Responsibility and

- Shareholder's Value: An Event Study analysis', Federal Reserve Bank of Atlanta, Working Paper, April.
- Beiner, S., W. Drobetz, M. M. Schmid and H. Zimmermann: 2006, 'An Integrated Framework of Corporate Governance and Firm Valuation', *European Financial Management* **12**, 249-283.
- Benson, B. W. and W. N. Davidson: 2010, 'The Relation between Stakeholder Management, Firm Value, and CEO Compensation: A Test of Enlightened Value Maximization', *Financial Management* **39**(3), 929-963.
- Beurden, P. and T. Gössling: 2008, 'The Worth of Values - A Literature Review on the Relation Between Corporate Social and Financial Performance', *Journal of Business Ethics* **82**, 407-424.
- Blowfield, M. and A. Murray: 2011, 'Corporate Responsibility' 2nd Edition (Oxford University Press, New York, NY, U.S.A.).
- Bodie, Z., A. Kane and A. J. Marcus: 2009, 'Investments' 8th Edition (McGraw-Hill International Edition, New York, NY, U.S.A.).
- Boeing Company, Corporate Philanthropy Report: 2007, Available at: http://www.boeing.com/companyoffices/aboutus/community/2009_report/index.html/
- Boyle, E. J., M. M. Higgins and S. G. Rhee: 1997, 'Stock Market Reaction to Ethical Initiatives of Defense Contractors: Theory and Evidence', *Critical Perspectives on Accounting* **8**(6), 541-561.
- Brammer, S. and A. Millington: 2006, 'Firm Size, Organizational Visibility and Corporate Philanthropy: An Empirical Analysis', *Business Ethics: A European Review* **1**, 6-18.
- Brammer, S. and S. Pavelin: 2008, 'Factors Influencing the Quality of Corporate Environmental Disclosure', *Business Strategy and the Environment* **17**(2), 120-136.
- Brammer, S., C. Brooks and S. Pavelin: 2006, 'Corporate Social Performance and Stock Returns UK Evidence from Disaggregate Measures', *Financial Management* **35**(3), 97-116.
- Brooks, C.: 2008, 'Introductory Econometrics for Finance' 2nd Edition, (Cambridge

University Press, Cambridge, U.K.).

- Brown-Forman Corporation, CSR Report: 2009, Available at: <http://www.brown-forman.com/responsibility/>
- Buchanan, J., G. Elliott and L. Johnson: 2009, 'The Marketing of Legal but Potentially Harmful Products and Corporate Social Responsibility: The Gaming Industry View', *The International Journal of Interdisciplinary Social Sciences* **4**(2), 81-97.
- Byrne, E.: 2007, 'Assessing Arms Makers' Corporate Social Responsibility', *Journal of Business Ethics* **74**(3), 201-217.
- Campbell, J. L.: 2007, 'Why Would Corporations Behave in Socially Responsible Ways? An Institutional Theory of Corporate Social Responsibility', *Academy of Management Review* **32**(3), 946-967.
- Carroll, A.: 1979, 'A Three-Dimensional Conceptual Model of Corporate Performance', *The Academy of Management Review* **4**, 497-505.
- _____: 1991, 'The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders', *Business Horizons* **34**, 39-48.
- Chatterji, A. K., D. I. Levine and M. W. Toffel: 2009, 'How Well Do Social Ratings Actually Measure Corporate Social Responsibility?', *Journal of Economics and Management Strategy* **18**(1), 125-169.
- Chen, K. H. and R. W. Metcalf: 1980, 'The Relationship between Pollution Control Record and Financial Indicators Revisited', *The Accounting Review* **55**(1), 168-177.
- Chih, H.L., H.H. Chih and T.Y. Chen: 2009, 'On the Determinants of Corporate Social Responsibility: International Evidence on the Financial Industry', *Journal of Business Ethics* **93**, 115-135.
- Chiu, S. and M. P. Sharfman: 2009, 'Legitimacy, Visibility and the Antecedents of Corporate Social Performance: An Investigation of Instrumental Perspective', *Journal of Management*, published online.
- Chong, J., M. Her and G. M. Philipps: 2006, 'To sin or not to sin? Now that's the question', *Journal of Asset Management* **6**(6), 406-417.
- Commission of the European Communities: 2007, 'Green Paper – Promoting a European Framework for Corporate Social Responsibility', Brussels.

Compustat Global Database: 2011

CorporateRegister.com – Global CSR Resources: 2011, Available at:
www.corporateregister.com/

Cullen, L. and T. Christopher: 2002, 'Governance Disclosures and Firm Characteristics of Listed Australian Mining Companies', *International Journal of Business Studies* **10**(1), 37-58.

Edmans, A.: 2008, 'Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices, Wharton School, University of Pennsylvania, Working Paper.

European Commission: 2011, Available at: ec.europa.eu/

Fabozzi, F. J, K. C. Ma and B. J. Oliphant: 2008, 'Sin Stock Returns', *Journal of Portfolio Management* **35**(1), 82-94.

Fauzi, H., L. S. Mahoney and A. A. Rahman: 2007, 'Institutional Ownership and Corporate Social Performance: Empirical Evidence From Indonesian Companies', *Issues in Social and Environmental Accounting* **1**(2), 334-347.

Fernández, B. and S. Feijóo: 2009, 'Crisis and Corporate Social Responsibility: Threat or Opportunity?', *International Journal of Economic Sciences & Applied Research* **2**(1), 36-50.

Freeman, R. E.: 1994, 'The Politics of Stakeholder Theory: Some Future Directions', *Business Ethics Quarterly* **4**(4), 409–421.

Friedman, M.: 1970, 'The Social Responsibility of Business is to Increase its Profits', *The New York Times Magazine* **13**, 122-126.

Gamerschlag, R., K. Moeller and F. Verbeeten: 2010, 'Determinants of Voluntary CSR Disclosure: Empirical Evidence from Germany', *Review of Managerial Science* **4**, published online.

Geczy, C., R. Stambaugh and D. Levin: 2006, 'Investing in Socially Responsible Mutual Funds', University of Pennsylvania, Working paper.

Ghoul, S. E., O. Guedhami, C. C. Y. Kwok and D. R. Mishra: 2010, 'Does Corporate Social Responsibility Affect the Cost of Capital?', *Journal of Banking and Finance* **35**(9), 2388-2406.

Gompers, P. A., J. L. Ishii and A. Metrick: 2003, 'Corporate Governance and Equity

- Prices', *Quarterly Journal of Economics* **118**(1), 107-155.
- Graves, S. B. and S. A. Waddock: 1994, 'Institutional Owners and Corporate Social Performance', *Academy of Management Journal* **37**(4), 1034-1046.
- Green, R. M.: 2000, 'Legally Targeting Gun Makers: Lessons for Business Ethics', *Business Ethics Quarterly* **10**(1), 203-210.
- Gujarati, D. N. and D. C. Porter: 2009, 'Basic Econometrics' (Fifth Edition, McGraw-Hill, New York, NY, U.S.A.)
- Halpern B. H. and K. F. Snider: 2011, 'Products that Kill and Corporate Social Responsibility: The Case of U.S. Defense Firms', *Armed Forces & Society*, published online, available at:
<http://afs.sagepub.com/content/early/2011/07/30/0095327X11415490>
- Harjoto, M. A. and H. Jo: 2011, 'Corporate Governance and CSR Nexus', *Journal of Business Ethics* **100**, 45-67.
- Heal, G.: 2008, '*When principles pay: Corporate social responsibility and the bottom line*' (Columbia University Press, New York, NY, U.S.A.).
- Hill, R., T. Ainscough, T. Shank and D. Manullang: 2007, 'Corporate Social Responsibility and Socially Responsible Investing: A Global Perspective', *Journal of Business Ethics* **70**, 165-174.
- Hing, N.: 2001, 'Changing the Odds: A Study of Corporate Social Principles and Practices in Addressing Problem Gambling', *Journal of Business Ethics* **33**(2), 115-144.
- Hoepner, A. G.F. and S. Zeume: 2009, 'The Dark Enemy of Responsible Mutual Funds: Does the Vice Fund Offer More Financial Virtue?', Available at:
[http://ssrn.com/abstract=1485846/](http://ssrn.com/abstract=1485846)
- Holme, L. and R. Watts: 1999, 'Making Good Business Sense', Geneva: The World Council for Sustainable Development.
- Hong, H. and M. Kacperczyk, 2009, 'The Price of Sin: The Effects of Social Norms on Markets', *Journal of Financial Economics* **93**, 15-36.
- Hull, C.E. and S. Rothenberg: 2008, 'Firm Performance: The Interactions of Corporate Social Performance with Innovation and Industry Differentiation', *Strategic Management Journal* **29**, 781-789.

- Investopedia: 2011, Available at: <http://www.investopedia.com/>
- Isle of Capri Casinos: 2011, Available at: <http://islecorp.csrroom.com/>
- Jensen, M. C. and W. H. Meckling: 1976, 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure', *Journal of Financial Economics* **3**, 305-360.
- Jo, H., T. Saha, R. Sharma, S. Wright: 2010, 'Socially Responsible Investing vs. Vice Investing', *Academic and Business Research Institute*, Available at: www.aabri.com/LV2010Manuscripts/LV10107.pdf
- Kempf, A. and P. Osthoff: 2007, 'The Effect of Socially Responsible Investing on Portfolio Performance', *European Financial Management* **13**(5), 908-922.
- Kim, I. and M. Venkatachalam: 2011, 'Are Sin Stocks Paying the Price for Their Accounting Sins?', *Journal of Accounting, Auditing and Finance* **26**(2), 415-442.
- KLD STATS Database: 2011.
- Lantos, G. P.: 1999, 'Motivating Moral Corporate Behavior', *Journal of Consumer Marketing* **16**(3), 222-233.
- Liu, Y., H. Lu and K. Veenstra: 2011, 'Is Sin Always a Sin? The Interaction Effect of Social Norms and Financial Incentives on Market Participants' Behavior', Rotman School of Management, University of Toronto, Working Paper.
- Lobe, S. and S. Roithmeier: 2008, 'Vice vs. Virtue Investing', University of Regensburg, Working Paper, August.
- McGuire, J. B., A. Sundgren and T. Schneeweis: 1988, 'Corporate Social Responsibility and Firm Financial Performance', *Academy of Management Journal* **31**(4), 854-872.
- McWilliams, A. and D. Siegel: 2000, 'Corporate Social Responsibility and Financial Performance: Correlation or Misspecification?', *Strategic Management Journal* **21**(5), 603-609.
- McWilliams, A., D. Siegel and P. Wright: 2006, 'Corporate Social Responsibility: Strategic Implications', *Journal of Management Studies* **43**(1), 1-18
- Muhamad, R., M. Saleh and N. Zulkifli: 2007, 'Corporate Social Responsibility, Corporate Financial Performance and Institutional Ownership: Evidence from Malaysia', Available at: <http://www.wbiconpro.com/02-Rushna-Dup-Malay.pdf>

- Munoz-Torres, M.J., M. A. Fernandez-Izquierdo and M. R. Balaguer-Franch: 2004, 'The Social Responsibility Performance of Ethical and Solidarity Funds: An Approach to the Case of Spain', *Business Ethics* **13**, 200.
- National Center for Injury Prevention and Control (CDC): 2011, Available at: <http://www.cdc.gov/>
- Novethic: 2011, Available at: <http://www.novethic.com/>
- Palazzo, G., U. Richter: 2005, 'CSR Business as Usual? The Case of the Tobacco Industry', *Journal of Business Ethics* **61**(4), 387-401.
- Patten, D. M.: 1991, 'Exposure, Legitimacy, and Social Disclosure', *Journal of Accounting and Public Policy* **10**(4), 297-308.
- Pava, M. and J. Krausz: 1996, 'The Association Between Corporate Social Responsibility and Financial Performance: The Paradox of Social Cost', *Journal of Business Ethics* **15**, 321-357.
- Philip Morris USA: 2011, Available at: <http://www.philipmorrisusa.com/>
- Preston, L. E. and D. P. O'Bannon: 1997, 'The Corporate Social-Financial Performance Relationship', *Business and Society* **36**, 419-429.
- Purushothaman, M., G. Tower, P. Hancock and R. Taplin: 2000, 'Determinants of Corporate Social Reporting Practices of Listed Singapore Companies', *Pacific Accounting Review* **12**(2), 101-133.
- Quelch, A. J. and K. E. Jocz: 2009, 'Can Corporate Social Responsibility Survive Recession?', *Leader to Leader* **53**, 37-43.
- Radu, L.: 2009, 'The significance of CSR and the effects of the Financial Crisis', *Revista Tinerilor Economisti (The Young Economists Journal)* **1**(12), 105-110.
- Reverte, C.: 2009, 'Determinants of Corporate Social Responsibility Disclosure Ratings by Spanish Listed Firms', *Journal of Business Ethics* **88**(2), 351-366.
- Rundle-Thiele, S., K. Ball and M. Gillespie: 2008, 'Raising the Bar: From Corporate Social Responsibility to Corporate Social Performance', *Journal of Consumer Marketing* **25**(4), 245-253.
- Salaber, J.: 2009, 'The Determinants of Sin Stock Returns: Evidence on the European Market', School of Management, University of Bath, Paris, France, Working Paper, April.

- Salama, A., K. P. Anderson and S. Toms: 2011, 'Does Community and Environmental Responsibility Affect Firm Risk? Evidence from UK Panel Data 1994-2006', *Business Ethics: A European Review* **20**(2), 192-204.
- Shank, T. M., D. Manullang and R. P. Hill: 2005, 'Doing Well While Doing Good Revisited: A Study of Socially Responsible Firm's Short-term versus Long-term Performance', *Managerial Finance* **30**(8), 33-46.
- Sharpe, W. F.: 1966, 'Mutual Fund Performance', *The Journal of Business* **39**(1b), 119-138.
- Shleifer, A.: 2004, 'Does Competition Destroy Ethical Behavior?', *American Economic Review* **94**(2), 414-418.
- Source OECD: 2011, Available at: www.sourceoecd.org/
- Stata Resources and Support: 2011, Available at:
<http://www.stata.com/support/faqs/stat/pseudor2.html/>
- Stockholm International Peace Research Institute: 2011, Available at:
<http://www.sipri.org/research/>
- Tobin, J.: 1958, 'Estimation of Relationships for Limited Dependent Variables', *Econometrica* **26**, 24-36.
- Thomson One Database: 2011
- Tsoutsoura, M.: 2004, 'Corporate Social Responsibility and Financial Performance', Haas School of Business, University of California, Berkeley, CA, U.S.A..
- U.S. Social Investment Forum: 2011, USSIF Annual Report, Available at:
<http://ussif.org/resources/sriguide/srifacts.cfm/>
- UK government web-site on Corporate Social Responsibility: 2011, Available at:
<http://www.csr.gov.uk/>
- Van de Velde, E., W. Vermeir and F. Corten: 2005, 'Finance and Accounting: Corporate Social Responsibility and Financial Performance', *Corporate Governance* **5**(3), 129-137.
- Vergalli, S. and L. Poddi: 2009, 'Does Corporate Social Responsibility Affect The Performance of Firms?', FEEM Working Paper No. 52.
- Verschoor, C. C.: 1998, 'A Study of the Link Between a Corporation's Financial Performance and its Commitment to Ethics', *Journal of Business Ethics* **17**,

1509-1516.

- Waddock, S. A. and S. Graves: 1997, 'The Corporate Social Performance - Financial Performance Link', *Strategic Management Journal* **18**(4), 303-319.
- Waller, D. S., K. S. Fam and B. Z. Erdogan: 2005, 'Advertising of Controversial Products: A Cross-Cultural Study', *Journal of Consumer Marketing* **22**(1), 6-13.
- Werther, B. W. and D. Chandler: 2006, '*Strategic Corporate Social Responsibility: Stakeholders in a Global Environment*' (SAGE Publications, California, CA, U.S.A.).
- Wikipedia: 2011, Available at: <http://www.wikipedia.com/>
- Wilson, A. and C. West: 1981, 'The Marketing of "Unmentionables"', *Harvard Business Review* **51**(1), 91-102.
- Windsor, D.: 2006, 'Corporate Social Responsibility: Three Key Approaches', *Journal of Management Studies* **43**(1), 93-114
- Wood, D. J.: 1991, 'Corporate Social Performance Revisited', *Academy of Management Review* **16**, 691-718.
- Wooldridge, J. M.: 2009, '*Introductory Econometrics: A Modern Approach*' 4th Edition (South-Western Cengage Learning).
- World Health Organization: 2011, Available at: <http://www.who.int/en/>
- Yahoo! Finance: 2011, Available at: <http://finance.yahoo.com/>
- Yoon, Y., Z. Giirhan-Canli and N. Schwarz: 2006, 'The Effect of Corporate Social Responsibility (CSR) Activities on Companies with Bad Reputations', *Journal of Consumer Psychology* **16**(4), 377-390.
- Zerk, A. J.: 2006, '*Multinationals and Corporate Social Responsibility: Limitations and Opportunities in International Law*' (Cambridge University Press, New York, NY, U.S.A.).

Table 1: KLD Ratings Indicators

Panel A		
Community		
Strengths		Concerns
Charitable Giving		Investment Controversies
Innovative Giving		Negative Economic Impact
Non-US Charitable Giving		Tax Disputes
Support for Housing		Other
Support for Education		
Volunteer Programs		
Other		
Diversity		
Strengths		Concerns
CEO		Controversies
Promotion		Non-Representation
Board of Directors		Other
Work/Life Benefits		
Women & Minority Contracting		
Employment of the Disabled		
Gay and Lesbian Policies		
Other		
Employee Relations		
Strengths		Concerns
Union Relations		Union relations
Cash Profit Sharing		Health and Safety
Employee Involvement		Workforce Reductions
Health and Safety		Retirement benefit
Other		Other
Environment		
Strengths		Concerns
Beneficial Product and Services		Hazardous Waste
Pollution Prevention		Regulatory Problems
Recycling		Ozone Depleting Chemicals
Clean Energy		Substantial Emissions
Management Systems		Agricultural Chemicals
Other		Climate Change
		Other
Human Rights		
Strengths		Concerns
Indigenous Peoples Relations		Burma
Labor Rights		Labor Rights
Other		Indigenous Peoples Relations
		Other
Product		
Quality		Safety
R&D/Innovation		Marketing/Contracting Concern

Benefits to Economically Disadvantaged		Antitrust
Other		Other
Panel B		
Corporate Governance		
Strengths		Concerns
Limited compensation		High compensation
Ownership		Ownership
Transparency		Accounting concern
Political accountability		Transparency
Other		Political accountability
		Other

Table 2: Sampling

Year/Industry	ALCOHOL	GAMBLING	TOBACCO	FIREARMS	MILITARY	NUCLEAR	Total	Multiple Sectors	Overall
KLD STATS									
2003	15	35	20	5	94	35	204	8	196
2004	19	39	20	5	90	27	200	9	191
2005	20	39	18	5	83	37	202	11	191
2006	24	44	18	4	81	36	207	9	198
2007	21	41	16	6	80	41	205	10	195
2008	17	39	12	5	96	44	213	12	201
2009	16	38	12	6	97	45	214	12	202
Our Sample									
2003-2009	6	19	6	4	56	23	114	5	109

Table 3: KLD Ratings of Controversial Business Issues

ALCOHOL	
<i>Licensing.</i>	The company licenses its company or brand name to alcohol products.
<i>Manufacturers.</i>	Companies that are involved in the manufacture alcoholic beverages including beer, distilled spirits, or wine.
<i>Manufacturers of Products Necessary for Production of Alcoholic Beverages.</i>	Companies that derive 15% or more of total revenues from the supply of raw materials and other products necessary for the production of alcoholic beverages.
<i>Retailers.</i>	Companies that derive 15% or more of total revenues from the distribution (wholesale or retail) of alcoholic beverages.
<i>Ownership by an Alcohol Company.</i>	The company is more than 50% owned by a company with alcohol involvement.
<i>Ownership of an Alcohol Company.</i>	The company owns more than 20% of another company with alcohol involvement. (When a company owns more than 50% of company with alcohol involvement, KLD treats the alcohol company as a consolidated subsidiary.)
GAMBLING	
<i>Licensing.</i>	The company licenses its company or brand name to gambling products.
<i>Manufacturers.</i>	Companies that produce goods used exclusively for gambling, such as slot machines, roulette wheels, or lottery terminals.
<i>Owners and Operators.</i>	Companies that own and/or operate casinos, racetracks, bingo parlors, or other betting establishments, including casinos; horse, dog, or other race tracks that permit wagering; lottery operations; on-line gambling; pari-mutuel wagering facilities; bingo; Jai-alai; and other sporting events that permit wagering.
<i>Supporting Products or Services.</i>	Companies that provide services in casinos that are fundamental to gambling operations, such as credit lines, consulting services, or gambling technology and technology support.
<i>Ownership by a Gambling Company.</i>	The company is more than 50% owned by a company with gambling involvement.
<i>Ownership of a Gambling Company.</i>	The company owns more than 20% of another company with gambling involvement. (When a company owns more than 50% of company with gambling involvement, KLD treats the gambling company as a consolidated subsidiary.)
TOBACCO	
<i>Licensing.</i>	The company licenses its company name or brand name to tobacco products.
<i>Manufacturers.</i>	The company produces tobacco products, including cigarettes, cigars, pipe tobacco, and smokeless tobacco products.
<i>Manufacturers of Products Necessary for Production of Tobacco Products.</i>	The company derives 15% or more of total revenues from the production and supply of raw materials and other products necessary for the production of tobacco products.
<i>Retailers.</i>	The company derives 15% or more of total revenues from the distribution (wholesale or retail) of tobacco products.
<i>Ownership by a Tobacco Company.</i>	The company is more than 50% owned by a company with tobacco involvement.
<i>Ownership of a Tobacco Company.</i>	The company owns more than 20% of another company with tobacco involvement. (When a company owns more than 50% of company with tobacco involvement, KLD treats the tobacco company as a consolidated subsidiary.)

FIREARMS	
<i>Manufacturers.</i>	The company is engaged in the production of small arms ammunition or firearms, including, pistols, revolvers, rifles, shotguns, or sub-machine guns.
<i>Retailers.</i>	The company derives 15% or more of total revenues from the distribution (wholesale or retail) of firearms and small arms ammunition.
<i>Ownership by a Firearms Company.</i>	The company is more than 50% owned by a company with firearms involvement.
<i>Ownership of a Firearms Company.</i>	The company owns more than 20% of another company with firearms involvement. (When a company owns more than 50% of company with firearms involvement, KLD treats the firearms company as a consolidated subsidiary.)
MILITARY	
<i>Manufacturers of Weapons or Weapons Systems.</i>	Companies that derive more than 2% of revenues from the sale of conventional weapons or weapons systems, or earned \$50 million or more from the sale of conventional weapons or weapons systems, or earned \$10 million or more from the sale of nuclear weapons or weapons systems.
<i>Manufacturers of Components for Weapons or Weapons Systems.</i>	Companies that derive more than 2% of revenues from the sale of customized components for conventional weapons or weapons systems, or earned \$50 million or more from the sale of customized components for conventional weapons or weapons systems, or earned \$10 million or more from the sale of customized components for nuclear weapons or weapons systems.
<i>Ownership by a Military Company.</i>	The company is more than 50% owned by a company with military involvement.
<i>Ownership of a Military Company.</i>	The company owns more than 20% of another company with military involvement. (When a company owns more than 50% of company with military involvement, KLD treats the military company as a consolidated subsidiary.)
NUCLEAR POWER*	
<i>Construction & Design of Nuclear Power Plants.</i>	The company designs, engineers, and constructs nuclear power plants and nuclear reactors for use in nuclear power plants; including companies that design nuclear reactors and engineer and/or construct nuclear power plants.
<i>Nuclear Power Fuel and Key Parts.</i>	The company supplies nuclear fuel material and key parts used in nuclear plants and reactors. Fuel includes mining of uranium and conversion, enrichment, and fabrication of uranium. Key parts include manufacture or sale of specialized parts for use in nuclear power plants including but not exclusive to steam generators, control rod drive mechanisms, reactor vessels, cooling systems, containment structures, fuel assemblies, and digital instrumentation & controls.
<i>Nuclear Power Service Provider.</i>	The company is involved in the transport of nuclear power materials and nuclear plant maintenance.
<i>Ownership of Nuclear Power Plants.</i>	The company has an ownership interest or operates nuclear power plant(s). Does not include publicly traded companies that are an owner or operator of a nuclear plant that has shut down and is being decommissioned.
<i>Ownership by a Nuclear Power Company.</i>	The company is more than 50% owned by a company with nuclear power involvement.
<i>Ownership of a Nuclear</i>	The company owns more than 20% of another company with nuclear

<i>Power Company.</i>	power involvement. If company ownership of company with nuclear power involvement is greater than 50%, KLD treats subsidiary as a consolidated subsidiary.
<i>Construction & Design of Nuclear Power Plants</i>	The company derives identifiable revenues from the design of nuclear power plants. This category does not include companies providing construction or maintenance services for nuclear power plants. This was instated in 2005.
<i>Nuclear Power Fuel and Key Parts</i>	The company mines, processes, or enriches uranium, or is otherwise involved in the nuclear fuel cycle. Or, the company derives substantial revenues from the sale of key parts or equipment for generating power through using nuclear fuels. This was instated in 2005.

* The rating does not include companies that store, dispose, or reprocess nuclear fuel waste nor does it include manufacturers of general power plant parts unless the part is specifically and uniquely made for the production of nuclear power.

Table 4: Descriptive Statistics for the Dependent and Independent Variables

Panel A. Descriptive statistics for the dependent variable (CSR) between 2003 and 2009					
Year	Mean	Median	Std. Dev.	Minimum	Maximum
2003	-.77	-1	1.99	-9	6
2004	-.79	-1	2.04	-8	7
2005	-.82	-1	2.33	-8	8
2006	-.74	-1	2.50	-7	11
2007	-.77	-1	2.56	-7	13
2008	-.88	-1	2.62	-7	11
2009	-1	-1	2.41	-7	10
All years	-.83	-1	2.32	-9	13
Panel B. Descriptive statistics for the explanatory variables					
Variable	Mean	Median	Std. Dev.	Minimum	Maximum
CGOV	-.20	0	.9	-3	3
ROA	6.03	5.8	6.28	-43.72	47.48
R&D	2.34	.37	4.12	0	26.15
BETA	1.17	1.1	.68	0	3.48
INST	75.81	80.1	19.83	0	99.99
LIT	.21	0	.41	0	1
SIZE	8.34	8.4	1.74	4.06	13.59
COMP	.10	.01	.19	0	.96
VIS	405.66	79	1347.45	0	14309

Variable definition:

CSR	=	CSR performance measure, defined based on KLD STATS,
CGOV	=	Corporate governance measure; it is equal to the number of strengths minus the number of concerns in the Corporate Governance qualitative issues area provided by KLD STATS,
ROA	=	Return on assets, measured as the ratio of income before extraordinary items over total assets,
R&D	=	Research & development, defined based on COMPUSTAT GLOBAL,
BETA	=	Market risk, relationship between stock volatility and the market volatility,
INST	=	Institutional ownership, percent of total shares outstanding held by institutions,
LIT	=	Litigation, coded 1 if a firm has material legal proceedings, 0 otherwise,
SIZE	=	Natural logarithm of total assets,
COMP	=	Competition, measured by the Herfindahl-Hirschman index,
VIS	=	Visibility measure, defined by the number of major headline world publications.

Table 5: Correlation Matrix

Var	CSR	CGOV	ROA	R&D	BETA	INST	LIT	SIZE	COMP	VIS
CSR	1.000									
CGOV	.0607	1.000								
ROA	.0620	.0662	1.000							
R&D	.2603***	-.0709	.0194	1.000						
BETA	.1333***	-.1256***	-.1103**	.1315***	1.000					
INST	.0103	-.1237***	.0561	.2887***	.2103***	1.000				
LIT	.0050	-.1243***	-.0069	.0663	.0231	.1164**	1.000			
SIZE	-.0809*	-.1802***	-.0814*	-.2189***	-.0357	.0377	.3051***	1.000		
COMP	-.0189	.0496	-.1129**	-.0948**	-.1030**	.0154	.0221	.1132**	1.000	
VIS	.1049**	-.1080**	-.0140	.0421	.0232	.0531	.2503***	.3440***	-.0009	1.000

*indicates significance at the 5% level; **indicates significance at the 1% level; ***indicates significance at the 0.1% level

Variable definition:

- CSR = CSR performance measure, defined based on KLD STATS,
- CGOV = Corporate governance measure; it is equal to the number of strengths minus the number of concerns in the Corporate Governance qualitative issues area provided by KLD STATS,
- ROA = Return on assets, measured as the ratio of income before extraordinary items over total assets,
- R&D = Research & development, defined based on COMPUSTAT GLOBAL,

- BETA = Market risk, relationship between stock volatility and the market volatility,
INST = Institutional ownership, percent of total shares outstanding held by institutions,
LIT = Litigation, coded 1 if a firm has material legal proceedings, 0 otherwise,
SIZE = Natural logarithm of total assets,
COMP = Competition, measured by the Herfindahl-Hirschman index,
VIS = Visibility measure, defined by the number of major headline world publications.
-

Table 6: Tobit Regression

Variables	Coef.	Std. Err.	t	P> t	95% Conf. Interval	VIF	
Dep. Var: CSR							
(Constant)	-.663	.663	-1.00	.318	-1.965	.639	
CGOV	.291	.112	2.60	.009	.071	.510	1.50
ROA	.015	.017	.87	.382	-.018	.048	1.15
R&D	.125	.032	3.88	.000	.062	.188	2.03
BETA	-.156	.139	-1.12	.264	-.429	.118	1.99
INST	-.012	.004	-3.20	.001	-.020	-.005	1.65
LIT	-.211	.227	-.93	.353	-.655	.234	1.24
SIZE	.164	.071	2.31	.021	.024	.304	2.45
COMP	.292	.441	0.66	.508	-.574	1.158	1.20
VIS	.000	.000	2.15	.032	.000	.000	1.41
/SIGMA	2.007	.075			1.859	2.155	
Year Dummies						Included	
Industry Dummies						Included	

Model summary statistics:

Number of observations = 763
 Log pseudolikelihood = -1613.72
 F(32, 731) = 8.64
 Model F(p) = .0000
 Pseudo R² = .0647

Variable definition:

- CSR = CSR performance measure, defined based on KLD STATS,
 CGOV = Corporate governance measure; it is equal to the number of strengths minus the number of concerns in the Corporate Governance qualitative issues area provided by KLD STATS,
 ROA = Return on assets, measured as the ratio of income before

- extraordinary items over total assets,
R&D = Research & development, defined based on COMPUSTAT GLOBAL,
BETA = Market risk, relationship between stock volatility and the market volatility,
INST = Institutional ownership, percent of total shares outstanding held by institutions,
LIT = Litigation, coded 1 if a firm has material legal proceedings, 0 otherwise,
SIZE = Natural logarithm of total assets,
COMP = Competition, measured by the Herfindahl-Hirschman index,
VIS = Visibility measure, defined by the number of major headline world publications.
-