Institutions as Determinant Factors of Corporate Responsibility Strategies of Multinational Firms

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ABSTRACT

This article examines whether the relative market value and corporate responsibility (CR) performance of multinational corporations (MNCs) that comply with rigorous international standards are explained by the degree of institutional development, the capitalist model of the country of origin, and the industrial sector in which the MNCs operate. Based on a sample of 336 MNCs from 24 countries included in the Dow Jones Sustainability Index and the FTSE4Good Index, we find that the corporate social responsibility (CSR) strategy among large MNCs is primarily determined by the capitalist (and institutional) model of their country of origin and the sector of activity in which such firms operate. Namely, more than four-fifths of the firms belong to globally integrated sectors. In general, MNCs perform a global (integrated) CR strategy. Copyright © 2012 John Wiley & Sons, Ltd and ERP Environment.

Introduction

THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY (CSR) ADOPTED BY THE COMMISSION OF THE EUROPEAN COMMUNITIES (2001, 2006) considers the integration of social and environmental concerns in business operations on a voluntary (*vs* regulatory) basis. Besides economic and legal obligations, corporate responsibility (CR) implies ethical and philanthropic responsibility according to the established norms and values of the society (Carroll, 1979). We assume that CR actions, which include programs and strategies, are voluntary corporate initiatives aimed at improving the social and environmental impact of a company's business activities. We use the term corporate responsibility (CR) instead of corporate social responsibility (CSR). CR is a more accurate term, and it embraces the three dimensions of sustainability: economic, environmental and social criteria.

Because the roles and responsibilities of states, markets, and civil society vary among different models of contemporary capitalism (Pauly and Reich, 1997; Whitley, 1999; Amable, 2006), a country's legal and political system and its economic and social structure affect corporate strategies. As such, nationality and institutional environment matter for understanding CR. In addition, CR practices have a strategic dimension (Lamberti and Letteri, 2009). Therefore, institutional analysis – both at the micro and macro level – provides insight into complexities of the contemporary global economy and the relational role of the CR strategies of the world's major MNCs (Dunning and Lundan, 2008).

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We assume that there is not a direct relationship between financial performance and CR, but an indirect exception though intermediate variables (Surroca *et al.*, 2010). We refer to these intermediate variables as intangible specific assets of the firm, such as reputation, human capital, innovation and culture, in the article cited.[1]

Our motivation is to examine whether the financial performance related to CR strategies of MNCs that comply with rigorous international standards is dependent on the degree of institutional development, the capitalist model of the country of origin, and the industrial sector in which the firms operate. First, using a sample of 336 MNCs from 24 countries, we examine whether CR performance of MNCs that comply with rigorous international standards is dependent on the degree of institutional development and the capitalist model of the country of origin. Second, we analyze the industrial sector in which the firms operate. Although Husted and Allen (2006) reported that multi-domestic MNCs are more likely to address local CR issues, we find that MNCs operating in global industries are more likely to follow a global CR strategy that reinforces the institutional demands of the firm's country of origin. Specifically, our empirical results show that CR strategy is influenced by the capitalist and institutional model of a firm's country of origin. Within this context a firm can adopt a responsible identity that leads to a desired image and reputation (Heikkurinen and Ketola, 2012).

In this paper, we initially have assumed that the dependent variable (Market Capitalization CRI /GDP) is indirectly influenced by the competitive advantages of firms (specific intangible assets) and by CR strategies by MNCs. Also we assume that institutions themselves influence firms' strategies though regulation, and normative and cognitive channels. These influential aspects combined with firms' specific norms and values become a catalyst for the firm's decision-making processes, with influences in the CR strategies that can be transferred to host countries.

The remainder of the study is structured as follows. First, we point out the main forces that underline the election of a CR strategy (global *vs* multi-domestic). Second, we review the literature concerning the relation between CR and economic systems. Then, we lay the foundation for and test the research question on the relation between CR strategy and economic and industrial environment. Finally, we draw our main conclusions from the analysis.

Toward a Global CR Strategy

The main MNCs are highly diversified both geographically and industrially. This type of MNC is vertically and horizontally aligned with an international network of subsidiaries located in different environments including economic, legal, political, and social. Depending on the environment, the MNC is subject to different legal rules as well as to different sets of values and social norms and economic structures. While a specific activity may be regulated or considered acceptable in one country, it may not be in another one. Also, some countries are more institutionally developed than others. In other words, the definition of voluntarily application of what may be included in a specific CR program differs among countries, especially between developed and less developed countries. However, the global nature of many social and environmental issues necessitates globally integrated strategies especially because activities in one country can have implications for stakeholders in other countries. Forces that act toward a centralized and global CR strategy include operating in country of origin that is more developed, a widespread demand for CR, and the growing standardization of measures and criteria of responsibilities issues.

At one extreme, if an MNC adapts its CR strategy to the specific circumstances of the host country (or region) in which its subsidiaries are located, it chooses to follow a multi-domestic strategy. At the other extreme, following an efficiency-seeking strategy, an MNC can follow a global or integrated approach. Firms that operate in global industries follow global strategies that should be supported by the standardization of responsibility policies. This approach is consistent with the idea of the centralization of CR disclosure criteria. However, even as a centralized strategy in which CR as a concept is globally accepted and understood, the launch of a CR program is still strongly influenced by the economic, legal, social, and political context in which the firm is located as well as by the firm's sector of activity.

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[1]Given the empirical results and the literature review Margolis and Walsh (2003) it can be pointed out the necessity of development models that incorporate moderator variables. Melo and Garrido-Morgado (2012) suggest that CR is a key driver of corporate reputation and this impact is moderated by the industry of the firm.

The global strategy is based on standardization and centralization to achieve cost advantages derived from economies of scale. It involves an efficient transmission of proactive CR practices throughout an MNC's worldwide subsidiaries network (Roth and Morrison, 1992). On the other hand, a multi-domestic strategy is based on the adaptation to local environment (i.e. country, market), giving autonomy to the subsidiaries to develop their own CR program. It is based on differentiation for local demands. A beneficial relationship with local stakeholders means that CR is contextual and locally responsive. However, a widely geographically diversified MNC is likely to be faced with a range of potentially conflicting stakeholders and thus subject to divergent pressures from both home and abroad, particularly when development levels differ (Van Tulder and Kolk, 2001). Decentralized policies in countries with the lowest CR standards and less public pressure might influence subsidiaries to lower the standard of their (*ad hoc*) policies rather than raise them to the higher standards of the MNC's country of origin. Thus, multiple local strategies may lead to divergent approaches (and levels of quality) within the same MNC. If an MNC's CR program is fragmented and inconsistent among its subsidiaries, tensions can arise within the organization. In addition, a lack of clear communication of responsibility between headquarters and subsidiaries may result in subsidiaries adopting CR approaches that tend toward the minimum host country requirements (Christmann, 2004).

Cultural differences and pressures from the economic and institutional framework of the subsidiary's environment may influence an MNC's CR strategy. Culture is a set of shared values, goals, attitudes, and practices that characterize a group of people, institutions, and organizations, and these values and attitudes vary in important ways around the world (Schwartz, 1994; Brouthers and Brouthers, 2001; Hofstede, 2001). The MNCs' governance structure may also be affected across countries (Kiel *et al.*, 2006). Aguilera *et al.* (2009) report a negative correlation between institutional distance and the standardization of MNC's CR, especially in environmental strategies. In general, MNCs that operate in countries with high institutional distance among subsidiaries require local adaptation of their CR strategies (Kostova, 1999; Kostova and Roth, 2002).

MNCs, by definition, have relationships with stakeholders locally in their country of origin and abroad in the other countries in which they operate. In addition, they interact with global stakeholders, such as non-governmental organizations (NGOs), international investors, and other MNCs, who may hold an interest in the whole and the parts of an MNC. As a result, stakeholder groups may overlap among different countries. For example, trade unions (networks) and customers or consumer groups in developed countries may expect MNCs to apply the same or similar social and environmental standards in the subsidiaries' host countries and in the MNCs' global supply chains as they do in their country of origin. For example, stakeholders that are relevant to corporate governance of the MNC home office have more influence on the CR policies of the host country's subsidiaries than local stakeholders themselves (Aguilera and Yip, 2004). Stakeholders in one country may also decide to take action on behalf of stakeholders in other countries in relation to certain policies related to CR (e.g. child labor, environmental issues). In addition, international matters may lead to conflicts among different stakeholder groups.

The public concern for issues such as climate change, labor standards, and human rights has grown enormously recently. The attention received by these international issues has placed increasing pressure on MNCs to standardize their CR approaches and to centralize their CR strategy design and decision-making. The provision for global public good such as environmental protection (i.e. climate, water, biodiversity, health, financial, political stability, security) requires cooperative and coordinated approaches of CR among international institutions, governments, firms, and civil society. Conflicts between MNCs and local communities are a result of the confluence of interrelated factors such as stakeholders' power inequality, stakeholders' perception gap, and the cultural context (Calvano, 2008).

Main MNCs from different countries listed in indices – Dow Jones Sustainability Index (DJSI) and FTSE4Good Index – that demand rigorous requirement measures for CR achievement may experience some type of determinism in their strategies. The international and MNCs selected for the indices have audited their social and environmental performances and, given their geographical scope, are more exposed to being watched by NGOs and the media (Bendell, 2000).

NGOs, international media, and other international organizations[2] demand that MNCs adhere to internationally approved standards to avoid green washing and social dumping. Thus, companies are evaluated based on standardized principles and criteria. Expanding international standards may lead to harmonization of CR practice to higher levels of decision-making (Muller, 2006).

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[2]International institutions promote principles and guidelines such as the UN Global Compact, International Labour Organization, Organisation for Economic Co-operation and Development (OECD), ISO14000, S8000, AA1000, and Global Initiative Reporting.

A transnational strategy is based on the need to respond simultaneously to local differences while also operating within a global vision that takes advantage of economies of scale and scope. A transnational approach respects the cultural and competitive diversity found within the complex economic, institutional, and industrial frameworks in which MNCs operate, thereby lowering subsidiaries' resistance to standardization. At the same time, MNCs implement a centralized CR strategy within an organizational structure that enhances global integration and coordination (Christmann, 2004).

Economic and Institutional Contexts and CR Performance

An institutional theory of CR consists of a series of propositions specifying the conditions under which corporations are more or less likely to behave in socially responsible ways (Campbell, 2007). Institutional theory assumes that the strategies of firms are embedded in the institutional context of their home country are influences by the 'rules of the game' that formally and informally enforced by government and its agents. Institutions influence the firms' strategies though regulative, normative and cognitive channels (Scott, 1995, 2002). Namely, institutional factors affect strategy (Dunning and Lundan, 2008; Peng *et al.*, 2008). As a result, MNCs' strategic decisions reflect the institutional environments from their country, (Cheng *et al.*, 2009). Also, the 'institutional imprinting' of firms together with firm-specific norms and values guiding the firm's decision-making constitute institutional ownership advantages (Dunning and Lundan, 2008) that can be transferred to host countries and can influence the institutional development of the host countries (Cantwell *et al.*, 2010). Meanwhile Ramachandran (2011) defines strategic CR on the basis of Porter's theory of competitive advantage.

Contemporary capitalist models differ in their conceptualization of the roles and responsibilities of the state, the market, the business sector, and civil society. We differentiate between two main capitalist models (Hall and Soskice, 2001; Amable, 2006): liberal and regulated. The legal traditions (common law and civil law) differ in their degree of adaptability to societies' evolving needs (Posner, 1973). The liberal-capitalist (common law) relies mainly on free market rules and creditor rights, and the regulated-capitalist (civil law) model is widely based on relational transactions, with an emphasis on networking interrelationships. Hence, whereas the liberal-capitalist system is based primarily on the invisible hand (of the market), in the regulated-capitalist system, the hand is visible and relational capital networks are at play. Table 1 summarizes the most distinct features of the liberal-capitalist and the regulated-capitalist economic systems.

	Liberal model	Regulated model
Legal system	Common law (jurisprudence)	Civil law (social codes)
Financial markets	Capital market	Credit (intermediated) market
Ownership of Firms	Disperse	Concentrated
Main agency problem	Shareholders vs. Managers	Main shareholders vs. Minority shareholders
Creditor/investors protection	More protected	Less protected
Consumer perception of the responsibility of firms	Economic responsibility	Legal responsibility
Corporate responsibility	Performance-oriented (more rigorous requirements)	Process-oriented (soft requirements)
Uncertainty avoidance (risk, reduction capabilities)	Less avoidance	More avoidance
Main countries	United States, United Kingdom, India	Continental Europe (France, Germany, Spain, Portugal, Italy, etc.)

Table 1. Comparative economic system

Countries following the Anglo-Saxon tradition of common law have less intervention within their financial systems, more developed capital markets, and legal systems strongly based on jurisprudence. Countries following the tradition of civil law have more intervention within their financial systems, heavily weighted credit (intermediated market), and legal systems based on primarily on codes of conduct. Civil law countries tend to cater to the rights of the state rather than property rights as in common law countries (La Porta et al., 1999). Common law countries with strong minority shareholder protection tend to have market-based systems (Demirguc-Kunt and Levine, 1999). Weak investor protection laws are correlated with the lack of contract enforcements and with a high relevance of banks, because they serve as good monitors that can internalize the transactions and enforce contracts extrajudicially (Boot and Thakor, 1997; Rajan and Zingales, 2003). The geographical diversity of MNCs means greater variation in legal systems and other nonmarket institutions. Using data on financial systems across a large cross section of 41 countries, Kwok and Tadesse (2006) find that legal system variables are statistically significant in differentiating countries with different financial systems.

Common law countries have more developed capital markets and a more dispersed ownership structure among firms; therefore, the main agency problem is between shareholders and managers. In civil law nations, the main agency problem is between large and minority shareholders. Very high ownership concentration permits large shareholders to use their voting power to extract private benefits from small shareholders (Morck et al., 2005; Ruiz and Santana, 2009). High ownership concentration has negative effects on external and minority shareholders and on investor protection (La Porta et al., 1997, 1998, 2000; Egungor, 2004). In more liberal economies investors are more protected (Djankov et al., 2008). Conversely, in some complex structures, most often found in continental Europe and Asia, control is frequently applied through pyramidal structures so that the actual owners or controllers of firms are difficult to decipher (Levy, 2009). In these countries, banks (credit institutions) play large role, acting simultaneously as both lenders and shareholders. In common law countries, institutional investors can help to reduce the managerial discretionary problem (Crutchley et al., 1999).[3]

Assuming that nationality matters, and that there is a positive relationship between CR and the national context, we do not have a generally established method that can be used in comparative studies. Some attempts have been made, although they cover very few countries (Maignan and Ralston, 2002; Brammer and Pavelin, 2005; Lattemann et al., 2009). However, Gjølberg (2009) has developed two indices: one measuring CR practices and one measuring CR performance in 20 OECD nations, revealing striking differences between them.

Maignan and Ralston (2002) identify significant differences between the United States and European countries in their performances in CR. Their empirical research of 400 companies located in the United States, the United Kingdom, France, and the Netherlands shows that 66% and 53% of the sampled USA and UK companies, respectively, state their CR programs on their Web sites, whereas only 29% and 25% of the sampled French and Dutch companies, respectively, list their CR policies online. Consequently, Maignan and Ralston point to the differences between the Anglo-Saxon- and French-derived financial systems. In the same way Brammer and Pavelin (2005), while studying the corporations' contribution to society, found out that contributions by American corporations' were more than ten times as significant as the contributions by English corporations. Mio and Venturelli (2012) found differences between the UK (with a common law system and much more evolved in terms of sustainability) and Italy (with a civil law system and a culture is less prone to disclosure).

Despite globalization, MNCs continue to be embedded in their country of origin's national business systems (Sorge and Harzing, 2003). However, Ho and Taylor (2007) investigate the economic, social, and environmental disclosure practices of the 50 largest US and Japanese firms and find that the reporting is greater for Japanese firms (environmental disclosure is the key driver). According to these authors, the result can be attributed to the difference in national culture, the regulatory environment, and other institutional factors. Nonetheless, their conclusion is not consistent with prior studies (Ball et al., 2000) find that common law countries, which rely more on equity financing, tend to disclose more public information about firm activities (mostly economic disclosure).

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[3]By the middle of the 1990s, institutional investors (insurance companies, pension funds, investment funds) held more than 75% of the shares of British nonfinancial firms, while in France and Germany, institutional investors held 59% and 39% of nonfinancial firms, respectively (Gillan and Starks, 2002).On the other hand, Ahmed et al. (2012) examine the relationship between institutional investment and corporate social performance (CSP) of 152 firms listed in Dhaka Stock Exchange in Bangladesh using cross-sectional data. The results of the study indicate that CSP has a positive but insignificant relationship with institutional investments.

In part, motivated by institutional and stakeholder pressures, firms are increasingly disclosing information about the social, environmental, and economic implications of their activities. Focusing on three main mechanisms (size effects, structural effects, and skills and technology effects) through which MNCs affect host countries, Fortanier and Kolk (2007) examine which of the 250 largest firms worldwide are most likely to disclose information using these mechanisms. They find that disclosure is influenced by region, sector, and size but not by profitability.

Differences also exist among countries how consumers perceived the importance firms' legal, economic, and ethical responsibility. According to Maignan (2001), US consumers place economic responsibility at the top of their list, the French emphasize firms' legal responsibility, and Germans place importance on both the legal and ethical responsibilities of firms.

Besides the common law and civil law models, some authors also highlight a Nordic or Scandinavian model. The Nordic countries are the most advanced in terms of extensive social and environmental public policies and strong political culture (Ferrera, 1998) as well as strong consensual and corporatist traditions (Siaroff, 1999). These countries show close, cooperative, and consensual relationships among the state, business and labour sectors, with a long tradition of involving civil society in policy making (Gjølberg, 2007).

In a recent study, Jackson and Apostolakou (2010) investigate the influence of different institutional environments on CR policies of European firms and find that firms located in more liberal economies score higher on most dimensions of CR than firms operating in more coordinated market economies. Specifically, regulated (liberal) market economies have more implicit (explicit) CR practices with less (more) transparency demands from society (Matten and Moon, 2008).

Method and Data

To test our research question, first we examine whether the relative market value and CR performance of MNCs that comply with rigorous international standards are explained by the degree of institutional development and the capitalist model of the country of origin. Second, we analyze the industrial sector in which the firm operates. We select 336 MNCs from 24 countries and define the CR level of any country by the relative performance of its companies listed in the DJSI and FTSEGood Index. Our empirical analysis is based on the Dow Jones Sustainability Index (DJSI; Dow Jones Indexes, 2009) and the FTSE4Good Index (FTSE, 2009). The FTSE4Good Index includes 666 companies from 23 different countries and the DJSI embraces 320 companies belonging to 26 different countries. These indices incorporate companies that provide the best practices of CR in their respective industries, providing a benchmark in relation to sustainability criteria; out of them we create a single index that we call CRI.

The FTSE4Good is a family of indices that assess environmental sustainability, relationship with stakeholders, human rights observance, supply chain quality assurance, and anti-bribery practices. It excludes firms related to the tobacco industry, weaponry manufacturing, nuclear energy utilities, and uranium mining. The DJSI takes into account several weighted criteria assigned in three dimensions: economic, social, and environmental. This index is created based on the answers to a questionnaire designed specifically for each industrial sector as well as sustainability reports, environmental reports, health and safety reports, corporate social climate enquiries, annual reports, special reports (e.g. human capital management, corporate governance, research and development), the corporate Web page, and other internal documents. Once a company is listed on the DJSI, a corporate sustainability monitoring committee surveys the firm on a daily basis to identify and assess any bad contingency that might impair its corporate reputation. Specifically, the committee surveys commercial practices, human resources violation, layoffs and labour conflicts, and accidents.

We conduct some preliminary tests examine the robustness of our data. Specifically, we test the statistic correlation between the DJSI and the FTSE4Good Index, which we find to be 0.95. Given this high correlation between the indexes, we use data from the FTSE4Good Index to supplement the DJSI for those countries with no presence in the DJSI. To do so, we use the inverse of the adjustment coefficient (quadratic minimums). This adjustment affects Greece (eight companies), New Zealand (six companies), Austria (four companies), and Singapore (four companies). Appendix A provides the information on the number of MNCs for each index for every country included in the study.

To optimize the functionality of the results by making them easily comparable, the selection of the variables follows recent trends (La Porta *et al.*, 1998; Rajan and Zingales, 1998, 2003). Namely, we minimize the dispersion of the number and nature of variables. The sample of MNCs homogeneously displays large market capitalization, ease of access to information, and a high representation of the different principal economic models of the countries of origin. We run a cluster analysis with a number of selected variables from our sample of MNCs. We then group countries with analogous features to assess why some economic systems are more favourable to CR.

We use cluster and analysis of variance (ANOVA) methods, following Henriques and Sadorsky (1999) and Buysse and Verbeke (2003), who study the link between the commitment of firms to environmental protection and stockholder awareness. Within this framework, we test our research question: Namely, are the relative market value and CR performance of MNCs that comply with rigorous international standards explained by the degree of institutional development and the capitalist model of the country of origin? Next, conscious of differences among industrial sectors of activity regarding their implications for society and local communities and, consequently, in the demand for local responsiveness versus centralization of strategies, we extend our study to determine whether the sector of activity influences the CR strategy of MNCs.

To test our research question, we first identify cluster nations into economic systems (or geo-economic[4] world areas), generated by listed corporations that features homogeneous performance with regards to CR. We use cluster analysis running the minimum variance Ward's hierarchy algorithm for the standardized chosen variables by minimizing the sum of squares (Mehra, 1996; Nath and Gruca, 1997; Veliyath and Ferris, 1997; Short *et al.*, 2002; Castellaci and Archibugi, 2008).

This statistical analysis can be scrutinized because it presumes that these clusters exist. To overcome this criticism, we impose two restraints for any valid number of clusters: (a) The number of groups must verify at least 65% of the total variance, and (b) a new group is only valid if its addition verifies an improvement of at least 5% on the total variance (Harrigan, 1985; Fiegenbaum and Thomas, 1990). We also explore the relation between the dependent variable (market capitalization DJSI/gross domestic product [GDP]) and the independent variables with a regression model; the result validates the selection of these variables.

Ethical behavior, as a source of firm reputation, is valued by capital markets (Brickley *et al.*, 2002). At the same time, firms with high levels of consumer satisfaction and that have a positive relation with CR, are able to generate more cash flows and reduce their future volatility, which results in greater market value for the firm (Srivastava *et al.*, 1998; Anderson *et al.*, 2004; Gruca and Rego, 2005). Prior literature also finds a direct relation between high standards for CR performance and high market capitalization (Gompers *et al.*, 2003). In this line the results of Amato and Amato (2012) provide evidence of a positive impact on stock values from favourable environmental recognition.

Table 2 provides all variables and their definitions. We define the dependent variable of market capitalization CRI/GDP as the sum of the market capitalization of the sample MNCs listed in Corporate Responsibility Indexes divided by the GDP of each country. We select the following as independent variables. Foreign Direct Investment (FDI) outward stock/GDP is a measure of the outward stocks of FDI over GDP in selected countries. This variable recognizes that the international scope of the company is a factor that can influence the CR strategy adopted by the MNC. The Index of Economic Freedom (IEF) measures the degree of intervention in the economy of each country. The Human Development Index (HDI) provides comparative measures among countries for life expectancy, illiteracy, educational, and living standards. It serves as a proxy for development by measuring factors for which GDP growth does not account. As a measure of human welfare (quality of life), it is directly related to CR performance. Along the same line, we also include the Gini Index, which measures income inequality. The variable Creditor Rights (CR) measures the level of protection of the financial stakeholders that, together with shareholders, provide the MNCs' financial resources. Finally, we include the Political Constraint Index (POLCON) as a measure of political risk for investment purposes and for predicting policy variability more generally. It acts as a proxy for the degree of arbitrary decision by the political power of countries. The index uses quantitative data on the number of independent branches of administrative government with veto power over policy change and the distribution of preferences of those with veto powers. We analyze these data

[4]A combination of different international economic and political factors relating to or influencing on nation or region.

Variable	Definition
Market Capitalization CRI /GDP (MC CRI /GDP)	For a given country, the sum of the market capitalization of its companies listed in CR Indexes divided by the gross domestic product (GDP). It serves as a proxy to the contribution of CR plainly -oriented companies to the national GDP. Source: Dow Jones Indexes (2009), FTSE (2009), and International Monetary Fund (2009).
FDI Out/GDP (Foreign Direct Investment Outward Stock /GDP)	This index presents aggregated outward stocks of foreign direct investment (FDI) over GDP in selected countries. Source: United Nations Conference on Trade and Development (2009) and International Monetary Fund (2009).
IEF (Index Economic Freedom)	Embraces 50 economic variables characterized in 10 different categories: commercial policy, taxation, governmental intervention in the economy, monetary policy, capital flows and foreign investments, bank and financial system, wages and prices, creditor rights, regulatory affairs, and smuggling and black market. Each category ranges between 1 and 5, then each one is equally weighted and finally every country gets a global score reviewed yearly. The highest score means the least intervened. Source: Heritage Foundation (2009).
HDI (Human Development Index)	Comparative measure among world countries for life expectancy, illiteracy, education and living standard. The scale ranges from zero to 1; so the higher a country scores the more developed it is. Source: United Nations Development Programme (2008; 2006 data).
Gini Index (Gini)	Measures inequality of income distribution. The scale ranges from zero to 100. The closer to zero a country qualifies the less inequality. Source: World Bank (2009).
CR (Creditor Rights)	This index uses four kinds of legal coverage for creditors: ban of *automatic stay*, preference for backed credits, need for creditors' consent in a reorganization process, and dismissal of managers doing reorganization. For every kind of coverage, the scale ranges from 1 (the law protects the creditor) to zero (otherwise). Therefore, the global score ranges from zero to 4. Source: Djankov *et al*. (2007).
POLCON (Political Constraint Index)	This index estimates the degree of political constraints. The dataset contains 90 variables that measure various features of the legislative, executive and judicial branches of government. The scale ranges from 0 (most hazardous-no checks and balances) to 1 (most constrained-extensive checks and balances). Source: Henisz (2007).

Table 2. Variables

in a simple spatial model of political interaction to assess the feasibility that any one actor can secure a change in the status quo (Henisz, 2000).

Cluster Analysis at Country Level

In relation to the number of groups or clusters that will be formed, Table 3 shows the results arising from the adjustment of the variance of each variable, with respect to the two restrictions that are mentioned in the previous section for each of the cases: two, three, four and five clusters. The dependent variable (CRI/GDP) is excluded from the adjustment because this is the variable to contrast. The number of groups or clusters consistent with the restrictions is four, because this case explains the 66.30% of the total variance. Also to consider four clusters is an improvement in the adjustment of 30.81% with respect to the consideration of three groups.

Once we have determined the number of groups, and that these have been appropriately identified, we make an ANOVA analysis that will allow us to study on an individual basis the variance of each variable. This

Variables	2 Clusters	3 Clusters	4 Clusters	5 Clusters
FDI Out/GDP	21.34	21.02	56.30	60.06
IEF	69.02	74.48	79.52	76.71
IDH	96.70	91.96	89.37	90.32
Gini	81.96	73.50	74.51	70.49
CR	0.00	17.70	28.70	29.66
POLCON	18.42	25.45	69.42	78.96
Average	47.91	50.59	66.30	67.70
% variation		5.80	30.81	2.11

Table 3. Variance adjustment
Notes: See Table 2 for variable definitions.

enables us to analyze if there are significant differences between each of the four groups (Table 4). This, if the p-value of the F-test is below 0.05, then we can say that there is a statistically significant difference in the average value of each variable in each cluster, with a confidence level of 95%. Table 4 summarizes the results obtained for the four groups' case. All the results of the p-value of the ANOVA F-test are below 0.05, therefore all variables are significant and consequently, the ANOVA test results show that differences between groups are significant.

In the first analysis, we obtain a single-country group of Switzerland, which is explained by the fact that the sum of market capitalization of Swiss corporations listed in the DJSI surpasses its GDP (1.08). This peculiarity is caused by the 'Nestlé effect' this single company represents the 27% of the total capitalization of the 12 Swiss DJSI-listed firms. Therefore, we minimize the effect of this single company by giving different weights to the 12 Swiss companies and rerun the analyses. We then find that Switzerland is included in a cluster (liberal economies). Thus, by easing the Nestlé effect, our analysis gives us four clusters of homogeneous geopolitical groups in accordance with their respective CR behavior.

We sort these four clusters based on their CR behavior from the most liberal geopolitical group of nations (liberal-capitalist) to the most intervened or related group of nations (regulated-capitalist). Figure 1 describes the composition of all clusters by their CR behavior. Based on these clustering results, we conclude that the CR

Variables	Cluster 1	Cluster 2	Cluster 3	Cluster 4	F value
	(n = 7)	(n = 4)	(n = 10)	(n = 3)	(ANOVA)
MC CRI /GDP	0.25	0.13	0.12	0.10	12,48***
	0.29	0.10	0.06	0.08	
FDI Out /GDP	0.63	0.56	0.40	0.13	7.69**
	0.60	0.13	0.30	0.09	
IEF	81.61	73.70	68.51	58.30	18.19***
	2.74	4.39	5.21	4.90	
IDH	0.95	0.96	0.95	0.70	47.03***
	0.02	0.01	0.01	0.10	
Gini	0.37	0.26	0.32	0.51	13.47***
	0.04	0.01	0.03	0.12	
CR	2.43	1.75	2.10	2.00	0.94*
	1.40	0.96	0.99	1.00	
POLCON	0.80	0.77	0.77	0.74	2.25*
	0.08	0.00	0.03	0.00	

Table 4. Descriptive statistics: means, standard deviation and ANOVA test
Notes: See Table 2 for variable definitions.
$*p < .05$; $**p < .01$; $***p < .001$.

REGULATED
ECONOMIES

FRA
GER
GRC
ITA
JA
NETH
OEST
S. KOR
SP
TAIW

LIBERAL
ECONOMIES

AU
CAN
NZ
SI
SWIT
UK
USA

NORDIC
ECONOMIES

DEN
FIN
NOR
SWED

EMERGENT
ECONOMIES

BRA
IND
S. AFRI

Mark Cap_ CRI
GDP

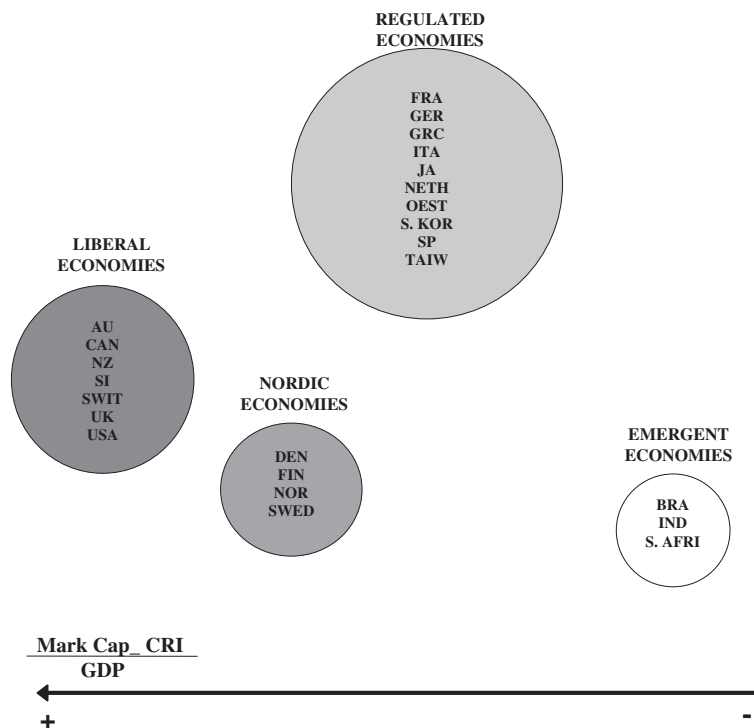+   -

Figure 1. Clusters

performance of MNCs that comply with rigorous international standards is dependent on the degree of institutional development and the capitalist model of the country of origin.

Table 5 presents the averages for each group of the 7 variables selected and the total average of the sample of 336 companies together.

Then we comment on the most relevant characteristics from the analysis of the data presented in Table 5 for each of the four groups.

Cluster 1 (liberal-capitalist economies) includes seven countries: Australia, Canada, New Zealand, Singapore, Switzerland, United Kingdom, and the United States. This group exhibits the highest results for five variables: market capitalization CRI/GDP (0.25), FDI out/GDP (0.63), Economic Freedom Index (81.61), Creditor Rights Index (2.43) and POLCON Index (0.80). Cluster 2 (Nordic economies) includes four countries: Denmark, Finland, Norway, and Sweden. This cluster shows the highest scores for two variables: Human Development Index (0.96) and Gini's Index (0.26). However, the cluster has the lowest results for Creditor Rights (1.75). In general, these two clusters are composed of strong globalized economies (as measured by the size of outward FDI) and large proportions of MNCs (measured by the companies listed on the CRI relative to GDP).

Cluster 3 (regulated-capitalist economies), with 10 countries, is the largest cluster and includes Austria, France, Germany, Greece, Italy, Japan, the Netherlands, South Korea, Spain, and Taiwan. The capitalist system within these countries features more intervention, and the MNCs follow strongly oriented social security policies or they follow other paths dictated by old planned economies regimes. Generally, the variables show worse scores than those of Clusters 1 and 2. Finally, Cluster 4 (emergent economies), which includes three countries (Brazil, India, and South Africa) has economies with the most intervention and regulation. These MNCs exhibit poorer CR performance and, in general, exhibit the worst results for all the variables.

Country placement may be a matter for discussion. For example, India may, at first glance, seem to fit better in the Anglo-Saxon cluster (liberal economies; Lattemann *et al.*, 2009). However, history and the socio-economic development of the country explain its inclusion in the more heterogeneous Cluster 4 from an institutional distance perspective.

Variables	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Total
1 MC CRI /GDP	0.25	0.13	0.12	0.10	0.16
2 FDI Out /GDP	0.63	0.56	0.40	0.13	0.46
3 IEF	81.61	73.70	68.51	58.30	71.92
4 IDH	0.95	0.96	0.95	0.70	0.92
5 Gini	0.37	0.26	0.32	0.51	0.34
6 CR	2.43	1.75	2.10	2.00	2.13
7 POLCON	0.80	0.77	0.77	0.74	0.77

Table 5. Summary for four clusters
Notes: See Table 2 for variable definitions.

Regression Analysis

A multiple regression analysis examines the relationship between the dependent variable (market capitalization CRI/GDP) and the independent variables. This analysis pursues to determine to what extent the dependent variable can be explained by the independent variables. In the multiple regression analysis, the coefficient of determination R^2 sets out this relationship, besides we find the correlation matrix between all variables and the level of significance.

Table 6 shows the correlations among all variables, and level of significance, through the Pearson coefficient. This coefficient is a measure of linear association between two variables. The value of this coefficient varies between −1 and +1, where the minus or plus signs indicate the direction of the relationship and the absolute value indicates the intensity, so the larger absolute values indicate that the relationships are stronger.

We note the explanatory variables of the dependent variable are out FDI / GDP and POLCON Index. We also found significant correlations between the variables out FDI / GDP and IEF, IEF and IHD, IEF and CR, IHD and Gini, and finally between IHD and POLCON.

Table 7 shows the regression results, which explains 36.3% of the dependent variable variance. Furthermore, the Durbin-Watson test has a value of 2.407, which indicates the independence between standard errors. The *F*-statistic results show whether the linear relation between independent variables and dependent variables is relevant.

Industrial Analysis at Cluster Level

Next we perform an industrial-sector analysis[5] on the entire sample of companies as well as the four clusters to assess which industry is more relevant, depending on the number of companies in each industry. According to the Industry Classification Benchmark (ICB) classifying system (ICB, 2011), for the purposes of this analysis we

	Mean	s.d.	1	2	3	4	5	6
1 MC CRI/GDP		0.17						
2 FDI Out /GDP	0.46	0.40	0.58**					
3 IEF	71.92	8.69	0.25	0.47*				
4 IHD	0.92	0.09	0.19	0.29	0.57**			
5 Gini	0.34	0.09	−0.01	−0.17	−0.26	−0.62**		
6 CR	2.13	1.08	−0.15	−0.06	0.36*	−0.06	0.03	
7 POLCON	0.77	0.05	0.43*	0.11	0.32	0.35*	−0.24	−0.22

Table 6. Estimated Pearson correlation coefficients, means and standard deviation
Notes: See Table 2 for variable definitions.
*p < .05; **p < .01; ***p < .001.

Model	R	R^2	Adj, R^2	S.E.	Durbin-Watson	ANOVA F value
1	0.727	0.529	0.363	0.135	2.407	3.185*

Table 7. Summary of the regression results and analysis of variance (ANOVA)
Notes: Durbin-Watson (DW) coefficient measures the independence between variables' residuals. This coefficient ranks between zero and 4; when DW =2, the residuals are independent. When DW < 2 (>2), the residuals are positively (negatively) correlated. When the DW coefficient is between 1.5 and 2.5, residues are independent. The independent variables are FDI Out /GDP, IEF, IHD, GINI, CR, and POLCON, The dependent variable is MC CRI /GDP. See Table 2 for variable definitions.

Industry	Country	Multinational corporations (n)	%	% Accumulative
Financials	FIN	75	22.3	22.3
Industrials	IND	54	16.1	38.4
Consumer Services	CS	45	13.4	51.8
Consumer Goods	CG	40	11.9	63.7
Basic Materials	BM	28	8.3	72.0
Technology	TEC	24	7.1	79.2
Telecommunications	TEL	12	3.6	82.7
Oil & Gas	OG	20	6.0	88.7
Health Care	HC	19	5.7	94.3
Utilities	UT	19	5.7	100.0
Total		336	100.0	

Table 8. Industrial distribution of sample firms (24 countries)

consider 10 main industries, which are further divided into 114 subsectors. See Appendix B for details. Table 8 provides the distribution of the firms by sector of activity.

The industries comprising the highest average of companies listed in the CSR Indexes are financials, industrials, consumer services, consumer goods, basic materials, technology and telecommunications. These sectors include the highest proportion of MNCs that develop global CR strategies. Thus, the firms that operate in global industries (82.7%) should follow global strategies that are supported by the standardization of CR policies. The remainder of the industries (oil and gas, health care, and utilities), which have a relative weight in our sample will likely benefit more from following of a multi-domestic type of CR strategy.

Conclusions

The motivation of this paper is to examine whether financial performance is indirectly related to the CR performance of MNCs that comply with rigorous international standards is explained by the degree of institutional development, the capitalist model of the country of origin and the industrial sector in which the MNCs operate. We justify theoretically and show empirically that the financial and CR performance indicators of 336 MNCs from 24 different countries are determined to a great extend by the economic and institutional context of their country of origin. The institutional variables we have used allow grouping of the countries of origin of our sample of MNCs in a homogeneous way. That is to say MNCs from developed countries are grouped according to the economic capitalist system of their country of origin. However, MNCs from emergent countries are grouped separately due to their economic and institutional distance from the most advanced countries. Specifically, we group countries in four clusters that differentiate among Anglo-Saxon (common law or liberal-capitalist), Nordic, civil law tradition (coordinated

[5]This task is accomplished under classification system standard of Industry Classification Benchmark, set up by Dow Jones Indexes and FTSE.

or regulated-capitalist), and emergent economies. The number of countries included in our study is determined by the nationalities of the companies listed in the DJSI and the FTSE4Good Index. These CR indices are the two most reliable and selective in terms of assessing the CR performance.

The financial performance of MNCs, that have assumed CSR strategies that comply with the requirements of international sustainability indexes, shows a direct relationship with institutions from their country of origin. MNCs from liberal and Nordic economies have a higher financial performance than countries belonging to continental or more regulated economies. A poorer financial performance is accounted by emerging countries multinationals. The level of financial performance is related to institutional development of countries and to the degree of internationalization through direct investment abroad.

Given that the CR performance at the subsidiary level is consolidated (globally integrated) at the MNC level, the adaptation of the social and environmental programs to local demands (needs) is influenced by the institutional and economic model of the country of origin, which, in fact, is a determinant factor of the overall strategy of the MNC. Even when the social and environmental programs are adapted to meet the local needs of host countries, they are integrated into and affected by the MNC's global strategy as a whole, which is itself influenced by the capitalist and institutional model of the MNC's country of origin. However, specific, local CR issues are more likely to appear within multi-domestic MNCs.

We also find industrial homogeneity in the four clusters. More than four-fifth of the firms belong to globally integrated sectors (financials services, industrials, consumer services, consumer goods, basic materials, technology, and telecommunications). This finding is consistent with the global CR strategy followed by our sample of MNCs. This strategy is centralized by an integrated indicator of CR activities worldwide, which is consistent with the institutions and economic model of the country of origin.

The more locally oriented industries (e.g. oil and gas and utilities) should be the object of further research, as their relative weight is small within our same as a the whole although the pressure to adopt similar CR criteria for rating purposes continues to increase throughout the world. Another issue that arises from this study is whether the similarities (differences) of capitalist systems between the MNC's country of origin and host countries of its subsidiaries reduce (increase) the transaction costs of implementing and formulating CR strategies. We leave these questions for future study.

Some policy implications could be derived from this article. First, we believe that improving the development of the institutions of a country will lead (help) to enhance the competitive advantages of its firms as well as their responsibility performance. The strategies of firms are embedded in the institutional context of their home country, they are influenced by the 'rules of the game' that formally and informally are enforced themselves by the government and its agents. The influence of firms' strategies (though regulative, normative and cognitive channels) can be combine with firm specific norms and values (that guide the firm's decision making) creating 'institutional ownership advantages' that not only can influence their CR strategies, but also can be transferred to host countries, and at the same time can influence the institutional development of the host countries.

Second, the emerging economies cannot be grouped with most advanced countries, although they formally belong to the same economic model, due to both the economic structure and institutional distance or gap that separate them. Consequently public policies of these countries should simultaneously be aimed to improvement of institutions and economic structure and development.

In general, governments should encourage domestic firms not only to internationalize but also to follow international best practices on CSR. Mandatory reporting on CSR could enhance transparency.

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Appendix A Countries, tickers, and number of multinational corporations (MNCs) listed in each CR index

Country	Ticker	Number of MNCs	
		FTSE4Good	DJSI
Germany	GER	24	23
Australia	AU	34	19
Austria	OEST	4	
Belgium	BELG	7	1
Brazil	BRA		8
Canada	CAN	19	10
China	CHI		1
South Korea	S. KOR		3
Denmark	DEN	7	4
Spain	SP	16	20
United States	USA	138	49
Finland	FIN	6	6
France	FR	37	22
Greece	GRE	8	
Netherlands	NETH	15	14
Honk Kong	HK	6	1
India	IND		2
Ireland	IRE	3	1
Italy	ITA	12	7
Japan	JA	189	36
Norway	NOR	6	4
New Zealand	NZ	6	
Portugal	PTL	4	1
United Kingdom	UK	85	64
Singapur	SI	4	
South Africa	S. AFRI		3
Sweden	SWED	20	6
Switzerland	SWIT	16	12
Thailand	THAI		1
Taiwan	TAIW		2
Total		666	320

Appendix B Industry Classification Benchmark (ICB) system
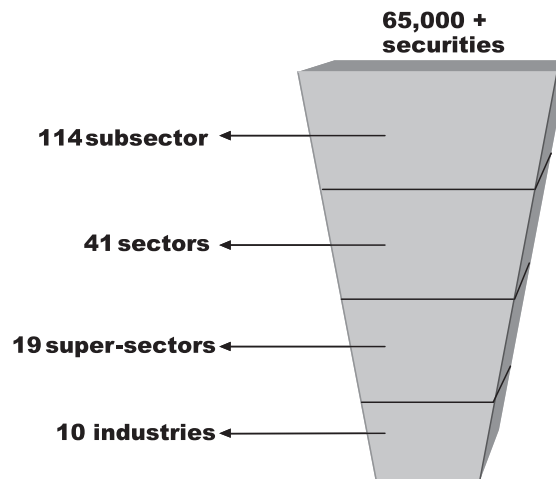
The main activities that the 10 industrial sectors are:

1. **Oil and Gas**: Oil and gas producers, oil equipment, services and distribution, and alternative energy.
2. **Basic Materials**: Chemicals, forestry and paper, industrial metals and mining.
3. **Industrials**: Construction and materials, aerospace and defense, general industrials, electronic and electrical equipment, industrial engineering, industrial transportation and support services.
4. **Consumer Goods**: Automobiles and parts, beverages and food producers, household goods and home construction, leisure goods, personal goods and tobacco.
5. **Health Care**: Health care equipment and services, pharmaceuticals and biotechnology.
6. **Consumer Services**: Food and drug retailers, general retailers, media, travel and leisure.
7. **Telecommunications**: Fixed line and mobile telecommunications.
8. **Utilities**: Electricity, gas, water and multi-utilities.
9. **Financials**: Banks, nonlife insurance, life insurance, real estate investment and services, real estate investment trusts, financial services, equity investment instruments and non-equity investment instruments.
10. **Technology**: Software and computer services, technology hardware and equipment.